

XOM Mobile Application Part (XMAP) Specification

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Abstract:

This document is a Specification containing technical details concerning the implementation of the XOM Mobile Application Part (XMAP) for OpenSS7. It contains recommendations on software architecture as well as platform and system applicability of the XOM Mobile Application Part (XMAP). It provides abstraction of the Mobile Application Part (MAP) interface to these components as well as providing a basis for Mobile Application Part control for other Mobile Application Part protocols.

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Short Contents

Preface	13
1 Introduction	17
2 C Language Binding	21
3 Description	25
4 Interface Functions	37
5 Interface Class Definitions	81
6 Errors	591
A C Headers	629
B Examples	655
Glossary	659
Licenses	661
Index	679

Table of Contents

Preface	13
Notice	13
Abstract	13
Purpose	13
Intent	13
Audience	13
Revision History	13
Version Control	14
ISO 9000 Compliance	14
Disclaimer	14
U.S. Government Restricted Rights	14
Acknowledgements	15
 1 Introduction	 17
1.1 Overview	17
1.2 Format of the Specification	17
1.3 Introductory Concepts	17
1.3.1 Relationship to MAP Protocols	17
1.3.2 XMAP and the MAP Provider	17
1.4 Relationship to GSM and ANSI MAP	18
1.5 Relationship to Data Abstraction Services	18
1.6 Mandatory and Optional Features	19
1.7 Packages	20
1.8 Terminology	20
1.9 Abbreviations	20
 2 C Language Binding	 21
2.1 C Naming Conventions	21
2.2 Use and Implementation of Interfaces	23
2.3 Function Return Values	23
2.4 Compilation and Linking	23
 3 Description	 25
3.1 Services	25
3.1.1 Negotiation Sequence	25
3.1.2 Names, Addresses and Titles	26
3.2 Session	26
3.2.1 AAM Enabled Session	27
3.2.2 AAM Disabled Session	28
3.2.3 Associated Session	28
3.2.4 ADH Enabled Session	28
3.2.5 ADH Disabled Session	29
3.2.6 Dialog Session	29
3.3 Context	29
3.4 Function Arguments	30
3.4.1 Encoding and Decoding	30

3.4.2	Argument and Response	31
3.5	Function Results	31
3.5.1	Invoke-ID	32
3.5.2	Result	32
3.5.3	Status	33
3.6	Synchronous and Asynchronous Operation	33
3.7	Other Features	34
3.7.1	Automatic Association Management	34
3.7.2	Automatic Dialog Handling	35
3.7.3	Automatic Performer Resolution	35
3.7.4	Responder Versatility	35
3.7.5	Automatic Name to Address Resolution	35
3.7.6	Automatic Dispatching to Appropriate Stack	35
3.8	Function Sequencing	35
4	Interface Functions	37
4.1	Abandon()	37
4.2	Abort()	39
4.3	Abort-req()	41
4.4	Accept()	42
4.5	Assoc-req()	44
4.6	Assoc-rsp()	46
4.7	Bind()	48
4.8	Close()	50
4.9	Error-Message()	51
4.10	Get-Assoc-Info()	52
4.11	Get-last-error()	54
4.12	Initialize()	55
4.13	Issue()	56
4.14	Negotiate()	58
4.15	Open()	61
4.16	Receive()	63
4.17	Refuse()	66
4.18	Release-req()	68
4.19	Release-rsp()	69
4.20	Service-req()	70
4.21	Service-rsp()	72
4.22	Service-parameter()	74
4.23	Shutdown()	75
4.24	Unbind()	76
4.25	Validate-object()	77
4.26	Wait()	79

5	Interface Class Definitions	81
5.1	Global Class Hierarchy	81
5.1.1	Interface Common Objects	82
5.1.2	Interface Common Error Definitions	82
5.1.3	GSM MAP Package Objects	82
5.1.3.1	GSM SM package Objects	82
5.1.4	ANSI MAP Package Objects	82
5.2	Common MAP Package	83
5.2.1	String(TBCD)	83
5.2.2	String(Sccp-Address)	83
5.2.3	Abort-Argument	86
5.2.4	Abort-Result	86
5.2.5	Accept-Result	86
5.2.6	Acse-Args	87
5.2.7	Address	88
5.2.8	Application-Context-List	88
5.2.9	Assoc-Argument	89
5.2.10	Assoc-Result	90
5.2.11	Close-Argument	90
5.2.12	Context	91
5.2.13	Extension	91
5.2.14	Generic-Service-Argument	92
5.2.15	Generic-Service-Result	92
5.2.16	Map-Assoc-Args	93
5.2.17	Notice-Result	93
5.2.18	Open-Argument	94
5.2.19	Operation-Argument	95
5.2.20	Operation-Error	95
5.2.21	Operation-Reject	95
5.2.22	Operation-Result	95
5.2.23	P-Abort-Result	95
5.2.24	Presentation-Context	95
5.2.25	Presentation-Layer-Args	96
5.2.26	Refuse-Result	96
5.2.27	Release-Argument	96
5.2.28	Release-Result	96
5.2.29	Service-Argument	96
5.2.30	Service-Error	97
5.2.31	Service-Reject	97
5.2.32	Service-Result	98
5.2.33	Session	98
5.2.34	Title	99
5.3	GSM MAP Package	100
5.3.1	String(Address)	101
5.3.2	String(Subaddress)	102
5.3.3	GSM-Abort-Argument	103
5.3.4	GSM-Abort-Result	104
5.3.5	GSM-Accept-Result	104
5.3.6	GSM-Close-Argument	105
5.3.7	GSM-Context	106
5.3.8	GSM-Map-Assoc-Args	107
5.3.9	GSM-Notice-Result	107
5.3.10	GSM-Open-Argument	109

5.3.11	GSM-P-Abort-Result	109
5.3.12	GSM-Refuse-Result	113
5.3.13	GSM-Release-Argument	114
5.3.14	GSM-Release-Result	114
5.3.15	GSM-Service-Argument	114
5.3.16	GSM-Service-Error	115
5.3.17	GSM-Service-Reject	116
5.3.18	GSM-Service-Result	117
5.3.19	GSM Data Types	117
5.3.19.1	Access-Network-Signal-Info	118
5.3.19.2	Basic-Service-Code	118
5.3.19.3	Cell-Global-Id-Or-Service-Area-Id-Or-LAI	119
5.3.19.4	EMLPP-Info	119
5.3.19.5	Ext-Basic-Service-Code	120
5.3.19.6	Extension-Container	121
5.3.19.7	External-Signal-Info	121
5.3.19.8	Ext-External-Signal-Info	122
5.3.19.9	HLR-List	123
5.3.19.10	Identity	123
5.3.19.11	IMSI-With-LMSI	124
5.3.19.12	LCS-Client-External-ID	125
5.3.19.13	MC-SS-Info	125
5.3.19.14	NAEA-Preferred-CI	126
5.3.19.15	PCS-Extensions	126
5.3.19.16	Private-Extension	127
5.3.19.17	Private-Extension-List	127
5.3.19.18	SLR-Arg-Extension-Container	128
5.3.19.19	SLR-Arg-PCS-Extensions	128
5.3.19.20	Specific-Information	129
5.3.19.21	Subscriber-Identity	129
5.4	GSM MAP Services Packages	130
5.4.1	GSM Mobile Service Package	130
5.4.1.1	Add-Info	131
5.4.1.2	Allowed-UMTS-Algorithms	132
5.4.1.3	AMBR	132
5.4.1.4	Any-Time-Interrogation-Arg	133
5.4.1.5	Any-Time-Interrogation-Res	134
5.4.1.6	Any-Time-Modification-Arg	134
5.4.1.7	Any-Time-Modification-Res	136
5.4.1.8	Any-Time-Subscription-Interrogation-Arg	136
5.4.1.9	Any-Time-Subscription-Interrogation-Res	137
5.4.1.10	APN-Configuration-Profile	139
5.4.1.11	APN-Configuration	140
5.4.1.12	Authentication-Failure-Report-Arg	141
5.4.1.13	Authentication-Failure-Report-Res	143
5.4.1.14	Authentication-Quintuplet	144
5.4.1.15	Authentication-Set-List	144
5.4.1.16	Authentication-Triplet	145
5.4.1.17	Basic-Service-Criteria	145
5.4.1.18	Basic-Service-List	146
5.4.1.19	Bearer-Service-List	146
5.4.1.20	BSSMAP-Service-Handover-Info	146
5.4.1.21	BSSMAP-Service-Handover-List	147

5.4.1.22	Call-Barring-Data	147
5.4.1.23	Call-Forwarding-Data	148
5.4.1.24	CAMEL-Subscription-Info	149
5.4.1.25	Cancel-Location-Arg	151
5.4.1.26	Cancel-Location-Res	152
5.4.1.27	Check-IMEI-Arg	153
5.4.1.28	Check-IMEI-Res	154
5.4.1.29	Chosen-Radio-Resource-Information	154
5.4.1.30	Codec-List	155
5.4.1.31	Context-Id-List	156
5.4.1.32	CSG-Subscription-Data-List	156
5.4.1.33	CSG-Subscription-Data	157
5.4.1.34	CUG-Feature-List	157
5.4.1.35	CUG-Feature	158
5.4.1.36	CUG-Info	159
5.4.1.37	CUG-Subscription-List	159
5.4.1.38	CUG-Subscription	160
5.4.1.39	Current-Security-Context	160
5.4.1.40	D-CSI	161
5.4.1.41	Delete-Subscriber-Data-Arg	162
5.4.1.42	Delete-Subscriber-Data-Res	164
5.4.1.43	Destination-Number-Criteria	165
5.4.1.44	Destination-Number-Length-List	166
5.4.1.45	Destination-Number-List	166
5.4.1.46	DP-Analysed-Info-Criteria-List	166
5.4.1.47	DP-Analysed-Info-Criterium	167
5.4.1.48	EPS-Authentication-Set-List	167
5.4.1.49	EPS-AV	168
5.4.1.50	EPS-Data-List	168
5.4.1.51	EPS-Info	169
5.4.1.52	EPS-QoS-Subscribed	169
5.4.1.53	EPS-Subscription-Data	170
5.4.1.54	EPS-Subscription-Data-Withdraw	171
5.4.1.55	Ext-Basic-Service-Group-List	171
5.4.1.56	Ext-Call-Bar-Feature-List	172
5.4.1.57	Ext-Call-Bar-Info	172
5.4.1.58	Ext-Call-Barring-Feature	173
5.4.1.59	Ext-Call-Barring-Info-For-CSE	173
5.4.1.60	External-Client-List	174
5.4.1.61	External-Client	175
5.4.1.62	Ext-External-Client-List	175
5.4.1.63	Ext-Forwarding-Info-For-CSE	176
5.4.1.64	Ext-Forw-Feature-List	177
5.4.1.65	Ext-Forw-Feature	177
5.4.1.66	Ext-Forw-Info	178
5.4.1.67	Ext-SS-Data	179
5.4.1.68	Ext-SS-Info-For-CSE	180
5.4.1.69	Ext-SS-Info-List	180
5.4.1.70	Ext-SS-Info	180
5.4.1.71	Failure-Report-Arg	181
5.4.1.72	Failure-Report-Res	182
5.4.1.73	Forward-Access-Signalling-Arg	183
5.4.1.74	Forward-Check-SS-Indication-Arg	185

5.4.1.75	GMLC-List	185
5.4.1.76	GPRS-Camel-TDP-Data-List	185
5.4.1.77	GPRS-Camel-TDP-Data	186
5.4.1.78	GPRS-CSI	187
5.4.1.79	GPRS-Data-List	187
5.4.1.80	GPRS-MS-Class	188
5.4.1.81	GPRS-Subscription-Data	188
5.4.1.82	GPRS-Subscription-Data-Withdraw	189
5.4.1.83	GSM-Security-Context-Data	189
5.4.1.84	Insert-Subscriber-Data-Arg	190
5.4.1.85	Insert-Subscriber-Data-Res	194
5.4.1.86	LCS-Information	197
5.4.1.87	LCS-Privacy-Class	198
5.4.1.88	LCS-Privacy-Exception-List	199
5.4.1.89	Location-Area	200
5.4.1.90	Location-Information-GPRS	200
5.4.1.91	Location-Information	202
5.4.1.92	LSA-Data-List	203
5.4.1.93	LSA-Data	204
5.4.1.94	LSA-Identity-List	204
5.4.1.95	LSA-Information	205
5.4.1.96	LSA-Information-Withdraw	206
5.4.1.97	M-CSI	206
5.4.1.98	MG-CSI	207
5.4.1.99	MNP-Info-Res	208
5.4.1.100	Mobility-Triggers	209
5.4.1.101	Modification-Request-For-CB-Info	209
5.4.1.102	Modification-Request-For-CF-Info	210
5.4.1.103	Modification-Request-For-CSI	211
5.4.1.104	Modification-Request-For-IP-SM-GW-Data	212
5.4.1.105	Modification-Request-For-ODB-Data	213
5.4.1.106	MOLR-Class	214
5.4.1.107	MOLR-List	214
5.4.1.108	MSISDN-BS-List	215
5.4.1.109	MSISDN-BS	215
5.4.1.110	MT-SMS-CAMEL-TDP-Criteria-List	216
5.4.1.111	MT-SMS-CAMEL-TDP-Criteria	216
5.4.1.112	Note-MM-Event-Arg	217
5.4.1.113	Note-MM-Event-Res	219
5.4.1.114	Note-Ms-Present-For-Gprs-Arg	219
5.4.1.115	Note-Ms-Present-For-Gprs-Res	220
5.4.1.116	Note-Subscriber-Data-Modified-Arg	221
5.4.1.117	Note-Subscriber-Data-Modified-Res	222
5.4.1.118	O-Bcsm-Camel-TDP-Criteria-List	222
5.4.1.119	O-Bcsm-Camel-TDP-Criteria	223
5.4.1.120	O-Bcsm-Camel-TDP-Data-List	224
5.4.1.121	O-Bcsm-Camel-TDP-Data	224
5.4.1.122	O-Cause-Value-Criteria	225
5.4.1.123	O-CSI	225
5.4.1.124	ODB-Data	226
5.4.1.125	ODB-Info	229
5.4.1.126	Paging-Area	229
5.4.1.127	PDN-GW-Identity	229

5.4.1.128	PDN-GW-Update	230
5.4.1.129	PDP-Context-Info-List	231
5.4.1.130	PDP-Context-Info	231
5.4.1.131	PDP-Context	234
5.4.1.132	PLMN-Client-List	235
5.4.1.133	Prepare-HO-Arg	236
5.4.1.134	Prepare-HO-Res	239
5.4.1.135	Prepare-Subsequent-HO-Arg	241
5.4.1.136	Prepare-Subsequent-HO-Res	242
5.4.1.137	Process-Access-Signalling-Arg	242
5.4.1.138	Provide-Subscriber-Info-Arg	244
5.4.1.139	Provide-Subscriber-Info-Res	245
5.4.1.140	PS-Subscriber-State	245
5.4.1.141	Purge-MS-Arg	246
5.4.1.142	Purge-MS-Res	247
5.4.1.143	Quintuplet-List	248
5.4.1.144	Radio-Resource-List	248
5.4.1.145	Radio-Resource	248
5.4.1.146	Relocation-Number-List	249
5.4.1.147	Relocation-Number	249
5.4.1.148	Requested-Info	250
5.4.1.149	Requested-Subscription-Info	251
5.4.1.150	Reset-Arg	252
5.4.1.151	Restore-Data-Arg	253
5.4.1.152	Restore-Data-Res	254
5.4.1.153	Resynchronisation-Info	254
5.4.1.154	Selected-UMTS-Algorithms	255
5.4.1.155	Send-Authentication-Info-Arg	255
5.4.1.156	Send-Authentication-Info-Res	257
5.4.1.157	Send-End-Signal-Arg	258
5.4.1.158	Send-End-Signal-Res	258
5.4.1.159	Send-Identification-Arg	259
5.4.1.160	Send-Identification-Res	260
5.4.1.161	Send-Routing-Info-For-Gprs-Arg	261
5.4.1.162	Send-Routing-Info-For-Gprs-Res	261
5.4.1.163	Service-Type-List	262
5.4.1.164	Service-Type	263
5.4.1.165	SGSN-CAMEL-Subscription-Info	264
5.4.1.166	SGSN-Capability	264
5.4.1.167	SMS-CAMEL-TDP-Data-List	266
5.4.1.168	SMS-CAMEL-TDP-Data	267
5.4.1.169	SMS-CSI	267
5.4.1.170	SS-Camel-Data	268
5.4.1.171	SS-CSI	269
5.4.1.172	SS-Event-List	269
5.4.1.173	Subscriber-Data	270
5.4.1.174	Subscriber-Info	271
5.4.1.175	Subscriber-State	273
5.4.1.176	Super-Charger-Info	273
5.4.1.177	Supported-Codecs-List	274
5.4.1.178	T-BCSM-CAMEL-TDP-Criteria-List	275
5.4.1.179	T-BCSM-CAMEL-TDP-Criteria	275
5.4.1.180	T-Bcsm-Camel-TDP-Data-List	276

5.4.1.181	T-Bcsm-Camel-TDP-Data	276
5.4.1.182	T-Cause-Value-Criteria	277
5.4.1.183	T-CSI	277
5.4.1.184	Teleservice-List	278
5.4.1.185	TPDU-Type-Criterion	279
5.4.1.186	Triplet-List	279
5.4.1.187	UESBI-Iu	280
5.4.1.188	UMTS-Security-Context-Data	280
5.4.1.189	Update-Gprs-Location-Arg	281
5.4.1.190	Update-Gprs-Location-Res	282
5.4.1.191	Update-Location-Arg	283
5.4.1.192	Update-Location-Res	285
5.4.1.193	VBS-Data-List	286
5.4.1.194	VGCS-Data-List	286
5.4.1.195	Vlr-Camel-Subscription-Info	286
5.4.1.196	VLR-Capability	288
5.4.1.197	Voice-Broadcast-Data	290
5.4.1.198	Voice-Group-Call-Data	290
5.4.1.199	Zone-Code-List	291
5.4.2	GSM Operations and Maintenance Package	292
5.4.2.1	Activate-Trace-Mode-Arg	292
5.4.2.2	Activate-Trace-Mode-Res	294
5.4.2.3	Deactivate-Trace-Mode-Arg	294
5.4.2.4	Deactivate-Trace-Mode-Res	295
5.4.2.5	Send-IMSI-Arg	296
5.4.2.6	Send-IMSI-Res	296
5.4.2.7	Trace-Depth-List	297
5.4.2.8	Trace-Event-List	298
5.4.2.9	Trace-Interface-List	299
5.4.2.10	Trace-Propagation-List	301
5.4.3	GSM Call Handling Package	303
5.4.3.1	Call-Report-Data	304
5.4.3.2	Camel-Info	305
5.4.3.3	Camel-Routing-Info	306
5.4.3.4	CCBS-Indicators	306
5.4.3.5	CUG-Check-Info	307
5.4.3.6	Event-Report-Data	307
5.4.3.7	Extended-Routing-Info	308
5.4.3.8	Forwarding-Data	309
5.4.3.9	Gmsc-Camel-Subscription-Info	310
5.4.3.10	IST-Alert-Arg	311
5.4.3.11	IST-Alert-Res	311
5.4.3.12	IST-Command-Arg	312
5.4.3.13	IST-Command-Res	313
5.4.3.14	Provide-Roaming-Number-Arg	314
5.4.3.15	Provide-Roaming-Number-Res	317
5.4.3.16	Release-Resources-Arg	317
5.4.3.17	Release-Resources-Res	318
5.4.3.18	Remote-User-Free-Arg	318
5.4.3.19	Remote-User-Free-Res	320
5.4.3.20	Resume-Call-Handling-Arg	321
5.4.3.21	Resume-Call-Handling-Res	322
5.4.3.22	Routing-Info	323

5.4.3.23	Send-Routing-Info-Arg	323
5.4.3.24	Send-Routing-Info-Res	327
5.4.3.25	Set-Reporting-State-Arg	331
5.4.3.26	Set-Reporting-State-Res	332
5.4.3.27	Status-Report-Arg	332
5.4.3.28	Status-Report-Res	333
5.4.3.29	UU-Data	334
5.4.4	GSM Supplementary Service Package	334
5.4.4.1	Activate-SS-Arg	335
5.4.4.2	Activate-SS-Res	336
5.4.4.3	Basic-Service-Group-List	337
5.4.4.4	Call-Barring-Feature	337
5.4.4.5	Call-Barring-Feature-List	338
5.4.4.6	Call-Barring-Info	338
5.4.4.7	CCBS-Data	339
5.4.4.8	CCBS-Feature	339
5.4.4.9	CCBS-Feature-List	340
5.4.4.10	Deactivate-SS-Arg	340
5.4.4.11	Deactivate-SS-Res	341
5.4.4.12	Erase-CC-Entry-Arg	342
5.4.4.13	Erase-CC-Entry-Res	342
5.4.4.14	Erase-SS-Arg	343
5.4.4.15	Erase-SS-Res	344
5.4.4.16	Forwarding-Feature	344
5.4.4.17	Forwarding-Feature-List	345
5.4.4.18	Forwarding-Info	346
5.4.4.19	Generic-Service-Info	346
5.4.4.20	Get-Password-Arg	348
5.4.4.21	Get-Password-Res	348
5.4.4.22	Interrogate-SS-Arg	348
5.4.4.23	Interrogate-SS-Res	349
5.4.4.24	Notify-USSD-Arg	350
5.4.4.25	Notify-USSD-Res	351
5.4.4.26	Process-USSD-Arg	351
5.4.4.27	Process-USSD-Res	353
5.4.4.28	Register-CC-Entry-Arg	353
5.4.4.29	Register-CC-Entry-Res	354
5.4.4.30	Register-Password-Arg	354
5.4.4.31	Register-Password-Res	355
5.4.4.32	Register-SS-Arg	355
5.4.4.33	Register-SS-Res	356
5.4.4.34	SS-Data	357
5.4.4.35	SS-Event-Specification	358
5.4.4.36	SS-For-BS-Code	358
5.4.4.37	SS-Info	359
5.4.4.38	SS-Invocation-Notification-Arg	360
5.4.4.39	SS-Invocation-Notification-Res	361
5.4.4.40	SS-List	361
5.4.4.41	SS-Subscription-Option	362
5.4.4.42	USSD-Arg	362
5.4.4.43	USSD-Res	364
5.4.5	GSM Short Message Service Package	364
5.4.5.1	Additional-Number	365

5.4.5.2	Alert-Service-Centre-Arg	365
5.4.5.3	Alert-Service-Centre-Res	366
5.4.5.4	Dispatcher-List	366
5.4.5.5	Inform-Service-Centre-Arg	366
5.4.5.6	Location-Info-With-LMSI	368
5.4.5.7	MO-Forward-SM-Arg	368
5.4.5.8	MO-Forward-SM-Res	369
5.4.5.9	MT-Forward-SM-Arg	370
5.4.5.10	MT-Forward-SM-Res	371
5.4.5.11	MT-Forward-SM-VGCS-Arg	371
5.4.5.12	MT-Forward-SM-VGCS-Res	372
5.4.5.13	Ready-For-SM-Arg	373
5.4.5.14	Ready-For-SM-Res	374
5.4.5.15	Report-SM-Delivery-Status-Arg	374
5.4.5.16	Report-SM-Delivery-Status-Res	376
5.4.5.17	Routing-Info-For-SM-Arg	377
5.4.5.18	Routing-Info-For-SM-Res	379
5.4.5.19	Send-Info-For-Mo-Sms-Arg	379
5.4.5.20	Send-Info-For-Mo-Sms-Res	380
5.4.5.21	Send-Info-For-Mt-Sms-Arg	380
5.4.5.22	Send-Info-For-Mt-Sms-Res	381
5.4.5.23	SM-RP-DA	381
5.4.5.24	SM-RP-OA	382
5.4.6	GSM Group Call Package	382
5.4.6.1	Forward-Group-Call-Signalling-Arg	383
5.4.6.2	Prepare-Group-Call-Arg	384
5.4.6.3	Prepare-Group-Call-Res	386
5.4.6.4	Process-Group-Call-Signalling-Arg	386
5.4.6.5	Send-Group-Call-End-Signal-Arg	388
5.4.6.6	Send-Group-Call-End-Signal-Res	388
5.4.6.7	Send-Group-Call-Info-Arg	389
5.4.6.8	Send-Group-Call-Info-Res	391
5.4.6.9	State-Attributes	392
5.4.7	GSM Location Service Package	392
5.4.7.1	Area	393
5.4.7.2	Area-Definition	394
5.4.7.3	Area-Event-Info	394
5.4.7.4	Deferred-MT-LR-Data	395
5.4.7.5	LCS-Client-ID	396
5.4.7.6	LCS-Client-Name	397
5.4.7.7	LCS-Codeword	398
5.4.7.8	LCS-Location-Info	398
5.4.7.9	LCS-Privacy-Check	400
5.4.7.10	LCS-QoS	401
5.4.7.11	LCS-Requestor-ID	402
5.4.7.12	Location-Type	403
5.4.7.13	Periodic-LDR-Info	404
5.4.7.14	PLMN-List	404
5.4.7.15	Provide-Subscriber-Location-Arg	405
5.4.7.16	Provide-Subscriber-Location-Res	407
5.4.7.17	Reporting-PLMN	409
5.4.7.18	Reporting-PLMN-List	410
5.4.7.19	Response-Time	410

5.4.7.20	Routing-Info-For-LCS-Arg	411
5.4.7.21	Routing-Info-For-LCS-Res	412
5.4.7.22	Subscriber-Location-Report-Arg	413
5.4.7.23	Subscriber-Location-Report-Res	416
5.5	ANSI MAP Package	417
5.5.1	ANSI-Abort-Argument	417
5.5.2	ANSI-Abort-Result	417
5.5.3	ANSI-Accept-Result	417
5.5.4	ANSI-Close-Argument	417
5.5.5	ANSI-Context	417
5.5.6	ANSI-Map-Assoc-Args	417
5.5.7	ANSI-Notice-Result	417
5.5.8	ANSI-Open-Argument	417
5.5.9	ANSI-P-Abort-Result	417
5.5.10	ANSI-Refuse-Result	417
5.5.11	ANSI-Release-Argument	417
5.5.12	ANSI-Release-Result	418
5.5.13	ANSI-Service-Argument	418
5.5.14	ANSI-Service-Error	418
5.5.15	ANSI-Service-Reject	418
5.5.16	ANSI-Service-Result	418
5.6	ANSI MAP Services Packages	418
5.6.1	ANSI MAP Services Package	418
5.6.1.1	Authentication-Directive-Arg	418
5.6.1.2	Authentication-Directive-Res	421
5.6.1.3	Authentication-Directive-Forward-Arg	421
5.6.1.4	Authentication-Directive-Forward-Res	422
5.6.1.5	Authentication-Failure-Report-Arg	422
5.6.1.6	Authentication-Failure-Report-Res	425
5.6.1.7	Authentication-Request-Arg	427
5.6.1.8	Authentication-Request-Res	430
5.6.1.9	Authentication-Status-Report-Arg	432
5.6.1.10	Authentication-Status-Report-Res	434
5.6.1.11	Base-Station-Challenge-Arg	436
5.6.1.12	Base-Station-Challenge-Res	436
5.6.1.13	Blocking-Arg	437
5.6.1.14	Blocking-Res	437
5.6.1.15	Bulk-Deregistration-Arg	437
5.6.1.16	Bulk-Deregistration-Res	438
5.6.1.17	Count-Request-Arg	438
5.6.1.18	Count-Request-Res	439
5.6.1.19	Facilities-Directive-Arg	439
5.6.1.20	Facilities-Directive-Res	442
5.6.1.21	Facilities-Directive-2-Arg	442
5.6.1.22	Facilities-Directive-2-Res	446
5.6.1.23	Facilities-Release-Arg	447
5.6.1.24	Facilities-Release-Res	448
5.6.1.25	Feature-Request-Arg	448
5.6.1.26	Feature-Request-Res	451
5.6.1.27	Flash-Request-Arg	455
5.6.1.28	Flash-Request-Res	456
5.6.1.29	Handoff-Back-Arg	456
5.6.1.30	Handoff-Back-Res	458

5.6.1.31	Handoff-Back-2-Arg	459
5.6.1.32	Handoff-Back-2-Res	462
5.6.1.33	Handoff-Measurement-Request-Arg	464
5.6.1.34	Handoff-Measurement-Request-Res	464
5.6.1.35	Handoff-Measurement-Request-2-Arg	465
5.6.1.36	Handoff-Measurement-Request-2-Res	466
5.6.1.37	Handoff-To-Third-Arg	467
5.6.1.38	Handoff-To-Third-Res	469
5.6.1.39	Handoff-To-Third-2-Arg	470
5.6.1.40	Handoff-To-Third-2-Res	473
5.6.1.41	Information-Directive-Arg	474
5.6.1.42	Information-Directive-Res	475
5.6.1.43	Information-Forward-Arg	476
5.6.1.44	Information-Forward-Res	477
5.6.1.45	Inter-System-Answer-Arg	478
5.6.1.46	Inter-System-Answer-Res	478
5.6.1.47	Inter-System-Page-Arg	479
5.6.1.48	Inter-System-Page-Res	484
5.6.1.49	Inter-System-Page-2-Arg	485
5.6.1.50	Inter-System-Page-2-Res	487
5.6.1.51	Inter-System-Setup-Arg	489
5.6.1.52	Inter-System-Setup-Res	490
5.6.1.53	Location-Request-Arg	490
5.6.1.54	Location-Request-Res	493
5.6.1.55	Mobile-On-Channel-Arg	498
5.6.1.56	MS-Inactive-Arg	498
5.6.1.57	MS-Inactive-Res	500
5.6.1.58	Origination-Request-Arg	500
5.6.1.59	Origination-Request-Res	502
5.6.1.60	Qualitification-Directive-Arg	507
5.6.1.61	Qualitification-Directive-Res	514
5.6.1.62	Qualification-Request-Arg	514
5.6.1.63	Qualification-Request-Res	517
5.6.1.64	Random-Variable-Request-Arg	524
5.6.1.65	Random-Variable-Request-Res	524
5.6.1.66	Redirection-Directive-Arg	525
5.6.1.67	Redirection-Directive-Res	527
5.6.1.68	Redirection-Request-Arg	527
5.6.1.69	Redirection-Request-Res	529
5.6.1.70	Registration-Cancellation-Arg	529
5.6.1.71	Registration-Cancellation-Res	530
5.6.1.72	Registration-Notification-Arg	531
5.6.1.73	Registration-Notification-Res	537
5.6.1.74	Remote-User-Interaction-Directive-Arg	544
5.6.1.75	Remote-User-Interaction-Directive-Res	545
5.6.1.76	Reset-Circuit-Arg	545
5.6.1.77	Reset-Circuit-Res	545
5.6.1.78	Routing-Request-Arg	546
5.6.1.79	Routing-Request-Res	551
5.6.1.80	SMS-Delivery-Backward-Arg	553
5.6.1.81	SMS-Delivery-Backward-Res	554
5.6.1.82	SMS-Delivery-Forward-Arg	556
5.6.1.83	SMS-Delivery-Forward-Res	558

5.6.1.84	SMS-Delivery-Point-To-Point-Arg	560
5.6.1.85	SMS-Delivery-Point-To-Point-Res	562
5.6.1.86	SMS-Notification-Arg	564
5.6.1.87	SMS-Notification-Res	565
5.6.1.88	SMS-Request-Arg	565
5.6.1.89	SMS-Request-Res	566
5.6.1.90	Transfer-To-Number-Request-Arg	566
5.6.1.91	Transfer-To-Number-Request-Res	569
5.6.1.92	Trunk-Test-Arg	572
5.6.1.93	Trunk-Test-Res	573
5.6.1.94	Trunk-Test-Disconnect-Arg	573
5.6.1.95	Trunk-Test-Disconnect-Res	573
5.6.1.96	Unblocking-Arg	574
5.6.1.97	Unblocking-Res	574
5.6.1.98	Unreliable-Roamer-Data-Directive-Arg	574
5.6.1.99	Unreliable-Roamer-Data-Directive-Res	575
5.6.1.100	Unsolicited-Response-Arg	575
5.6.1.101	Unsolicited-Response-Res	577
5.6.2	ANSI MAP Parameters	580
5.6.2.1	Announcement-List	580
5.6.2.2	CDMA-Code-Channel-Information	580
5.6.2.3	CDMA-Code-Channel-List	581
5.6.2.4	CDMA-Target-MAHO-Information	581
5.6.2.5	CDMA-Target-MAHO-List	582
5.6.2.6	CDMA-Target-Measurement-Information	582
5.6.2.7	CDMA-Target-Measurement-List	583
5.6.2.8	Intersystem-Termination	584
5.6.2.9	Local-Termination	585
5.6.2.10	PSTN-Termination	587
5.6.2.11	Target-Measurement-Information	588
5.6.2.12	Target-Measurement-List	589
5.6.2.13	Termination-List	589
6	Errors	591
6.1	OM Class Hierarchy	592
6.1.1	Bad-Argument	592
6.1.2	Communications-Error	593
6.1.3	Error	594
6.1.4	Library Error	594
6.1.5	Service Error	596
6.1.6	System Error	596
6.2	GSM MAP Errors	596
6.2.1	Reject Errors	596
6.2.2	Generic Errors	597
6.2.2.1	Data-Missing-Param	597
6.2.2.2	Extensible-System-Failure-Param	598
6.2.2.3	Facility-Not-Sup-Param	599
6.2.2.4	Incompatible-Terminal-Param	599
6.2.2.5	Resource-Limitation-Param	600
6.2.2.6	System-Failure-Param	600
6.2.2.7	Unexpected-Data-Param	601
6.2.3	Identification and Numbering Errors	602
6.2.3.1	Unknown-Subscriber-Param	602

6.2.3.2	Number-Change-Param	603
6.2.3.3	Unidentified-Sub-Param	603
6.2.4	Subscription Errors	603
6.2.4.1	Roaming-Not-Allowed-Param	604
6.2.4.2	Illegal-Subscriber-Param	604
6.2.4.3	Illegal-Equipment-Param	605
6.2.4.4	Bearer-Serv-Not-Prov-Param	605
6.2.4.5	Teleserv-Not-Prov-Param	606
6.2.5	Handover Errors	606
6.2.5.1	Target-Cell-Outside-GCA-Param	607
6.2.6	Operation and Maintenance Errors	607
6.2.6.1	Tracing-Buffer-Full-Param	607
6.2.7	Call Handling Errors	608
6.2.7.1	No-Roaming-Nb-Param	608
6.2.7.2	Absent-Subscriber-Param	609
6.2.7.3	Busy-Subscriber-Param	610
6.2.7.4	No-Subscriber-Reply-Param	610
6.2.7.5	Call-Barred-Param	611
6.2.7.6	Extensible-Call-Barred-Param	611
6.2.7.7	Forwarding-Violation-Param	612
6.2.7.8	Forwarding-Failed-Param	612
6.2.7.9	CUG-Reject-Param	613
6.2.7.10	OR-Not-Allowed-Param	613
6.2.8	Any Time Interrogation Errors	614
6.2.8.1	ATI-Not-Allowed-Param	614
6.2.9	Any Time Information Handling Errors	614
6.2.9.1	ATSI-Not-Allowed-Param	615
6.2.9.2	ATM-Not-Allowed-Param	615
6.2.9.3	Information-Not-Available-Param	615
6.2.10	Supplementary Service Errors	616
6.2.10.1	Illegal-SS-Operation-Param	617
6.2.10.2	SS-Not-Available-Param	617
6.2.10.3	SS-Subscription-Violation-Param	618
6.2.10.4	SS-Incompatibility-Param	618
6.2.10.5	PW-Registration-Failure-Cause	619
6.2.10.6	Short-Term-Denial-Param	619
6.2.10.7	Long-Term-Denial-Param	619
6.2.11	Short Message Service Errors	619
6.2.11.1	Absent-Subscriber-SM-Param	620
6.2.11.2	Message-Wait-List-Full-Param	621
6.2.11.3	SM-Delivery-Failure-Cause	621
6.2.11.4	Sub-Busy-For-MT-SMS-Param	622
6.2.12	Group Call Errors	623
6.2.12.1	No-Group-Call-Nb-Param	623
6.2.13	Location Service Errors	623
6.2.13.1	Position-Method-Failure-Param	624
6.2.13.2	Unauthorized-LCS-Client-Param	624
6.2.13.3	Unauthorized-Requesting-Network-Param	625
6.2.13.4	Unknown-Or-Unreachable-LCS-Client-Param	626
6.2.14	Mobility Management Errors	626
6.2.14.1	MM-Event-Not-Supported-Param	626
6.2.15	Secure Transport Errors	627
6.2.15.1	Secure-Transport-Error-Param	627

Appendix A	C Headers	629
A.1	xmap.h	629
A.2	xmap_gsm.h	639
A.3	xmap_ansi.h	653
A.4	xmap_gsm_sm.h	654
Appendix B	Examples	655
Glossary		659
Licenses		661
GNU Affero General Public License		661
Preamble		661
How to Apply These Terms to Your New Programs		670
GNU Free Documentation License		671
Index		679

List of Figures

List of Tables

Table 5.1: <i>OM Attributes of OM class Accept-Result</i>	87
Table 5.2: <i>OM Attributes for a Acse-Args</i>	87
Table 5.3: <i>OM Attributes of OM class Address</i>	88
Table 5.4: <i>OM Attributes of OM class Application-Context-List</i>	89
Table 5.5: <i>OM Attributes of OM class Assoc-Argument</i>	89
Table 5.6: <i>OM Attributes of OM class Assoc-Result</i>	90
Table 5.7: <i>OM Attributes of OM class Context</i>	91
Table 5.8: <i>OM Attributes of OM class Extension</i>	92
Table 5.9: <i>OM Attributes of OM class Generic-Service-Argument</i>	92
Table 5.10: <i>OM Attributes of OM class Generic-Service-Result</i>	93
Table 5.11: <i>OM Attributes of OM class Map-Assoc-Args</i>	93
Table 5.12: <i>OM Attributes of OM abstract class Open-Argument</i>	94
Table 5.13: <i>OM Attributes of OM class Presentation-Context</i>	95
Table 5.14: <i>OM Attributes of OM class Presentation-Layer-Args</i>	96
Table 5.15: <i>OM Attributes of OM class GSM-Service-Argument</i>	97
Table 5.16: <i>OM Attributes of OM class Session</i>	98
Table 5.17: <i>OM Attributes of OM class Title</i>	100
Table 5.18: <i>OM Attributes of OM class GSM-Abort-Argument</i>	103
Table 5.19: <i>OM Attributes of OM class GSM-Accept-Result</i>	105
Table 5.20: <i>OM Attributes of OM class GSM-Clse-Argument</i>	105
Table 5.21: <i>OM Attributes of OM class GSM-Context</i>	106
Table 5.22: <i>OM Attributes of OM class GSM-Map-Assoc-Args</i>	107
Table 5.23: <i>OM Attributes of OM class GSM-Notice-Result</i>	107
Table 5.24: <i>OM Attributes of OM class GSM-Open-Argument</i>	109
Table 5.25: <i>OM Attributes of OM class GSM-P-Abort-Result</i>	110
Table 5.26: <i>OM Attributes of OM class GSM-Refuse-Result</i>	113
Table 5.27: <i>OM Attributes of OM class GSM-Service-Argument</i>	114
Table 5.28: <i>OM Attributes of OM class GSM-Service-Result</i>	117
Table 5.29: <i>OM Attributes of OM class Access-Network-Signal-Info</i>	118
Table 5.30: <i>OM Attributes of OM class Basic-Service-Code</i>	118
Table 5.31: <i>OM Attributes of OM class Cell-Global-Id-Or-Service-Area-Id-Or-LAI</i>	119
Table 5.32: <i>OM Attributes of OM class EMLPP-Info</i>	120
Table 5.33: <i>OM Attributes of OM class Ext-Basic-Service-Code</i>	120
Table 5.34: <i>OM Attributes of OM class Extension-Container</i>	121
Table 5.35: <i>OM Attributes of OM class External-Signal-Info</i>	122
Table 5.36: <i>OM Attributes of OM class Ext-External-Signal-Info</i>	122
Table 5.37: <i>OM Attributes of OM class HLR-List</i>	123
Table 5.38: <i>OM Attributes of OM Class Identity</i>	124
Table 5.39: <i>OM Attributes of OM Class IMSI-With-LMSI</i>	124
Table 5.40: <i>OM Attributes of OM class LCS-Client-External-ID</i>	125
Table 5.41: <i>OM Attributes of OM class MC-SS-Info</i>	125
Table 5.42: <i>OM Attributes of OM class NAEA-Preferred-CI</i>	126
Table 5.43: <i>OM Attributes of OM class PCS-Extensions</i>	127
Table 5.44: <i>OM Attributes of OM class Private-Extension</i>	127
Table 5.45: <i>OM Attributes of OM class Private-Extension-List</i>	127
Table 5.46: <i>OM Attributes of OM class SLR-Arg-Extension-Container</i>	128
Table 5.47: <i>OM Attributes of OM class SLR-Arg-PCS-Extensions</i>	128
Table 5.48: <i>OM Attributes of OM class Specific-Information</i>	129

Table 5.49: <i>OM Attributes of OM Class</i> Subscriber-Identity	129
Table 5.50: <i>OM Attributes of OM Class</i> Add-Info	131
Table 5.51: <i>OM Attributes of OM Class</i> Allowed-UMTS-Algorithms	132
Table 5.52: <i>OM Attributes of OM Class</i> AMBR	133
Table 5.53: <i>OM Attributes of OM Class</i> Any-Time-Interrogation-Arg	133
Table 5.54: <i>OM Attributes of OM Class</i> Any-Time-Interrogation-Res	134
Table 5.55: <i>OM Attributes of OM Class</i> Any-Time-Modification-Arg	135
Table 5.56: <i>OM Attributes of OM Class</i> Any-Timer-Modification-Res	136
Table 5.57: <i>OM Attributes of OM Class</i> Any-Time-Subscription-Interrogation-Arg	137
Table 5.58: <i>OM Attributes of OM Class</i> Any-Time-Subscription-Interrogation-Res	138
Table 5.59: <i>OM Attributes of OM Class</i> APN-Configuration-Profile	140
Table 5.60: <i>OM Attributes of OM Class</i> APN-Configuration	140
Table 5.61: <i>OM Attributes of OM Class</i> Authentication-Failure-Report-Arg	142
Table 5.62: <i>OM Attributes of OM Class</i> Authentication-Failure-Report-Res	143
Table 5.63: <i>OM Attributes of OM Class</i> Authentication-Quintuplet	144
Table 5.64: <i>OM Attributes of OM Class</i> Authentication-Set-List	144
Table 5.65: <i>OM Attributes of OM Class</i> Authentication-Triplet	145
Table 5.66: <i>OM Attributes of OM Class</i> Basic-Service-Criteria	145
Table 5.67: <i>OM Attributes of OM Class</i> Basic-Service-List	146
Table 5.68: <i>OM Attributes of OM Class</i> Bearer-Service-List	146
Table 5.69: <i>OM Attributes of OM Class</i> BSSMAP-Service-Handover-Info	147
Table 5.70: <i>OM Attributes of OM Class</i> BSSMAP-Service-Handover-List	147
Table 5.71: <i>OM Attributes of OM Class</i> Call-Barring-Data	148
Table 5.72: <i>OM Attributes of OM Class</i> Call-Forwarding-Data	148
Table 5.73: <i>OM Attributes of OM Class</i> CAMEL-Subscription-Info	149
Table 5.74: <i>OM Attributes of OM Class</i> Cancel-Location-Arg	152
Table 5.75: <i>OM Attributes of OM Class</i> Cancel-Location-Res	153
Table 5.76: <i>OM Attributes of OM Class</i> Check-IMEI-Arg	153
Table 5.77: <i>OM Attributes of OM Class</i> Check-IMEI-Res	154
Table 5.78: <i>OM Attributes of OM Class</i> Chosen-Radio-Resource-Information	155
Table 5.79: <i>OM Attributes of OM Class</i> Codec-List	155
Table 5.80: <i>OM Attributes of OM Class</i> Context-Id-List	156
Table 5.81: <i>OM Attributes of OM Class</i> CSG-Subscription-Data-List	157
Table 5.82: <i>OM Attributes of OM Class</i> CSG-Subscription-Data	157
Table 5.83: <i>OM Attributes of OM Class</i> CUG-Feature-List	158
Table 5.84: <i>OM Attributes of OM Class</i> CUG-Feature	158
Table 5.85: <i>OM Attributes of OM Class</i> CUG-Info	159
Table 5.86: <i>OM Attributes of OM Class</i> CUG-Subscription-List	159
Table 5.87: <i>OM Attributes of OM Class</i> CUG-Subscription	160
Table 5.88: <i>OM Attributes of OM Class</i> Current-Security-Context	161
Table 5.89: <i>OM Attributes of OM Class</i> D-CSI	161
Table 5.90: <i>OM Attributes of OM Class</i> Delete-Subscriber-Data-Arg	162
Table 5.91: <i>OM Attributes of OM Class</i> Delete-Subscriber-Data-Res	164
Table 5.92: <i>OM Attributes of OM Class</i> Destination-Number-Criteria	165
Table 5.93: <i>OM Attributes of OM Class</i> Destination-Number-Length-List	166
Table 5.94: <i>OM Attributes of OM Class</i> Destination-Number-List	166
Table 5.95: <i>OM Attributes of OM Class</i> DP-Analysed-Info-Criteria-List	166
Table 5.96: <i>OM Attributes of OM Class</i> DP-Analysed-Info-Criterium	167
Table 5.97: <i>OM Attributes of OM Class</i> EPS-Authentication-Set-List	168

Table 5.98: <i>OM Attributes of OM Class</i> EPS-AV	168
Table 5.99: <i>OM Attributes of OM Class</i> EPS-Data-List	169
Table 5.100: <i>OM Attributes of OM Class</i> EPS-Info	169
Table 5.101: <i>OM Attributes of OM Class</i> EPS-QoS-Subscribed	170
Table 5.102: <i>OM Attributes of OM Class</i> EPS-Subscription-Data	170
Table 5.103: <i>OM Attributes of OM Class</i> EPS-Subscription-Data-Withdraw	171
Table 5.104: <i>OM Attributes of OM Class</i> Ext-Basic-Service-Group-List	171
Table 5.105: <i>OM Attributes of OM Class</i> Ext-Call-Bar-Feature-List	172
Table 5.106: <i>OM Attributes of OM Class</i> Ext-Call-Bar-Info	172
Table 5.107: <i>OM Attributes of OM Class</i> Ext-Call-Barring-Feature	173
Table 5.108: <i>OM Attributes of OM Class</i> Ext-Call-Barring-Info-For-CSE	174
Table 5.109: <i>OM Attributes of OM Class</i> External-Client-List	174
Table 5.110: <i>OM Attributes of OM Class</i> External-Client	175
Table 5.111: <i>OM Attributes of OM Class</i> Ext-External-Client-List	176
Table 5.112: <i>OM Attributes of OM Class</i> Ext-Forwarding-Info-For-CSE	176
Table 5.113: <i>OM Attributes of OM Class</i> Ext-Forw-Feature-List	177
Table 5.114: <i>OM Attributes of OM Class</i> Ext-Forw-Feature	177
Table 5.115: <i>OM Attributes of OM Class</i> Ext-Forw-Info	178
Table 5.116: <i>OM Attributes of OM Class</i> Ext-SS-Data	179
Table 5.117: <i>OM Attributes of OM Class</i> Ext-SS-Info-For-CSE	180
Table 5.118: <i>OM Attributes of OM Class</i> Ext-SS-Info-List	180
Table 5.119: <i>OM Attributes of OM Class</i> Ext-SS-Info	181
Table 5.120: <i>OM Attributes of OM Class</i> Failure-Report-Arg	181
Table 5.121: <i>OM Attributes of OM Class</i> Failure-Resport-Res	182
Table 5.122: <i>OM Attributes of OM Class</i> Forward-Access-Signalling-Arg	183
Table 5.123: <i>OM Attributes of OM Class</i> GMLC-List	185
Table 5.124: <i>OM Attributes of OM Class</i> GPRS-Camel-TDP-Data-List	185
Table 5.125: <i>OM Attributes of OM Class</i> GPRS-Camel-TDP-Data	186
Table 5.126: <i>OM Attributes of OM Class</i> GPRS-CSI	187
Table 5.127: <i>OM Attributes of OM Class</i> GPRS-Data-List	187
Table 5.128: <i>OM Attributes of OM Class</i> GPRS-MS-Class	188
Table 5.129: <i>OM Attributes of OM Class</i> GPRS-Subscription-Data	188
Table 5.130: <i>OM Attributes of OM Class</i> GPRS-Subscription-Data-Withdraw	189
Table 5.131: <i>OM Attributes of OM Class</i> GSM-Security-Context-Data	189
Table 5.132: <i>OM Attributes of OM Class</i> Insert-Subscriber-Data-Arg	191
Table 5.133: <i>OM Attributes of OM Class</i> Insert-Subscriber-Data-Res	194
Table 5.134: <i>OM Attributes of OM Class</i> LCS-Information	198
Table 5.135: <i>OM Attributes of OM Class</i> LCS-Privacy-Class	198
Table 5.136: <i>OM Attributes of OM Class</i> LCS-Privacy-Exception-List	200
Table 5.137: <i>OM Attributes of OM Class</i> Location-Area	200
Table 5.138: <i>OM Attributes of OM Class</i> Location-Information-GPRS	201
Table 5.139: <i>OM Attributes of OM Class</i> Location-Information	202
Table 5.140: <i>OM Attributes of OM Class</i> LSA-Data-List	204
Table 5.141: <i>OM Attributes of OM Class</i> LSA-Data	204
Table 5.142: <i>OM Attributes of OM Class</i> LSA-Identity-List	205
Table 5.143: <i>OM Attributes of OM Class</i> LSA-Information	205
Table 5.144: <i>OM Attributes of OM Class</i> LSA-Information-Withdraw	206
Table 5.145: <i>OM Attributes of OM Class</i> M-CSI	206
Table 5.146: <i>OM Attributes of OM Class</i> MG-CSI	207

Table 5.147: <i>OM Attributes of OM Class</i>	MNP-Info-Res	208
Table 5.148: <i>OM Attributes of OM Class</i>	Mobility-Triggers	209
Table 5.149: <i>OM Attributes of OM Class</i>	Modification-Request-For-CB-Info	209
Table 5.150: <i>OM Attributes of OM Class</i>	Modification-Request-For-CF-Info	210
Table 5.151: <i>OM Attributes of OM Class</i>	Modification-Request-for-CSI	211
Table 5.152: <i>OM Attributes of OM Class</i>	Modification-Request-For-IP-SM-GW-Data	213
Table 5.153: <i>OM Attributes of OM Class</i>	Modification-Request-For-ODB-Data	213
Table 5.154: <i>OM Attributes of OM Class</i>	MOLR-Class	214
Table 5.155: <i>OM Attributes of OM Class</i>	MOLR-List	214
Table 5.156: <i>OM Attributes of OM Class</i>	MSISDN-BS-List	215
Table 5.157: <i>OM Attributes of OM Class</i>	MSISDN-BS	215
Table 5.158: <i>OM Attributes of OM Class</i>	MT-SMS-CAMEL-TDP-Criteria-List	216
Table 5.159: <i>OM Attributes of OM Class</i>	MT-SMS-CAMEL-TDP-Criteria	216
Table 5.160: <i>OM Attributes of OM Class</i>	Note-MM-Event-Arg	217
Table 5.161: <i>OM Attributes of OM Class</i>	Note-MM-Event-Res	219
Table 5.162: <i>OM Attributes of OM Class</i>	Note-Ms-Present-For-Gprs-Arg	220
Table 5.163: <i>OM Attributes of OM Class</i>	Note-Ms-Present-For-Gprs-Res	220
Table 5.164: <i>OM Attributes of OM Class</i>	Note-Subscriber-Data-Modified-Arg	221
Table 5.165: <i>OM Attributes of OM Class</i>	Note-Subscriber-Data-Modified-Res	222
Table 5.166: <i>OM Attributes of OM Class</i>	O-Bcsm-Camel-TDP-Criteria-List	222
Table 5.167: <i>OM Attributes of OM Class</i>	O-Bcsm-Camel-TDP-Criteria	223
Table 5.168: <i>OM Attributes of OM Class</i>	O-Bcsm-Camel-TDP-Data-List	224
Table 5.169: <i>OM Attributes of OM Class</i>	O-Bcsm-Camel-TDP-Data	224
Table 5.170: <i>OM Attributes of OM Class</i>	O-Cause-Value-Criteria	225
Table 5.171: <i>OM Attributes of OM Class</i>	O-CSI	226
Table 5.172: <i>OM Attributes of OM Class</i>	ODB-Data	226
Table 5.173: <i>OM Attributes of OM Class</i>	ODB-Info	229
Table 5.174: <i>OM Attributes of OM Class</i>	Paging-Area	229
Table 5.175: <i>OM Attributes of OM Class</i>	PDN-GW-Identity	230
Table 5.176: <i>OM Attributes of OM Class</i>	PDN-GW-Update	230
Table 5.177: <i>OM Attributes of OM Class</i>	PDP-Context-Info-List	231
Table 5.178: <i>OM Attributes of OM Class</i>	PDP-Context-Info	232
Table 5.179: <i>OM Attributes of OM Class</i>	PDP-Context	234
Table 5.180: <i>OM Attributes of OM Class</i>	PLMN-Client-List	236
Table 5.181: <i>OM Attributes of OM Class</i>	Prepare-HO-Arg	237
Table 5.182: <i>OM Attributes of OM Class</i>	Prepare-HO-Res	240
Table 5.183: <i>OM Attributes of OM Class</i>	Prepare-Subsequent-HO-Arg	241
Table 5.184: <i>OM Attributes of OM Class</i>	Prepare-Subsequent-HO-Res	242
Table 5.185: <i>OM Attributes of OM Class</i>	Process-Access-Signalling-Arg	243
Table 5.186: <i>OM Attributes of OM Class</i>	Provide-Subscriber-Info-Arg	244
Table 5.187: <i>OM Attributes of OM Class</i>	Provide-Subscriber-Info-Res	245
Table 5.188: <i>OM Attributes of OM Class</i>	PS-Subscriber-State	245
Table 5.189: <i>OM Attributes of OM Class</i>	Purge-MS-Arg	246
Table 5.190: <i>OM Attributes of OM Class</i>	Purge-MS-Res	247
Table 5.191: <i>OM Attributes of OM Class</i>	Quintuplet-List	248
Table 5.192: <i>OM Attributes of OM Class</i>	Radio-Resource-List	248
Table 5.193: <i>OM Attributes of OM Class</i>	Radio-Resource	249
Table 5.194: <i>OM Attributes of OM Class</i>	Relocation-Number-List	249
Table 5.195: <i>OM Attributes of OM Class</i>	Relocation-Number	250

Table 5.196:	<i>OM Attributes of OM Class</i>	Requested-Info	250
Table 5.197:	<i>OM Attributes of OM Class</i>	Requested-Subscription-Info	251
Table 5.198:	<i>OM Attributes of OM Class</i>	Reset-Arg	252
Table 5.199:	<i>OM Attributes of OM Class</i>	Restore-Data-Arg	253
Table 5.200:	<i>OM Attributes of OM Class</i>	Restore-Data-Res	254
Table 5.201:	<i>OM Attributes of OM Class</i>	Resynchronisation-Info	254
Table 5.202:	<i>OM Attributes of OM Class</i>	Selected-UMTS-Algorithms	255
Table 5.203:	<i>OM Attributes of OM Class</i>	Send-Authentication-Info-Arg	256
Table 5.204:	<i>OM Attributes of OM Class</i>	Send-Authentication-Info-Res	257
Table 5.205:	<i>OM Attributes of OM Class</i>	Send-End-Signal-Arg	258
Table 5.206:	<i>OM Attributes of OM Class</i>	Send-End-Signal-Res	258
Table 5.207:	<i>OM Attributes of OM Class</i>	Send-Identification-Arg	259
Table 5.208:	<i>OM Attributes of OM Class</i>	Send-Identification-Res	260
Table 5.209:	<i>OM Attributes of OM Class</i>	Send-Routing-Info-For-Gprs-Arg	261
Table 5.210:	<i>OM Attributes of OM Class</i>	Send-Routing-Info-For-Gprs-Res	262
Table 5.211:	<i>OM Attributes of OM Class</i>	Service-Type-List	262
Table 5.212:	<i>OM Attributes of OM Class</i>	Service-Type	263
Table 5.213:	<i>OM Attributes of OM Class</i>	SGSN-CAMEL-Subscription-Info	264
Table 5.214:	<i>OM Attributes of OM Class</i>	SGSN-Capability	265
Table 5.215:	<i>OM Attributes of OM Class</i>	SMS-CAMEL-TDP-Data-List	266
Table 5.216:	<i>OM Attributes of OM Class</i>	SMS-CAMEL-TDP-Data	267
Table 5.217:	<i>OM Attributes of OM Class</i>	SMS-CSI	268
Table 5.218:	<i>OM Attributes of OM Class</i>	SS-Camel-Data	268
Table 5.219:	<i>OM Attributes of OM Class</i>	SS-CSI	269
Table 5.220:	<i>OM Attributes of OM Class</i>	SS-Event-List	270
Table 5.221:	<i>OM Attributes of OM Class</i>	Subscriber-Data	270
Table 5.222:	<i>OM Attributes of OM Class</i>	Subscriber-Info	272
Table 5.223:	<i>OM Attributes of OM Class</i>	Subscriber-State	273
Table 5.224:	<i>OM Attributes of OM Class</i>	Super-Charger-Info	274
Table 5.225:	<i>OM Attributes of OM Class</i>	Supported-Codecs-List	274
Table 5.226:	<i>OM Attributes of OM Class</i>	T-BCSM-CAMEL-TDP-Criteria-List	275
Table 5.227:	<i>OM Attributes of OM Class</i>	T-BCSM-CAMEL-TDP-Criteria	275
Table 5.228:	<i>OM Attributes of OM Class</i>	T-Bcsm-Camel-TDP-Data-List	276
Table 5.229:	<i>OM Attributes of OM Class</i>	T-Bcsm-Camel-TDP-Data	276
Table 5.230:	<i>OM Attributes of OM Class</i>	T-Cause-Value-Criteria	277
Table 5.231:	<i>OM Attributes of OM Class</i>	T-CSI	278
Table 5.232:	<i>OM Attributes of OM Class</i>	Teleservice-List	278
Table 5.233:	<i>OM Attributes of OM Class</i>	TPDU-Type-Criterion	279
Table 5.234:	<i>OM Attributes of OM Class</i>	Triplet-List	279
Table 5.235:	<i>OM Attributes of OM Class</i>	UESBI-Iu	280
Table 5.236:	<i>OM Attributes of OM Class</i>	UMTS-Security-Context-Data	280
Table 5.237:	<i>OM Attributes of OM Class</i>	Update-Gprs-Location-Arg	281
Table 5.238:	<i>OM Attributes of OM Class</i>	Update-Gprs-Location-Res	283
Table 5.239:	<i>OM Attributes of OM Class</i>	Update-Location-Arg	284
Table 5.240:	<i>OM Attributes of OM Class</i>	Update-Location-Res	285
Table 5.241:	<i>OM Attributes of OM Class</i>	VBS-Data-List	286
Table 5.242:	<i>OM Attributes of OM Class</i>	VGCS-Data-List	286
Table 5.243:	<i>OM Attributes of OM Class</i>	Vlr-Camel-Subscription-Info	287
Table 5.244:	<i>OM Attributes of OM Class</i>	VLR-Capability	288

Table 5.245: <i>OM Attributes of OM Class</i>	Voice-Broadcast-Data	290
Table 5.246: <i>OM Attributes of OM Class</i>	Voice-Group-Call-Data	291
Table 5.247: <i>OM Attributes of OM Class</i>	Zone-Code-List	292
Table 5.248: <i>OM Attributes of OM Class</i>	Activate-Trace-Mode-Arg	293
Table 5.249: <i>OM Attributes of OM Class</i>	Activate-Trace-Mode-Res	294
Table 5.250: <i>OM Attributes of OM Class</i>	Deactivate-Trace-Mode-Arg	295
Table 5.251: <i>OM Attributes of OM Class</i>	Deactivate-Trace-Mode-Res	295
Table 5.252: <i>OM Attributes of OM Class</i>	Send-IMSI-Arg	296
Table 5.253: <i>OM Attributes of OM Class</i>	Send-IMSI-Res	296
Table 5.254: <i>OM Attributes of OM Class</i>	Trace-Depth-List	297
Table 5.255: <i>OM Attributes of OM Class</i>	Trace-Event-List	298
Table 5.256: <i>OM Attributes of OM Class</i>	Trace-Interface-List	300
Table 5.257: <i>OM Attributes of OM Class</i>	Trace-Propagation-List	301
Table 5.258: <i>OM Attributes of OM Class</i>	Call-Report-Data	304
Table 5.259: <i>OM Attributes of OM Class</i>	Camel-Info	305
Table 5.260: <i>OM Attributes of OM Class</i>	Camel-Routing-Info	306
Table 5.261: <i>OM Attributes of OM Class</i>	CCBS-Indicators	306
Table 5.262: <i>OM Attributes of OM Class</i>	CUG-Check-Info	307
Table 5.263: <i>OM Attributes of OM Class</i>	Event-Report-Data	308
Table 5.264: <i>OM Attributes of OM Class</i>	Extended-Routing-Info	308
Table 5.265: <i>OM Attributes of OM Class</i>	Forwarding-Data	309
Table 5.266: <i>OM Attributes of OM Class</i>	Gmsc-Camel-Subscription-Info	310
Table 5.267: <i>OM Attributes of OM Class</i>	IST-Alert-Arg	311
Table 5.268: <i>OM Attributes of OM Class</i>	IST-Alert-Res	312
Table 5.269: <i>OM Attributes of OM Class</i>	IST-Command-Arg	313
Table 5.270: <i>OM Attributes of OM Class</i>	IST-Command-Res	313
Table 5.271: <i>OM Attributes of OM Class</i>	Provide-Roaming-Number-Arg	314
Table 5.272: <i>OM Attributes of OM Class</i>	Provide-Roaming-Number-Res	317
Table 5.273: <i>OM Attributes of OM Class</i>	Release-Resources-Arg	318
Table 5.274: <i>OM Attributes of OM Class</i>	Release-Resources-Res	318
Table 5.275: <i>OM Attributes of OM Class</i>	Remote-User-Free-Arg	319
Table 5.276: <i>OM Attributes of OM Class</i>	Remote-User-Free-Res	320
Table 5.277: <i>OM Attributes of OM Class</i>	Resume-Call-Handling-Arg	321
Table 5.278: <i>OM Attributes of OM Class</i>	Resume-Call-Handling-Res	323
Table 5.279: <i>OM Attributes of OM Class</i>	Routing-Info	323
Table 5.280: <i>OM Attributes of OM Class</i>	Send-Routing-Info-Arg	324
Table 5.281: <i>OM Attributes of OM Class</i>	Send-Routing-Info-Res	328
Table 5.282: <i>OM Attributes of OM Class</i>	Set-Reporting-State-Arg	331
Table 5.283: <i>OM Attributes of OM Class</i>	Set-Reporting-State-Res	332
Table 5.284: <i>OM Attributes of OM Class</i>	Status-Report-Arg	333
Table 5.285: <i>OM Attributes of OM Class</i>	Status-Report-Res	333
Table 5.286: <i>OM Attributes of OM Class</i>	UU-Data	334
Table 5.287: <i>OM Attributes of OM Class</i>	Activate-SS-Arg	336
Table 5.288: <i>OM Attributes of OM Class</i>	Activate-SS-Res	336
Table 5.289: <i>OM Attributes of OM Class</i>	Basic-Service-Group-List	337
Table 5.290: <i>OM Attributes of OM Class</i>	Call-Barring-Feature	337
Table 5.291: <i>OM Attributes of OM Class</i>	Call-Barring-Feature-List	338
Table 5.292: <i>OM Attributes of OM Class</i>	Call-Barring-Info	338
Table 5.293: <i>OM Attributes of OM Class</i>	CCBS-Data	339

Table 5.294:	<i>OM Attributes of OM Class</i>	CCBS-Feature	340
Table 5.295:	<i>OM Attributes of OM Class</i>	CCBS-Feature-List	340
Table 5.296:	<i>OM Attributes of OM Class</i>	Deactivate-SS-Arg	341
Table 5.297:	<i>OM Attributes of OM Class</i>	Deactivate-SS-Res	341
Table 5.298:	<i>OM Attributes of OM Class</i>	Erase-CC-Entry-Arg	342
Table 5.299:	<i>OM Attributes of OM Class</i>	Erase-CC-Entry-Res	343
Table 5.300:	<i>OM Attributes of OM Class</i>	Erase-SS-Arg	343
Table 5.301:	<i>OM Attributes of OM Class</i>	Erase-SS-Res	344
Table 5.302:	<i>OM Attributes of OM Class</i>	Forwarding-Feature	345
Table 5.303:	<i>OM Attributes of OM Class</i>	Forwarding-Feature-List	346
Table 5.304:	<i>OM Attributes of OM Class</i>	Forwarding-Info	346
Table 5.305:	<i>OM Attributes of OM Class</i>	Generic-Service-Info	347
Table 5.306:	<i>OM Attributes of OM Class</i>	Get-Password-Arg	348
Table 5.307:	<i>OM Attributes of OM Class</i>	Get-Password-Res	348
Table 5.308:	<i>OM Attributes of OM Class</i>	Interrogate-SS-Arg	349
Table 5.309:	<i>OM Attributes of OM Class</i>	Interrogate-SS-Res	349
Table 5.310:	<i>OM Attributes of OM Class</i>	Notify-USSD-Arg	350
Table 5.311:	<i>OM Attributes of OM Class</i>	Notify-USSD-Res	351
Table 5.312:	<i>OM Attributes of OM Class</i>	Process-USSD-Arg	352
Table 5.313:	<i>OM Attributes of OM Class</i>	Process-USSD-Res	353
Table 5.314:	<i>OM Attributes of OM Class</i>	Register-CC-Entry-Arg	354
Table 5.315:	<i>OM Attributes of OM Class</i>	Register-CC-Entry-Res	354
Table 5.316:	<i>OM Attributes of OM Class</i>	Register-Password-Arg	355
Table 5.317:	<i>OM Attributes of OM Class</i>	Register-Password-Res	355
Table 5.318:	<i>OM Attributes of OM Class</i>	Register-SS-Arg	356
Table 5.319:	<i>OM Attributes of OM Class</i>	Register-SS-Res	357
Table 5.320:	<i>OM Attributes of OM Class</i>	SS-Data	357
Table 5.321:	<i>OM Attributes of OM Class</i>	SS-Event-Specification	358
Table 5.322:	<i>OM Attributes of OM Class</i>	SS-For-BS-Code	359
Table 5.323:	<i>OM Attributes of OM Class</i>	SS-Info	359
Table 5.324:	<i>OM Attributes of OM Class</i>	SS-Invocation-Notification-Arg	360
Table 5.325:	<i>OM Attributes of OM Class</i>	SS-Invocation-Notification-Res	361
Table 5.326:	<i>OM Attributes of OM Class</i>	SS-List	361
Table 5.327:	<i>OM Attributes of OM Class</i>	SS-Subscription-Option	362
Table 5.328:	<i>OM Attributes of OM Class</i>	USSD-Arg	363
Table 5.329:	<i>OM Attributes of OM Class</i>	UUSD-Res	364
Table 5.330:	<i>OM Attributes of OM class</i>	Additional-Number	365
Table 5.331:	<i>OM Attributes of OM class</i>	Alert-Service-Centre-Arg	366
Table 5.332:	<i>OM Attributes of OM class</i>	Dispatcher-List	366
Table 5.333:	<i>OM Attributes of OM class</i>	Inform-Service-Centre-Arg	367
Table 5.334:	<i>OM Attributes of OM class</i>	Location-Info-With-LMSI	368
Table 5.335:	<i>OM Attributes of OM class</i>	MO-Forward-SM-Arg	369
Table 5.336:	<i>OM Attributes of OM class</i>	MO-Forward-SM-Res	370
Table 5.337:	<i>OM Attributes of OM class</i>	MT-Forward-SM-Arg	370
Table 5.338:	<i>OM Attributes of OM class</i>	MT-Forward-SM-Res	371
Table 5.339:	<i>OM Attributes of OM class</i>	MT-Forward-SM-VGCS-Arg	372
Table 5.340:	<i>OM Attributes of OM class</i>	MT-Forward-SM-VGCS-Res	372
Table 5.341:	<i>OM Attributes of OM class</i>	Ready-For-SM-Arg	373
Table 5.342:	<i>OM Attributes of OM class</i>	Ready-For-SM-Res	374

Table 5.343: <i>OM Attributes of OM class</i>	Report-SM-Delivery-Status-Arg	375
Table 5.344: <i>OM Attributes of OM class</i>	Report-SM-Delivery-Status-Res	377
Table 5.345: <i>OM Attributes of OM class</i>	Routing-Info-For-SM-Arg	377
Table 5.346: <i>OM Attributes of OM class</i>	Routing-Info-For-SM-Res	379
Table 5.347: <i>OM Attributes of OM class</i>	Send-Info-For-Mo-Sms-Arg	380
Table 5.348: <i>OM Attributes of OM class</i>	Send-Info-For-Mo-Sms-Res	380
Table 5.349: <i>OM Attributes of OM class</i>	Send-Info-For-Mt-Sms-Arg	380
Table 5.350: <i>OM Attributes of OM class</i>	Send-Info-For-Mt-Sms-Res	381
Table 5.351: <i>OM Attributes of OM class</i>	SM-RP-DA	381
Table 5.352: <i>OM Attributes of OM class</i>	SM-RP-OA	382
Table 5.353: <i>OM Attributes of OM Class</i>	Forward-Group-Call-Signalling-Arg	383
Table 5.354: <i>OM Attributes of OM Class</i>	Prepare-Group-Call-Arg	385
Table 5.355: <i>OM Attributes of OM Class</i>	Prepare-Group-Call-Res	386
Table 5.356: <i>OM Attributes of OM Class</i>	Process-Group-Call-Signalling-Arg	387
Table 5.357: <i>OM Attributes of OM Class</i>	Send-Group-Call-End-Signal-Arg	388
Table 5.358: <i>OM Attributes of OM Class</i>	Send-Group-Call-End-Signal-Res	389
Table 5.359: <i>OM Attributes of OM Class</i>	Send-Group-Call-Info-Arg	389
Table 5.360: <i>OM Attributes of OM Class</i>	Send-Group-Call-Info-Res	391
Table 5.361: <i>OM Attributes of OM Class</i>	State-Attributes	392
Table 5.362: <i>OM Attributes of OM Class</i>	Area	393
Table 5.363: <i>OM Attributes of OM Class</i>	Area-Definition	394
Table 5.364: <i>OM Attributes of OM Class</i>	Area-Event-Info	394
Table 5.365: <i>OM Attributes of OM Class</i>	Deferred-MT-LR-Data	395
Table 5.366: <i>OM Attributes of OM Class</i>	LCS-Client-ID	396
Table 5.367: <i>OM Attributes of OM Class</i>	LCS-Client-Name	397
Table 5.368: <i>OM Attributes of OM Class</i>	LCS-Codeword	398
Table 5.369: <i>OM Attributes of OM Class</i>	LCS-Location-Info	399
Table 5.370: <i>OM Attributes of OM Class</i>	LCS-Private-Check	400
Table 5.371: <i>OM Attributes of OM Class</i>	LCS-QoS	401
Table 5.372: <i>OM Attributes of OM Class</i>	LCS-Requestor-ID	402
Table 5.373: <i>OM Attributes of OM Class</i>	Location-Type	403
Table 5.374: <i>OM Attributes of OM Class</i>	Periodic-LDR-Info	404
Table 5.375: <i>OM Attributes of OM Class</i>	PLMN-List	404
Table 5.376: <i>OM Attributes of OM Class</i>	Provide-Subscriber-Location-Arg	405
Table 5.377: <i>OM Attributes of OM Class</i>	Provide-Subscriber-Location-Res	408
Table 5.378: <i>OM Attributes of OM Class</i>	Reporting-PLMN	409
Table 5.379: <i>OM Attributes of OM Class</i>	Reporting-PLMN-List	410
Table 5.380: <i>OM Attributes of OM Class</i>	Response-Time	411
Table 5.381: <i>OM Attributes of OM Class</i>	Routing-Info-For-LCS-Arg	411
Table 5.382: <i>OM Attributes of OM Class</i>	Routing-Info-For-LCS-Res	412
Table 5.383: <i>OM Attributes of OM Class</i>	Subscriber-Location-Report-Arg	413
Table 5.384: <i>OM Attributes of OM Class</i>	Subscriber-Location-Report-Res	416
Table 5.385: <i>OM Attributes of OM Class</i>	Authentication-Directive-Arg	419
Table 5.386: <i>OM Attributes of OM Class</i>	Authentication-Directive-Res	421
Table 5.387: <i>OM Attributes of OM Class</i>	Authentication-Directive-Forward-Arg	421
Table 5.388: <i>OM Attributes of OM Class</i>	Authentication-Directive-Forward-Res	422
Table 5.389: <i>OM Attributes of OM Class</i>	Authentication-Failure-Report-Arg	423
Table 5.390: <i>OM Attributes of OM Class</i>	Authentication-Failure-Report-Res	426
Table 5.391: <i>OM Attributes of OM Class</i>	Authentication-Request-Arg	428

Table 5.392:	<i>OM Attributes of OM Class</i>	Authentication-Request-Res	431
Table 5.393:	<i>OM Attributes of OM Class</i>	Authentication-Status-Report-Arg	433
Table 5.394:	<i>OM Attributes of OM Class</i>	Authentication-Status-Report-Res	434
Table 5.395:	<i>OM Attributes of OM Class</i>	Base-Station-Challenge-Arg	436
Table 5.396:	<i>OM Attributes of OM Class</i>	Base-Station-Challenge-Res	437
Table 5.397:	<i>OM Attributes of OM Class</i>	Blocking-Arg	437
Table 5.398:	<i>OM Attributes of OM Class</i>	Bulk-Deregistration-Arg	438
Table 5.399:	<i>OM Attributes of OM Class</i>	Count-Request-Arg	438
Table 5.400:	<i>OM Attributes of OM Class</i>	Count-Request-Res	439
Table 5.401:	<i>OM Attributes of OM Class</i>	Facilities-Directive-Arg	440
Table 5.402:	<i>OM Attributes of OM Class</i>	Facilities-Directive-Res	442
Table 5.403:	<i>OM Attributes of OM Class</i>	Facilities-Directive-2-Arg	443
Table 5.404:	<i>OM Attributes of OM Class</i>	Facilities-Directive-2-Res	446
Table 5.405:	<i>OM Attributes of OM Class</i>	Facilities-Release-Arg	447
Table 5.406:	<i>OM Attributes of OM Class</i>	Facilities-Release-Res	448
Table 5.407:	<i>OM Attributes of OM Class</i>	Feature-Request-Arg	449
Table 5.408:	<i>OM Attributes of OM Class</i>	Feature-Request-Res	451
Table 5.409:	<i>OM Attributes of OM Class</i>	Flash-Request-Arg	456
Table 5.410:	<i>OM Attributes of OM Class</i>	Handoff-Back-Arg	457
Table 5.411:	<i>OM Attributes of OM Class</i>	Handoff-Back-Res	459
Table 5.412:	<i>OM Attributes of OM Class</i>	Handoff-Back-2-Arg	460
Table 5.413:	<i>OM Attributes of OM Class</i>	Handoff-Back-2-Res	463
Table 5.414:	<i>OM Attributes of OM Class</i>	Handoff-Measurement-Request-Arg	464
Table 5.415:	<i>OM Attributes of OM Class</i>	Handoff-Measurement-Request-Res	465
Table 5.416:	<i>OM Attributes of OM Class</i>	Handoff-Measurement-Request-2-Arg	465
Table 5.417:	<i>OM Attributes of OM Class</i>	Handoff-Measurement-Request-2-Res	467
Table 5.418:	<i>OM Attributes of OM Class</i>	Handoff-To-Third-Arg	467
Table 5.419:	<i>OM Attributes of OM Class</i>	Handoff-To-Third-Res	469
Table 5.420:	<i>OM Attributes of OM Class</i>	Handoff-To-Third-2-Arg	470
Table 5.421:	<i>OM Attributes of OM Class</i>	Handoff-To-Third-2-Res	473
Table 5.422:	<i>OM Attributes of OM Class</i>	Information-Directive-Arg	474
Table 5.423:	<i>OM Attributes of OM Class</i>	Information-Directive-Res	475
Table 5.424:	<i>OM Attributes of OM Class</i>	Information-Forward-Arg	476
Table 5.425:	<i>OM Attributes of OM Class</i>	Information-Forward-Res	478
Table 5.426:	<i>OM Attributes of OM Class</i>	Inter-System-Answer-Arg	478
Table 5.427:	<i>OM Attributes of OM Class</i>	Inter-System-Page-Arg	479
Table 5.428:	<i>OM Attributes of OM Class</i>	Inter-System-Page-Res	484
Table 5.429:	<i>OM Attributes of OM Class</i>	Inter-System-Page-2-Arg	486
Table 5.430:	<i>OM Attributes of OM Class</i>	Inter-System-Page-2-Res	487
Table 5.431:	<i>OM Attributes of OM Class</i>	Inter-System-Setup-Arg	489
Table 5.432:	<i>OM Attributes of OM Class</i>	Inter-System-Setup-Res	490
Table 5.433:	<i>OM Attributes of OM Class</i>	Location-Request-Arg	491
Table 5.434:	<i>OM Attributes of OM Class</i>	Location-Request-Res	494
Table 5.435:	<i>OM Attributes of OM Class</i>	MS-Inactive-Arg	499
Table 5.436:	<i>OM Attributes of OM Class</i>	Origination-Request-Arg	500
Table 5.437:	<i>OM Attributes of OM Class</i>	Origination-Request-Res	503
Table 5.438:	<i>OM Attributes of OM Class</i>	Qualitification-Directive-Arg	508
Table 5.439:	<i>OM Attributes of OM Class</i>	Qualification-Request-Arg	515
Table 5.440:	<i>OM Attributes of OM Class</i>	Qualification-Request-Res	518

Table 5.441: <i>OM Attributes of OM Class</i>	Random-Variable-Request-Arg	524
Table 5.442: <i>OM Attributes of OM Class</i>	Random-Variable-Request-Res	524
Table 5.443: <i>OM Attributes of OM Class</i>	Redirection-Directive-Arg	525
Table 5.444: <i>OM Attributes of OM Class</i>	Redirection-Request-Arg	528
Table 5.445: <i>OM Attributes of OM Class</i>	Registration-Cancellation-Arg	529
Table 5.446: <i>OM Attributes of OM Class</i>	Registration-Cancellation-Res	530
Table 5.447: <i>OM Attributes of OM Class</i>	Registration-Notification-Arg	532
Table 5.448: <i>OM Attributes of OM Class</i>	Registration-Notification-Res	538
Table 5.449: <i>OM Attributes of OM Class</i>	Remote-User-Interaction-Directive-Arg	544
Table 5.450: <i>OM Attributes of OM Class</i>	Remote-User-Interaction-Directive-Res	545
Table 5.451: <i>OM Attributes of OM Class</i>	Reset-Circuit-Arg	545
Table 5.452: <i>OM Attributes of OM Class</i>	Reset-Circuit-Res	546
Table 5.453: <i>OM Attributes of OM Class</i>	Routing-Request-Arg	547
Table 5.454: <i>OM Attributes of OM Class</i>	Routing-Request-Res	551
Table 5.455: <i>OM Attributes of OM Class</i>	SMS-Delivery-Backward-Arg	553
Table 5.456: <i>OM Attributes of OM Class</i>	SMS-Delivery-Backward-Res	555
Table 5.457: <i>OM Attributes of OM Class</i>	SMS-Delivery-Forward-Arg	557
Table 5.458: <i>OM Attributes of OM Class</i>	SMS-Delivery-Forward-Res	558
Table 5.459: <i>OM Attributes of OM Class</i>	SMS-Delivery-Point-To-Point-Arg	560
Table 5.460: <i>OM Attributes of OM Class</i>	SMS-Delivery-Point-To-Point-Res	562
Table 5.461: <i>OM Attributes of OM Class</i>	SMS-Notification-Arg	564
Table 5.462: <i>OM Attributes of OM Class</i>	SMS-Request-Arg	565
Table 5.463: <i>OM Attributes of OM Class</i>	SMS-Request-Res	566
Table 5.464: <i>OM Attributes of OM Class</i>	Transfer-To-Number-Request-Arg	567
Table 5.465: <i>OM Attributes of OM Class</i>	Transfer-To-Number-Request-Res	570
Table 5.466: <i>OM Attributes of OM Class</i>	Trunk-Test-Arg	572
Table 5.467: <i>OM Attributes of OM Class</i>	Trunk-Test-Disconnect-Arg	573
Table 5.468: <i>OM Attributes of OM Class</i>	Unblocking-Arg	574
Table 5.469: <i>OM Attributes of OM Class</i>	Unreliable-Roamer-Data-Directive-Arg	574
Table 5.470: <i>OM Attributes of OM Class</i>	Unsolicited-Response-Arg	575
Table 5.471: <i>OM Attributes of OM Class</i>	Unsolicited-Response-Res	577
Table 5.472: <i>OM Attributes of OM Class</i>	Announcement-List	580
Table 5.473: <i>OM Attributes of OM Class</i>	CDMA-Code-Channel-Information	580
Table 5.474: <i>OM Attributes of OM Class</i>	CDMA-Code-Channel-List	581
Table 5.475: <i>OM Attributes of OM Class</i>	CDMA-Target-MAHO-Information	581
Table 5.476: <i>OM Attributes of OM Class</i>	CDMA-Target-MAHO-List	582
Table 5.477: <i>OM Attributes of OM Class</i>	CDMA-Target-Measurement-Information	583
Table 5.478: <i>OM Attributes of OM Class</i>	CDMA-Target-Measurement-List	583
Table 5.479: <i>OM Attributes of OM Class</i>	Intersystem-Termination	584
Table 5.480: <i>OM Attributes of OM Class</i>	Local-Termination	586
Table 5.481: <i>OM Attributes of OM Class</i>	PSTN-Termination	588
Table 5.482: <i>OM Attributes of OM Class</i>	Target-Measurement-Information	589
Table 5.483: <i>OM Attributes of OM Class</i>	Target-Measurement-List	589
Table 5.484: <i>OM Attributes of OM Class</i>	Termination-List	590
Table 6.1: <i>OM Attributes of OM class</i>	Bad-Argument	592
Table 6.2: <i>OM Attributes of OM class</i>	Error	594
Table 6.3: <i>OM Attributes of OM class</i>	Data-Missing-Param	597
Table 6.4: <i>OM Attributes of OM class</i>	Extensible-System-Failure-Param	598
Table 6.5: <i>OM Attributes of OM class</i>	Facility-Not-Sup-Param	599

Table 6.6: <i>OM Attributes of OM class</i>	Incompatible-Terminal-Param	600
Table 6.7: <i>OM Attributes of OM class</i>	Resource-Limitation-Param	600
Table 6.8: <i>OM Attributes of OM class</i>	System-Failure-Param	601
Table 6.9: <i>OM Attributes of OM class</i>	Unexpected-Data-Param	601
Table 6.10: <i>OM Attributes of OM class</i>	Unknown-Subscriber-Param	602
Table 6.11: <i>OM Attributes of OM class</i>	Number-Change-Param	603
Table 6.12: <i>OM Attributes of OM class</i>	Unidentified-Sub-Param	603
Table 6.13: <i>OM Attributes of OM class</i>	Roaming-Not-Allowed-Param	604
Table 6.14: <i>OM Attributes of OM class</i>	Illegal-Subscriber-Param	605
Table 6.15: <i>OM Attributes of OM class</i>	Illegal-Equipment-Param	605
Table 6.16: <i>OM Attributes of OM class</i>	Bearer-Serv-Not-Prov-Param	606
Table 6.17: <i>OM Attributes of OM class</i>	Teleserv-Not-Prov-Param	606
Table 6.18: <i>OM Attributes of OM class</i>	Target-Cell-Outside-GCA-Param	607
Table 6.19: <i>OM Attributes of OM class</i>	Tracing-Buffer-Full-Param	607
Table 6.20: <i>OM Attributes of OM class</i>	No-Roaming-Nb-Param	609
Table 6.21: <i>OM Attributes of OM class</i>	Absent-Subscriber-Param	609
Table 6.22: <i>OM Attributes of OM class</i>	Busy-Subscriber-Param	610
Table 6.23: <i>OM Attributes of OM class</i>	No-Subscriber-Reply-Param	610
Table 6.24: <i>OM Attributes of OM class</i>	Call-Barred-Param	611
Table 6.25: <i>OM Attributes of OM class</i>	Extensible-Call-Barred-Param	611
Table 6.26: <i>OM Attributes of OM class</i>	Forwarding-Violation-Param	612
Table 6.27: <i>OM Attributes of OM class</i>	Forwarding-Failed-Param	612
Table 6.28: <i>OM Attributes of OM class</i>	CUG-Reject-Param	613
Table 6.29: <i>OM Attributes of OM class</i>	OR-Not-Allowed-Param	613
Table 6.30: <i>OM Attributes of OM class</i>	ATI-Not-Allowed-Param	614
Table 6.31: <i>OM Attributes of OM class</i>	ATSI-Not-Allowed-Param	615
Table 6.32: <i>OM Attributes of OM class</i>	ATM-Not-Allowed-Param	615
Table 6.33: <i>OM Attributes of OM class</i>	Information-Not-Available-Param	616
Table 6.34: <i>OM Attributes of OM class</i>	Illegal-SS-Operation-Param	617
Table 6.35: <i>OM Attributes of OM class</i>	SS-Not-Available-Param	617
Table 6.36: <i>OM Attributes of OM class</i>	SS-Subscription-Violation-Param	618
Table 6.37: <i>OM Attributes of OM class</i>	SS-Incompatibility-Param	618
Table 6.38: <i>OM Attributes of OM class</i>	Short-Term-Denial-Param	619
Table 6.39: <i>OM Attributes of OM class</i>	Long-Term-Denial-Param	619
Table 6.40: <i>OM Attributes of OM class</i>	Absent-Subscriber-SM-Param	620
Table 6.41: <i>OM Attributes of OM class</i>	Message-Wait-List-Full-Param	621
Table 6.42: <i>OM Attributes of OM class</i>	SM-Delivery-Failure-Cause	621
Table 6.43: <i>OM Attributes of OM class</i>	Sub-Busy-For-MT-SMS-Param	622
Table 6.44: <i>OM Attributes of OM class</i>	No-Group-Call-Nb-Param	623
Table 6.45: <i>OM Attributes of OM class</i>	Position-Method-Failure-Param	624
Table 6.46: <i>OM Attributes of OM class</i>	Unauthorized-LCS-Client-Param	625
Table 6.47: <i>OM Attributes of OM class</i>	Unauthorized-Requesting-Network-Param	626
Table 6.48: <i>OM Attributes of OM class</i>	Unknown-Or-Unreachable-LCS-Client-Param	626
Table 6.49: <i>OM Attributes of OM class</i>	MM-Event-Not-Supported-Param	627

Preface

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Abstract

This document is a Specification containing technical details concerning the implementation of the XOM Mobile Application Part (XMAP) for OpenSS7. It contains recommendations on software architecture as well as platform and system applicability of the XOM Mobile Application Part (XMAP).

This document specifies a XOM Mobile Application Part (XMAP) Specification in support of the OpenSS7 Mobile Application Part (MAP) protocol stacks. It provides abstraction of the Mobile Application Part interface to these components as well as providing a basis for Mobile Application Part control for other Mobile Application Part protocols.

Purpose

The purpose of this document is to provide technical documentation of the XOM Mobile Application Part (XMAP). This document is intended to be included with the OpenSS7 STREAMS software package released by *OpenSS7 Corporation*. It is intended to assist software developers, maintainers and users of the XOM Mobile Application Part (XMAP) with understanding the software architecture and technical interfaces that are made available in the software package.

Intent

It is the intent of this document that it act as the primary source of information concerning the XOM Mobile Application Part (XMAP). This document is intended to provide information for writers of OpenSS7 XOM Mobile Application Part (XMAP) applications as well as writers of OpenSS7 XOM Mobile Application Part (XMAP) Users.

Audience

The audience for this document is software developers, maintainers and users and integrators of the XOM Mobile Application Part (XMAP). The target audience is developers and users of the OpenSS7 SS7 stack.

Revision History

Take care that you are working with a current version of this documentation: you will not be notified of updates. To ensure that you are working with a current version, check the [OpenSS7 Project](http://www.openss7.org) website for a current version.

A current version of this specification is normally distributed with the *OpenSS7* package, `openss7-1.1.7.20141001`.¹

¹ <http://www.openss7.org/repos/tarballs/openss7-1.1.7.20141001.tar.bz2>

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```

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As with most open source projects, this project would not have been possible without the valiant efforts and productive software of the [Free Software Foundation](#), the [Linux Kernel Community](#), and the open source software movement at large.

1 Introduction

1.1 Overview

The XOM Mobile Application Part Application Programming Interface (abbreviated XMAP) defines an Application Program Interface (API) to mobile application services. It is referred to as *the interface* throughout this specification.

The interface is designed to offer services that are consistent with, but not limited to, the 3GPP TS 29.002 and ITU-T Recommendation Q.711 standards. These standards were published in 1997 and have been stable for many years.

The interface is also designated to offer services that are consistent with the EIA/TIA ANSI-41D standards for CDMA mobile networks.

All of the above standards are referred to in this document as *the Standards*.

Access to other mobile application services through the API is not prohibited, but has not been explicitly considered.

The interface is designed to be used and implemented in conjunction with the use and implementation of the general-purpose XOM API (reference **XOM**).

A brief introduction to Mobile Application Services is given in [Section 1.3 \[Introductory Concepts\]](#), [page 17](#). Following this is an overview of OSI-Abstract-DATA Manipulation OM, which provides the Data Abstraction service as defined in the XOM specification (reference **XOM**). Then the optional features of this specification are described, and the chapter closes with a list of abbreviations. In all cases the reader should refer to the Standards (reference **TCAP**, reference **GSM MAP**), or to the XOM Specification (reference **XOM**) for further authoritative details.

The structure of the remaining chapters and appendices are described in the [\[Preface\]](#), [page 13](#).

1.2 Format of the Specification

This specification describes a programming language-independent interface to the Mobile Application Services together with a specific C language binding of that interface. Several conventions are used to identify particular items. The general conventions are described in the [\[Preface\]](#), [page 13](#), while the C language binding conventions are described in [Chapter 2 \[C Language Binding\]](#), [page 21](#).

1.3 Introductory Concepts

1.3.1 Relationship to MAP Protocols

The interaction between mobile application programs acting in a mobile application entity role are realized through the exchange of mobile application service information. The general communications service for the mobile applications is the *Mobile Application Part*. MAP defines the following operations:

Service

Type

This communication may be accomplished using the ITU-T or ANSI *Transaction Capabilities Application Part* protocol.

1.3.2 XMAP and the MAP Provider

The XMAP interface provides access to the MAP service provider, which offers all of the facilities defined in the Standards. It also provides facilities such as automatic association management and

automatic dialog handling. The interface is designed not to restrict the services offered to those of specific service packages of GSM MAP.

The interface defined in this specification is “symmetrical” in the sense that it can be used to implement mobile application programs acting in any of the MAP producer or consumer roles (e.g., HLR, VLR). The interface supports:

- a mobile application program acting as a consumer of mobile application services. This is done by submitting service operation requests and receiving service operation responses.
- a mobile application program acting as a producer of mobile application services. This is done by receiving service operation requests and sending back service operation responses.

The interface provides the ability to send *requests* on the consumer side and to receive *indications* on the producer side within a mobile service interaction. Furthermore, if the service is confirmed, the producer will be able to send back *responses* that will be received as *confirmations* by the consumer.

1.4 Relationship to GSM and ANSI MAP

The API is essentially based on the abstract services of the GSM MAP and ANSI MAP, but is independent of the underlying communications stack. The API allows the manipulation of ITU-T and ANSI mobile application service information. Thus this API does not preclude and does not force the use of either the GSM MAP protocol or the ANSI MAP protocol.

The XMAP API offers two abstract mobile application service views: the one of GSM and the one of CDMA.

The contents of GSM MAP messages are described in 3GPP TS 29.002. These messages implicitly define GSM MAP services. The mapping between GSM MAP services and various service primitives and parameters of the XMAP API are described below.

The services offered by the XMAP API are a superset of those defined both by GSM MAP and ANSI MAP. The general communication protocol for ANSI MAP is the TCAP as specified in ANSI T1.114/2000. The general communication protocol for GSM MAP is the TCAP as specified in ITU-T Recommendation series Q.771 through Q.775.

The two abstract mobile application views of XMAP (GSM MAP and ANSI MAP) are independent of the underlying protocol. However, the ITU-T view on top of ANSI TCAP requires that an appropriate mapping of GSM MAP services over ANSI TCAP is widely available.

1.5 Relationship to Data Abstraction Services

XMAP is dependent on standard data abstraction services to ensure portability of management software written to the XMAP specification. XMAP functions pass most arguments by reference. The data referenced by these arguments is modelled and manipulated in an object-oriented fashion. Mobile application data abstraction services are provided by the XOM API (reference **XOM**).

The definitions below introduce the various concepts that are used by Mobile Application data abstraction services.

<i>Syntax</i>	A <i>syntax</i> is the classification and representation of values in OSI-Abstract-Data Manipulation. Examples of syntaxes are <i>Boolean</i> , <i>Integer</i> , <i>Real</i> , <i>String(Octet)</i> , <i>String(Object-Identifier)</i> and <i>Object</i> .
<i>Value</i>	A <i>value</i> is a single datum, or piece of information. A value may be as simple as a Boolean value (for example, <i>True</i>), or as complicated as an entire OM object (for example, a <i>Message</i>).

OM Attribute

An *OM attribute type* is an arbitrary category into which a specification places some values. An *OM attribute* is an OM Attribute Type, together with an ordered sequence of one or more values. The OM Attribute Type can be thought of as the name of the OM attribute.

OM Object An *OM object* is a collection of OM attributes.

OM Class An *OM class* is a category of OM objects set out in a specification. It determines the OM attributes that may be present in the OM object, and details the constraints on those OM attributes.

Package A *Package* is a set of OM classes that are grouped together by the specification, because they are functionally related (for example, GSM service package).

Package Closure

A *Package-Closure* is the set of classes that need to be supported to be able to create all possible instances of all classes defined in the package. Thus an OM Class may be defined to have an OM Attribute whose value is an OM Object of an OM Class that is defined in some other package, but within the same *Package-Closure*.

Workspace A *workspace* is allocated storage that contains one or more *Package-Closures*, together with an implementation of the Mobile Application data abstraction services, that supports all the OM classes of OM objects in the *Package-Closures*.

Descriptor A *descriptor* is a defined data structure that is used to represent an OM Attribute Type and a single value. The structure has three components: a type, a syntax and a value.

Public Object

Public Objects are represented by data structures that are manipulated directly using programming language constructs. Use of Public Objects therefore simplifies programming by this direct access and by enabling objects to be statically defined, when appropriate. Programs can efficiently access public objects.

Private Objects

Private Objects are held in data structures that are private to the service and can only be accessed from programs indirectly using interface functions. They are of particular use for structures that are infrequently manipulated by programs, being passed by reference to the service, which can then manipulate them efficiently. An example of such objects in XMAP is the *session* object.

1.6 Mandatory and Optional Features

The interface defines an Application Program Interface (API) that application programs can use to access the functionality of the underlying Mobile Application Services. The interface does not define or imply any profile of that service.

Note that nothing in this specification requires that the implementation of the interface or the Mobile Application Services itself actually makes use of TCAP or other parts of the model, just so long as it provides the defined service. Also, the *scope* of the Mobile Application Services to which an application has access is not determined; it is not restricted to GSM MAP operations.

Some OM attributes are optional: these are marked (*Optional Functionality*) in the OM class definitions. They are:

- **File-Descriptor** in a **Session** object.

Some items of behaviour of the interface and a number of aspects of the Mobile Application Services provider are implementation-defined. These are:

- the maximum number of outstanding asynchronous operations
- whether an asynchronous function call returns before the operation is submitted to the Mobile Application Services provider
- the text and language of error messages
- the OM classes permitted as values of the **Address** and **Title** argument to interface functions.

The default values of some OM attributes on OM object **Session** are locally administered.

This API assumes the provision of automatic association management and automatic dialog handling by the MAP provider.

The interface enables negotiation of the use of the various defined features of the MAP provider and those of the interface.

1.7 Packages

The specification defines three Mobile Service packages (Common MAP package, GSM MAP package and ANSI MAP package), [Chapter 5 \[Interface Class Definitions\], page 81](#). These packages define the OM classes required by the interface functions to perform GSM MAP or ANSI MAP services. The Common MAP package, which also includes the errors defined (see [Chapter 6 \[Errors\], page 591](#)), is mandatory. The GSM MAP package and the ANSI MAP package are optional, but at least one of them must be supported by the implementation. The ITU-T service view and the ANSI service view assume the support of the corresponding GSM MAP or ANSI MAP package by the implementation. The use of the optional packages is negotiated using the `Negotiate()` function.

1.8 Terminology

The terms *implementation-defined*, *may*, *should*, *undefined*, *unspecified*, and *will* are used in this document with the meanings ascribed to them in reference **XPG4**, see also [\[Glossary\], page 659](#).

1.9 Abbreviations

API	Application Program Interface
ANS.1	Abstract Syntax Notation One
ANSI	American National Standards Institute
BER	Basic Encoding Rules
GSM	Global Services Mobile
ISO	International Organisation for Standardisation
ITU-T	International Telecommunications Union - Telecom Sector
MAP	Mobile Application Part
OM	OSI-Abstract-Data Manipulation
OSI	Open Systems Interconnect
ROSE	Remote Operations Service Element
TCAP	Transaction Capabilities Application Part
XMAP	XOM Mobile Application Part API
XOM	X/Open: OSI-Abstract-Data Manipulation API

2 C Language Binding

This chapter sets out certain characteristics of the C language binding to the interface. The binding specifies C identifiers for all the elements of the interface, so that application programs written in C can access the Mobile Application Services. These elements include function names, *typedef* names and constants. All of the C identifiers are mechanically derived from the language independent names as explained below. There is a complete list of all the identifiers in [Appendix A \[C Headers\]](#), [page 629](#). For ease of use, some of these identifiers are defined in the specification alongside the language-independent name.

A *Function()* is indicated as shown.

A **CONSTANT** is in Roman font.

The names of **[[ERRORS]]** and other return codes are surrounded by square brackets.

The definitions of the C identifiers appear in four headers:

- <xom.h>** This header file contains definitions for the associated OM interface.
- <xmap.h>** This header file contains common definitions for the access to the Mobile Application Part service (see [Chapter 4 \[Interface Functions\]](#), [page 37](#), and [Section 5.2 \[Common MAP Package\]](#), [page 83](#)). A listing of this header file is provided in [Section A.1 \[xmap.h\]](#), [page 629](#).
- <xmap_gsm.h>** This header file contains specific definitions that reflect the Abstract Services of the GSM Mobile Services along with the ASN.1 productions of the related protocol (GSM MAP), See [Section 5.3 \[GSM MAP Package\]](#), [page 100](#). A listing of this header file is provided in [Section A.2 \[xmap_gsm.h\]](#), [page 639](#).
- <xmap_ansi.h>** This header file contains specific definitions that reflect the Abstract Services of the ANSI Mobile Services along with the ASN.1 productions of the related protocol (ANSI MAP), See [Section 5.5 \[ANSI MAP Package\]](#), [page 417](#). A listing of this header file is provided in [Section A.3 \[xmap_ansi.h\]](#), [page 653](#).
- <xmap_gsm_sm.h>** This header file contains specific definitions that reflect the Short Message GSM services along with ASN.1 productions of the related services (GSM MAP Short Message services), See [Section 5.4.5 \[GSM Short Message Service Package\]](#), [page 364](#). A listing of this header file is provided in [Section A.4 \[xmap_gsm_sm.h\]](#), [page 654](#).

2.1 C Naming Conventions

The interfaces uses part of the C public namespace for its facilities. All identifiers start with the letters map, MAP or OMAP, and more detail of the conventions used are given in the following table. Note that the interface reserves *all* identifiers starting with the letters *mapP* for private (i.e. internal) use by implementations of the interface. It also reserves *all* identifiers starting with the letters *mapX* or *MAPX* for vendor-specific extensions of the interface. Application programmers should not use any identifier starting with these letters.

The OSI-Abstract-Data Manipulation API uses similar, though not identical, naming conventions, that are described in XOM (reference **XOM**). All its identifiers are prefixed by the letters *OM* or *om*.

reserved for implementors

mapP

reserved for interface extensions	<i>mapX</i>
reserved for interface extensions	<i>MAPX</i>
reserved for implementors	<i>OMAP</i>
functions	<i>map_</i>
error problem values	<i>MAP_E_</i>
enumeration tags (except errors)	<i>MAP_T_</i>
OM class names	<i>MAP_C_</i>
OM value length limits	<i>MAP_VL_</i>
OM value number limits	<i>MAP_VN_</i>
other constants	<i>MAP_</i>

A complete list of all identifiers used (except those beginning *mapP*, *mapX*, *MAPX* or *OMAP*) is given in [Appendix A \[C Headers\]](#), page 629. No implementation of the interface will use any other public identifiers. A *public identifier* is any name except those reserved in section 4.1.2.1 of the ISO C Standard, and the *public namespace* is the set of all possible public identifiers.

The C identifiers are derived from the language-independent names used throughout this specification by a purely mechanical process which depends on the kind of name:

- Interface function names are made entirely lower-case and prefixed by *map_*. Thus **Service-Req()** becomes *map_service_req()*.
- C function parameters are derived from the argument and result names by making them entirely lower-case. In addition, the names of results have *_return* added as a suffix. Thus the argument **Session** becomes *session*, while the result of **Result** becomes *result_return*.
- OM class names are made entirely upper-case and prefixed by *MAP_C_*. Thus **Service-Argument** becomes *MAP_C_SERVICE_ARGUMENT*. Note that the symbolic OM class names are strictly those used in the abstract syntax ASN.1 of the TCAP and MAP with the exception that names containing multiple words are separated by hyphens.
- Enumeration tags are derived from the name of the corresponding OM type and syntax by prefixing *MAP_*. The case of letters is left unchanged. Thus **Enum(User-reason)** becomes *MAP_User_reason*.
- Enumeration constants, except errors, are made entirely upper-case and prefixed by *MAP_T_*. Thus **resource-limitation** becomes *MAP_T_RESOURCE_LIMITATION*.
- The name of an OM attribute is local to its OM class, that means the same name of an OM attribute may appear in different OM classes, for example, OM attribute **application-Context** is defined in both OM classes **Open-Arg** and **application-Context-List**. Independent-language attribute **application-Context** appears as *MAP_APPLICATION_CONTEXT* in C-language. Note that the symbolic OM attribute names are strictly those used in the abstract syntax ASN.1 of the TCAP and MAP with the exception that names containing multiple words are separated with hyphens.
- Errors are treated as a special case. Constants that are the possible values of the OM attribute **Error-Status** of a subclass of the OM class **Error** are made entirely upper-case and prefixed by *MAP_E_*. Thus **invalid-session** becomes *MAP_E_INVALID_SESSION*.
- The constants in the **Value Length** and **Value Number** columns of the OM class definition tables are also assigned identifiers. (They have no names in the language-independent specification.) Where the upper limit in one of these columns is not “1” (one), it is given a name consisting of the OM attribute name, prefixed by *MAP_VL_* for value length, or *MAP_VN_* for value numbers.

- The sequence of octets for each object identifier is also assigned an identifier, for internal use by certain OM macros. These identifiers are all upper case and are prefixed by *OMP_O_*. See reference **XOM** for further details on the use of object identifiers.

Note that hyphens are translated everywhere to underscores.

2.2 Use and Implementation of Interfaces

Each of the following statements applies unless explicitly state otherwise in the detailed descriptions that follow:

If an argument to a function has an invalid value (such as a value outside the domain of the function, or a pointer outside the address space of the program, or a null pointer), the behaviour is *undefined*. Any function declared in a header may be implemented as a macro defined in the header, so a library function should not be declared explicitly if its header is included. Any macro definition of a function can be suppressed locally by encoding the name of the function in parentheses, because the name is not then followed by the left parentheses that indicate expansion of a macro function name. For the same syntactic reason, it is permitted to take the address of a library function even if it is also defined as a macro. The use of `#undef` to remove any macro definition will also ensure that an actual function is referred to. Any invocation of a library function that is implemented as a macro will expand to code that evaluates each of its arguments exactly once, fully protected by parentheses where necessary, so it is generally safe to use arbitrary expressions as arguments. Likewise, those function-like macros described in the following sections may be invoked in an expression anywhere a function with a compatible return type could be called.

2.3 Function Return Values

The return value of a C function is always bound to the result of the language-independent description. Functions return a value of `MAP_status`, which is an error indication. If and only if the function succeeds, its value will be **success**, expressed in C by the constant `MAP_SUCCESS`. If a function returns a status other than this, then it has not updated the return parameters. The value of the status, in this case, is an error as described in [Chapter 6 \[Errors\]](#), [page 591](#). In most cases the integer returned in **Status** is sufficient for error processing. However, in a few cases additional information is available if desired.

Since C does not provide multiple return values, functions must return all other results by writing into storage passed by the application program. Any argument that is a pointer to such storage has a name ending with `_return`. For example, the C parameter declaration `'OM_sint *invoke_id_return'` in the *Service-Req()* function indicates that the function will return a signed integer **Invoke-Id** as a result, so the actual argument to the function must be the address of a suitable variable. This notation allows the reader to distinguish between an input parameter that happens to be a pointer, and an output parameter where the `*` is used to simulate the semantics of passing by reference.

2.4 Compilation and Linking

All applications programs that use this interface include the `<xom.h>` and `<xmap.h>` headers in that order, and at least one of the `<xmap_gsm.h>` and `<xmap_ansi.h>` headers.

3 Description

The interface comprises a number of functions together with many OM classes and OM objects that are used as the arguments and results of the functions. Both the functions and the OM objects are based closely on the *Abstract Service* that is specified in the Standards (references GSM MAP and ANSI MAP).

The interface models mobile application interactions as service requests made through a number of interface *functions*, which take a number of input *arguments*. Each valid request causes an *operation* within the producer which eventually returns a *status* and any *result* of the operation.

All interactions between a Consumer and a Producer belong to a *session*, which is represented by an OM object passed as the first argument to most interface functions.

The other arguments to the function include a *context* and various service-specific arguments. The *context* includes a number of parameters that are common to many functions and that seldom change from operation to operation.

Each of the components of this model is described below, along with other features of the interface such as asynchronous function calls and security.

3.1 Services

As mentioned above, the Standards define Abstract Services that Consumers and Producers use. Each of these Abstract Services maps to a single function call with the same name. The services are **Service-req** and **Service-rsp**.

These are three functions called *Receive()*, *Wait()*, and *Abandon()* which have no counterpart in the Abstract Service. *Receive()* is used to receive indications and results of asynchronous operations, and is explained in [Chapter 4 \[Interface Functions\]](#), page 37. *Wait()* is used to suspend execution until indications are available for specified sessions. *Abandon()* is used to abandon locally the result of a pending asynchronous operation. Two additional functions *Bind()*¹ and *Unbind()* are used to open and close a user-session.

There are also other interface specific functions called *Get-Assoc-Info()*, *Get-Last-Error()*, *Validate-object()*, *Error-Message()*, *Initialize()*, *Shutdown()* and *Negotiate()*.

The detailed specifications are given in [Chapter 4 \[Interface Functions\]](#), page 37.

3.1.1 Negotiation Sequence

The interface has an initialize and shutdown sequence that permits the negotiation of optional features. This involves the functions *Initialize()*, *Negotiate()*, and *Shutdown()*.

Every application program must first call *Initialize()*, that returns a workspace. This workspace supports only the standard Common MAP package, See [Chapter 5 \[Interface Class Definitions\]](#), page 81.

The workspace can be extended to support either the GSM MAP or ANSI MAP package or both (see [Chapter 5 \[Interface Class Definitions\]](#), page 81, and any combination of the optional Mobile Application Services packages), or any vendor extensions. Vendor extensions may include additional packages, and may also include additional or modified functionality. All such packages or other extensions are identified by means of OSI Object Identifiers, and the Object Identifiers are supplied to the *Negotiate()* function to incorporate the extensions into the workspace. Features defined by this specification are described and assigned Object Identifiers in [Chapter 4 \[Interface Functions\]](#), page 37. A feature represents any package or any additional or modified functionality that is subject to negotiation. The *Negotiate()* function allows some particular features to be made available.

¹ See [Section 4.7 \[Bind\(\)\]](#), page 48.

After a workspace with the required features has been negotiated in this way, the application can use the workspace as required. It can create and manipulate OM objects using the OM functions, and can start one or more management sessions using *Bind()*.² All the sessions on a given workspace share the same features.

Eventually, when it has completed its tasks, terminated all its mobile application sessions using *Unbind()*, and released all its OM objects using *OM-Delete()*, the application should ensure that resources associated with the interface are freed by calling *Shutdown()*.

A miscellaneous error arises if an attempt is made to use an unavailable feature. If an instance of a class that is not in an available package is supplied as a function argument, the **bad-class** error arises.

3.1.2 Names, Addresses and Titles

To address a wide variety of mobile application transport protocols the interface is capable of accepting various forms of object names, system addresses and program or system titles.

- **Name** is an “abstract class” that contains various subclass types used to define specific subscribers or systems responsible for producing mobile application services.
- **Address** is an “abstract class” that contains various subclass types used to define the specific location to contact a particular consumer or producer of mobile services. For example, the SCCP-Address subclass is typically used to define the location of a producer or consumer.
- **Title** is an “abstract class” that contains various subclass types used to define a specific subscriber or system name responsible for producing mobile application services.

All three abstract classes participate in an implementation-specific name resolution scheme. It is assumed that given a **Name**, an implementation can determine the **Title** responsible for that **Name**. It is also assumed that given a **Title**, an implementation can determine the **Address** of that **Title**.³

The producer of an invoked operation may be explicitly designated at the interface boundary using the following precedence rules:

1. A default Title or Address may be supplied as parameters to a bound “session”. If both are provided, the implementation will verify that the Title resolves to the Address.
2. If automatic association management is used, a provider Title or Address may be supplied as parameters within the “context” or a specific operation request. If both are provided, the implementation will verify that the Title resolves to the Address. The “context” Title or Address takes precedence over the “session” Title or Address for unassociated session objects.
3. A consumer address may be supplied as a parameter within the “argument” of a specific operation request. The “argument” Address takes precedence over either the “session” Title or Address or the “context” Title or Address.
4. If the producer of an invoked operation is not explicitly designated at the interface boundary, the implementation will resolve the Name to the appropriate Title or Address.

3.2 Session

A session identifies to which mobile application entity a particular operation will be sent. It contains some **Bind-Arguments**, such as the name of the consumer. The session is passed as the first argument to most interface functions.

² See Section 4.7 [*Bind()*], page 48.

³ Note that the way in which these relationships are resolved is implementation-dependent, but use of SCCP Global Title translations should play a significant role.

A session is described by an OM object of OM class **Session**. It is created, and appropriate parameter values may be set, using the OSI-Abstract-Data Manipulation functions. A mobile application session is then started with *Bind()*⁴ and later is terminated with *Unbind()*. A session with default parameters can be started by passing the constant **Default-Session** (`(OM_object)MAP_DEFAULT_SESSION`) as the **Session** argument to *Bind()*.

Bind() must be called before the **Session** can be used as an argument to any other function in the interface. After *Unbind()* has been called, *Bind()* must be called again if another session is to be started.

The interface supports multiple concurrent sessions, so that an application implemented as a single process, such as a server in a client-server model, can interact with the Mobile Application Services using several identities; and so that a process can interact directly and concurrently with different mobile application services.

Detailed specifications of the OM class **Session** are given in [Chapter 5 \[Interface Class Definitions\]](#), [page 81](#).

A session can be used either acting as a consumer of mobile application services, or acting as a producer of mobile application services, or both.

A session can be restricted for use only with a designated program called the responder. When the responder is omitted and automatic association management is used, the session can be used to exchange mobile application service information with all processes.

The responder (title and address) parameters of an opened session, if present, specifies the producer of the requested operation. The precedence rules on address and title of the responder are described in [Section 3.1.2 \[Names, Addresses and Titles\]](#), [page 26](#).

Other OM attributes (vendors' implementation extensions) may be included to specify characteristics of the underlying protocol used.

There are three type of session objects:

3.2.1 AAM Enabled Session

The **Session** collects together all the information that described a particular management interaction. The parameters that are to control such a session are set up in an instance of this OM class, which is then passed as an argument to *Bind()*.⁵ This sets the OM attributes that describe the actual characteristics of the session, and starts the session. Such a started session can be passed as the first argument to interface functions.

No attribute of a bound or connected session may be changed. The result of modifying a started session is unspecified.

Finally, *Unbind()* is used to terminate the session, after which the parameters can be modified and a new session started using the same instance, if required. Multiple concurrent sessions can be run, by using multiple instances of this OM class.

A session allows a requesting program (the requester) to exchange mobile application information with another program designated (the responder) or by default to all programs.

An *AAM enabled* session thus allows a mobile application entity to access either a portion of the mobile application services (that is, that are accessible via the designated responder) or all mobile application services. In the later case, the producer mobile application entity resolution is performed by the Mobile Application Service provider, according to the mobile application services invoked.

This type of session object can not be used to receive or send ACSE related primitives or operations explicitly. To use ACSE explicitly, see [Section 3.2.2 \[AAM Disabled Session\]](#), [page 28](#).

⁴ See [Section 4.7 \[Bind\(\)\]](#), [page 48](#).

⁵ See [Section 4.7 \[Bind\(\)\]](#), [page 48](#).

3.2.2 AAM Disabled Session

A session object can have Automatic Association Management disabled when it belongs to a workspace that has Automatic Association Management disabled via *Negotiate()*, which allows the user to explicitly send and receive ACSE operations to build and tear down associations. It gives explicit control over associations to the user. The Mobile Application Service provider does no ACSE operations on behalf of the user.

When the user creates and binds a session object in a workspace with AAM disabled, only the following attributes within the session object can be specified:

- *requestor-Address*
- *requestor-Title*

The session object is then passed as an argument to *Bind()*,⁶ which binds the session. This bound session can only be used to send ACSE related operations and to receive ACSE related primitives. The following can be sent/received using this type of bound session:

- *Receive()* (`map_receive()`/'MAP_ASSOC_IND')
- *Receive()* (`map_receive()`/'MAP_ASSOC_CNF')
- *Assoc-req()* (`map_assoc_req()`)
- *Assoc-rsp()* (`map_assoc_rsp()`)

The other attributes that relate to ACSE are specified within an **Assoc-Argument** or **Assoc-Result** object that is passed to, or returned from, *Assoc-req()*, *Assoc-rsp()*, or *Receive()*.

3.2.3 Associated Session

Once a user has created a bound session that has AAM disabled, an association can be created. An association is represented by an *associated* or *partially associated* session object. An *associated* session is returned as the result of building a new association. The associated session is used, like a bound session, by sending and receiving mobile application dialog handling or service operations. The major difference is that an associated session object can only be used to send and receive operations to, or from, a single remote mobile application entity. After a session is associated, the user can abort the association, which implicitly unbinds the associated, or partially associated, session.

The precedence rules for common parameters within the **Session** and the **Context** objects are different for associated session objects. Once a session is in the associated state; the *responder-Address* and *responder-Title* cannot be overridden by the context object.

To terminate this type of session, the user should either abort the session, which implicitly unbinds the session. If the user unbinds the associated session prior to aborting the association, the service provider will abort the association.

3.2.4 ADH Enabled Session

The ADH enabled session allows a mobile application entity to invoke and respond to mobile application services requests and indications without regard for dialog handling. The Mobile Application Service provider provides all dialog handling.

This type of session cannot be used to send dialog handling primitives or operations explicitly. To use dialog handling explicitly, see [Section 3.2.5 \[ADH Disabled Session\]](#), page 29.

⁶ See [Section 4.7 \[Bind\(\)\]](#), page 48.

3.2.5 ADH Disabled Session

A session object can have Automatic Dialog Handling disabled when it belongs to a workspace that has Automatic Dialog Handling disabled using the *Negotiate()* function. This allows the user to explicitly send and receive dialog handling operations to establish and tear down dialogs. It gives explicit control over dialogs to the user. The Mobile Application Service provider does no dialog handling operations on behalf of the user.

Once the session object is bound (AAM enabled) or associated (AAM disabled) and has ADH disabled, the session must explicitly issue dialog handling operations for each mobile application service request or response. This bound or associated session can only be used to send dialog handling primitives. The following can be sent/received using this type of bound or associated session:

- *Receive()* (`map_receive()`/'MAP_OPEN_IND')
- *Receive()* (`map_receive()`/'MAP_ACCEPT_CNF')
- *Receive()* (`map_receive()`/'MAP_REFUSE_CNF')
- *Open()* (`map_open()`)
- *Accept()* (`map_accept()`)
- *Refuse()* (`map_refuse()`)

The other attributes that relate to dialog handling are specified within the **Open-Argument**, **Accept-Result** or **Refuse-Result** objects that are passed to, or returned from, *Open()*, *Accept()*, *Refuse()*, or *Receive()*.

3.2.6 Dialog Session

Once a user has created a bound or associated session that has ADH disabled, a dialog can be created. A dialog is represented by a *fully formed*, or *partially formed dialog*, session object. A *dialog* session is returned as the result of building a new dialog. The dialog session is used, like a bound or associated session, by sending and receiving mobile application service operations. The major difference is that a dialog session object can only be used to send and receive operations within a single dialog with a single remote mobile application entity. After a session forms a dialog, the user can close or abort the dialog, which returns the session to the bound or associated state.

The precedence rules for common parameters within the **Session** and the **Context** objects are different for dialog session objects. Once a session has formed a dialog, the dialog related arguments, *application-Context-Name*, cannot be overridden by the context object.

To terminate this type of session, the user should either abort or close the dialog, which implicitly unbind the session. If the user unbinds the dialog session prior to either closing or aborting the dialog, the service provider will first attempt to close the dialog, and if that is rejected, will abort the dialog.

3.3 Context

The context defines the characteristics of the mobile application interaction that are specific to a particular mobile application operation, but are often used unchanged for many operations. Since the parameters are presumed to be relatively static for a given user during a particular mobile application interaction, these arguments are collected into an OM object of OM class **Context**, which is supplied as the second argument of each mobile application operation. This serves to reduce the number of arguments passed to each function.

The context includes various administrative details, such as the *mode* defined in the Abstract Service, which affect the processing of each mobile application operation. These include a number of

Service Controls and *Local Controls* that allow control over some aspects of the operation. The *Service Controls* include **mode**, **responder-Address**, and **responder-Title**. The *Local Controls* include **asynchronous**, **reply-Limit** and **time-Limit**. Each of these is mapped onto an OM attribute in the **Context**, and they are detailed in [Chapter 5 \[Interface Class Definitions\]](#), page 81.

The effect is as if they were passed as a group of additional arguments on every function call. The value of each component of the context is determined when the interface function is called, and remains fixed throughout the operation.

The precedence rules on address and title of the responder are described in [Section 3.1.2 \[Names, Addresses and Titles\]](#), page 26.

Some of the OM attributes in the **Context** have default values, some of which are locally administered. The constant **Default-Context** ('MAP_DEFAULT_CONTEXT') can be passed as the value of the **Context** argument to the interface functions, and has the same effect as a context OM object created with default values. The context must be a private object, unless it is **Default-Context**.

Detailed specifications of the OM class **Context** are given in [Chapter 5 \[Interface Class Definitions\]](#), page 81.

3.4 Function Arguments

The Abstract Service defines specific arguments for each operation. These are mapped onto corresponding arguments to each interface function (which are also called input parameters). Although each service has different arguments, some specific arguments recur in several operations; these are briefly introduced here. As far as the GSM MAP package is concerned, OM classes are defined with a one-to-one mapping to the ASN.1 Abstract Syntax of GSM MAP. Full details of these and all the other arguments are given in the function definitions in [Chapter 4 \[Interface Functions\]](#), page 37, and the OM class definitions in [Chapter 5 \[Interface Class Definitions\]](#), page 81.

All arguments that are OM objects can generally be supplied to the interface functions as public objects (i.e, descriptor lists) or as private objects. Private objects must be created in the workspace that was returned by *Initialize()*. In some cases, constants can be supplied instead of OM objects.

Note that wherever a function is stated as accepting an instance of a particular OM class as the value of an argument, it will also accept an instance of any subclass of that OM class. For example, the **Service-Req** function has a parameter **argument**, which accepts values of OM class **Service-Argument**. Any of the subclasses of **Service-Argument** may be supplied as the value of **argument**.

Rules for interpretation of 'ANY' syntax appearing in function arguments are defined in [Section 3.4.1 \[Encoding and Decoding\]](#), page 30.

3.4.1 Encoding and Decoding

XMAP specifies two alternatives for encoding and decoding of Mobile Application Packages OM-Attribute values of type 'ANY', or any OM-Attribute values in a Mobile Application Services package.

1. The encoding and decoding functionality can be provided internally with the XMAP API, without requiring the application to invoke any encoding or decoding functions. This option allows the application to be free from any knowledge of encoding rules. In this case, the OM class and attribute type and corresponding representation are defined in a mobile application or services package. The XMAP API uses the package definition to attempt encoding or decoding; if automatic decoding fails, an OM String(Encoding) is used.
2. The application can perform encoding and decoding itself. This option gives the application responsibility and control over the encoding and decoding of OM attributes. In this case, all OM attribute values appear as an OM String(Encoding).

The encoding and decoding alternative to be used is negotiated through the *Negotiate()* function; See [Section 4.14 \[Negotiate\(\)\]](#), page 58.

The XMAP API does not specify the use of OM-Encode or OM-Decode for the OM classes defined in this specification, or in mobile application or services packages used with this specification.

To ensure interoperability, the sender and receiver must follow the same encoding rules when converting between OM syntax and encoded syntax. If an algorithm is used to generate OM packages, then the algorithm must ensure that the generated OM syntax is consistent with the input abstract syntax (that is, the same encoded values must result from applying the encoding rules to either representation). The encoding rules used with the GSM MAP and ANSI MAP packages defined by this specification are ANS.1 BER. This does not imply that other encoding rules cannot be used with other packages defined in the future.

For the API to encode and decode the OM attribute values according to the ASN.1 standard scheme, ASN.1 tagging information must be stored for each OM object and each OM attribute. Thus, the package definitions in the workspace need to incorporate the ASN.1 tagging information for each OM object and each OM attribute definition for all Mobile Application Services packages.

As a minimum, the following requirements apply:

- All rules specified in ISO/IEC 8825 – Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1) shall be adhered to. Any exceptions or restrictions must be stated.
- ASN.1 tagging information must be retained for each OM object and each OM attribute in the Mobile Application Services packages.
- The specified encoding and decoding scheme (and any implementation thereof) should be extensible to accommodate the new encoding rules established subsequent to ISO/IEC 8825.

3.4.2 Argument and Response

Most operations and notifications take an argument to specify the argument of the operation and a response when issuing the response of the operation. These arguments and responses are specified to accept values of OM classes that are consistent with the abstract service view (GSM MAP or ANSI MAP) of the current operation.

The argument for a *Service-req()* function is represented by an instance of the OM Class **GSM-Service-Req-Argument** for a GSM MAP operation or an instance of the OM Class **ANSI-Service-Req-Argument** for an ANSI MAP operation.

The response for a *Service-rsp()* function is represented by an instance of the OM Class **GSM-Service-Result**, **GSM-Linked-Reply-Argument Service-Error** or **GSM-Service-Reject** to represent the possible responses of the GSM service request operation, or an instance of the **ANSI-Service-Result**, **ANSI-Linked-Reply-Argument Service-Error** or **ANSI-Service-Reject** to represent the possible responses of the ANSI service request operation.

3.5 Function Results

All functions return a **Status** (which is the C function result). Most return an **Invoke-ID** which identifies the particular invocation. The confirmed operations each return a **Result**. (The **Invoke-ID** and **Result** are returned using pointers that are supplied as arguments of the C function). These three kinds of function results are introduced below.

All OM objects returned by interface functions (results and errors) will be private objects in the workspace associated with the session private object.

3.5.1 Invoke-ID

All interface functions that invoke a mobile application service operation return an **Invoke-ID**; an integer that identifies the particular invocation of an operation. The **Invoke-ID** is only relevant for asynchronous confirmed operations and may be used later to receive the **Status** and **Result**, or to abandon them. The **Invoke-ID** is also used to respond to a previously requested confirmed operation. Asynchronous operations are fully described in [Section 3.6 \[Synchronous and Asynchronous Operation\]](#), page 33. The interface functions that can be used to start them are the *Service-req()* function.

The numerical value of the invoke-Id returned from a call that successfully invoke an asynchronous confirmed operation is guaranteed to be unique amongst all outstanding operations in given session. The value is such as could be returned from TCAP, the Transaction Capabilities Application Part defined in ITU-T Recommendation Q.771 through Q.775. Invoke IDs used by XMAP are not necessarily those that are actually sent via a protocol such as TCAP. Invoke IDs may be mapped or altered by the Mobile Application Service provider.

The value returned for a synchronous operation or an asynchronous non-confirmed operation is unspecified, as is that for a call that fails to invoke an operation.

3.5.2 Result

Functions invoking confirmed mobile application service operations return a result only if they succeed. All errors from these functions are reported in the **Status** described below, as are errors from all other functions.

The value returned by a function call that invokes an asynchronous operation is unspecified, as is that for a call that fails to invoke an operation. The result of an asynchronous operation is returned by a later call to *Receive()*.

The result of a function invoking a confirmed operation can be composed of a single reply, or of multiple linked replies. In the later case, the term *partial result* is used to designate one of these linked replies. Only a confirmed **Service-req** may produce multiple results. Multiple replies to a single mobile application service operation may only occur if the invoker specifies multiple-reply in the functional unit attribute of the Session object.

In asynchronous mode, the partial results can be retrieved one at a time by subsequent calls to *Receive()*, which each time returns an instance of OM class **Linked-Reply-Argument**. In synchronous mode, the function returns an instance of OM class **Multiple-Reply**, which contains a list of sub-objects of OM class **Linked-Reply-Argument**.

The result (or partial result) of an operation is returned in a private object whose OM class is appropriate to the particular operation. The format of mobile application service operation results is driven both by the Abstract Service and by the need to provide asynchronous execution of functions. To simplify processing of asynchronous results, the result (or partial result) of a single operation is returned in a single OM object (corresponding to the abstract result defined in the Standards). The components of the result (or partial result) of an operation are represented by OM attribute in the operation's result object. All information contained in the Abstract Service result is made available to the application program. The result (partial result) is inspected using the functions provided in the OSI-Abstract-Data Manipulation API.

Only confirmed mobile application service operations produce results, and each type of operation has a specific OM class of OM object for its result. These OM classes are defined in [Chapter 5 \[Interface Class Definitions\]](#), page 81.

The actual OM class of the result can always be a subclass of that named, to allow flexibility for extensions. Thus, the function *OM-Instance()* should always be used when testing the OM class.

3.5.3 Status

Every interface function returns a **Status** value, which is either the constant **success** (`(MAP_status)0` or `MAP_SUCCESS`) or an error. Function call errors are represented as integer constants and grouped in categories of System, Library and Communications as described in [Chapter 6 \[Errors\]](#), page 591.

Additional error information is available for System and Communications errors via the *Get-Last-Error()* function call. Additional error information is available for the **bad-argument** Library error via the *Validate-object()* function call.

A synchronous call with multiple linked replies is considered successful unless the reply limit or time limit is exceeded. The function returns a **Status** value equal to success, and the argument *Result* is an OM object of OM class **Multiple-Reply**, which contains all the linked replies.

It should be noted that OM object **Linked-Reply-Argument** may contain an OM attribute that reflects an error.

If the reply limit or time limit is exceeded, the synchronous call fails and returns a status of the appropriate Library error. However, the *Result* is still considered valid and may contain an OM-Object **Multiple-Reply**, which contains all the received linked replies. A result of `MAP_ABSENT_OBJECT` means no replies were received.

In most cases other results of functions are initialized to Null (`MAP_ABSENT_OBJECT`) if the status does not have the value **success**. However, the *Result* is still considered valid and may contain an OM-Object of partial replies. A result of `MAP_ABSENT_OBJECT` means no replies were received.

3.6 Synchronous and Asynchronous Operation

The asynchronous or synchronous mode of a requested operation is specified at the interface, and determined for each operation by the value of the OM attribute *Asynchronous* in the **Context** passed to the interface function. The default value of this OM attribute is **false**, causing all operations to be synchronous. Support for both synchronous and asynchronous operation is mandatory. There is a limit to the number of pending asynchronous operations; this limit is given by the constant **max-outstanding-operations**, and has a minimum value of 10.

In synchronous mode, all functions wait until the operation is complete before returning. Thus the thread of control is blocked within the interface after calling a function, and the application can make use of the result immediately after the function returns.

In asynchronous mode, some functions return before the operation is complete. The application is then able to continue with other processing while the operation is being executed by the Mobile Application Service provider, and can then access the result by calling *Receive()*. An application may initiate several concurrent asynchronous operations on the same session before receiving any of the results, subject to the limit described below. The results are not guaranteed to be returned in any particular order. The functions that can execute asynchronously are the *Service-req()* function. This corresponds to the mobile application services of the Standards that operate in a confirmed mode. Moreover, only confirmed operations return service results.

An asynchronous function call of a confirmed service returns an **Invoke-ID** of the operation to the application. The same **Invoke-ID** will be returned by *Receive()* on the corresponding result.

An **Invoke-ID** is also returned by *Receive()* on an indication of an invoked mobile application service operation. The same **Invoke-ID** will be used to respond to this operation.

Implementations of the interface are free to return from asynchronous function calls as soon as possible or may wait until the operation has been submitted to the underlying Mobile Application Service provider. The actual policy used is implementation-defined.

Implementations will define a limit to the number of asynchronous operations that may be outstanding at any one time on any one session. An asynchronous operation is outstanding from the time that the function is called until the last reply of the result is returned by *Receive()*, or the operation is abandoned by *Abandon()*, or the session is closed by *Unbind()*. The limit is given by the constant **max-outstanding-operations** ('MAP_MAX_OUTSTANDING_OPERATIONS') and is at least 10 for conforming XMAP implementations. While this number of operations is outstanding, attempts to invoke further asynchronous operations will report a **Library-Error** (too many operations).

Asynchronous operation calls can be aborted by executing an *Abandon()* or *Unbind()* call. In this case, the operation is no longer outstanding and the result will never be returned by further *Receive()* function calls.

If an error is detected before an asynchronous request is submitted to the Mobile Application Service provider, the function will return immediately and there will be no outstanding operation generated. Other errors are notified later by *Receive()*, when the result of the outstanding asynchronous confirmed operation is returned. All errors occurring during a synchronous request are reported when the function returns. Full details of error handling are given in [Chapter 6 \[Errors\]](#), page 591.

Where vendors provide suitable system primitives (such as System V `poll(2s)`, or BSD `select(2)`), applications can obtain a file descriptor from the **Session** by inspecting the value of the OM attribute *File-Descriptor*. Applications may use the file descriptor to suspend the process until data is received on the particular file descriptor.

Applications should ensure that there are no outstanding asynchronous operations on a session when *Unbind()* is called on that session. Once *Unbind()* has been called there is no way to determine whether any outstanding operations succeed or even whether they were ever sent to the Mobile Application Service provider. Also no errors or results of any kind will be reported to the application. It is strongly recommended that *Receive()* is called repeatedly until **Completion-Flag** takes the value **nothing**.

3.7 Other Features

These features are not part of the interface itself, but are mandatory when specified by the Mobile Application Service provider.

The Mobile Applications are not restricted to those defined by GSM MAP.

All the features listed below are for the most part necessary for ease of use in a mobile application environment. These features are classified as given registered identifiers (Object Identifier). They can be negotiated using the *Negotiate()* function in the same manner as packages. Other types of information that are critical in servicing an environment that includes implementation from multiple vendors on various machines can also be classified and handled with the *Negotiate()* function. Features defined by this specification are described and assigned Object Identifiers in [Chapter 4 \[Interface Functions\]](#), page 37.

3.7.1 Automatic Association Management

When the Mobile Application Services provider makes use of association oriented communication services, such as TCAP, the Mobile Application Service provider implementations are assumed to provide automatic handling of the association between mobile application entities, establishing and releasing associations at its discretion. Such management is intended to bring benefits such as reduced communication charges. To allow this flexibility to the implementation, the interface does not specify when communication takes place. Automatic Association Management (AAM) may be enabled or disabled on a per-workspace basis using the *Negotiate()* function.

3.7.2 Automatic Dialog Handling

When the Mobile Application Services provider makes use of dialog oriented communication services, such as that provided by TCAP, the Mobile Application Service provider implementations are assumed to provide automatic handling of dialogs between mobile application entities, establishing and releasing dialogs at its discretion. Such management is intended to bring benefits such as reduced communication overheads. To allow this flexibility to the implementation, the interface does not specify when communication takes place. Automatic Dialog Handling (ADH) may be enabled or disabled on a per-workspace basis using the *Negotiate()* function.⁷

3.7.3 Automatic Performer Resolution

The performer of an invoked operation may be explicitly designated by the responder name and responder address parameters of the bound session used.

However, in the case where the responder is specified as a wildcard, the Mobile Application Service provider may be assumed to provide automatic mobile application service and application context to consumer resolution: to find out the consumer that is in charge of the selected mobile application service specified in the mobile application service operation.

3.7.4 Responder Versatility

Responder versatility is the ability to change the consumer within a same bound-session at each function call. It is useful when the automatic consumer resolution is either not supported by the Mobile Application Service provider or not requested. This applies if the underlying Mobile Application Service provider is connection-less.

3.7.5 Automatic Name to Address Resolution

Mobile Application Service provider implementation may provide automatic resolution between program name and address to find the network address of a mobile application entity from its name using directory or translation services.

3.7.6 Automatic Dispatching to Appropriate Stack

The Mobile Application Services provider implementation may provide a loop back facility if the destination of the operation or notification is local. It also may provide routing of the mobile application services operation to the proper underlying communications stack according to the implied mobile application service and the destination (for example over a ITU-T SCCP stack or an ANSI SCCP stack).

3.8 Function Sequencing

A minimum set of sequencing rules applies when using the interface to exchange mobile application service information between mobile application programs acting as a mobile application entity. These rules need to be respected by mobile application programs to ensure that interface functions are called in the proper sequence and that the state of the interface is not violated, otherwise **Library-error** status will be returned.⁸

The general rules to follow are:

1. Initialize a workspace ('`map_initialize()`')

⁷ Note that Automatic Dialog Handling is an independent concept from Automatic Association Management.

⁸ Note the following is considered as tutorial information. The definitive information is contained in the Standards (see referenced documents).

2. Negotiate features of the interface (`'map_negotiate()'`)
3. Open one or several sessions (`'map_bind()'`)
4. Perform mobile application service interactions (operations) using the offered interface functions. An interaction is identified by its **Invoke-Id**.
5. Close the opened sessions (`'map_unbind()'`)
6. Discard the workspace (`'map_shutdown()'`)

Seven states are defined in the interface to cover both interface service operations and mobile application service interactions:

<i>UNINIT</i>	Workspace uninitialized.
<i>INIT</i>	Workspace initialized.
<i>UNBND</i>	Session closed.
<i>BND</i>	Session opened.
<i>IDLE</i>	
<i>OUTOP</i>	Outstanding operation requested in a mobile application service interaction.
<i>OPIND</i>	Operation indication received in a mobile application service interaction.

4 Interface Functions

4.1 Abandon()

NAME **Abandon** – abandon locally the result of a pending asynchronous operation.

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

MAP_status map_abandon(
    OM_private_object  session,
    OM_sint32          invoke_id
);
```

DESCRIPTION

This function abandons the result of an outstanding asynchronous function call. The function is no longer outstanding after this function returns, and the result (or the remaining results in case of multiple linked replies) will never be returned by *Receive()*. *Abandon()* may, but need not, cause the Mobile Application Service provider to abandon the outstanding asynchronous operation itself (as opposed to simply discarding the result). Note that the specified behaviour is a local matter, and no statement is made about underlying mobile application service operations that may or may not be abandoned.

This function can only be called in synchronous mode.

ARGUMENTS

Session (Object(Session))

The mobile application session in which the confirmed operation was requested. This must be a private object previously returned from *Bind()*.¹

Invoke-ID (Integer)

Selects the specific outstanding asynchronous operation submitted via the **Session** to be terminated. The outstanding operation may be a non-confirmed service. In that case the abandon is without effect. The value of **Invoke-ID** must be that which was returned by the function call that initiated the asynchronous management operation that is now to be abandoned.

RESULTS

Status (Status)

Indicates whether or not the abandon function succeeded.

ERRORS This function can return a **System-Error** or one of the following **Library-Errors**: bad-class, bad-session, bad-procedural-use, miscellaneous, session-terminated.

This function can return a **Communications-Error**.

Note that the abandon function is successful even if the operation to be abandoned does not exist (any longer) or is not confirmed. The abandon is then without effect.

¹ See Section 4.7 [*Bind()*], page 48.

The function can also return the error constants `[[MAP_NO_WORKSPACE]]`, `[[MAP_INVALID_SESSION]]` and `[[MAP_INSUFFICIENT_RESOURCE]]`.

4.2 Abort()

NAME **Abort** – Abort Association.

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

MAP_status map_abort(
    OM_private_object session,
    OM_private_object context,
    OM_object          argument
);
```

DESCRIPTION

This function is one of a group of dialogue handling functions: *Open()*, *Accept()*, *Refuse()*, *Issue()*, *Close()*, *Abort()*, *Receive()*, used to manage the MAP dialogue when AAM is disabled on a session. When AAM is enabled on a session, this dialogue handling function is neither necessary nor permitted.

This function is used to abort a mobile application session that is either associated or partially associated. The service is defined as an unconfirmed service: a reply is not expected.

Once an abort is issued, the associated session is implicitly disassociated and unbound. All outstanding requests that pertain to this session are returned with the error session-terminated. This includes any *Wait()* request on that session.

ARGUMENTS

Session (Object(Session))

The associated (or partially associated) session against which this operation is performed. This must be a private object previously returned as part of an **Accept-Result** or **Open-Argument**, or returned explicitly from an asynchronously called *Open()*. This session object must have AAM disabled.

Context (Object(Context))

The management context to be used for this operation. This argument must be a private object. Once a session is connected or partially connected, the precedence rules for common parameters within the **Session** and the **Context** objects are different. Once connected, the responder address and responder title cannot be overridden by the **Context** object. (See also [Section 3.1.2 \[Names, Addresses and Titles\]](#), page 26.)

Argument (Object(Abort-Argument))

The information supplied as the argument of an **Abort** operation. (See [Section 5.2.3 \[Abort-Argument\]](#), page 86.)

RESULTS As this function is not confirmed, there are no results returned.

ERRORS This function can return a **Communications-Error**, or one of the following **Library-Errors**: bad-argument, bad-class, bad-context, bad-session, miscellaneous, missing-type, session-terminated, reply-limit-exceeded, time-limit-exceeded.

The function can also return the error constants `[[MAP_NO_WORKSPACE]]`, `[[MAP_INVALID_SESSION]]` and `[[MAP_INSUFFICIENT_RESOURCES]]`.

CORRESPONDENCE

This function corresponds to the *MAP-U-ABORT* request primitive of 3GPP TS 29.002 Section 7.

4.3 Abort-req()

NAME **Abort-req** — abort a mobile application association.

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

MAP_status map_abort_req(
    OM_private_object  session,
    OM_private_object  context,
    OM_object          response
);
```

DESCRIPTION

This function is used to abort a mobile application session that is either associated or partially associated. The service is defined as an unconfirmed service. A reply is not expected.

Once an abort request has been issued, the associated session is implicitly disassociated and unbound. All outstanding requests that pertain to this session are returned with the error *session-terminated*. This includes any *Wait()* requests on that session.

ARGUMENTS

Session (*Object(Session)*)

The associated (or partially associated) session against which this operation is performed. This must be a private object previously returned as part of an **Assoc-Result** or **Assoc-Argument**, or returned explicitly from an asynchronously called *Assoc-req()*. This session object must have AAM disabled.

Context (*Object(Context)*)

The mobile application context to be used for this operation. This argument must be a private object.

Once a session is associated or partially associated, the precedence rules for common parameters within the **Session** and **Context** objects are different. Once associated, the *responder-Address* and *responder-Title* cannot be overridden by the **Context** object.

Response (*Object(Abort-Result)*)

The information supplied as the response of an **Abort** operation.

RESULTS

Status (*Status*)

The value **success** indicates that the operation was completed.

ERRORS This function can return a **Communications-Error**, or one of the following **Library-Errors**: bad-argument, bad-class, bad-context, bad-session, miscellaneous, missing-type, session-terminated, reply-limit-exceeded, time-limit-exceeded.

This function can also return the error constants `[[MP_NO_WORKSPACE]]`, `[[MP_INVALID_SESSION]]` or `[[MP_INSUFFICIENT_RESOURCES]]`.

4.4 Accept()

NAME **Accept** — accept an indicated mobile application open operation.

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

MAP_status map_accept(
    OM_private_object    session,
    OM_private_object    context,
    OM_object            response,
    OM_sint32            dialog_id,
    OM_private_object    *connected_session_return
);
```

DESCRIPTION

This function is one of a group of dialogue handling functions: *Open()*, *Accept()*, *Refuse()*, *Issue()*, *Close()*, *Abort()*, *Receive()*, used to manage the MAP dialogue when AAM is disabled on a session. When AAM is enabled on a session, this dialogue handling function is neither necessary nor permitted.

This function is used to accept a previously indicated **Open** operation. This function can only be called in synchronous mode.

ARGUMENTS

Session (*Object(Session)*)

The mobile application session against which this operation is to be performed. This must be a private object previously returned from *Bind()*.¹

Context (*Object(Context)*)

The mobile application context to be used for this operation. This argument must be a private object or the constant **Default-Context** ('MAP_DEFAULT_CONTEXT').

Response (*Object(Accept-Result)*)

The information supplied in acceptance of the previously indicated **Open** operation. This is an instance of OM class **Accept-Result**, indicating that the open indication is to be accepted. The user provides negotiated ACSE parameters in this object as input to the service provider. A newly formed dialog object is returned in the **Accept-Result** object, so this is an in/out parameter to this function. The new **Session** object represents a fully formed dialog session.

Dialog-ID (*Integer*)

The **Dialog-ID** of the requested dialog to which the reply applies. This **Dialog-ID** must have been returned from a call to *Receive()* for the corresponding association that is being accepted.

RESULTS

Status (*Status*)

Indicates whether or not the **Accept** response was completed.

¹ See Section 4.7 [*Bind()*], page 48.

Connected-Session (Object(Session))

When successful, this function returns a newly connected session object. The returned **Session** object is in a connected state, and contains the final negotiated ACSE parameters for the new association.

It is not specified whether the association has been formed by the underlying Mobile Application Service provider at the time that this function returns. The underlying Mobile Application Service might wait until a *Issue()* function call before fully forming the association. Nevertheless, the association is considered to be in the “connected” state from the standpoint of the interface.

ERRORS This function can return a **System-Error** or one of the following **Library-Errors**: bad-class, bad-context, bad-result, bad-session, miscellaneous, no-such-operation, not-supported, session-terminated.

This function can return a **Communications-Error**.

This function can also return the error constants `[[MAP_NO_WORKSPACE]]`, `[[MAP_INVALID_SESSION]]` and `[[MAP_INSUFFICIENT_RESOURCES]]`.

CORRESPONDENCE

This function corresponds to the *MAP-OPEN* response primitive (with a parameter indicating acceptance) of 3GPP TS 29.002 Section 7.

4.5 Assoc-req()

NAME **Assoc-req** — establish mobile application association.

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

MAP_status map_assoc_req(
    OM_private_object  session,
    OM_private_object  context,
    OM_object          argument,
    OM_private_object  *result_return
);
```

DESCRIPTION

This function is used to request the establishment of a mobile application association. The service is defined as a non-confirmed service. No reply is expected.

This operation may only be called in synchronous mode.

ARGUMENTS

Session (Object(Session))

The mobile application session against which this operation is performed. This must be a private object previously returned from *Bind()*.¹ This session must also have AAM (Automatic Association Management) disabled.

Context (Object(Context))

The mobile application context to be used for this operation. This argument must be a private object.

Argument (Object(Assoc-Argument))

The information supplied as an argument of an **Assoc** operation. This is an **Assoc-Argument** object with optional ACSE information contained within it. An associated **Session** object is returned in the Result of this function.

RESULTS

Status (Status)

The value **success** indicates that the action was completed.

Result (Object(Assoc-Result))

Upon successful completion, when the **Assoc-req** has been accepted/rejected by the Mobile Application Service provider, one instance of the OM class **Assoc-Result** Object is returned. This **Assoc-Result** object either contains information as to why an association was rejected, or contains a **Session** object in an associated state, and contains the final negotiated ACSE parameters for the new association.

ERRORS This function can return one of the following **Library-Errors**: bad-argument, bad-class, bad-context, bad-session, miscellaneous, missing-type, session-terminated, reply-limit-exceeded, time-limit-exceeded.

¹ See Section 4.7 [Bind()], page 48.

This function can return a **Communications-Error**.

This function can also return the error constants `[[MAP_NO_WORKSPACE]]`, `[[MAP_INVALID_SESSION]]` or `[[MAP_INSUFFICIENT_RESOURCES]]`.

SEE ALSO *Assoc-rsp()*.²

² See [Section 4.6 \[Assoc-rsp\(\)\]](#), page 46.

4.6 Assoc-rsp()

NAME **Assoc-rsp** — reply to a requested association operation.

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

MAP_status map_assoc_rsp(
    OM_private_object  session,
    OM_private_object  context,
    OM_object          response,
    OM_sint32          assoc_id
);
```

DESCRIPTION

This function is used to reply to a previously invoked *Assoc* operation.

This function can only be called in synchronous mode.

ARGUMENTS

Session (*Object(Session)*)

The mobile application session against which this operation is performed. This must be a private object previously returned from *Bind()*.¹

Context (*Object(Context)*)

The mobile application context to be used for this operation. This must be a private object or the constant **Default-Context** ('MAP_DEFAULT_CONTEXT').

Response (*Object(Assoc-Result)*)

The information supplied as a response to an **Assoc** operation. This is one of the following:

- When an association is accepted, one instance of the OM class **Assoc-Result** is given as the response. The user provides negotiated ACSE parameters in this object as input to the service provider, and also indicates that the association is to be accepted by setting the *assoc-Result* attribute to **accept**. A newly associated session object is returned in the **Assoc-Result** object, so this is an in/out parameter to this function. The new **Session** object is in an associated state, and contains the final negotiated ACSE parameters for the new association.
- When an association is to be rejected, one instance of the OM class **Assoc-Result** is given as a response. The **Assoc-Result** should have the *assoc-Result* attribute set to either **reject-permanent** or **reject-transient**. The *assoc-Diagnostic* can also optionally be set to indicate why the reject has occurred.

Assoc-ID (*Integer*)

The **Assoc-ID** of the requested operation to which the reply applies.

¹ See Section 4.7 [*Bind()*], page 48.

RESULTS*Status (Status)*

Indicates whether or not the **Assoc** response was completed.

ERRORS This function can return a **System-Error** or one of the following **Library-Errors**: bad-class, bad-context, bad-result, bad-session, miscellaneous, no-such-operation, not-supported, session-terminated.

SEE ALSO *Assoc-req()*.²

² See Section 4.5 [*Assoc-req()*], page 44.

4.7 Bind()

NAME **Bind** — open a mobile application session.

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

MAP_status map_bind(
    OM_object      session,
    OM_workspace   workspace,
    OM_private_object *bound_session_return
);
```

DESCRIPTION

This function opens a mobile application session. It creates a **Session** OM object describing the session suitable for supplying to other XMAP functions. A session must be opened before any mobile application service interactions can take place.

If the OM attribute **requestor-Title** is specified, only one unconnected session can be opened with the same value of the OM attribute. There can be multiple connected or partially connected session objects with the same **requestor-Title**.

To allow for the implementation of automatic association management, it is undefined as to whether *Bind()* causes any communication with the remote management entity.

ARGUMENTS

Session (Object(Session))

Specifies a program together with other details of the service required. This argument may be either a public object or a private object. The constant **Default-Session** ('MAP_DEFAULT_SESSION') may also be used as the value of this argument, causing a new session to be created with default values for all its OM attributes.

Workspace (Workspace)

Specifies the workspace (obtained from a call to *Initialize()*) which is to be associated with the session. All function results from mobile application operations using this session will be returned as private objects in this workspace. If the Session argument is a private object, it must be a private object in this workspace.

RESULTS

Status (Status)

Indicates whether or not the function completed successfully.

Bound-Session (Object(Session))

Upon successful completion, contains an instance of a mobile application session that may be used as an argument to other functions (e.g. *Service-req()*). This will be a new private object if the value of **Session** was **Default-Session** or a public object, otherwise, it will be that supplied as an argument. In the later case, the session provided should not be already in use. The function will supply default values for any of the OM attribute that were not present in the **Session** instance supplied as an argument.

It will also set the value of the **File-Descriptor** OM attribute (the value will be **No-Valid-File-Descriptor** ('MAP_NO_VALID_FILE_DESCRIPTOR') if the functionality is not supported).

When AAM is disabled with *Negotiate()*, any session bound using *Bind()* is unconnected and may only be used to receive and send ACSE-related primitives, (i.e. it cannot be used for Mobile Application Service operations).

ERRORS This function can return a **System-Error** or one of the following **Library-Errors**: bad-address, bad-session, bad-title, miscellaneous, not-supported, too-many-sessions.

This function can return a **Communications-Error**.

This function can also return the error constants [[MAP_NO_WORKSPACE]], [[MAP_INVALID_SESSION]] and [[MAP_INSUFFICIENT_RESOURCES]].

SEE ALSO *Unbind()*,¹ *Negotiate()*.²

¹ See Section 4.24 [Unbind()], page 76.

² See Section 4.14 [Negotiate()], page 58.

4.8 Close()

NAME **Close** — terminate a mobile application association.

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

MAP_status map_close(
    OM_private_object    session,
    OM_private_object    context,
    OM_object            argument
);
```

DESCRIPTION

This function is used to request the termination of a mobile application association. The service is defined as an unconfirmed service. No reply is expected.

This operation may only be called in synchronous mode.

ARGUMENTS

Session (Object(Session))

The connected session against which this operation is performed. This must be a private object previously returned as part of an **Accept-Result** or **Open-Argument**. This session object must have AAM disabled, and it must be in a connected state.

Context (Object(Context))

The mobile application context to be used for this operation. This argument must be a private object.

Once a session is connected or partially connected, the precedence rules for common parameters within the **Session** and the **Context** objects are different. Once connected, the responder address and title cannot be overridden by the **Context** object.

Argument (Object(Close-Argument))

The information supplied as the argument of a **Close** operation.

RESULTS

Status (Status)

The value **success** indicates that the operation was completed.

ERRORS This function can return a **Communications-Error**, or one of the following **Library-Errors**: bad-argument, bad-class, bad-context, bad-session, miscellaneous, missing-type, session-terminated, reply-limit-exceeded, time-limit-exceeded.

This function can also return the error constants `[[MAP_NO_WORKSPACE]]`, `[[MAP_INVALID_SESSION]]` and `[[MAP_INSUFFICIENT_RESOURCES]]`.

SEE ALSO *Abort()*.¹

CORRESPONDENCE

This function corresponds to the *MAP-CLOSE* request primitive of 3GPP TS 29.002 Section 7.

¹ See Section 4.2 [*Abort()*], page 39.

4.9 Error-Message()

NAME **Error-Message** — return an error message describing a particular error.

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

OM_sint map_error_message(
    MAP_status      error,
    OM_sint         length,
    unsigned char    *error_text_return
);
```

DESCRIPTION

This function returns an error message string that describes the error. The caller provides a buffer-address and buffer-length argument. The error message is stored in the client's buffer.

ARGUMENTS

Error (Status)

Length The length of the buffer. The error text buffer is an unsigned character array. This is necessary if the intent is to support NLS (the X/Open Native Language System).

RESULTS

Error-text (String)

A message describing the error. The error message text is terminated by a NUL character.

The error message text will be truncated if the length of the error-text-buffer is less than the length of the error message text.

Length (Integer)

Indicates the length of the returned message. If the **length** parameter is 0 or the ***error_text_return** parameter is NULL, then the **length_return** value indicates the amount of buffer space required to host the error message.

ERRORS This function returns no errors. (A default error message reports faulty arguments or other problems).

4.10 Get-Assoc-Info()

NAME **Get-Assoc-Info** — retrieve negotiated association values.

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

MAP_status map_get_assoc_info(
    OM_private_object    receive_result_or_argument,
    OM_uint              request_mask,
    OM_uint              result_mask,
    OM_public_object     *pres_layer_args,
    OM_public_object     *acse_args,
    OM_public_object     *map_assoc_args
);
```

DESCRIPTION

This function returns the negotiated association values corresponding to an incoming *Result-Or-Argument* object previously supplied by *Receive()*. The caller provides a **request_mask** to identify which values are to be returned in result objects.

This function may be used with automatic association management enabled or disabled or with automatic dialog handling enabled or disabled. In any case, the values returned are those associated with the underlying association or dialog within which the incoming *Result-Or-Argument* arrived.

Certain requested values may not be available for the input object (that is, inappropriate for the underlying protocol) and may therefore be absent from the result. The values actually returned are indicated by the function result.

ARGUMENTS

Result-Or-Argument (*Object(*)*)

This object contains an asynchronous response or indication, as previously returned to the user from the *Receive()* function.

Request-Mask (*Integer*)

The **request-mask** indicates which association values should be returned as result objects. The mask is composed of bit values that must be set *on* ('1') to request that the corresponding association value be returned. Association values that can be obtained by calling this function are:

- presentation-Context-List
- responder-Address
- responder-Title
- application-Context
- application-Context-List
- version-List

RESULTS

Result-Mask (*Integer*)

A mask indicating which association values have been returned as part of the result objects below. This mask has the same structure as the *Request-*

Mask argument. All bits *off* ('0') indicates no values were available for the input object.

Pres-Layer-Args (*Object(Presentation-Layer-Args)*)

Upon completion of this function, this object contains the negotiated values associated with the **Result-Or-Argument** object. This object is returned only when one of the following **Result-Mask** bits is set *on*:

- 'MAP_T_PRESENTATION_CONTEXT_LIST'

Otherwise, [[MAP_ABSENT_OBJECT]] is returned for this object.

Acse-Args (*Object(Acse-Args)*)

Upon completion of this function, this object contains the negotiated values associated with the *Result-Or-Argument* object. This object is returned only when one of the following **Result-Mask** bits is set *on*:

- 'MAP_T_RESPONDER_ADDRESS'
- 'MAP_T_RESPONDER_TITLE'
- 'MAP_T_APPLICATION_CONTEXT'

Otherwise, [[MAP_ABSENT_OBJECT]] is returned for this object.

Map-Assoc-Args (*Object(Map-Assoc-Args)*)

Upon completion of this function, this object contains the negotiated values associated with the *Result-Or-Argument* object. This object is returned only when the one of the following **Result-Mask** bits is set *on*:

- 'MAP_T_APPLICATION_CONTEXT_LIST'
- 'MAP_T_VERSION_LIST'

otherwise, [[MAP_ABSENT_OBJECT]] is returned for this object.

ERRORS This function can return error constants [[MAP_NO_WORKSPACE]], [[MAP_INVALID_SESSION]] or [[MAP_INSUFFICIENT_RESOURCES]].

4.11 Get-last-error()

NAME **Get-last-error** — retrieve secondary return code of the most recent function call Communications or System error.

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

MAP_status map_get_last_error(
    OM_workspace      workspace,
    OM_uint32         *additional_return_error
);
```

DESCRIPTION

This function is used to return additional error information related to the last function call that returned a status of:

- [[MAP_E_COMMUNICATIONS_PROBLEM]]
- [[MAP_E_BROKEN_SESSION]]
- [[MAP_E_INVALID_CONNECTION_ID]]
- [[MAP_E_SYSTEM]]

The returned integer value is implementation dependent.

In a multiple thread environment where there are multiple XMAP function calls, additional error information is stored in the workspace of the invoking call on a thread basis. The `map_get_last_error` call must be invoked from the same thread.

For most XMAP function calls, the Workspace anchor to store additional information is derived from the ‘`bound_session`’. For *Bind()* and *Wait()*, the workspace parameter on the calls is used.

ARGUMENTS

Workspace (Workspace)

The workspace (obtained from a prior call to *Initialize()* of the function call that had the status error.

RESULTS

Status (Status)

Indicates whether or not the function call completed.

Additional-Error (Integer)

The secondary integer related to the last function call that returned a Communications or System error.

ERRORS This function can return error constants [[MAP_NO_WORKSPACE]] or [[MAP_INVALID_SESSION]].

4.12 Initialize()

NAME **Initialize** — initialize the interface.

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

OM_workspace map_initialize(
    void
);
```

DESCRIPTION

This function performs any necessary initialization of the interface and allocates a workspace. It must be called before any other mobile application interface functions are called. It may be called multiple times, in which case each call returns a workspace that is distinct from other workspaces created by *Initialize()* but not yet deleted by *Shutdown()*.

ARGUMENTS

None.

RESULTS

Workspace (*Workspace*)

Upon successful completion, contains a handle to a workspace in which OM objects can be created and manipulated. Objects created in this workspace, and only such objects, may be used as arguments to the other management interface functions. This function returns NULL if it fails.

ERRORS None.

SEE ALSO *Shutdown()*.¹

EXAMPLE

```
OM_workspace workspace;

if ((workspace = map_initialize()) == NULL) {
    exit(1);
}
```

¹ See Section 4.23 [*Shutdown()*], page 75.

4.13 Issue()

NAME **Issue** — issue pending service requests and responses.

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

MAP_status map_issue(
    OM_private_object    session,
    OM_private_object    context,
    OM_sint32            dialog_id
);
```

DESCRIPTION

This function is one of a group of dialogue handling functions: *Open()*, *Accept()*, *Refuse()*, *Issue()*, *Close()*, *Abort()*, *Receive()*, used to manage MAP dialogues when AAM is disabled on a session. When AAM is enabled on a session, this dialogue handling function is neither necessary nor permitted.

This function is used to issue pending mobile application service requests and responses. The function can only be called in synchronous mode.

When an *Open()*, *Accept()* or *Refuse()* function is called, the underlying Mobile Application Service provider might not issue the corresponding TCAP transactions immediately, but may wait for the accumulation of mobile application service requests or responses to combine with the dialogue. The *Issue()* function tells the underlying Mobile Application Service provider to release pending dialogue handling primitives with the service requests and responses currently accumulated.

One typical order of dialogue handling function calls would be as follows:

- *Bind()* — bind the session.
- *Open()* — open the dialogue.
- *Service-req()* — generate one or more service requests.
- *Issue()* — issue pending dialogue handling and accumulated service requests or responses.
- *Service-req()* — generate one or more service requests.
- *Close()* — close the dialogue (also issuing any pending dialogue handling and accumulated service requests or responses).

ARGUMENTS

Session (*Object(Session)*)

The mobile application session against which this operation is to be performed. This must be a private object previously returned from *Bind()*.¹

Context (*Object(Context)*)

The mobile application context to be used for this operation. This argument must be a private object or the constant **Default-Context** ('MAP_DEFAULT_CONTEXT').

¹ See Section 4.7 [*Bind()*], page 48.

Dialog-ID (Integer)

The **Dialog-ID** of the requested dialog to which the reply applies. This **Dialog-ID** must have been returned from a call to *Receive()* for the corresponding association for which pending service requests and responses are being issued.

RESULTS*Status (Status)*

Indicates whether or not the **Issue** request was completed.

ERRORS This function can return a **System-Error** or one of the following **Library-Errors**: bad-class, bad-context, bad-result, bad-session, miscellaneous, no-such-operation, not-supported, session-terminated.

This function can return a **Communications-Error**.

This function can also return the error constants `[[MAP_NO_WORKSPACE]]`, `[[MAP_INVALID_SESSION]]` and `[[MAP_INSUFFICIENT_RESOURCES]]`.

CORRESPONDENCE

This function corresponds to the *MAP-DELIM* request primitive of 3GPP TS 29.002 Section 7.

4.14 Negotiate()

NAME **Negotiate** — negotiate features of the interface and service.

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

MAP_status map_negotiate(
    MAP_feature    feature_list[],
    OM_workspace    workspace
);
```

DESCRIPTION

This function negotiates features of the interface; each feature is represented as an Object Identifier. Several features are defined and registered within this specification. Features may also include mobile application services packages, vendor extensions, and new features defined in future versions of this specification. Features can be negotiated after a workspace has been initialized, and can be renegotiated any time until the workspace is discarded. Note that all sessions on a given workspace share the same features.

ARGUMENTS

Feature-List (Feature-List)

An ordered sequence of features, each represented by an object identifier and a request value. The request value can contain one of the following values: Activate, Deactivate, Query State, and Query Supported.

The sequence is terminated by an object identifier having no components (a length of zero and a value of the data pointer in the C representation). The response value is returned upon completion of the Negotiate invocation.

In the C binding, the Feature-List argument is a single array of structures of type **MAP_feature**, which is defined as:

```
#define MAP_ACTIVATE           0
#define MAP_DEACTIVATE        1
#define MAP_QUERY_STATE       2
#define MAP_QUERY_SUPPORTED    3

typedef struct {
    OM_object_identifier    feature;
    OM_sint                 request;
    OM_boolean              response;
} MAP_feature;
```

The following Features are defined and registered by this specification:

- **Mobile Application Packages**

The GSM Mobile Application package and the ANSI Mobile Application package are specified in [Chapter 5 \[Interface Class Definitions\]](#), [page 81](#). Additional Mobile Application packages may be specified in the future. Note that multiple Mobile Application Packages can be activated within the same workspace.

- **Automatic Association Management**

This feature provides for automatic establishment and release of the underlying protocol associations(s) (if any); refer to [Section 3.7.1 \[Automatic Association Management\]](#), page 34. The Object-Identifier associated with this feature is '{ iso(1) org(3) dod(6) internet(1) private(4) enterprises(1) openss7(29591) xom-packages(1) xmap(1) common(1) automatic-association-management(1) }'.

This Object-Identifier is represented by the constant 'MAP_AUTOMATIC_ASSOCIATION_MANAGEMENT'. Automatic Association Management is enabled by default.

- **Automatic Dialog Handling** This feature provides for automatic establishment and release of the underlying protocol dialog(s) (if any); refer to [Section 3.7.2 \[Automatic Dialog Handling\]](#), page 35. The Object-Identifier associated with this feature is '{ iso(1) org(3) dod(6) internet(1) private(4) enterprises(1) openss7(29591) xom-packages(1) xmap(1) common(1) automatic-dialog-handling(2) }'. This Object-Identifier is represented by the constant 'MAP_AUTOMATIC_DIALOG_HANDLING'.

- **Automatic ASN.1 BER Encoding and Decoding**

This feature provides for automatic encoding and decoding of OM class and attribute types using ASN.1 BER; refer to [Section 3.4.1 \[Encoding and Decoding\]](#), page 30. The Object-Identifier associated with this feature is '{ iso(1) org(3) dod(6) internet(1) private(4) enterprises(1) openss7(29591) xom-packages(1) xmap(1) common(1) automatic-decoding(3) }'. This Object-Identifier is represented by the constant 'MAP_AUTOMATIC_DECODING'. Automatic ASN.1 BER Encoding and Decoding is enabled by default.

Mobile Application Services packages are also negotiated as part of the Feature-List. Mobile Application Services packages may be defined by the OpenSS7 Project, by standards organizations or consortia, by vendors, or by users.

Registered Object Identifiers representing future features and vendor extensions may also be included in the Feature-List for negotiation.

Workspace The handle to the workspace for which features are negotiated.

RESULTS

Status (Status)

Whether or not the function completed successfully.

Response (Boolean-List)

If the function completed successfully, this result contains an ordered list of Boolean values, with the same number of elements as the Feature-List. The significance of the values is shown as follows:

Request	Response	Meaning
Activate	True	Activated
	False	Cannot activate feature (or the feature is not supported).

Deactivate	True	Deactivated
	False	Cannot deactivate feature (or the feature is not supported).
Query-state	True	Activated
	False	Deactivated (or the feature is not supported).
Query-supported	True	Supported
	False	Not supported
Invalid	True	Cannot be returned
	False	Invalid argument

In the C binding, this result is combined with the Feature-List argument as a single array of structures of type `MAP_feature` as defined above.

ERRORS This function can return a **System-Error** or **Library-Error** “miscellaneous”.

This function does not return a **Communications-Error**, nor any mobile application errors.

The function can also return the error constants `[[MAP_NO_WORKSPACE]]`, `[[MAP_INVALID_SESSION]]` and `[[MAP_INSUFFICIENT_RESOURCE]]`.

EXAMPLE

```
MAP_status status;
OM_workspace workspace;
int i;

workspace = map_initialize();

MAP_feature feature_list[] = {
    {MAP_COMMON_PKG, MAP_ACTIVATE, 0}
    , {MAP_GSM_PKG, MAP_ACTIVATE, 0}
    , {MAP_GSM_SM_PKG, MAP_ACTIVATE, 0}
    , {MAP_GSM_LS_PKG, MAP_ACTIVATE, 0}
    , {MAP_GSM_IN_PKG, MAP_ACTIVATE, 0}
    , {MAP_GSM_CH_PKG, MAP_ACTIVATE, 0}
    , {NULL, 0, 0}
};

if ((status = map_negotiate(feature_list, workspace)) != MAP_SUCCESS)
    exit(1);

for (i = 0; i < 6; i++)
    if (!feature_list[i].response)
        exit(1);
```

4.15 Open()

NAME **Open** – Request establishment of a Mobile Application Services association (dialogue).

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

MAP_status map_open(
    OM_private_object    session,
    OM_private_object    context,
    OM_object            argument,
    OM_private_object    *result_return,
    OM_sint32            *dialog_id_return
);
```

DESCRIPTION

This function is used to request the creation of a mobile application entity association (dialogue). The service is defined as a confirmed service: a reply is expected.

This operation may be called in asynchronous mode. Note that when operating in this mode, results may not only be locally discarded (when **Abandon()** is used), as may be done with outer asynchronous calls.

ARGUMENTS

Session (Object(Session))

The mobile application session against which this operation is performed. This must be a private object previously returned from *Bind()*.¹ This session must also have ADH (Automatic Dialog Handling) disabled.

Context (Object(Context))

The mobile application context to be used for this operation. This argument must be a private object.

Argument (Object(Assoc-Argument))

The information supplied as the argument of an **Assoc** operation. This is an **Assoc-Argument** object with optional ACSE information contained within it. When called asynchronously, a partially connected **Session** object is returned in the Result of this function.

RESULTS

Status (Status)

If the function is called synchronously, the value **success** indicated that the action was completed. If called asynchronously, it indicates that the operation was initiated.

Result (Object())*

Upon successful completion of a synchronous call, the results is one of the following:

- When the *Open* request has been accepted by the remote peer, one instance of the OM class **Accept-Result** Object is returned. This

¹ See Section 4.7 [Bind()], page 48.

Accept-Result object contains a *session* attribute that returns a **Session** object for which a dialog has been fully formed. The **Accept-Result** object also contains the final negotiated dialog parameters for the new dialog.

- When the *Open* request has been refused by the remote peer, one instance of the OM class **Refuse-Result** Object is returned. This **Refuse-Result** object contains information as to why the dialog was refused. No *session* attribute is present in this result and no dialog session is formed.
- When the *Open* request has been aborted by the remote peer or by the provider, one instance of the OM class **Abort-Argument** is returned. This **Abort-Argument** object contains information pertaining to the abort. No *session* attribute is present in this result and no dialog session is formed.

Upon successful completion of an asynchronous call, a partially formed dialog **Session** object is returned in the *Result*.

Note: The original **Session** object passed to this function is unaffected and still remains in the bound or associated state. This session object can still be used in additional concurrent *Open()* or *Receive()* function calls.

Dialog-ID (Integer)

The returned **Dialog-ID** of the management operation when used asynchronously.

ERRORS This function can return one of the following **Library-Errors**: bad argument, bad-class, bad-context, bad-session, miscellaneous, missing-type, session-terminated, reply-limit-exceeded, time-limit-exceeded.

This function can return a **Communications-Error**.

This function can also return the error constants `[[MAP_NO_WORKSPACE]]`, `[[MAP_INVALID_SESSION]]` and `[[MAP_INSUFFICIENT_RESOURCES]]`.

SEE ALSO *Abort()*,² *Assoc-rsp()*, *Accept()*,³ *Refuse()*.⁴

CORRESPONDENCE

This function corresponds to the *MAP-OPEN* request primitive of 3GPP TS 29.002 Section 7.

² See Section 4.2 [*Abort()*], page 39.

³ See Section 4.4 [*Accept()*], page 42.

⁴ See Section 4.17 [*Refuse()*], page 66.

4.16 Receive()

NAME **Receive** — get the argument of an operation or retrieve the (partial) result of an asynchronously executed operation.

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

MAP_status map_receive(
    OM_private_object  session,
    OM_sint            *mode_return,
    OM_sint            *primitive_return,
    OM_sint            *completion_flag_return,
    MAP_status         *operation_status_return,
    OM_private_object  *result_or_argument_return,
    OM_sint32          *invoke_or_dialog_id_return
);
```

DESCRIPTION

This function is used to retrieve the argument of an invoked operation and to retrieve a partial result (linked reply) or the completed result of a previous asynchronous operation.

The function results include two status indications. One, called **Status**, indicates that the function call itself was successful; it is always returned. The other, called **Operation-Status**, is used to return the status of the completed asynchronous operation, and is only returned if there is one.

ARGUMENTS

Session (Object(Session))

The mobile application session against which this mobile application operation is performed. This must be a private object previously returned from *Bind()*,¹ or a connected or partially connected session object returned from *Open()*,² *Accept()*,³ or *Receive()*.

RESULTS

Status (Status)

Takes an error value if one of the library errors or system errors listed below occurred during execution of this function. Takes the value **success** ('MAP_SUCCESS') if this function returned successfully.

Primitive (Integer)

The mobile application service primitives ('MAP_SERVICE_IND', 'MAP_SERVICE_CNF').

The MAP association service primitives ('MAP_OPEN_IND', 'MAP_ACCEPT_CNF', 'MAP_REFUSE_CNF', 'MAP_DELIM_IND', 'MAP_CLOSE_IND', 'MAP_ABORT_IND', 'MAP_P_ABORT_IND').

¹ See Section 4.7 [Bind()], page 48.

² See Section 4.15 [Open()], page 61.

³ See Section 4.4 [Accept()], page 42.

Determines the operation of this result or argument.

This result is only valid if **Completion-Flag** has the value **completed**, **incoming** or **partial**.

Mode (Integer)

This indicates the mode of an indication. When **confirmed** ('MAP_T_CONFIRMED') the invoked operation has to be confirmed, a reply is expected. When **non-confirmed** ('MAP_T_NON_CONFIRMED'), the requested service is not to be confirmed.

This result is only valid if **Completion-Flag** has the value **incoming**.

Completion-Flag (Integer)

This flag indicates the statue of the received data, if any.

completed ('MAP_COMPLETED')

This flag indicates that a *final* response has been received. For mobile application primitives this may be the confirmation for a service request or the last confirmation of a linked reply. In the latter case, the **Result-Or-Argument** parameter will be the **Absent-Object**.

incoming ('MAP_INCOMING')

An indication has been received.

nothing ('MAP_NOTHING')

There are no indications or confirmations to receive. Further, there are no outstanding asynchronous requests.

outstanding

('MAP_OUTSTANDING')

There are no indications or confirmations to receive. There are still outstanding requests, but no confirmations have yet arrived.

parial

('MAP_PARTIAL') A confirmation has been received which is part of a linked reply. This is used for all but the last in a series of linked replies. (See completed, above.)

This result is only valid if **Status** has the value **success**. In that case, the validity of the other results is given as follows:

Completed	yes(1)	no	yes	yes(1)	yes
Incoming	yes	yes	no	yes	yes
Nothing	no	no	no	no	no
Outstanding	no	no	no	no	no
Partial(3)	yes(1)	no	yes	yes(1)	yes

Operation-Status (Status)

Takes an error value if a communications error occurred during the execution of the asynchronous operation, and **success** ('MAP_SUCCESS') otherwise. The possible error values are listed for each individual operation in the corresponding function description.

This result is only valid if **Completion-Flag** has the value **completed** or **partial**.

Result-or-Argument (Object())*

This object contains the results of an asynchronous request, or information about an indication. The class of object received is dependent upon the values of the **Primitive** and **Completion-Flag** parameters. The following table for the three applicable **Completion-Flag** values. The actual class returned is dependent on the value of **Primitive**.

Completion-Flag set to **completed**:

Service-Result	'MAP_SERVICE_CNF'
Service-Error	'MAP_SERVICE_CNF'
Service-Reject	'MAP_SERVICE_CNF'
Accept-Result	'MAP_ACCEPT_CNF'
Refuse-Result	'MAP_REFUSE_CNF'
Absent-Object	All confirmations.

Note that **Absent-Object** may be returned in two cases:

1. The confirmation contains no data.
2. As the terminator of a linked reply list. In this case, the **Invoke-or-Dialog-ID** parameter can be used to determine which linked reply has been terminated.

Completion-Flag set to **incoming**:

Service-Argument	'MAP_SERVICE_IND'
Open-Argument	'MAP_OPEN_IND'
Close-Argument	'MAP_CLOSE_IND'
Abort-Argument	'MAP_ABORT_IND'

Completion-Flag set to **partial**:

Linked-Reply-Argument

For **Completion-Flag** values of **completed** or **partial**, the **Result-or-Argument** parameter is valid only if the **Operation-Status** contains the value **success**. The parameter is not valid for **Completion-Flag** values of **nothing** or **outstanding**.

Invoke-or-Dialog-ID (Integer)

The Invoke-ID or Dialog-ID of the operation whose error, result or argument is being returned.

This result is only valid if the **Status** has the value **success** and **Completion-Flag** has the value **completed**, **partial** or **incoming**.

ERRORS This function can return a **System-Error** or one of the following **Library-Errors**: bad-class, bad-context, bad-session, miscellaneous, session-terminated, time-limit-exceeded. This function does not report any **Communication-Errors**, in its **Status** result. (Any such errors related to the completed asynchronous operation is reported in **Operation-Status**, as described above.)

This function can also return the error constants [[MAP_NO_WORKSPACE]], [[MAP_INVALID_SESSION]] and [[MAP_INSUFFICIENT_RESOURCES]].

4.17 Refuse()

NAME **Refuse** – refuse an indicated association operation.

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

MAP_status map_refuse(
    OM_private_object    session,
    OM_private_object    context,
    OM_object            response,
    OM_sint32            dialog_id
);
```

DESCRIPTION

This function is one of a group of dialogue handling functions: *Open()*, *Accept()*, *Refuse()*, *Issue()*, *Close()*, *Abort()*, *Receive()*, used to manage the MAP dialogue when AAM is disabled on a session. When AAM is enabled on a session, this dialogue handling function is neither necessary nor permitted.

This function is used to refuse a previously indicated **Open** operation. This function can only be called in synchronous mode.

ARGUMENTS

Session (Object(Session))

The mobile application session against which this operation is to be performed. This must be a private object previously returned from *Bind()*.¹

Context (Object(Context))

The mobile application context to be used for this operation. This argument must be a private object or the constant **Default-Context** ('MAP_DEFAULT_CONTEXT').

Response (Object(Refuse-Result))

The information supplied in refusal of the previously indicated **Open** operation. This is an instance of OM class **Refuse-Result**, indicating that the open indication is to be refused. The user provides alternate ACSE parameters in this object as input to the service provider. The **refuse-Reason** and **diagnostic-Information** can be set to indicate why the reject occurred.

Dialog-ID (Integer)

The **Dialog-ID** of the requested dialog to which the reply applies. This **Dialog-ID** must have been returned from a call to *Receive()* for the corresponding association that is being accepted.

RESULTS

Status (Status)

Indicates whether or not the **Refuse** response was completed.

¹ See Section 4.7 [Bind()], page 48.

ERRORS This function can return a **System-Error** or one of the following **Library-Errors**: bad-class, bad-context, bad-result, bad-session, miscellaneous, no-such-operation, not-supported, session-terminated.

This function can return a **Communications-Error**.

This function can also return the error constants `[[MAP_NO_WORKSPACE]]`, `[[MAP_INVALID_SESSION]]` and `[[MAP_INSUFFICIENT_RESOURCES]]`.

CORRESPONDENCE

This function corresponds to the *MAP-OPEN* response primitive (with a parameter indicating refusal) of 3GPP TS 29.002 Section 7.

4.18 Release-req()

NAME **Release-req** —

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

MAP_status map_release_req(
);
```

DESCRIPTION

ARGUMENTS

RESULTS

ERRORS

4.19 Release-rsp()

NAME **Release-rsp** —

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

MAP_status map_release_rsp(
);
```

DESCRIPTION

ARGUMENTS

RESULTS

ERRORS

4.20 Service-req()

NAME **Service-req** — request mobile application service.

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

MAP_status map_service_req(
    OM_private_object  session,
    OM_private_object  context,
    OM_object          argument,
    OM_private_object  *result_return,
    OM_sint32          *invoke_id_return
);
```

DESCRIPTION

This function is used to request mobile application service.

ARGUMENTS

Session (*Object(Session)*)

The mobile application session against which this operation is performed. This must be a private object previously returned from *Bind()*.

Context (*Object(Context)*)

The mobile application context to be used for this operation. This argument must be a private object or the constant **Default-Context** ('MAP_DEFAULT_CONTEXT').

The service may be requested in a confirmed mode or a non-confirmed mode. In confirmed mode, a reply is expected.

Argument (*Object(Service-Argument)*)

The information supplied as the argument of a mobile application service request is an instance of a subclass of the OM class **Service-Argument**. Normally, concrete subclasses of this class are defined in Mobile Application Services packages. For example, the **MO-Forward-SM-Arg** subclass of **Service-Argument** is defined in the GSM Short Message Services package (see [Section 5.4.5.7 \[MO-Forward-SM-Arg\]](#), page 368) and may be used as an argument to this function.

RESULTS

Status (*Status*)

If the function is called synchronously, the values **success** indicated that the action was completed. If called asynchronously, it indicates that the operation was initiated.

Result (*Object(*)*)

Upon successful completion of a synchronous call, when the operation was requested in a confirmed mode, the result is one of the following:

- When the service is requested in a non-confirmed mode, no results are expected and the constant **Absent-Object** ('MAP_ABSENT_OBJECT') is returned as the result.

- When a confirmed mode services is requested, this is indicated by on instance of the OM class **Service-Result**, or **Service-Error**, or when multiple replies are provided, an instance of OM class **Multiple-Reply**, which contains a set of instances of the OM class **Service-Linked-Reply-Argument**. Each **Service-Linked-Reply-Argument** contains exactly one of the following OM attributes:
 - service-Result
 - service-Error
 - processing-Failure

Invoke-ID (Integer)

The **Invoke-ID** of the initiated mobile application service operation when invoked asynchronously. It is significant in the case of a confirmed mode request only.

ERRORS This function can return a **System-Error** or one of the following **Library-Errors**: bad-argument, bad-class, bad-context, bad-session, miscellaneous not-supported, session-terminated, reply-limit-exceeded, time-limit-exceeded.

This function can return a **Communications-Error**.

This function can also return the error constants `[[MAP_NO_WORKSPACE]]`, `[[MAP_INVALID_SESSION]]` or `[[MAP_INSUFFICIENT_RESOURCES]]`.

SEE ALSO *Abandon()*,¹ *Service-rsp()*.²

CORRESPONDENCE

This function corresponds to the *MAP-XXX* request primitive of 3GPP TS 29.002 Section 7.

¹ See Section 4.1 [*Abandon()*], page 37.

² See Section 4.21 [*Service-rsp()*], page 72.

4.21 Service-rsp()

NAME **Service-rsp** — reply to a requested mobile application service operation.

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

MAP_status map_service_rsp(
    OM_private_object  session,
    OM_private_object  context,
    OM_object          response,
    OM_sint32          invoke_id
);
```

DESCRIPTION

This function is used to reply to a previously invoked confirmed mobile application service operation. This function can only be called in synchronous mode.

ARGUMENTS

Session (*Object(Session)*)

The mobile application session against which the operation is performed. This must be a private object previously returned from *Bind()*.

Context (*Object(Context)*)

The mobile application context to be used for this operation. This argument must be a private object or the constant **Default-Context** ('MAP_DEFAULT_CONTEXT').

Response (*Object(*)*)

The information supplied as response to an **service** operation. The response is one of the following:

- An instance of a concrete subclass of the OM class **Service-Result** as the response.
- An instance of a concrete subclass of the OM class **Service-Error** as the response, including the problem cause and its associated parameter that may be returned. See [Section 5.2.30 \[Service-Error\]](#), [page 97](#).
- An instance of a concrete subclass of the OM class **Service-Reject** including the problem cause and its associated parameter may be returned: duplicate-invocation, mistyped-argument, resource-limitation, unrecognized-operation.
- When a service request requires multiple responses, this is indicated by one or more *Service-rsp()* calls, once for each response, followed by a final “empty” *Service-rsp()*. Each *Service-rsp()* call includes a response that contains an instance of a concrete subclass of OM class **Service-Linked-Reply-Argument**, containing exactly one of the following OM attributes:
 - *service-Result*
 - *service-Error*

— *processing-Failure*

The final “empty” *Service-rsp()* call includes a response that contains only the constant **Absent-Object** (`MAP_ABSENT_OBJECT`).

For more details about the OM classes and OM attributes mentioned above, refer to [Chapter 5 \[Interface Class Definitions\]](#), page 81.

Invoke-ID (Integer)

The **Invoke-ID** of the requested operation to which the reply applies. This is the **Invoke-ID** that was returned from a call to *Receive()* that indicated the service request to which this service response corresponds.

RESULTS

Status (Status)

Indicates whether or not the action response was completed.

ERRORS This function can return a **System-Error** or one of the following **Library-Errors**: bad-class, bad-context, bad-error, bad-linked-reply, bad-result, bad-session, miscellaneous, no-such-operation, not-supported, session-terminated.

This function can return a **Communications-Error**.

This function can also return the error constants `[[MAP_NO_WORKSPACE]]`, `[[MAP_INVALID_SESSION]]` or `[[MAP_INSUFFICIENT_RESOURCES]]`.

SEE ALSO *Receive()*,¹ *Service-req()*.²

CORRESPONDENCE

This function corresponds to the *MAP-XXX* response primitive of 3GPP TS 29.002 Section 7.

¹ See [Section 4.16 \[Receive\(\)\]](#), page 63.

² See [Section 4.20 \[Service-req\(\)\]](#), page 70.

4.22 Service-parameter()

NAME **Service-parameter** –

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

MAP_status map_xxx(
);
```

DESCRIPTION

ARGUMENTS

RESULTS

ERRORS

CORRESPONDENCE

This function corresponds to the *MAP-PARAMETER* request primitive of 3GPP TS 29.002 Section 7.

4.23 Shutdown()

NAME **Shutdown** — delete a workspace and the associated resources.

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

MAP_status map_shutdown(
    OM_workspace    workspace
);
```

DESCRIPTION

This function deletes a workspace established by *Initialize()*¹ and all the associated resources. It may enable the service to release resources.

All the remaining opened sessions are closed, all the remaining OM objects are deleted, and the workspace is deleted.

No other function may reference the specified workspace after it has been deleted.

ARGUMENTS

Workspace (Workspace)

Specifies the workspace (obtained from a call to *Initialize()*) which is to be deleted.

RESULTS

Status (Status)

Indicates whether or not the shutdown function succeeded.

ERRORS This function can return the error constants `[[MAP_NO_WORKSPACE]]` or `[[MAP_INSUFFICIENT_RESOURCES]]`.

SEE ALSO *Initialize()*.²

EXAMPLE

```
OM_workspace workspace;
MAP_status status;

if ((workspace = map_initialize()) == NULL)
    exit(1);

/* perform functions within the workspace */

if ((status = map_shutdown(workspace)) != MAP_SUCCESS)
    exit(1);
exit(0);
```

¹ See Section 4.12 [*Initialize()*], page 55.

² See Section 4.12 [*Initialize()*], page 55.

4.24 Unbind()

NAME **Unbind** — unbind from a mobile application session.

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

MAP_status map_unbind(
    OM_private_object  session
);
```

DESCRIPTION

This function terminates the given mobile application session, and makes the argument unavailable for use with other interface functions (except *Bind()*).

Note that this means the results of any outstanding asynchronous operations that were initiated using the given **Session** can no longer be received. Any such operations may be terminated prematurely. For this reason it is recommended that all outstanding asynchronous operations are processed using *Receive()* before *Unbind()* is called.

The unbound session may be used again as an argument to *Bind()* possible after modification by the XOM functions (reference **XOM**). When it is no longer required, it must be deleted using the XOM functions.

The **Library-Error** “session-terminated” will be returned as the error value to a synchronous function call using the terminated session.

ARGUMENTS

Session (Object(Session))

The management session that is to be unbound. This must be a private object previously returned by *Bind()*. The value of the **File-Descriptor** OM attribute will be **No-Valid-File-Descriptor** (‘MAP_NO_VALID_FILE_DESCRIPTOR’) if the function succeeds. The other OM attributes will be unchanged.

RESULTS

Status (Status)

Takes the value **success** if **Session** was unbound, and take an error value if not.

ERRORS This function can return a **System-Error** or one of the following **Library-Errors**: bad-class, bad-session, miscellaneous, session-terminated.

This function does not return a **Communications-Error** or any mobile application errors.

This function can return the error constants `[[MAP_NO_WORKSPACE]]`, `[[MAP_INVALID_SESSION]]` or `[[MAP_INSUFFICIENT_RESOURCES]]`.

SEE ALSO *Bind()*.¹

¹ See Section 4.7 [*Bind()*], page 48.

4.25 Validate-object()

NAME **Validate-object** — analyze OM-Object and return Bad-Argument details if necessary.

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

MAP_status map_validate_obejct(
    OM_workspace      workspace,
    OM_object         test_object,
    OM_private_object *bad_argument_return
);
```

DESCRIPTION

This function is used to analyze any OM-Object to validate its structure. It may be used as a debug tool prior to issuing other XMAP function calls. It may also be used after XMAP function calls that return `[[MAP_E_BAD_ARGUMENT]]`.

It is not the intention of this function to be able to validate all OM objects in all packages. Its purpose is to validate only those primary OM objects that may be validly passed as arguments to function defined in this specification.

This function is not intended to validate private objects, only client or service generated public objects. When passed a private object, provided that the private object is of a known OM class, success will be returned. That is, the function does not analyze the contents of a private object.

ARGUMENTS

Test-Object (Object())*

The OM-Object to analyze and validate.

Workspace (Workspace)

Specifies the workspace (obtained from a call to *Initialize()*, in which **Bad-Argument** OM object will be created if the return status is `[[MAP_E_BAD_ARGUMENT]]`. Test-Objects does not need to be from this workspace.

RESULTS

Status (Status)

Indicates whether or not the validation was successful. A value of `[[MAP_E_BAD_ARGUMENT]]` indicates a validation failure and problem details are in the **Bad-Argument** parameter.

Bad-Argument (Object(Bad-Argument))

When Status is `[[MAP_E_BAD_ARGUMENT]]`, the result is one instance of the OM class **Bad-Argument**.

ERRORS This function can return the error constants `[[MAP_NO_WORKSPACE]]`, `[[MAP_INSUFFICIENT_RESOURCES]]`, `[[MAP_E_SYSTEM]]` or `[[MAP_E_BAD_ARGUMENT]]`.

EXAMPLE Following is a ‘C’ binding example of validating a user-generated public object from the GSM MAP Short Message services package:

```
OM_object argument = {
```

```

    OM_OID_DESC(OM_CLASS, MAP_C_MO_FORWARD_SM_ARG)
    , {MAP_SM_RP_DA, OM_S_OBJECT, {
        OM_OID_DESC(OM_CLASS, MAP_C_SM_RP_DA)
        , {MAP_IMSI, MAP_S_TBCD_STRING, OM_STRING("\x21\x43\x65\x87")}
        , OM_NULL_DESCRIPTOR
    } }
    , {MAP_SM_RP_OA, OM_S_OBJECT, {
        OM_OID_DESC(OM_CLASS, MAP_C_SM_RP_OA)
        , {MAP_NO_SM_RP_OA, OM_S_NULL, NULL}
        , OM_NULL_DESCRIPTOR
    } }
    , {MAP_SM_RP_UI, OM_S_OCTET_STRING, (OM_string) {data_length, data_pointer} }
    , {MAP_IMSI, MAP_S_TBCD_STRING, OM_STRING("\x21\x43\x65\x87")}
    , OM_NULL_DESCRIPTOR
};
MAP_status status;
OM_private_object bad_argument;

status = map_validate_object(workspace, argument, &bad_argument);

if (status == MAP_E_BAD_ARGUMENT)
    exit(1);

```

4.26 Wait()

NAME **Wait** — wait for the availability of management message(s) from one or more bound Sessions.

SYNOPSIS

```
#include <xom.h>
#include <xmap.h>

MAP_status map_wait(
    MAP_waiting_sessions    bound_session_list[],
    OM_workspace             workspace,
    OM_uint32                timeout
);
```

DESCRIPTION

This function is used to suspend the caller until a mobile application operation is available for a bound Session. A timeout value specifies the maximum number of milliseconds to suspend before returning when no messages are available. It should be noted that, in a multithreaded environment, *Wait()* may report the presence of a message that will have been processed by another thread by the time the first thread call *Receive()* to process it.

ARGUMENTS

Bound_session_list (Bound-Session-List)

An ordered sequence of mobile application sessions to wait upon. The last value must evaluate to NULL.

Workspace (Workspace)

Specifies the workspace (obtained from a call to *Initialize()*, in which a **MAP_status** object will be created if the return status is other than **[MAP_SUCCESS]**). Session(s) specified in the **bound-session-list** do not need to be from this workspace.

Timeout (Integer)

The maximum number of milliseconds to suspend before returning when there are no messages from the list of Session(s). A value of zero specifies an indefinite timeout.

RESULTS

Status (Status)

Indicates whether or not the function completed successfully. A successful completion means that either a message is available from a Session or that the timeout limit has been reached. The *Receive()* function must be called to determine whether a message is available. (See note in description above.)

Activated (Boolean-List)

If the function was completed successfully, this result is an ordered list of Boolean values, with the same number of elements as the **bound-session-list**. If true, each value indicates that the corresponding Session has data waiting in queue. If false, each value indicates that the corresponding Session does *not* have data waiting in queue.

In the C binding, this result is combined with the **bound-session-list** argument as a single array of structures of type `MAP_waiting_sessions`, which is defined as:

```
typedef struct {
    OM_private_object    bound_session;
    OM_boolean           activated;
} MAP_waiting_sessions;
```

ERRORS This function can return one of the following **Library-Errors**: bad-address, bad-session, bad-workspace, miscellaneous, session-terminated.

The function can also return the error constants `[[MAP_NO_WORKSPACE]]`, `[[MAP_INVALID_SESSION]]` and `[[MAP_INSUFFICIENT_RESOURCE]]`.

SEE ALSO *Initialize()*,¹ *Receive()*,² *Bind()*.³

EXAMPLE Following is a ‘C’ language binding example of using the *Wait()* function in conjunction with the *Receive()* function to process indications or confirmations:

```
MAP_waiting_sessions bound_session_list[] =
    { {session, OM_FALSE} , {NULL,} };

for (;;) {
    if ((status = map_wait(bound_session_list, workspace, 0)) != MAP_SUCCESS)
        exit(1);
    if (bound_session_list[0].activated) {
        OM_sint mode;
        OM_sint primitive;
        OM_sint completion_flag;
        MAP_status operation_status;
        OM_private_object result;
        OM_sint32 received_invoke_id;

        if ((status = map_receive(session, &mode, &primitive, &operation_status,
                                &result, &received_invoke_id)) != MAP_SUCCESS)
            exit(1);
        /* process received result */
        om_delete(result);
    }
}
```

¹ See Section 4.12 [*Initialize()*], page 55.

² See Section 4.16 [*Receive()*], page 63.

³ See Section 4.7 [*Bind()*], page 48.

5 Interface Class Definitions

This chapter defines, in alphabetical order, the OM classes that constitute the Common MAP package (COMMON), the GSM Mobile Application package (GSM) and the ANSI Mobile Application package (ANSI). The common errors are defined in the Common MAP package, while the variant specific errors are defined in the GSM MAP and ANSI MAP packages.

The Object-Identifier associated with the Common MAP package is:

```
{ iso(1) org(3) dod(6) internet(1) private(4) enterprises(1) openss7(29591)
  xom-packages(1) xmap(1) common(1) }
```

This Object-Identifier is represented by the constant **Common-Package** ('MAP_COMMON_PKG').

The Object-Identifier associated with the GSM MAP package is:

```
{ iso(1) org(3) dod(6) internet(1) private(4) enterprises(1) openss7(29591)
  xom-packages(1) xmap(1) gsm(2) }
```

This Object-Identifier is represented by the constant **GSM-Package** ('MAP_GSM_PKG').

The Object-Identifier associated with the ANSI MAP package is:

```
{ iso(1) org(3) dod(6) internet(1) private(4) enterprises(1) openss7(29591)
  xom-packages(1) xmap(1) ansi(3) }
```

This Object-Identifier is represented by the constant **ANSI-Package** ('MAP_ANSI_PKG').

The Object-Identifier associated with the GSM MAP Short Message Service package is:

```
{ iso(1) org(3) dod(6) internet(1) private(4) enterprises(1) openss7(29591)
  xom-packages(1) xmap(1) gsm(2) sm(22) }
```

This Object-Identifier is represented by the constant **GSM-SM-Package** ('MAP_GSM_SM_PKG').

The XMAP API may also make use of Mobile Application Services packages. These optional packages define OM classes that are additional to those in the Mobile Application packages, to extend the capabilities of the interface.

The concepts of OSI-Abstract-Data Manipulation are briefly described in [Section 1.5 \[Relationship to Data Abstraction Services\]](#), page 18. The notation is introduced below. Both are fully explained in the XOM Specification (see reference XOM).

Each OM class is described in a separate section, which identifies the OM attributes specific to that OM class. The OM classes are listed in alphabetic order; the OM attributes for each OM class are listed in the order in which they occur in corresponding ASN.1 definitions. The OM attributes that may be found in an instance of an OM class are those OM attributes specific to that OM class and those inherited from each of its super-classes. The OM class-specific OM attributes are defined in a table. The table gives the name of each OM attribute, the syntax of each of its values, any restrictions upon the length (in bits, octets (bytes), or characters) of each value, any restrictions upon the number of values, and the value, if any, the *OM-Create()* function supplies.

Vendor Extensions

Vendors may provide additional OM attributes in their implementation of particular OM classes and their individual documentation will give details of the specification and usage of these. Extensions must be negotiated through use of the *Negotiate()* function.

All such OM attributes have default values which lead to the behaviour described in this specification.

5.1 Global Class Hierarchy

This section depicts the hierarchical organization of the OM classes defined in this chapter, and thus shows which OM classes inherit additional OM attributes from their super-classes. Sub-classification

is indicated by indentation, and the names of abstract OM classes are rendered in italics. Thus, for example, the concrete class **Itut-SCCP-Address** is an immediate subclass of the abstract class *Address* which in turn is an immediate subclass of the abstract class *Object*. The *Create()* function applies to all concrete OM classes.

The application is not permitted to create or modify instances of some OM classes, because these OM classes are only returned by the interface and never supplied to it (for example, some subclasses of *Error*).

5.1.1 Interface Common Objects

- *Object* (defined in the XOM Specification: see reference **XOM**)
 - **Abort-Argument**
 - **Acse-Args**
 - *Address*
 - **Assoc-Argument**
 - **Assoc-Information**
 - **Assoc-Result**
 - **Context**
 - **Extension**
 - **SNMP-Object-Name**
 - **Presentation-Context**
 - **Presentation-Layer-Args**
 - **Session**
 - *Title*

5.1.2 Interface Common Error Definitions

- *Object* (defined in the XOM Specification: see reference **XOM**)
 - **Bad-Argument**
 - *Error*
 - **Service-Error**
 - **Service-Reject**

5.1.3 GSM MAP Package Objects

- *Object* (defined in the XOM Specification: see reference **XOM**)

5.1.3.1 GSM SM package Objects

- *Object* (defined in the XOM Specification: see reference **XOM**)

5.1.4 ANSI MAP Package Objects

- *Object* (defined in the XOM Specification: see reference **XOM**)

5.2 Common MAP Package

The Common MAP package introduces some additional OM syntaxes that are derivations of the *String(Octet)* syntax. These additional OM syntaxes are used to represent digit strings for telephony numbers and SCCP addresses.

5.2.1 String(TBCD)

This OM syntax is indicated in OM Attribute tables as *String(TBCD)*.

In the C binding, the OM Syntax name for *String(TBCD)* is declared as 'MAP_S_TBCD_STRING'.

A TBCD string is a Telephony Binary Coded Decimal encoding where digits '0' through '9', '*', '#', 'a', 'b' and 'c' keys are coded '0000' through '1001', '1010', '1011', '1100', '1101' and '1110'. The $(2n)$ 'th digit is encoded in the n 'th octet in bits '4321' and the $(2(n-1)+1)$ 'th digit in bits '8765'. Code '1111' is used as a filler when the number of digits is odd.

A Telephony Binary Coded Decimal (TBCD) String is used to represent several digits from '0' through '9', '*', '#', 'a', 'b', 'c', two digits per octet, each digit encoded '0000' to '1001' ('0' to '9'), '1010' (*), '1011'(#), '1100' (a), '1101' (b), '1110' (c); '1111' used as a filler when there is an odd number of digits. Bits '8765' of octet n encodes digit $2n$. Bits '4321' of octet n encoding digit $2(n-1)+1$.

5.2.2 String(Sccp-Address)

This OM syntax is indicated in OM Attribute tables as *String(Sccp-Address)*.

In the C binding, the OM Syntax name for *String(Sccp-Address)* is declared as 'MAP_S_SCCP_ADDRESS_STRING'.

An SCCP Address string is a encoded octet string where the encoding is the encoding of an SCCP address in either ITU-T or ANSI format in accordance with the format specified for the SCCP Called Party Address in ANSI T1.112/2000 Section 3.4 and ITU-T Recommendation Q.713 Section 3.4. This encoding is formatted as follows:

Octet 1	The first octet contains the address indicator, which is always present. The bits of the address indicator are interpreted as follows:	
bit 8		
	0	A '0' in bit 8 indicates that the address is formatted as an ITU-T address.
	1	A '1' in bit 8 indicates that the address is formatted as an ANSI address.
bit 7		
	0	A '0' in bit 7 indicates that SCCP translation is required and routing is based on global title.
	1	A '1' in bit 7 indicates that SCCP translation is not required and routing is based on signalling point code and subsystem number.
bits 6543	These bits contain the global title indicator that determines the format of the Global Title.	
bit 2		

	0	A '0' in bit 2 indicates that the address does not contain a signalling point code.
	1	A '1' in bit 2 indicates that the address contains a signalling point code.
bit 1		
	0	A '0' in bit 1 indicates that the address does not contain a subsystem number.
	1	A '1' in bit 1 indicates that the address contains a subsystem number.

ITU-T Format

When bit 8 in octet 1 is set to '0', the remainder of the address is formatted according to ITU-T format as follows:

Octet 2a and 2b

Octets 2a and 2b, when present as indicated by the point code indicator (bit 2 in Octet 1), contains the ITU-T formatted signalling point code. Otherwise, octets 2a and 2b are not included. Octet 2a contains the least significant eight bits of the 14-bit signalling point code; octet 2b contains the most significant 6-bits of the signalling point code, aligned to the least significant bit, with the two most significant bits padded to zeroes.

Octet 3 Octet 3, when present as indicated by the subsystem number indicator (bit 1 in Octet 1), contains the ITU-T formatted subsystem number. Otherwise, octet 3 is not included.

Global Title

GTI '0000' When the global title indicated is coded '0000', there is no global title octets in the address.

GTI '0001' When the global title indicates is coded '0001', the global title octets are formatted as follows:

Octet 4a Contains the nature of address indicator.

Octet 5a and onwards.

Contains the address signals. When BCD encoding is indicated, the address signals are in the format of a *String(TBCD)*.

GTI '0010' When the global title indicates is coded '0010', the global title octets are formatted as follows:

Octet 4a Contains the translation type.

Octet 5a and onwards

Contains the address signals. When BCD encoding is indicated, the address signals are in the format of a *String(TBCD)*.

GTI '0011' When the global title indicates is coded '0011', the global title octets are formatted as follows:

Octet 4a Contains the translation type.

Octet 4b	Contains the numbering plan and encoding scheme as follows:
bits 8765	Contain the numbering plan.
bits 4321	Contain the encoding scheme.
Octet 5a and onwards	Contains the address signals. When BCD encoding is indicated, the address signals are in the format of a <i>String(TBCD)</i> .
GTI '0100'	When the global title indicates is coded '0100', the global title octets are formatted as follows:
Octet 4a	Contains the translation type.
Octet 4b	Contains the numbering plan and encoding scheme as follows:
bits 8765	Contain the numbering plan.
bits 4321	Contain the encoding scheme.
Octet 4c	Contains the nature of address indicator (with the odd/even indicator unused).
Octet 5a and onwards	Contains the address signals. When BCD encoding is indicated, the address signals are in the format of a <i>String(TBCD)</i> .

ANSI Format

When bit 8 in octet 1 is set to '1', the remainder of the address is formatted according to ANSI format as follows:

Octet 2 Octet 2, when present as indicated by the subsystem number indicator (bit 1 in Octet 1), contains the ANSI formatted subsystem number. Otherwise, octet 2 is not included.

Octets 3a, 3b, 3c

Octets 3a, 3b, 3c, when present as indicated by the point code indicator (bit 2 in Octet 1), contains the ANSI formatted signalling point code. Otherwise, octets 3a, 3b and 3c are not included. Octet 3a contains the member component of the signalling point code; 3b the cluster; and 3c the network.

Global Title

GTI '0000' When the global title indicated is coded '0000', there is no global title octets in the address.

GTI '0001' When the global title indicates is coded '0001', the global title octets are formatted as follows:

Octet 4a Contains the translation type.

Octet 4b Contains the numbering plan and encoding scheme as follows:

	bits 8765	Contain the numbering plan.
	bits 4321	Contain the encoding scheme.
	Octet 5a and onwards	Contains the address signals. When BCD encoding is indicated, the address signals are in the format of a <i>String(TBCD)</i> .
GTI '0010'	When the global title indicates is coded '0010', the global title octets are formatted as follows:	
	Octet 4a	Contains the translation type.
	Octet 5a and onwards	Contains the address signals. When BCD encoding is indicated, the address signals are in the format of a <i>String(TBCD)</i> .

5.2.3 Abort-Argument

An instance of OM abstract class *Abort-Argument* represents the base information passed as the *Argument* argument to the *Abort()* function (see [Section 4.2 \[Abort\(\)\], page 39](#)) or returned from the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) in the *Result-Or-Argument* result for a user abort indication.

This OM class is an abstract class with several defined concrete subclasses: **GSM-Abort-Argument** (see [Section 5.3.3 \[GSM-Abort-Argument\], page 103](#)) and **ANSI-Abort-Argument**.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Error*; it does not define any attributes of its own.

Because abort causes are Mobile Application package specific, this abstract OM class does not define any of the values for the *problem* or *parameter* attributes of the *Error* superclass.

See also [Section 6.1.5 \[Service Error\], page 596](#).

5.2.4 Abort-Result

An instance of abstract OM class *Abort-Result* represents the base information passed as the *Argument* argument to the *Abort-req()* function (see [Section 4.3 \[Abort-req\(\)\], page 41](#)) or returned from the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) in the *Result-Or-Argument* result for an association abort indication.

This OM class is an abstract class with several defined concrete subclasses: **GSM-Abort-Result** (see [Section 5.3.4 \[GSM-Abort-Result\], page 104](#)) and **ANSI-Abort-Result**.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Error*; it does not define any attributes of its own.

Because abort result error codes are Mobile Application package specific, this abstract class does not define any of the *problem* values or *parameter* syntaxes of the *Error* superclass.

5.2.5 Accept-Result

An instance of abstract OM class *Accept-Result* represents the base information passed as the *Response* argument to the *Accept()* function (see [Section 4.4 \[Accept\(\)\], page 42](#)) or returned from the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) in the *Result-Or-Argument* result for an accept indication.

This OM class is an abstract class with several defined concrete subclasses: **GSM-Accept-Result** (see [Section 5.3.5 \[GSM-Accept-Result\]](#), page 104) and **ANSI-Accept-Result**.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.1](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
session	Object(Session)	—	1	—

Table 5.1: OM Attributes of OM class Accept-Result

This OM class contains the following class-specific OM attributes:

session Used to return to the user a fully formed dialog session object. This object may be used for all future interface calls pertaining to this new dialog.

When this object is received as a *Result-Or-Argument* result in a call to *Receive()* (see [Section 4.16 \[Receive\(\)\]](#), page 63), the *Get-Assoc-Info()* function can be used to retrieve additional details concerning the association. See [Section 4.10 \[Get-Assoc-Info\(\)\]](#), page 52.

5.2.6 Acse-Args

An instance of OM class **Acse-Args** identifies ACSE specific arguments that will be used during association establishment to a remote peer entity. These can be specified in the **Session** object if AAM is enabled, or in the **Assoc-Argument** or **Assoc-Result** object if AAM is disabled.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed below:

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
responder-Address	Object(Address)	—	0-1	—
responder-Title	Object(Title)	—	0-1	—
application-Context	Integer or String(Object-Identifier)	—	0-1	—
security-Context	Integer or String(Object-Identifier)	—	0-1	—
authentication-Information	Object(Authentication-Information)	—	0-1	—

Table 5.2: OM Attributes for a Acse-Args

This OM class contains the following class-specific OM attributes:

The **Acse-Args** object collects together all the information that is ACSE specific for association establishment.

responder-Address

Indicates the address of the responding program named by *responder-Title*.

responder-Title

Indicates the name of the program which will be used to service management service requests. It may be a distinguished name (instance of OM class Form1) or a registered name (instance of OM class Form2) which is used in name/network address resolution phase to get the application process title, the application entity qualifier and the presentation address. It may also be the Entity-Name of the responding program.

application-Context

The application context name proposed by the user to be used on the mobile application association. When automatic dialog handling is enabled on the session, the application context will be selected by the Mobile Application Service provider consistent with the Mobile Application Service request or indication. Mobile Application Service packages define a set of application contexts that are applicable to the service package.

security-Context

The security context name proposed by the user to be used on the mobile application association. By default the security context is not present. MOBILE Application Service packages define a set of security contexts that are applicable to the service package.

5.2.7 Address

An instance of OM class **Address** represents the address of a particular mobile application entity. It is used to define the specific location to contact a particular mobile application entity.

An instance of this OM class has all of the attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.3](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
sccp-Address	String(Sccp-Address)	4-5	1	—

Table 5.3: OM Attributes of OM class **Address**

This OM class contains the following class-specific OM attributes:

sccp-Address

The address is represented using an octet string that contains the encoding of an SCCP address in either ITU-T or ANSI format in accordance with the format specified for the SCCP Called Party Address in ANSI T1.112/2000 Section 3.4 and ITU-T Recommendation Q.713 Section 3.4 (see [Section 5.2.2 \[String\(Sccp-Address\)\]](#), page 83) with the following considerations:

- The encoded address *shall* have both a signalling point code and a subsystem number in the address.
- The encoded address *shall not* have a global title in the address (the global title indicated *shall* be coded ‘0000’).
- The encoded address will distinguish between ITU-T format and ANSI format using the network indicator bit as described in ANSI T1.112/2000 Section 3.4.

5.2.8 Application-Context-List

An instance of OM class **Application-Context-List** represent a list of application context names.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.4](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
application-Context-Name	Integer or String(Object-Identifier)	—	1-more	—

Table 5.4: OM Attributes of OM class **Application-Context-List**

This OM class contains the following class-specific OM attributes:

application-Context-Name

This attribute is one or more instances of an application context name consisting of an integer syntax or an object-identifier syntax. The integer syntax is only applicable to some Mobile Application packages (e.g. the GSM ANSI service package).

5.2.9 Assoc-Argument

An instance of OM class **Assoc-Argument** is the information supplied as an argument of an ACSE Associate operation to be performed. This object is passed to *Assoc-req()* or returned from *Receive()*. An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed below:

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
presentation-Layer-Args	Object(Presentation-Layer-Args)	—	0-1	—
acse-Args	Object(Acse-Args)	—	0-1	—
map-Assoc-Args	Object(Map-Assoc-Args)	—	0-1	—
session	Object(Session)	—	0-1	—

Table 5.5: OM Attributes of OM class **Assoc-Argument**

This OM class contains the following class-specific OM attributes:

presentation-Layer-Args

Indicates any presentation layer arguments needed during association establishment. If none are supplied, the Mobile Application Service provider will supply defaults if required.

acse-Args

Indicates ACSE related arguments that will be used during association establishment. If none are supplied, the Mobile Application Service provider will supply defaults if required.

map-Assoc-Args

Indicates MAP related arguments that will be used during association establishment. If none are supplied, the Mobile Application Service provider will supply defaults if required.

session

Used to return an associated **Session** object. This attribute must be empty when *Assoc-req()* is called, and is supplied as a **Result** parameter by the Mobile Application Service provider upon return from that call. When the object is returned from *Receive()*, this attribute is a partially associated **Session** object. Partially associated session objects can be aborted by calling *Abort-req()* using the new partially associated session object. Partially associated session objects can become fully associated

by calling *Assoc_rsp()*. To accept or refuse the new association, call **Assoc_rsp()** using the new partially associated session object that was returned by *Receive()* for the association indication.

5.2.10 Assoc-Result

An instance of OM class **Assoc-Result** is the information supplied as a response of an ACSE Associate operation to be performed. This object is passed to *Assoc_rsp()* or returned from *Receive()*.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 5.6.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
presentation-Layer-Args	Object(Presentation-Layer-Args)	—	0-1	—
acse-Args	Object(Acse-Args)	—	0-1	—
map-Assoc-Args	Object(Map-Assoc-Args)	—	0-1	—
session	Object(Session)	—	0-1	—

Table 5.6: OM Attributes of OM class **Assoc-Result**

This OM class contains the following class-specific OM attributes:

presentation-Layer-Args

Indicates any presentation layer arguments needed during association establishment. If none are supplied, the Mobile Application Service provider will supply defaults if required.

acse-Args Indicates ACSE related arguments that will be used during association establishment. If none are supplied, the Mobile Application Service provider will supply defaults if required.

map-Assoc-Args

Indicates MAP related arguments that will be used during association establishment. If none are supplied, the Mobile Application Service provider will supply defaults if required.

session Used to return to the user an associated session object. This object may be used for all future interface calls pertaining to this new association.

5.2.11 Close-Argument

An instance of OM class *Close-Argument* represents the base information that is supplied as the *Argument* argument to the *Clsoe()* function (see Section 4.8 [Close()], page 50) or is returned by the *Receive()* function (see Section 4.16 [Receive()], page 63) in the *Result-Or-Argument* result for a close indication.

This OM class is an abstract class with several defined concrete subclasses: **GSM-Close-Argument** (see Section 5.3.6 [GSM-Close-Argument], page 105) and **ANSI-Close-Argument**.

An instance of this OM class has the OM attributes of its superclasses, *Object*, it does not define any OM attributes of its own.

5.2.12 Context

An instance of OM class **Context** comprises per operation arguments that are accepted by most of the interface functions.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed below:

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
<i>Common Arguments</i>				
extensions	Object(Extension)	—	0-more	—
<i>Service Controls</i>				
mode	Enum(Mode)	—	0-1	—
application-Context	Integer or String(Object-Identifier)	—	0-1	—
responder-Address	Object(Address)	—	0-1	—
responder-Title	Object(Title)	—	0-1	—
<i>Local Controls</i>				
asynchronous	Boolean	—	1	false
reply-Limit	Integer	—	0-1	—
time-Limit	Integer	—	0-1	—

Table 5.7: OM Attributes of OM class **Context**

This OM class contains the following class-specific OM attributes:

Common Arguments

extensions

Service Controls

mode

application-Context

responder-Address

responder-Title

Local Controls

asynchronous

reply-Limit

time-Limit

5.2.13 Extension

An instance of OM class **Extension** represent an extension to ASN.1 syntax. This object is coded using the *any* syntax. The particular syntax of the extension is dependent upon the object within which an instance of this extension object is contained.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.8](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension	any	—	1	—

Table 5.8: *OM Attributes of OM class Extension*

This OM class contains the following class-specific OM attributes:

extension This attribute is a syntax that represents the ASN.1 encoding of the extension complete with tags.

5.2.14 Generic-Service-Argument

An instance of OM class **Generic-Service-Argument** represents a generic service request independent of a defined Mobile Application Services package. This object is used to support service requests that have not been defined in a Mobile Application Services package, or for a Mobile Application Services package that is not supported by the implementation workspace.

An instance of this OM class has the attributes of it is superclasses, *Service-Request*, and additionally the OM attributes listed in [Table 5.9](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
confirmation	Boolean	—	1	—
operation	Integer or String(Object-Identifier)	—	1	—
arguments	Object(Encoding)	—	1-more	—

Table 5.9: *OM Attributes of OM class Generic-Service-Argument*

This OM class contains the following class-specific OM attributes:

confirmation This attribute is a boolean value that specifies whether the operation is performed in the confirmed or unconfirmed mode. When performed in a confirmed mode, a response is expected. When performed in the unconfirmed mode, no response is expected. This attribute determines which TCAP operations class will be used for the underlying invoke operation.

operation This attribute specifies the ROSE/TCAP operation code associated with the service request as either an integer or an object identifier. Whether an integer or object identifier is used depends upon the underlying ROSE/TCAP provider and may differ depending on the Mobile Application Package in use (e.g. GSM MAP or ANSI MAP).

arguments This attribute specifies the parameters of the operation invocation as one or more instances of OM class Encoding. This encoding class will be encapsulated in a Parameter Sequence by the underlying ROSE/TCAP provider.

5.2.15 Generic-Service-Result

An instance of OM class **Generic-Service-Result** represents a generic service response independent of a defined Mobile Application Services package. This object is used to support service responses

that have not been defined in a Mobile Application Services package, or for a Mobile Application Services package that is not supported by the implementation workspace.

An instance of this OM class has the attributes of its superclasses, *Service-Result*, and additionally the OM attributes listed in Table 5.10.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
operation	Integer or String(Object-Identifier)	—	1	—
response	Object(Encoding)	—	1-more	—

Table 5.10: OM Attributes of OM class **Generic-Service-Result**

This OM class contains the following class-specific OM attributes:

<i>operation</i>	This attribute specifies the ROSE/TCAP operation code associated with the service request as either an integer or an object identifier. Whether an integer or object identifier is used depends upon the underlying ROSE/TCAP provider and may differ depending on the Mobile Application Package in use (e.g. GSM MAP or ANSI MAP).
<i>response</i>	This attribute specifies the parameters of the operation invocation as one or more instances of OM class Encoding. This encoding class will be encapsulated in a Parameter Sequence by the underlying ROSE/TCAP provider.

5.2.16 Map-Assoc-Args

An instance of OM class **Map-Assoc-Args** represents the MAP association arguments that are optionally supplied by the **Session**, **Assoc-Argument** or **Assoc-Result** objects and can be interrogated with the *Get-Assoc-Info()* function.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 5.11.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
application-Context-List	Object(Application-Context-List)	—	0-1	—
version-List	Object(Version-List)	—	0-1	—

Table 5.11: OM Attributes of OM class **Map-Assoc-Args**

This OM class contains the following class-specific OM attributes:

application-Context-List
version-List

5.2.17 Notice-Result

An instance of OM class *Notice-Result* represents the base information that is returned in the *Result-Or-Argument* result by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a notice indication.

This OM class is an abstract class with several defined concrete subclasses: **GSM-Notice-Result** (see Section 5.3.9 [GSM-Notice-Result], page 107) and **ANSI-Notice-Result**.

An instance of this OM class has the OM attributes of its superclasses, *Object*. It does not define any OM attributes of its own.

5.2.18 Open-Argument

An instance of OM class *Open-Argument* represents the base information that is supplied as an argument to the *Open()* function (see Section 4.15 [*Open()*], page 61) or is returned by the *Receive()* function (see Section 4.16 [*Receive()*], page 63) for an open indication.

This OM class is an abstract class with several defined concrete subclasses: **GSM-Open-Argument** (see Section 5.3.10 [*GSM-Open-Argument*], page 109) and **ANSI-Open-Argument**.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 5.12.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
responder-Address	Object(Address)	—	0-1	—
responder-Title	Object(Title)	—	0-1	—
requesting-Address	Object(Address)	—	0-1	—
requesting-Title	Object(Title)	—	0-1	—
session	Object(Session)	—	0-1	—

Table 5.12: OM Attributes of OM abstract class *Open-Argument*

This OM class contains the following class-specific OM attributes:

responder-Address

Specifies the responder address (the address of the remote mobile application entity) for a bound session object with AAM enabled, this address takes precedence over any *responder-Address* contained in the **Context** or **Session** objects. For an associated session object, the precedence rules are different and the **Open-Argument** object cannot be used to override the *responder-Address* contained in the **Session** object.

responder-Title

Specifies the responder title. This title takes precedence over any *responder-Title* contained in the **Context** or **Session** objects. When not specified by any object, the MAS provider will not include a responder title in the open request.

requesting-Address

The *requesting-Address* contained in the **Open-Argument** cannot be used to override the any requesting address contained in the **Session** object.

requesting-Title

Specifies the requesting title. This title takes precedence over any *requesting-Title* contained in the **Context** or **Session** objects. When not specified by any object, the MAS provider will not include a requesting title.

session

Use to return a partially formed dialog **Session** object. This attribute must be empty when *Open()* is called, and is supplied as a **Result** parameter by the Mobile Application Service provider upon return from that call. The partially formed dialog session can either be aborted with a call to *Abort()*, or can become a fully formed dialog session with a call to *Accept()*. To abort the partially formed dialog session, call *Abort()* using

the new partially formed dialog session object. To accept or refuse the new dialog, call *Accept()* or *Refuse()* using the session object that received the association indication.

5.2.19 Operation-Argument

5.2.20 Operation-Error

5.2.21 Operation-Reject

5.2.22 Operation-Result

5.2.23 P-Abort-Result

An instance of OM abstract class *P-Abort-Result* represents the base information returned in the *Result-Or-Argument* result from the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a provider abort indication.

This OM class is an abstract class with several defined concrete subclasses: **GSM-P-Abort-Result** (see [Section 5.3.11 \[GSM-P-Abort-Result\], page 109](#)) and **ANSI-P-Abort-Result**.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Error*; it does not define any OM attributes of its own.

See also [Section 6.1.5 \[Service Error\], page 596](#).

5.2.24 Presentation-Context

An instance of OM class **Presentation-Context** lists the presentation contexts for association establishment.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed below:

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
presentation-Id	Integer	—	1	—
presentation-Abstract	String(Object-Identifier)	—	1	—

Table 5.13: *OM Attributes of OM class Presentation-Context*

This OM class contains the following class-specific OM attributes:

presentation-Id

The integer user identification of the presentation context.

presentation-Abstract

Identifies the abstract syntax. If no value is supplied, by default the abstract syntax name is provided by the Mobile Application package. The GSM MAP package provides a default abstract syntax name of map-DialogueAs, specified by 3GPP TS 29.002, and is supplied by the Mobile Application Service provider. This Object-Identifier is { itu-t(0) identified-organization(4) etsi(0) mobile-domain(0) gsm-Network(1) as-Id(1) map-DialoguePDU(1) version1(1) } and is provided in the C binding as 'MAP_GSM_DIALOGUE_AS'.

5.2.25 Presentation-Layer-Args

An instance of OM class **Presentation-Layer-Args** identifies the presentation layer arguments that will be used during association establishment. These can be specified in the session object if AAM is enabled, or in the Assoc-Argument or Assoc-Result object if AAM is disabled.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed below:

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
presentation-Context-List	Object(Presentation-Context)	—	0-more	—

Table 5.14: OM Attributes of OM class **Presentation-Layer-Args**

This OM class contains the following class-specific OM attributes:

presentation-Context-List

The list of presentation contexts.

5.2.26 Refuse-Result

An instance of OM class *Refuse-Result* represents the base information that is supplied as the *Response* argument to the *Refuse()* function (see [Section 4.17 \[Refuse\(\)\], page 66](#)) or is returned by the *Receive* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) in the *Result-Or-Argument* result for a refuse indication.

This OM class is an abstract class with several defined concrete subclasses: **GSM-Refuse-Result** (see [Section 5.3.12 \[GSM-Refuse-Result\], page 113](#)) and **ANSI-Refuse-Result**.

An instance of this OM class has the OM attributes of its superclasses, *Object*, it does not define any OM attributes of its own.

5.2.27 Release-Argument

5.2.28 Release-Result

5.2.29 Service-Argument

An instance of OM class *Service-Argument* represents the base information that is supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a service indication.

This OM class is an abstract class containing several defined subclasses: **GSM-Service-Argument** (see [Section 5.3.15 \[GSM-Service-Argument\], page 114](#)) and **ANSI-Service-Argument**.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.15](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
responder-Address	Object(Address)	—	0-1	—
responder-Title	Object(Title)	—	0-1	—
requesting-Title	Object(Title)	—	0-1	—

Table 5.15: *OM Attributes of OM class GSM-Service-Argument*

This OM class contains the following class-specific OM attributes:

responder-Address
responder-Title
requesting-Title

5.2.30 Service-Error

An instance of abstract OM class *Service-Error* represents the base information that is supplied in response to a service operation, supplied as the *Argument* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned as a *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a service confirmation.

This OM class is an abstract class containing several defined subclasses: **GSM-Service-Error** (see [Section 5.3.16 \[GSM-Service-Error\], page 115](#)) and **ANSI-Service-Error**.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Error*. As the *problem* values and *parameter* syntaxes are Mobile Application package specific, this OM class defines no attributes or error values of its own.

See [Section 6.1.5 \[Service Error\], page 596](#).

5.2.31 Service-Reject

An instance of abstract OM class *Service-Reject* represents the base information that is supplied in response to a service operation, supplied as the *Argument* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned as *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a service confirmation.

This OM class is an abstract class containing several defined subclasses: **GSM-Service-Reject** (see [Section 5.3.17 \[GSM-Service-Reject\], page 116](#)) and **ANSI-Service-Reject**.

An instance of this OM class has the OM attribute of its superclasses, *Object*, *Error*. As the *problem* values and *parameter* syntaxes are Mobile Application package specific, this OM class defines no attributes or error values of its own.

Note that when Automatic Association Management or Automatic Dialog Handling are enabled on a session for which a concrete subclass of the *Service-Reject* is used as a response, the *Service-Reject* object also represents the errors that would otherwise be reported using a concrete subclass of *Abort-Argument*, *P-Abort-Result* (were ADH to be disabled) or *Refuse-Result* or *Abort-Result* (were AAM to be disabled).

Therefore, when ADH is enabled on a session, the *problem* and *parameter* attributes of the *Error* superclass may also contain any of the error values defined for the corresponding *Abort-Argument* or *P-Abort-Result* subclasses. When AAM is enabled on a session, the *problem* and *parameter* attributes of the *Error* superclass may also contain any of the error values defined for the corresponding *Refuse-Result* or *Abort-Result* subclasses.

See [Section 6.1.5 \[Service Error\], page 596](#).

5.2.32 Service-Result

An instance of OM class *Service-Result* represents the base information that is supplied as an argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned as a receive result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a service confirmation.

This OM class is an abstract class containing several defined subclasses: **GSM-Service-Result** (see [Section 5.3.18 \[GSM-Service-Result\], page 117](#)) and **ANSI-Service-Result**.

An instance of this OM class has the OM attributes of its superclasses, *Object*. As the error codes are Mobile Application package specific, this OM class defines no attributes of its own.

5.2.33 Session

An instance of OM class **Session** identifies a particular communications link from the application program to the Mobile Application Service provider or to a remote mobile application entity depending upon the state of the session object. Session objects can be created with Automatic Association Management enabled or disabled. If AAM is enabled, then all of the ACSE connection management, needed to deliver a mobile application service operation, is done by the Mobile Application Service provider. If AAM is disabled, the ACSE connection management is done by the user before issuing or receiving Mobile Application Service operations.

The use of and rules for the session object are different depending on whether AAM is enabled or disabled. AAM is specified as part of *Negotiate()*.¹

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.16](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
requestor-Address	Object(Address)	—	0-1	—
requestor-Title	Object(Title)	—	0-1	—
role	Integer	—	0-1	see below
file-Descriptor	Integer	—	1	see below
presentation-Layer-Args	Object(Presentation-Layer-Args)	—	0-1	—
acse-Args	Object(Acse-Args)	—	0-1	—
map-Assoc-Args	Object(Map-Assoc-Args)	—	0-1	—

Table 5.16: OM Attributes of OM class **Session**

For a description of the three type of **Session** objects: AAM Enabled Session, AAM Disabled Session and Connected Session, see [Section 3.2 \[Session\], page 26](#).

The OM attributes of a *Session* are:

requestor-Address

Indicates the address of the requesting program named by **requestor-Title**. If both the requestor-Address and requestor-Title are not specified, the service provider will supply a default requestor-Address.

requestor-Title

Indicates the name of the requesting program, user of this session. It may be a distinguished name (instance of OM class **Form1**) or a registered name (instance of OM class

¹ See [Section 4.14 \[Negotiate\(\)\], page 58](#).

Form2) which is used in name/network address resolution phase to get the application process title, the application entity qualifier and the presentation address. It may also be the entity-name of the requesting program.

role Indicates the roles acted by the resquestor. The role value is specified by OR-ing none, one, or more of the following values:

performer-role

(‘MAP_T_PERFORMER_ROLE’) Responder and performer of mobile application services operations. Unless this role is set or implied, no indications will be returned by calls to *Receive* and the Mobile Application Service provider does not need to provide indications to the bound session user.

invoker-role

(‘MAP_T_INVOKER_ROLE’) Requester and Invoker of mobile application services operations. If **performer-role** is set and **invoker-role** is clear, the Mobile Application Service provider does not need to honor operation or service requests from the bound session user.

When both role flags are clear, or this attribute is not present in the session, the Mobile Application Service provider may still honor operation and service requests.

file-Descriptor

Indicates the file descriptor associated with the session. The file descriptor may be used by implementors of the *Wait()* function. The file descriptor may be used in subsequent calls to vendor-specific system facilities to suspend the process (for example, System V `poll(2s)` or BSD `select(2)`). Its use for any other purpose is unspecified.

If the implementation does not define any suitable suspension facilities, or if the session is not started, the value is **No-Valid-File-Descriptor** (‘-1’ or ‘MAP_NO_VALID_FILE_DESCRIPTOR’).

presentation-Layer-Args

Indicates any presentation layer arguments needed during association establishment. If none are supplied, the Mobile Application Service provider will supply defaults if required.

acse-Args Indicates the ACSE related arguments that will be used during association establishment. If none are supplied, the Mobile Application Service Provider will supply defaults if required.

map-Assoc-Args

Indicates the MAP association related arguments that will be used during association establishment. If not are supplied, the Mobile Application Service Provider will supply defaults if required.

5.2.34 Title

An instance of OM class **Title** represents the title of a particular mobile application service entity. It contains various subclass types used to define the specific mobile application process or system name responsible for a mobile application service entity.

An instance of this OM class has all of the attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.17](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
sccp-Title	String(Sccp-Address)	2-24	1	—

Table 5.17: *OM Attributes of OM class Title*

This OM class contains the following class-specific OM attributes:

- sccp-Title* The title is represented using an octet string that contains the encoding of an SCCP address in either ITU-T or ANSI format in accordance with the format specified for the SCCP Called Party Address in ANSI T1.112/2000 Section 3.4 and ITU-T Recommendation Q.713 Section 3.4 (see [Section 5.2.2 \[String\(Sccp-Address\)\]](#), page 83) with the following considerations:
- The encoded address *may* have either a signalling point code or a subsystem number, or both, in the address.
 - The encoded address *shall* have a global title in the address (the global title indicated *shall not* be coded ‘0000’).
 - The encoded address will distinguish between ITU-T format and ANSI format using the network indicator bit as described in ANSI T1.112/2000 Section 3.4.

5.3 GSM MAP Package

The GSM MAP package provides specialization of the argument and result objects of the Common MAP package to provide for the services under the GSM MAP as described in 3GPP TS 29.002 Section 7.6. This package is organized as a separate OM package that can be negotiated using the *Negotiate()* function.²

The Object-Identifier associated with the GSM MAP package is:

```
{ iso(1) org(3) dod(6) internet(1) private(4) enterprises(1) openss7(29591)
  xom-packages(1) xmap(1) gsm(2) }
```

This Object-Identifier is represented by the constant **GSM-Package** (‘MAP_GSM_PKG’). This constant can be used to negotiate support for the package using the *Negotiate()* function.

GSM MAP package introduces some additional OM syntaxes that are derivations of the *String(Octet)* syntax. These additional OM syntaxes are used to represent digit strings and telephony numbers. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

The following outlines the OM Class Hierarchy for the GSM MAP package:

- *Object* (defined in the XOM Specification: see reference **XOM**)
 - *Abort-Argument* (defined in *MAP-Common-Package*)
 - **GSM-Abort-Argument**
 - *Abort-Result* (defined in *MAP-Common-Package*)
 - **GSM-Abort-Result**
 - *Accept-Result* (defined in *MAP-Common-Package*)
 - **GSM-Accept-Result**
 - *Close-Argument* (defined in *MAP-Common-Package*)

² See [Section 4.14 \[Negotiate\(\)\]](#), page 58.

- **GSM-Close-Argument**
- *Context* (defined in *MAP-Common-Package*)
 - **GSM-Context**
- **Extension-Container**
- *Map-Assoc-Args* (defined in *MAP-Common-Package*)
 - **GSM-Map-Assoc-Args**
- *Notice-Result* (defined in *MAP-Common-Package*)
 - **GSM-Notice-Result**
- *Open-Argument* (defined in *MAP-Common-Package*)
 - **GSM-Open-Argument**
- *P-Abort-Argument* (defined in *MAP-Common-Package*)
 - **GSM-P-Abort-Argument**
- **PCS-Extensions**
- **Private-Extension**
- **Private-Extension-List**
- *Refuse-Result* (defined in *MAP-Common-Package*)
 - **GSM-Refuse-Result**
- *Release-Argument* (defined in *MAP-Common-Package*)
 - **GSM-Release-Argument**
- *Release-Result* (defined in *MAP-Common-Package*)
 - **GSM-Release-Result**
- *Service-Argument* (defined in *MAP-Common-Package*)
 - **GSM-Service-Argument**
- *Service-Result* (defined in *MAP-Common-Package*)
 - **GSM-Service-Result**
- **Specific-Information**
- **User-Abort-Choice**

5.3.1 String(Address)

This OM syntax is indicated in OM Attribute tables as *String(Address)*.

In the C binding, the OM Syntax name for *String(Address)* is 'MAP_S_ADDRESS_STRING'.

This syntax is used to represent a number for addressing purposes. It is composed of a sequence of one or more octets, consisting of:

- one octet for nature of address and numbering plan indicator;
- digits of an address encoded as String(TBCD).

The first octet includes a one bit extension indicator, 3-bit nature of address indicator, and 4-bit numbering plan indicator coded as follows:

bit '8': This bit is an unused extension bit (no extension, coded as zero ('0')).

bits '765': These bits contain the Nature of Address Indicator:

'000' unknown

'001'	international number
'010'	national significant number
'011'	network specific number
'100'	subscriber number
'101'	reserved
'110'	abbreviated number
'111'	reserved for extension

bits '4321': These bits contain the Numbering Plan:

'0000'	unknown
'0001'	ISDN/Telephony Number Plan (ITU-T Rec. E.164)
'0010'	spare
'0011'	data numbering plan (ITU-T Rec. X.121)
'0100'	telex numbering plan (ITU-T Rec. F.69)
'0101'	spare
'0110'	land mobile numbering plan (ITU-T Rec. E.212)
'0111'	spare
'1000'	national numbering plan
'1001'	private numbering plan
'1010'	reserved
'1011'	reserved
'1100'	reserved
'1101'	reserved
'1110'	reserved
'1111'	reserved for extension

The following octets representing digits of an address encoded as *String(TBCD)*.

5.3.2 String(Subaddress)

This OM syntax is indicated in OM Attribute tables as *String(Subaddress)*.

In the C binding, the OM Syntax name for *String(Subaddress)* is 'MAP_S_SUBADDRESS_STRING'.

This syntax is used to represent a number for addressing purposes. It is used to represent ISDN subaddresses. It is composed of:

- one octet of type of subaddress and odd/even indicator;
- twenty octets of subaddress information.

The first octet includes a one bit extension indicator, a 3-bit type of subaddress, and a one bit odd/even indicator, encoded as follows:

bit '8'

'1'	(no extension)
-----	----------------

bits '765'

'000'	NSAP (X.213/ISO 8348 AD2)
'010'	User Specified
—	all other values reserved

bit '4'

'0'	even number of address signals
'1'	odd number of address signals

bits ‘321’

‘000’ (unused)

The following octets represent the address signals or subaddress information.

The NSAP X.213/ISO8348 AD2 address shall be formatted as specified by octet 4 which contains the Authority and Format Identifier (AFI). The encoding is made according to the “preferred binary encoding” as defined in X.213/ISO 8348 AD2. For the definition of this type of subaddress, see ITU-T Recommendation I.334.

For User-specific subaddress, this field is encoded according to the user specification, subject to a maximum length of 20 octets. When interworking with X.25 networks, BCD coding should be applied.

5.3.3 GSM-Abort-Argument

An instance of OM class **GSM-Abort-Argument** represents the information that can be supplied as the *Argument* argument to the *Abort()* function (see [Section 4.2 \[Abort\(\)\], page 39](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) in the *Result-Or-Argument* result of a user abort indication.

An instance of this OM class has the OM attributes of its superclass, *Object*, *Error*, *Abort-Argument* (see [Section 5.2.3 \[Abort-Argument\], page 86](#)), and additionally the OM attributes listed in [Table 5.18](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
specific-Information	Object(Specific-Information)	—	0-1	—

Table 5.18: OM Attributes of OM class **GSM-Abort-Argument**

This OM class contains the following class-specific OM attributes:

problem

user-specific-reason(0)³ (‘MAP_E_PROCEDURE_ERROR’)

Processing of the procedure is terminated due to procedural reasons. The remote MAP Service User has aborted the operation due to a user-specific reason. Indicates that the user abort reason is user specific and no additional information is provided. There is no error parameter associated with this problem code.

resource-limitation-congestion(1) (‘MAP_E_RESOURCE_LIMITATION_CONGESTION’)

The requested user resource is unavailable due to congestion. The remote MAP Service User has aborted the operation due to a resource limitation (such as congestion). Indicates that the user abort reason is related to a resource limitation (e.g. congestion) and no additional information is provided. There is no error parameter associated with this problem code.

resource-unavailable(2) (‘MAP_E_RESOURCE_UNAVAILABLE’)

The requested user resource is unavailable for reasons other than congestion. The remote MAP Service User has aborted the operation due to the unavailability of a resource (such as system memory). This is either of a

³ Note: this error corresponds to the *MAP-U-ABORT User reason procedure-error*.

short term or long term nature. Indicates that the user abort reason is due to the unavailability of a resource. The reason is further qualified as to the duration of the resource limitation as follows:

short-term-resource-limitation

(‘MAP_E_SHORT_TERM_RESOURCE_LIMITATION’ ‘0’)

long-term-resource-limitation

(‘MAP_E_LONG_TERM_RESOURCE_LIMITATION’ ‘1’)

This further qualification is contained in the error *parameter* as an Integer value.

application-procedure-cancellation(3)

(‘MAP_E_APPLICATION_PROCEDURE_CANCELLATION’)

The procedure is cancelled for reasons detailed in the diagnostic information parameter. The remote MAP Service User has aborted the operation due to application procedure cancellation. The cause of the cancellation is provided. Indicates that the user abort reason is due to the cancellation of a procedure. The reason is further qualified as to the source of the cancellation as follows:

handover-cancellation

(‘MAP_E_HANDOVER_CANCELLATION’ ‘0’)

radio-channel-release

(‘MAP_E_RADIO_CHANNEL_RELEASE’ ‘1’)

network-path-release

(‘MAP_E_NETWORK_PATH_RELEASE’ ‘2’)

call-release (‘MAP_E_CALL_RELEASE’ ‘3’)

associated-procedure-failure

(‘MAP_E_ASSOCIATED_PROCEDURE_FAILURE’ ‘4’)

tandem-dialogue-release

(‘MAP_E_TANDEM_DIALOGUE_RELEASE’ ‘5’)

remote-operations-failure

(‘MAP_E_REMOTE_OPERATIONS_FAILURE’ ‘6’)

This further qualification is contained in the error *parameter* as an Integer value.

parameter This attribute is an instance of OM class **Specific-Information**.

specific-Information

This attribute is zero or more instances of OM class **Specific-Information**. See [Section 5.3.19.20 \[Specific-Information\], page 129](#).

5.3.4 GSM-Abort-Result

5.3.5 GSM-Accept-Result

An instance of OM class **GSM-Accept-Result** represents the information that is supplied as the *Response* argument to the *Accept()* function (see [Section 4.4 \[Accept\(\)\], page 42](#)) or is returned in

the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for an accept confirmation.

An instance of this OM class has the OM attributes of its superclass, *Accept-Result* (see [Section 5.2.5 \[Accept-Result\]](#), page 86), and additionally the OM attributes listed in [Table 5.19](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
specific-Information	Object(Specific-Information)	—	0-1	—

Table 5.19: OM Attributes of OM class **GSM-Accept-Result**

This OM class contains the following class-specific OM attributes:

specific-Information

This attribute provides user-specific information that is passed transparently between peer mobile application service users as part of dialog establishment. This attribute is an instance of OM class **Specific-Information**. See [Section 5.3.19.20 \[Specific-Information\]](#), page 129.

5.3.6 GSM-Close-Argument

An instance of OM class **GSM-Close-Argument** represents the information that is supplied as the *Argument* argument to the *Close()* function (see [Section 4.8 \[Close\(\)\]](#), page 50) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a close indication.

An instance of this OM class has the OM attributes of its superclass, *Close-Argument* (see [Section 5.2.11 \[Close-Argument\]](#), page 90), and additionally the OM attributes listed in [Table 5.20](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
release-Method	Enum(Release-Method)	—	1	—
specific-Information	Object(Specific-Information)	—	0-1	—

Table 5.20: OM Attributes of OM class **GSM-Close-Argument**

This OM class contains the following class-specific OM attributes:

release-Method

Specifies the release method for closing the dialogue. When supplied as an argument to the *Close()* function, this value can be one of the following:

normal-release

(‘MAP_T_NORMAL_RELEASE’) The release is normal (and will result in issuing a MAP-CLOSE dialogue and a TCAP END message).

prearranged-end

(‘MAP_T_PREARRANGED_END’) The release is prearranged (and will not result in either issuing a MAP-CLOSE dialogue nor a TCAP END message).

Note:

When indicated by the *Receive()* function, this attribute will always contain **normal-release**.

specific-Information

This attribute provides user-specific information that is passed transparently to the remote peer mobile application service user. This attribute is an instance of OM class **Specific-Information**. See [Section 5.3.19.20 \[Specific-Information\]](#), page 129.

5.3.7 GSM-Context

An instance of OM class **GSM-Context** comprises per operation arguments, including GSM specific arguments, that are accepted by most of the interface functions.

An instance of the OM class has the OM attributes of its superclasses, *Context*, and additionally the OM attributes listed in [Table 5.21](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
<i>GSM Service Controls</i>				
application-Context	String(Object-Identifier)	—	0-1	—
destination-Reference	String(Address)	1-20	0-1	—
originating-Reference	String(Address)	1-20	0-1	—
specific-Information	Object(Specific-Information)	—	0-1	—

Table 5.21: OM Attributes of OM class **GSM-Context**

This OM class contains the following class-specific OM attributes:

application-Context

Specifies the application context for the call to *Open()*, *Refuse()* (ADH disabled) or *Service-req()*, *Service-rsp()* (ADH enabled). When not specified, the MAS provider will select a default value as required.

destination-Reference

Specifies the destination reference for the call to *Open()* (ADH disabled) or *Service-req()* (ADH enabled). When not specified, the MAS provider will select a default value as required.

originating-Reference

Specifies the originating reference for the call to *Open()* (ADH disabled) or *Service-req()* (ADH enabled). When not specified, the MAS provider will select a default value as required.

specific-Information

Specifies the specific information as an instance of the OM class **Specific-Information** (see [Section 5.3.19.20 \[Specific-Information\]](#), page 129) to be passed with any dialog handling or service request or response.

For a call to *Service-req()* or *Service-rsp* for a fully or partially formed dialog session, the precedence rules for common attributes in the **Context** and **Session** objects are different and the *application-Context*, *destination-Reference* and *originating-Reference* in the **GSM-Context** object cannot be used to override those contained in the dialog **Session** object.

5.3.8 GSM-Map-Assoc-Args

An instance of OM class **GSM-Map-Assoc-Args** represents the additional GSM specific MAP association arguments that are optionally supplied by the **Session**, **Assoc-Argument** or **Assoc-Result** objects and can be interrogated with the *Get-Assoc-Info()* function.

An instance of this OM class has the OM attributes of its superclasses, *Map-Assoc-Args* (see Section 5.2.16 [Map-Assoc-Args], page 93), and additionally the OM attributes listed in Table 5.22.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
destination-Reference	String(Address)	1-20	0-1	—
originating-Reference	String(Address)	1-20	0-1	—
specific-Information	Object(Specific-Information)	—	0-more	—

Table 5.22: OM Attributes of OM class **GSM-Map-Assoc-Args**

This OM class contains the following class-specific OM attributes:

destination-Reference

This attribute is a destination reference represented as an address string. The rules for supplying destination references is given in 3GPP TS 29.002. This attribute has syntax *String(Address)*. See Section 5.3.1 [String(Address)], page 101.

originating-Reference

This attribute is an originating reference represented as an address string. The rules for supplying originating references is given in 3GPP TS 29.002. This attribute has syntax *String(Address)*. See Section 5.3.1 [String(Address)], page 101.

specific-Information

This attribute is zero or more instances of OM class **Specific-Information**. See Section 5.3.19.20 [Specific-Information], page 129.

5.3.9 GSM-Notice-Result

An instance of OM class **GSM-Notice-Result** represents the information that is returned in a *Result-Or-Argument* result by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a notice indication.

An instance of this OM class has the OM attributes of its superclasses, *Notice-Result* (see Section 5.2.17 [Notice-Result], page 93), and additionally the OM attributes listed in Table 5.23.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
problem-Diagnostic	Enum(Problem-Diagnostic)	—	1	—

Table 5.23: OM Attributes of OM class **GSM-Notice-Result**

This OM class contains the following class-specific OM attributes:

Problem-Diagnostic

abnormal-event-detected-by-peer
(‘MAP_T_ABNORMAL_EVENT_DETECTED_BY_PEER’)

response-rejected-by-the-peer
 ('MAP_T_RESPONSE_REJECTED_BY_THE_PEER')

abnormal-event-received-from-the-peer
 ('MAP_T_ABNORMAL_EVENT_RECEIVED_FROM_THE_PEER')

message-cannot-be-delivered-to-the-peer
 ('MAP_T_MESSAGE_CANNOT_BE_DELIVERED_TO_THE_PEER')

The following values of the problem code of the TC-R-REJECT and TC-U-REJECT primitive are mapped to the values of the diagnostic parameter of the MAP-NOTICE indication primitive as follows:

<i>TC Problem Code</i>	<i>MAP Diagnostic</i>
<i>general-problem(0)</i>	
unrecognized-component(0)	abnormal-event-detected-by-the-peer
mistyped-component(1)	abnormal-event-detected-by-the-peer
badly-structured-component(2)	abnormal-event-detected-by-the-peer
<i>invoke-problem(1)</i>	
duplicate-invoke-id(0)	
unrecognized-operation(1)	
mistyped-parameter(2)	
resource-limitiation(3)	
initiating-release(4)	
unrecognized-linked-id(5)	abnormal-event-detected-by-the-peer
linked-response-unexpected(6)	response-rejected-by-the-peer
unexpected-linked-operation(7)	response-rejected-by-the-peer
<i>return-result-problem(2)</i>	
unrecognized-invoke-id(0)	response-rejected-by-the-peer
return-result-unexpected(1)	response-rejected-by-the-peer
mistyped-parameter(2)	response-rejected-by-the-peer
<i>return-error-problem(3)</i>	
unrecognized-invoke-id(0)	response-rejected-by-the-peer
return-error-unexpected(1)	response-rejected-by-the-peer
unrecognized-error(2)	response-rejected-by-the-peer
unexpected-error(3)	response-rejected-by-the-peer
mistyped-parameter(4)	response-rejected-by-the-peer

The following values of the problem code parameter of the TC-L-REJECT primitive are mapped to values of the diagnostic parameter of the MAP-NOTICE indication primitive as follows:

<i>TC Problem Code</i>	<i>MAP Diagnostic</i>
<i>general-problem(0)</i>	abnormal-event-received-from-the-peer
<i>invoke-problem(1)</i>	
unrecognized-linked-id(5)	abnormal-event-received-from-the-peer
<i>return-result-problem(2)</i>	
unrecognized-invoke-id(0)	abnormal-event-received-from-the-peer
<i>return-error-problem(3)</i>	
unrecognized-invoke-id(0)	abnormal-event-received-from-the-peer

5.3.10 GSM-Open-Argument

An instance of OM class **GSM-Open-Argument** represents the information that is supplied as an argument to the *Open()* function (see [Section 4.15 \[Open\(\)\], page 61](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for an open indication.

An instance of this OM class has the OM attributes of its superclasses, *Open-Argument* (see [Section 5.2.18 \[Open-Argument\], page 94](#)), and additionally the OM attributes listed in [Table 5.24](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
application-Context	String(Object-Identifier)	—	0-1	—
destination-Reference	String(Address)	1-20	0-1	—
originating-Reference	String(Address)	1-20	0-1	—
specific-Information	Object(Specific-Information)	—	0-1	—

Table 5.24: OM Attributes of OM class **GSM-Open-Argument**

This OM class contains the following class-specific OM attributes:

application-Context

Specifies the application context for the dialog. When not specified, the MAS will provide a default application context when required.

destination-Reference

This attribute is a destination reference represented as an address string. The rules for supplying destination references is given in 3GPP TS 29.002. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\], page 101](#).

originating-Reference

This attribute is an originating reference represented as an address string. The rules for supplying originating references is given in 3GPP TS 29.002. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\], page 101](#).

specific-Information

This attribute is an instance of OM class **Specific-Information**. See [Section 5.3.19.20 \[Specific-Information\], page 129](#).

5.3.11 GSM-P-Abort-Result

An instance of OM class **GSM-P-Abort-Result** represents the information that is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a provider abort indication.

An instance of this OM class has the OM attributes of its superclasses, *P-Abort-Result* (see [Section 5.2.23 \[P-Abort-Result\], page 95](#)), and additionally the OM attributes listed in [Table 5.25](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
provider-Reason	Enum(Provider-Reason)	—	1	—
source	Enum(Source)	—	0-1	—
p-Abort-Reason	Enum(P-Abort-Reason)	—	0-1	—
p-Abort-Cause	Enum(P-Abort-Cause)	—	0-1	—
report-Cause	Enum(Report-Cause)	—	0-1	—

Table 5.25: OM Attributes of OM class **GSM-P-Abort-Result**

This OM class contains the following class-specific OM attributes:

This OM class corresponds to the *MAP-P-ABORT* indication primitive of 3GPP TS 29.002 which contains *Provider reason* and *Source* parameters. This indication can result from the receipt of the local MAS provider of a **map-providerAbort** dialogue PDU or as a result of the receipt of a *TC-U-ABORT* or *TC-P-ABORT* indication primitive from the underlying TC provider. A *TC-P-ABORT* can either be because of an error detected in the dialogue user, or due to receipt of a *TR-P-ABORT* indication primitive.

provider-Reason

provider-malfunction

(‘MAP_E_PROVIDER_MALFUNCTION’) When the *source* is MAP, this represents a malfunction at the MAP level at the peer entity. When the *source* is TC, this represents the TC-P-ABORT reasons: **unrecognised-message-type**, **badly-formatted-transaction-portion**, **incorrect-transaction-portion** or **abnormal-dialogue**. When the *source* is NSP, this represents a malfunction at the network service level at the peer entity.

supporting-dialogue-transaction-released

(‘MAP_E_SUPPORTING_DIALOGUE_TRANSACTION_RELEASED’) When the *source* is TC, this represents the TC-P-ABORT reason **unrecognised-transaction-id**.

resource-limitation

(‘MAP_E_RESOURCE_LIMITATION’) When the *source* is MAP, this represents congestion toward the MAP peer service-user. When the *source* is TC, this represents **resource-limitation** received in a TC-P-ABORT.

maintenance-activity

(‘MAP_E_MAINTENANCE_ACTIVITY’) When the *source* is MAP, this represents maintenance activity at the MAP peer service-user. When the *source* is NSP, this represents maintenance at the network peer service level.

version-incompatibility

(‘MAP_E_VERSION_INCOMPATIBILITY’) When the *source* is TC, this represents a TC-P-ABORT indicating **no-common-dialogue-portion** or **incorrect-transaction-portion** received in the dialogue initiated state.

abnormal-map-dialogue

(‘MAP_E_ABNORMAL_MAP_DIALOGUE’) When the *source* is MAP, this represents a MAP dialogue that is not in accordance with the specified application context.

source

map-problem

(‘MAP_E_MAP_PROBLEM’)

tc-problem (‘MAP_E_TC_PROBLEM’)**network-service-problem**

(‘MAP_E_NETWORK_SERVICE_PROBLEM’)

p-Abort-Reason

This attribute reflects the MAP provider abort reason (this is the information passed by the remote MAP provider in the MAP-P-ABORT dialogue PDU in the AABT APDU) and has one of the following values:

‘0’ abnormal-dialogue(0)

(‘MAP_E_ABNORMAL_DIALOGUE’)

‘1’ invalid-pdu(1)

(‘MAP_E_INVALID_PDU’)

p-Abort-Cause

This attribute reflects the TC provider abort cause (this is the information passed by the remote TCAP provider in the TCAP P-ABORT PDU) and has one of the following values:

‘0’ unrecognized-message-type(0)

(‘MAP_E_UNRECOGNIZED_MESSAGE_TYPE’)

‘1’ unrecognized-transaction-id(1)

(‘MAP_E_UNRECOGNIZED_TRANSACTION_ID’)

‘2’ badly-formatted-transaction-portion(2)

(‘MAP_E_BADLY_FORMATTED_TRANSACTION_PORTION’)

‘3’ incorrect-transaction-portion(3)

(‘MAP_E_INCORRECT_TRANSACTION_PORTION’)

‘4’ resource-limitation(4)

(‘MAP_E_RESOURCE_LIMITATION’)

The component sublayer will decide to abort a dialogue and discard any components received if an incorrect dialogue portion (e.g. syntactically incorrect or inopportune) is received or if no common version of the dialogue portion control APDUs can be agreed to. It informs its TC-user via a TC-P-ABORT indication primitive with “P-Abort” in the primitive set to respectively “abnormal dialogue” or “no common dialogue portion”.

‘5’ abnormal-dialogue(5)

(‘MAP_E_ABNORMAL_DIALOGUE’) This is a local value and the numeric value is arbitrarily assigned.

‘6’ no-common-dialogue-portion(6)

(‘MAP_E_NO_COMMON_DIALOGUE_PORTION’) This is a local value and the numeric value is arbitrarily assigned.

```

'1281' unrecognized-package-type
'1282' incorrect-trans-portion
'1283' badly-structured-trans-portion
'1284' unassigned-responding-trans-id
'1285' permission-to-release-problem
'1286' resource-unavailable
'1' unrecognized-package-type
'2' incorrect-transaction-portion
'3' badly-structured-transaction-portion
'4' unassigned-responding-transaction-id
'5' permission-to-release-problem
'6' resource-unavailable
'7' unrecognized-dialogue-portion-id
'8' badly-structured-dialogue-portion
'9' missing-dialogue-portion
'10' inconsistent-dialogue-portion

```

report-Cause

Specifies the SCCP return cause resulting in local provider abort. It has one of the following values:

```

'00000000' no-translations-for-address-of-such-nature(0)
'00000001' no-translation-for-this-specific-address(1)
'00000010' subsystem-congestion(2)
'00000011' subsystem-failure(3)
'00000100' unequipped-user(4)
'00000101' mtp-failure(5)
'00000110' network-congestion(6)
'00000111' sccp-unqualified(7)
'00001000' error-in-message-transport(8)
'00001001' error-in-local-processing(9)
'00001010' destination-cannot-perform-reassembly(10)
'00001011' sccp-failure(11)
'00001100' hop-counter-violation(12)
'00001101' segmentation-not-supported(13)
'00001110' segmentation-failure(14)

```

In addition, if the local SCCP provider is an ANSI SCCP provider,⁴ the SCCP return cause can also contain one of the following values:

```

'11110111' message-change-failure(247)
'11111000' invalid-ins-routing-request(248)
'11111001' invalid-isni-routing-request(249)
'11111010' unauthorized-message(250)
'11111011' message-incompatibility(251)
'11111100' cannot-perform-isni-constrained-routing(252)
'11111101' redundant-isni-constrained-routing-information(253)
'11111110' unable-to-perform-isni-identification(254)

```

⁴ Note that a GSM MAP and ITU-T TCAP layer can be carried over an ANSI SCCP layer in North American applications of GSM MAP. Note also that ANSI MAP can be carried over X.25 instead of SCCP. Therefore, the network service provider is not tied to the type of MAP carried or in the case of the interface, the Mobile Application package applied.

5.3.12 GSM-Refuse-Result

An instance of OM class **GSM-Refuse-Result** represents the information that is supplied as an argument to the *Refuse()* function (see Section 4.17 [Refuse()], page 66) or is returned by the *Receive()* function (see Section 4.16 [Receive()], page 63).

An instance of this OM class has the OM attributes of its superclasses, *Refuse-Result*, and additionally the OM attributes listed in Table 5.26.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
application-Context	Integer or String(Object-Identifier)	—	0-1	—
refuse-Reason	Enum(Refuse-Reason)	—	1	—
specific-Information	Object(Specific-Information)	—	0-1	—

Table 5.26: OM Attributes of OM class **GSM-Refuse-Result**

This OM class contains the following class-specific OM attributes:

application-Context

Specifies the highest version alternate application context supported by the refusing mobile application entity when refusal is due to **application-context-not-supported**.

refuse-Reason

This attribute provides the reason for refusal. Its value can be one of the following:

no-reason-given

(‘MAP_T_NO_REASON_GIVEN’ ‘0’) This reason is transmitted and is provided directly in a received ‘**map-refuse**’ dialogue PDU.

invalid-destination-reference

(‘MAP_T_INVALID_DESTINATION_REFERENCE’ ‘1’) This reason is transmitted and is provided directly in a received ‘**map-refuse**’ dialogue PDU.

invalid-originating-reference

(‘MAP_T_INVALID_ORIGINATING_REFERENCE’ ‘2’) This reason is transmitted and is provided directly in a received ‘**map-refuse**’ dialogue PDU.

encapsulated-AC-not-supported

(‘MAP_T_ENCAPSULATED_AC_NOT_SUPPORTED’ ‘3’) This reason is transmitted and is provided directly in a received ‘**map-refuse**’ dialogue PDU. This reason is not used in dialogues with an application context different from *secureTransportHandling*.

transport-protection-not-adequate

(‘MAP_T_TRANSPORT_PROTECTION_NOT_ADEQUATE’ ‘4’) This reason is transmitted and is provided directly in a received ‘**map-refuse**’ dialogue PDU. This reason is not used in dialogues with an application context different from *secureTransportHandling*.

remote-node-not-reachable

(‘MAP_T_REMOTE_NODE_NOT_REACHABLE’) This reason is not transmitted and may not be specified as a *refuse-Reason* when calling *Refuse()*.

application-context-not-supported

This refuse reason is given if a TC-U-ABORT is received by the local Mobile Application Service provider while an open request is pending and the Abort-Reason is “application context not supported”.

potential-version-incompatibility

(‘MAP_T_POTENTIAL_VERSION_INCOMPATIBILITY’) This refuse reason is given if a TC-P-ABORT is received by the local Mobile Application Service provider while an open request is pending and the P-Abort cause is “incorrect-transaction-portion” or “no-common-dialogue-portion”.

secured-transport-not-possible

(‘MAP_T_SECURED_TRANSPORT_NOT_POSSIBLE’) This reason is not transmitted.

specific-Information

This attribute provides user-specific information that is passed transparently between peer mobile application service users as part of dialog establishment. This attribute is an instance of OM class **Specific-Information**. See [Section 5.3.19.20 \[Specific-Information\]](#), page 129.

5.3.13 GSM-Release-Argument**5.3.14 GSM-Release-Result****5.3.15 GSM-Service-Argument**

An instance of OM class **GSM-Service-Argument** represents the information that is supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63).

An instance of this OM class has the OM attributes of its superclasses, *Service-Argument*, and additionally the OM attributes listed in [Table 5.27](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
application-Context	String(Object-Identifier)	—	0-1	—
destination-Reference	String(Address)	1-20	0-1	—
originating-Reference	String(Address)	1-20	0-1	—
specific-Information	Object(Specific-Information)	—	0-more	—

Table 5.27: OM Attributes of OM class **GSM-Service-Argument**

This OM class contains the following class-specific OM attributes:

*application-Context**destination-Reference**originating-Reference**specific-Information*

This attribute provides user-specific information that is passed transparently between peer mobile application service users as part of dialog establishment. This attribute is an instance of OM class **Specific-Information**.

5.3.16 GSM-Service-Error

An instance of concrete OM class **GSM-Service-Error** represents error information that is supplied as a response to a service operation, supplied as the *Argument* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned as a *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a GSM service confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Error*, *Service-Error*. It defines no attributes of its own.

problem

The superclass *problem* attribute represents the GSM service *user-Error*. Values for the *problem* superclass attribute are defined as follows:

- **Reject Errors**
Reject GSM-Service-Error problem values and parameter syntaxes are defined in this GSM MAP package and are described in [Section 6.2.1 \[Reject Errors\], page 596](#).
- **Generic Errors**
Generic GSM-Service-Error problem values and parameter syntaxes are defined in this GSM MAP package and are described in [Section 6.2.2 \[Generic Errors\], page 597](#).
- **Identification and Numbering Errors**
Identification and Numbering GSM-Service-Error problem values and parameter syntaxes are defined in a future GSM MAP services package and are described in [Section 6.2.3 \[Identification and Numbering Errors\], page 602](#).
- **Subscription Errors**
Subscription GSM-Service-Error problem values and parameter syntaxes are defined in a future GSM MAP services package and are described in [Section 6.2.4 \[Subscription Errors\], page 603](#).
- **Handover Errors**
Handover GSM-Service-Error problem values and parameter syntaxes are defined in a future GSM MAP services package and are described in [Section 6.2.5 \[Handover Errors\], page 606](#).
- **Operation and Maintenance Errors**
Operation and Maintenance GSM-Service-Error problem values and parameter syntaxes are defined in a future GSM MAP services package and are described in [Section 6.2.6 \[Operation and Maintenance Errors\], page 607](#).
- **Call Handling Errors**
Call Handling GSM-Service-Error problem values and parameter syntaxes are defined in a future GSM MAP services package and are described in [Section 6.2.7 \[Call Handling Errors\], page 608](#).
- **Any Time Interrogation Errors**
Any Time Interrogation GSM-Service-Error problem values and parameter syntaxes are defined in a future GSM MAP services package and are described in [Section 6.2.8 \[Any Time Interrogation Errors\], page 614](#).

- Any Time Information Handling Errors
Any Time Information Handling GSM-Service-Error problem values and parameter syntaxes are defined in a future GSM MAP services package and are described in [Section 6.2.9 \[Any Time Information Handling Errors\]](#), page 614.
- Supplementary Service Errors
Supplementary Service GSM-Service-Error problem values and parameter syntaxes are defined in a future GSM MAP services package and are described in [Section 6.2.10 \[Supplementary Service Errors\]](#), page 616.
- Short Message Service Errors
Short Message Service GSM-Service-Error problem values and parameter syntaxes are defined in the GSM MAP Short Message Service services package and are described in [Section 6.2.11 \[Short Message Service Errors\]](#), page 619.
- Group Call Errors
Group Call GSM-Service-Error problem values and parameter syntaxes are defined in a future GSM MAP services package and are described in [Section 6.2.12 \[Group Call Errors\]](#), page 623.
- Location Service Errors
Location Service GSM-Service-Error problem values and parameter syntaxes are defined in a future GSM MAP services package and are described in [Section 6.2.13 \[Location Service Errors\]](#), page 623.
- Mobility Management Errors
Mobility Management GSM-Service-Error problem values and parameter syntaxes are defined in a future GSM MAP services package and are described in [Section 6.2.14 \[Mobility Management Errors\]](#), page 626.
- Secure Transport Errors
Secure Transport GSM-Service-Error problem values and parameter syntaxes are defined in a future GSM MAP services package and are described in [Section 6.2.15 \[Secure Transport Errors\]](#), page 627.

parameter The superclass *parameter* attribute, which may or may not be present, indicates the additional information available with the service user error. This information is contained in as an *Object(Encoding)* or is defined by a Mobile Application Services package. See [Section 6.2 \[GSM MAP Errors\]](#), page 596.

5.3.17 GSM-Service-Reject

An instance of concrete OM class **GSM-Service-Reject** represents error information that is supplied as a response to a service operation, supplied as the *Argument* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned as a *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a GSM service confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Error*, *Service-Reject*. It defines no attributes of its own.

problem

Values for the *problem* superclass attribute (see [Section 6.1.3 \[Error\]](#), page 594) represent provider errors and values are defined as follows:

duplicate-invoke-id

(‘MAP_E_DUPLICATED_INVOKE_ID’)

not-supported-service	(‘MAP_E_NOT_SUPPORTED_SERVICE’)
mistyped-parameter	(‘MAP_E_MISTYPED_PARAMETER’)
resource-limitation	(‘MAP_E_RESOURCE_LIMITATION’)
initiating-release	(‘MAP_E_INITIATING_RELEASE’) That is, the peer has already initiated release of the dialogue and the service has to be released.
unexpected-response-from-the-peer	(‘MAP_E_UNEXPECTED_RESPONSE_FROM_THE_PEER’)
service-completion-failure	(‘MAP_E_SERVICE_COMPLETION_FAILURE’)
no-response-from-the-peer	(‘MAP_E_NO_RESPONSE_FROM_THE_PEER’)
invalid-response-received	(‘MAP_E_INVALID_RESPONSE_RECEIVED’)

parameter The superclass *parameter* attribute, which may or may not be present, indicates the additional information available with the service provider error. This information is contained in as an *Object(Encoding)* or is defined by a Mobile Application Services package.

5.3.18 GSM-Service-Result

An instance of OM class **GSM-Service-Result** represents the information that is supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a service confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Service-Result*, *GSM-Close-Argument* and *GSM-Abort-Argument*, and additionally the OM attributes listed in [Table 5.28](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
specific-Information	Object(Specific-Information)	—	0-1	—

Table 5.28: OM Attributes of OM class **GSM-Service-Result**

This OM class contains the following class-specific OM attributes:

specific-Information

This attribute provides user-specific information that is passed transparently between peer mobile application service users as part of dialog establishment. This attribute is an instance of OM class **Specific-Information**.

5.3.19 GSM Data Types

5.3.19.1 Access-Network-Signal-Info

An instance of OM class **Access-Network-Signal-Info** represents access network signalling information contained in an an-APDU.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.29](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
access-Network-Protocol-Id	Enum(Access-Network-Protocol-Id)	—	1	—
signal-Info	String(Octet)	1-2560	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.29: OM Attributes of OM class **Access-Network-Signal-Info**

This OM class contains the following class-specific OM attributes:

access-Network-Protocol-Id

An enumeration containing one of the following values:

ts3g-48006 ('MAP_T_TS3G_48006' '1')

ts3g-25413 ('MAP_T_TS3G_25413' '2')

If the sequence contains this parameter with any other value than the ones listed, the receiver shall ignore the entire AccessNetworkSignalInfo sequence.

signal-Info **LongSignalInfo** ::= OCTET STRING (SIZE(1..2560)) The value 2560 represents the maximum number of octets that is available to carry a single instance of the LongSignalInfo data type using White Book SCCP with the maximum number of segments. It takes into account the octets used by the lower layers of the protocol, and other information elements that may be included in the same component.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.3.19.2 Basic-Service-Code

An instance of the OM class **Basic-Service-Code** provides the specification of a basic mobile service code as a single byte octet string. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.30](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
bearer-Service	String(Octet)	1	0-1	—
teleservice	String(Octet)	1	0-1	—

Table 5.30: OM Attributes of OM class **Basic-Service-Code**

The attributes of the OM class represent a choice and exactly one of the attributes must be present in an instance of this OM class.

This OM class contains the following class-specific OM attributes:

bearer-Service

BearerServiceCode ::= OCTET STRING (SIZE (1))

teleservice **TeleserviceCode** ::= OCTET STRING (SIZE (1))

5.3.19.3 Cell-Global-Id-Or-Service-Area-Id-Or-LAI

An instance of OM class **Cell-Global-Id-Or-Service-Area-Id-Or-LAI** represents a global cell id, a service area id, or a local area id.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.31](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
cell-Global-Id-Or-Service-Area-Id-Fixed-Length	String(Octet)	7	0-1	—
lai-Fixed-Length	String(Octet)	5	0-1	—

Table 5.31: OM Attributes of OM class **Cell-Global-Id-Or-Service-Area-Id-Or-LAI**

This OM class represents a choice and exactly one instance of one attribute shall be present in an instance of this OM class.

This OM class contains the following class-specific OM attributes:

cell-Global-Id-Or-Service-Area-Id-Fixed-Length

CellGlobalIdOrServiceAreaIdFixedLength ::= OCTET STRING (SIZE (7)) Refers to Cell Global Identification or Service Area Identification defined in 3GPP TS 23.003. The internal structure is defined as follows: octet 1, bits 4321, mobile country code 1st digit; bits 8765, mobile country code 2nd digit; octet 2, bits 4321, mobile country code 3rd digit; bits 8765, mobile network code 2nd digit or filler (1111) for 2 digit MNCs; octet 3, bits 4321, mobile network code 1st digit; bits 8765, mobile network code 2nd digit; octet 4 and 5, Location Area Code according to 3GPP TS 24.008; octet 6 and 7, Cell Identity (CI) value or Service Area Code (SAC) value according to 3GPP TS 23.003.

lai-Fixed-Length

LAIFixedLength ::= OCTET STRING (SIZE (5)) Refers to Location Area Identification in 3GPP TS 23.003. The internal structure is defined as follows: octet 1, bits 4321, mobile country code 1st digit; bits 8765, mobile country code 2nd digit; octet 2, bits 4321, mobile country code 3rd digit; bits 8765, mobile network code 3rd digit or filler (1111) for 2 digit MNCs; octet 3, bits 4321, mobile network code 1st digit; bits 8765, mobile network code 2nd digit; octets 4 and 5, Location Area Code according to 3GPP TS 24.008.

5.3.19.4 EMLPP-Info

An instance of OM class **EMLPP-Info** represents the priority of an EMLPP call.

An instances of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.32](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
maximum-Entitled-Priority	Integer	0-15	1	—
default-Priority	Integer	0-15	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.32: *OM Attributes of OM class EMLPP-Info*

This OM class contains the following class-specific OM attributes:

maximum-Entitled-Priority

EMLPP-Priority ::= INTEGER(0..15). The mapping from the values, A, B, 0, 1, 2, 3, 4 to the integer value is specified as follows where A is the highest and 4 is the lowest priority level. The integer values 7-15 are spare and shall be mapped to value 4.

default-Priority

EMLPP-Priority ::= INTEGER(0..15). The mapping from the values, A, B, 0, 1, 2, 3, 4 to the integer value is specified as follows where A is the highest and 4 is the lowest priority level. The integer values 7-15 are spare and shall be mapped to value 4.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.3.19.5 Ext-Basic-Service-Code

An instance of the OM class **Ext-Basic-Service-Code** provides the specification of an extensible basic mobile service code. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.33](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ext-Bearer-Service	String(Octet)	1-5	0-1	—
ext-Teleservice	String(Octet)	1-5	0-1	—

Table 5.33: *OM Attributes of OM class Ext-Basic-Service-Code*

The attributes of the OM class represent a choice and exactly one of the attributes must be present in an instance of this OM class.

This OM class contains the following class-specific OM attributes:

ext-Bearer-Service

Ext-BearerServiceCode ::= OCTET STRING (SIZE(1..5)) This type is used to represent the code identifying a single bearer service, a group of bearer services, or all

bearer services. The services are defined in 3GPP TS 22.002. The internal structure is defined as follows: octet 1, plmn-specific bearer services, bits 87654321, defined by the HPLMN operator; rest of bearer services, bit 8, 0 (unused); bits 7654321, group (bits 7654), and rate, if applicable (bits 321); octets 2-5: reserved for future use. If received the Ext-BearerServiceCode shall be treated according to the exception handling defined for the operation that uses this type. Ext-BearerServiceCode includes all values defined for BearerServiceCode.

ext-Teleservice

Ext-TeleserviceCode ::= OCTET STRING (SIZE(1..5)) This type is used to represent the code identifying a single teleservice, group of teleservices, or all teleservices. The services are defined in GSM TS 22.003. The internal structure is defined as follows: octet 1, bits 87654321, group (bits 8765) and specific service (bits 4321); octets 2-5, reserved for future use. If received, Ext-TeleserviceCode shall be treated according to the exception handling defined for the operation that uses this type. Ext-TeleserviceCode includes all values defined for TeleserviceCode.

5.3.19.6 Extension-Container

An instance of OM class **Extension-Container** represents the corresponding *ExtensionContainer* of the GSM MAP. This object is used to contain extension parameters that are used by a number of GSM MAP mobile application services.

An instance of this OM class has the OM attributes of its superclass, *Object*, and additionally the OM attributes listed in [Table 5.34](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
private-Extensions-List	Object(Private-Extensions-List)	—	1-more	—
pcs-Extensions	Object(PCS-Extensions)	—	0-1	—

Table 5.34: OM Attributes of OM class **Extension-Container**

This OM class contains the following class-specific OM attributes:

private-Extension-List

This attribute is an optional list of private extensions.

pcs-Extensions

This attribute is an optional sequence of PCS extensions.

5.3.19.7 External-Signal-Info

An instance of OM class **External-Signal-Info** represents external signal information.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.35](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
protocol-Id	Enum(Protocol-Id)	—	1	—
signal-Info	String(Octet)	1-200	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.35: OM Attributes of OM class **External-Signal-Info**

This OM class contains the following class-specific OM attributes:

protocol-Id An enumeration containing one of the following values:

gsm-0408 ('MAP_T_GSM_0408' '1')
gsm-0806 ('MAP_T_GSM_0806' '2')
gsm-bssmap
('MAP_T_GSM_BSSMAP' '3')
ets-300102-1
('MAP_T_ETS_300102_1' '4')

signal-Info **SignalInfo ::= OCTET STRING (SIZE (1..200))** The value 200 represents the theoretical maximum number of octets that is available to carry a single instance of the SignalInfo data type, without requiring segmentation to cope with the network layer service. However, the actual maximum size available for an instance of the data type may be lower, especially when other information elements have to be included in the same component. Information about the internal structure is given in 3GPP TS 29.002 section 7.6.9.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\], page 121](#). This attribute must not be used in version 2 application contexts.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\], page 91](#).

5.3.19.8 Ext-External-Signal-Info

An instance of OM class **Ext-External-Signal-Info** represents extended external signal information. An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.36](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ext-Protocol-Id	Enum(Ext-Protocol-Id)	—	1	—
signal-Info	String(Octet)	1-200	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.36: OM Attributes of OM class **Ext-External-Signal-Info**

This OM class contains the following class-specific OM attributes:

ext-Protocol-Id

An enumeration containing one of the following values:

ets-300356 ('MAP_T_ETS_300356' '1')

For sequences containing this parameter with any other value than the ones listed, the receiver shall ignore the entire Ext-ExternalSignalInfo sequence.

signal-Info **SignalInfo** ::= OCTET STRING (SIZE (1..200)) The value 200 represents the theoretical maximum number of octets that is available to carry a single instance of the SignalInfo data type, without requiring segmentation to cope with the network layer service. However, the actual maximum size available for an instance of the data type may be lower, especially when other information elements have to be included in the same component. Information about the internal structure is given in 3GPP TS 29.002 section 7.6.9.10.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.3.19.9 HLR-List

An instance of **HLR-List** represents a list of HLR identities.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.37](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
hlr-Id	String(TBCD)	3-8	1-50	—

Table 5.37: OM Attributes of OM class **HLR-List**

This OM class contains the following class-specific OM attributes:

hlr-Id One to fifty (**maxNumOfHLR-Id**) instances of an hlr-Id attributes which is coded as an IMSI, with the leading digits of IMSI, i.e. (MCC, MNC, leading digits of MSIN) forming HLR Id defined in 3GPP TS 23.003.

5.3.19.10 Identity

An instance of OM class **Identity** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.38](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	0-1	—
imsi-With-LMSI	Object(IMSI-With-LMSI)	—	0-1	—

Table 5.38: *OM Attributes of OM Class Identity*

This OM class represents a choice and exactly one instance of one attribute shall exist in an instance of this OM class.

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

imsi-With-LMSI

This choice attribute is an instance of OM class **IMSI-With-LMSI**. See [Section 5.3.19.11 \[IMSI-With-LMSI\]](#), page 124.

5.3.19.11 IMSI-With-LMSI

An instance of OM class **IMSI-With-LMSI** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.39](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	1	—
lmsi	String(Octet)	4	1	—
extension	Object(Extension)	—	0-1	—

Table 5.39: *OM Attributes of OM Class IMSI-With-LMSI*

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

lmsi This attribute provides the local identity allocated by the VLR to a given subscriber for internal management of data in the VLR. The LMSI shall not be sent to an SGSN. This attribute is encoded as a 4 octet string. A special value of ‘00000000’ indicates that the LMSI is not in use.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.3.19.12 LCS-Client-External-ID

An instances of **LCS-Client-External-ID** represent the external identifier for an LCS client.

An instances of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.40](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
external-Address	String(Address)	1-9	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.40: OM Attributes of OM class **LCS-Client-External-ID**

This OM class contains the following class-specific OM attributes:

external-Address

An ISDN Address String.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.3.19.13 MC-SS-Info

An instance of OM class **MC-SS-Info** represents multicall bearer supplementary service information.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.41](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	1	—
ss-Status	String(Octet)	1-5	1	—
nbr-SB	Integer	2-7	1	—
nbr-User	Integer	1-7	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.41: OM Attributes of OM class **MC-SS-Info**

This OM class contains the following class-specific OM attributes:

ss-Code **SS-Code ::= OCTET STRING (SIZE(1))**

ss-Status **Ext-SS-Status ::= OCTET STRING(SIZE(1..5))** This parameter refers to the state information of individual supplementary services as defined in 3GPP TS 23.011. Octet 1, bits 8765, unused (0000); bits 4321, used to convey the “P bit”, “R bit”, “A bit” and “Q bit”, representing supplementary service state information as defined in 3GPP

TS 23.011: bit 4, “Q bit”; bit 3, “P bit”; bit 2, “R bit”; bit 1, “A bit”; octets 2-5, reserved for future use. They shall be discarded if received and not understood.

nbr-SB **MaxMC-Bearers** ::= INTEGER (2..7)

nbr-User **MC-Bearers** ::= INTEGER(1..7)

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.3.19.14 NAEA-Preferred-CI

An instance of OM class **NAEA-Preferred-CI** represents the North American Equal Access preferred Carrier Identification.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.42](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
naea-Preferred-CIC	String(Octet)	3	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.42: OM Attributes of OM class **NAEA-Preferred-CI**

This OM class contains the following class-specific OM attributes:

naea-Preferred-CIC

NAEA-CIC ::= OCTET STRING (SIZE(3)) The internal structure is defined by the Carrier Identification parameter in ANSI T1.113.3. Carrier codes between ‘000’ and ‘999’ may be encoded as 3 digits using ‘000’ to ‘999’, or as 4 digits using ‘0000’ to ‘0999’. Carrier codes between ‘1000’ and ‘9999’ are encoded using 4 digits.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.3.19.15 PCS-Extensions

An instances of OM class **PCS-Extensions** represents a sequence of PCS extensions each with an ASN.1 encoding. It is an optional attribute of OM class **Extension-Container**.

An instance of this OM class has the OM attributes of its superclass, *Object*, and additionally the OM attributes listed in [Table 5.43](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
pcs-Extension	String(Encoding)	—	1-more	—

Table 5.43: OM Attributes of OM class **PCS-Extensions**

This OM class contains the following class-specific OM attributes:

pcs-Extension

The *pcs-Extension* attribute consists of one or more ASN.1 encoded strings. Each string encoding is an element in a sequence of PCS extensions.

5.3.19.16 Private-Extension

An instance of OM class **Private-Extension** represents a single instance of private extension as defined by the *MAP-EXTENSION* macro of GSM MAP. Each private extension consists of a object identifier that identifies the type of the extension and an optional encoding of the extension value.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 5.44.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ext-Type	String(Encoding)	—	0-1	—
ext-Id	String(Object Identifier)	1-16	1	—

Table 5.44: OM Attributes of OM class **Private-Extension**

This OM class contains the following class-specific OM attributes:

ext-Type The *ext-Type* attribute is an ASN.1 encoding of the extension type.

ext-Id The *ext-Id* attribute is an object identifier that cannot exceed 16 octets in length and cannot exceed 16 sub-identifiers.

5.3.19.17 Private-Extension-List

An instance of OM class **Private-Extension-List** represents a list of private extensions used as an optional attribute of the OM class **Extension-Container**. The list may contain between one and ten private extensions.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 5.45.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
private-Extension	Object(Private-Extension)	—	1-10	—

Table 5.45: OM Attributes of OM class **Private-Extension-List**

This OM class contains the following class-specific OM attributes:

private-Extension

This attribute represents an instance of the *MAP-CONTAINER* macro from the GSM MAP. There may be one to ten private extensions in an extension list.

5.3.19.18 SLR-Arg-Extension-Container

An instance of OM class **SLR-Arg-Extension-Container** represents an extension container for use within the **Subscriber-Location-Report-Arg** argument. See [Section 5.4.7.22 \[Subscriber-Location-Report-Arg\]](#), page 413.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.46](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
private-Extension-List	Object(Private-Extension-List)	—	0-1	—
slr-Arg-PCS-Extensions	Object(Slr-Arg-PCS-Extensions)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.46: OM Attributes of OM class **SLR-Arg-Extension-Container**

This OM class contains the following class-specific OM attributes:

private-Extension-List

This optional attribute is an instance of OM class **Private-Extension-List**. See [Section 5.3.19.17 \[Private-Extension-List\]](#), page 127.

slr-Arg-PCS-Extensions

This optional attribute is an instance of OM class **SLR-Arg-PCS-Extensions**. See [Section 5.3.19.19 \[SLR-Arg-PCS-Extensions\]](#), page 128.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.3.19.19 SLR-Arg-PCS-Extensions

An instance of OM class **SLR-Arg-PCS-Extensions** represents PCS extensions for use within the **SLR-Arg-Extension-Container**. See [Section 5.3.19.18 \[SLR-Arg-Extension-Container\]](#), page 128.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.47](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension	Object(Extension)	—	0-1	—
na-ESRK-Request	Null	—	0-1	—

Table 5.47: OM Attributes of OM class **SLR-Arg-PCS-Extensions**

This OM class contains the following class-specific OM attributes:

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

na-ESRK-Request

A Null value whose presence provides indication.

5.3.19.20 Specific-Information

An instance of OM class **Specific-Information** represents additional specific extensions or private extensions added to a GSM MAP dialogue.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.48](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extensions	Object(Extension)	—	0-more	—
extension-Container	Object(Extension-Container)	—	0-1	—

Table 5.48: *OM Attributes of OM class Specific-Information*

This OM class contains the following class-specific OM attributes:

extensions This optional attribute is zero or more instances of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121. This attribute may only be used with GSM MAP version 3 dialogues and is not applicable to version 1 or 2 dialogues.

5.3.19.21 Subscriber-Identity

An instance of OM class **Subscriber-Identity** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.49](#). This OM class represents a choice and exactly one attributes shall be present in an instance of this object.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	0-1	—
msisdn	String(Address)	1-9	0-1	—

Table 5.49: *OM Attributes of OM Class Subscriber-Identity*

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

msisdn This attribute refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

5.4 GSM MAP Services Packages

5.4.1 GSM Mobile Service Package

OM Hierarchy

- *Object*
 - *Service-Argument*
 - *GSM-Service-Argument*
 - **Any-Time-Interrogation-Arg**
 - **Any-Time-Modification-Arg**
 - **Any-Time-Subscription-Interrogation-Arg**
 - **Authentication-Failure-Report-Arg**
 - **Cancel-Location-Arg**
 - **Check-IMEI-Arg**
 - **Delete-Subscriber-Data-Arg**
 - **Failure-Report-Arg**
 - **Forward-Access-Signalling-Arg**
 - **Forward-Check-SS-Indication-Arg**
 - **Insert-Subscriber-Data-Arg**
 - **Note-MM-Event-Arg**
 - **Note-Ms-Present-For-Gprs-Arg**
 - **Note-Subscriber-Data-Modified-Arg**
 - **Prepare-HO-Arg**
 - **Prepare-Subsequent-HO-Arg**
 - **Process-Access-Signalling-Arg**
 - **Provide-Subscriber-Info-Arg**
 - **Purge-MS-Arg**
 - **Reset-Arg**
 - **Restore-Data-Arg**
 - **Send-Authentication-Info-Arg**
 - **Send-End-Signal-Arg**
 - **Send-Identification-Arg**
 - **Send-Routing-Info-For-Gprs-Arg**
 - **Update-Gprs-Location-Arg**
 - **Update-Location-Arg**
 - *Service-Result*
 - *GSM-Service-Result*

- **Any-Time-Interrogation-Res**
- **Any-Time-Modification-Res**
- **Any-Time-Subscription-Interrogation-Res**
- **Authentication-Failure-Report-Res**
- **Cancel-Location-Res**
- **Check-IMEI-Res**
- **Delete-Subscriber-Data-Res**
- **Failure-Report-Res**
- **Insert-Subscriber-Data-Res**
- **MNP-Info-Res**
- **Note-MM-Event-Res**
- **Note-MS-Present-For-Gprs-Res**
- **Note-Subscriber-Data-Modified-Res**
- **Prepare-HO-Res**
- **Prepare-Subsequent-HO-Res**
- **Provide-Subscriber-Info-Res**
- **Purge-MS-Res**
- **Restore-Data-Res**
- **Send-Authentication-Info-Res**
- **Send-End-Signal-Res**
- **Send-Identification-Res**
- **Send-Routing-Info-For-Gprs-Res**
- **Update-Gprs-Location-Res**
- **Update-Location-Res**

5.4.1.1 Add-Info

An instance of OM class **Add-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.240](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imeisv	String(TBCD)	8	1	—
skip-Subscriber-Data-Update	Null	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.50: OM Attributes of OM Class **Add-Info**

This OM class contains the following class-specific OM attributes:

imeisv **IMEI ::= TBCD-STRING(SIZE(8))** Refers to International Mobile Station Equipment Identity and Software Version Number (SVN) defined in 3GPP TS 23.003. If the SVN is not present, the last octet shall contain digit 0 and a filler. If present, the SVN shall be included in the last octet.

skip-Subscriber-Data-Update

A Null value whose presence provides indication.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.2 Allowed-UMTS-Algorithms

An instance of OM class **Allowed-UMTS-Algorithms** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.51](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
integrity-Protection-Algorithm	String(Octet)	1-9	0-1	—
encryption-Algorithm	String(Octet)	1-9	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.51: OM Attributes of OM Class **Allowed-UMTS-Algorithms**

This OM class contains the following class-specific OM attributes:

integrity-Protection-Algorithm

PermittedIntegrityProtectionAlgorithms ::= OCTET STRING (SIZE(1..9))
Octets contain a complete **PermittedIntegrityProtectionAlgorithms** data type as defined in 3GPP TS 25.413, encoded according to the encoding scheme mandated by 3GPP TS 25.413. Padding bits are included, if needed, in the least significant bits of the last octet of the octet string.

encryption-Algorithm

PermittedEncryptionAlgorithm ::= OCTET STRING (SIZE(1..9)) Octets contain a complete **PermittedEncryptionAlgorithms** data type as defined in 3GPP TS 25.413, encoded according to the encoding scheme mandated by 3GPP TS 25.413. Padding bits are included, if needed, in the least significant bits of the last octet of the octet string.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.3 AMBR

An instance of OM class **AMBR** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.52](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
max-Requested-Bandwidth-UL	Integer	—	1	—
max-Requested-Bandwidth-DL	Integer	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.52: OM Attributes of OM Class **AMBR**

This OM class contains the following class-specific OM attributes:

max-Requested-Bandwidth-UL

Bandwidth ::= INTEGER Bits per second.

max-Requested-Bandwidth-DL

Bandwidth ::= INTEGER Bits per second.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.4 Any-Time-Interrogation-Arg

An instance of OM class **Any-Time-Interrogation-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.53](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
subscriber-Identity	Object(Subscriber-Identity)	—	1	—
requested-Info	Object(Requested-Info)	—	1	—
gsmSCF-Address	String(Address)	1-9	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.53: OM Attributes of OM Class **Any-Time-Interrogation-Arg**

This OM class contains the following class-specific OM attributes:

subscriber-Identity

This attribute is an instance of OM class **Subscriber-Identity**. See [Section 5.3.19.21 \[Subscriber-Identity\]](#), page 129.

requested-Info

This attribute is an instance of OM class **Requested-Info**. See [Section 5.4.1.148 \[Requested-Info\]](#), page 250.

gsmSCF-Address

An ISDN Address String.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.5 Any-Time-Interrogation-Res

An instance of OM class **Any-Time-Interrogation-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.54](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
subscriber-Info	Object(Subscriber-Info)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.54: OM Attributes of OM Class **Any-Time-Interrogation-Res**

This OM class contains the following class-specific OM attributes:

subscriber-Info

This attribute is an instance of OM class **Subscriber-Info**. See [Section 5.4.1.174 \[Subscriber-Info\]](#), page 271.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.6 Any-Time-Modification-Arg

An instance of OM class **Any-Time-Modification-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.55](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
subscriber-Identity	Object(Subscriber-Identity)	—	1	—
gsmSCF-Address	String(Address)	1-9	1	—
mod-Req-CF-Info	Object(Modification-Request-For-CF-Info)	—	0-1	—
mod-Req-CB-Info	Object(Modification-Request-For-CB-Info)	—	0-1	—
mod-Req-CSI	Object(Modification-Request-For-CSI)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
mod-Req-ODB-Data	Object(Modification-Request-For-ODB-Data)	—	0-1	—
mod-Req-IP-SM-GW-Data	Object(Modification-Request-For-IP-SM-GW-Data)	—	0-1	—

Table 5.55: OM Attributes of OM Class **Any-Time-Modification-Arg**

This OM class contains the following class-specific OM attributes:

subscriber-Identity

This attribute is an instance of OM class **Subscriber-Identity**. See [Section 5.3.19.21 \[Subscriber-Identity\]](#), page 129.

gsmSCF-Address

An ISDN Address String.

modification-Request-For-CF-Info

This optional attribute is an instance of OM class **Modification-Request-For-CF-Info**. See [Section 5.4.1.102 \[Modification-Request-For-CF-Info\]](#), page 210.

modification-Request-For-CB-Info

This optional attribute is an instance of OM class **Modification-Request-For-CB-Info**. See [Section 5.4.1.101 \[Modification-Request-For-CB-Info\]](#), page 209.

modification-Request-For-CSI

This optional attribute is an instance of OM class **Modification-Request-For-CSI**. See [Section 5.4.1.103 \[Modification-Request-For-CSI\]](#), page 211.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

long-FTN-Supported

A Null value whose presence provides indication.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

modification-Request-For-ODB-Data

This optional attribute is an instance of OM class **Modification-Request-For-ODB-Data**. See [Section 5.4.1.105 \[Modification-Request-For-ODB-Data\]](#), page 213.

modification-Request-For-IP-SM-GW-Data

This optional attribute is an instance of OM class **Modification-Request-For-IP-SM-GW-Data**. See [Section 5.4.1.104 \[Modification-Request-For-IP-SM-GW-Data\]](#), page 212.

5.4.1.7 Any-Time-Modification-Res

An instance of OM class **Any-Time-Modification-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.56](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Info-For-CSE	Object(Ext-SS-Info-For-CSE)	—	0-1	—
camel-Subscription-Info	Object(CAMEL-Subscription-Info)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
odb-Info	Object(ODB-Info)	—	0-1	—

Table 5.56: OM Attributes of OM Class **Any-Timer-Modification-Res**

This OM class contains the following class-specific OM attributes:

ss-Info-For-CSE

This optional attribute is an instance of OM class **Ext-SS-Info-For-CSE**. See [Section 5.4.1.68 \[Ext-SS-Info-For-CSE\], page 180](#).

camel-Subscription-Info

This optional attribute is an instance of OM class **CAMEL-Subscription-Info**. See [Section 5.4.1.24 \[CAMEL-Subscription-Info\], page 149](#).

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\], page 121](#).

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\], page 91](#).

odb-Info This optional attribute is an instance of OM class **ODB-Info**. See [Section 5.4.1.125 \[ODB-Info\], page 229](#).

5.4.1.8 Any-Time-Subscription-Interrogation-Arg

An instance of OM class **Any-Time-Subscription-Interrogation-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.57](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
subscriber-Identity	Object(Subscriber-Identity)	—	1	—
requested-Subscription-Info	Object(Requested-Subscription-Info)	—	1	—
gsmSCF-Address	String(Address)	1-9	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
long-FTN-Supported	Null	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.57: OM Attributes of OM Class **Any-Time-Subscription-Interrogation-Arg**

This OM class contains the following class-specific OM attributes:

subscriber-Identity

This attribute is an instance of OM class **Subscriber-Identity**. See [Section 5.3.19.21 \[Subscriber-Identity\]](#), page 129.

requested-Subscription-Info

This attribute is an instance of OM class **Requested-Subscription-Info**. See [Section 5.4.1.149 \[Requested-Subscription-Info\]](#), page 251.

gsmSCF-Address

An ISDN Address String.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

long-FTN-Supported

A Null value whose presence provides indication.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.9 Any-Time-Subscription-Interrogation-Res

An instance of OM class **Any-Time-Subscription-Interrogation-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.58](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
call-Forwarding-Data	Object(Call-Forwarding-Data)	—	0-1	—
call-Barring-Data	Object(Call-Barring-Data)	—	0-1	—
odb-Info	Object(ODB-Info)	—	0-1	—
camel-Subscription-Info	Object(CAMEL-Subscription-Info)	—	0-1	—
supported-VLR-CAMEL-Phases	String(Bit)	4	0-1	—
supported-SGSN-CAMEL-Phases	String(Bit)	4	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
offered-Camel4-CSIs-In-VLR	String(Bit)	7	0-1	—
offered-Camel4-CSIs-In-SGSN	String(Bit)	7	0-1	—
msisdn-BS-List	Null	—	0-1	—

Table 5.58: OM Attributes of OM Class **Any-Time-Subscription-Interrogation-Res**

This OM class contains the following class-specific OM attributes:

call-Forwarding-Data

This optional attribute is an instance of OM class **Call-Forwarding-Data**. See [Section 5.4.1.23 \[Call-Forwarding-Data\]](#), page 148.

call-Barring-Data

This optional attribute is an instance of OM class **Call-Barring-Data**. See [Section 5.4.1.22 \[Call-Barring-Data\]](#), page 147.

odb-Info

This optional attribute is an instance of OM class **ODB-Info**. See [Section 5.4.1.125 \[ODB-Info\]](#), page 229.

camel-Subscription-Info

This optional attribute is an instance of OM class **CAMEL-Subscription-Info**. See [Section 5.4.1.24 \[CAMEL-Subscription-Info\]](#), page 149.

supported-VLR-CAMEL-Phases

A bit string containing zero or more of the following bits:

phase-1 ('MAP_T_PHASE_1' '0')

phase-2 ('MAP_T_PHASE_2' '1')

phase-3 ('MAP_T_PHASE_3' '2')

phase-4 ('MAP_T_PHASE_4' '3')

supported-SGSN-CAMEL-Phases

A bit string containing zero or more of the following bits:

phase-1 ('MAP_T_PHASE_1' '0')

phase-2 ('MAP_T_PHASE_2' '1')

phase-3 ('MAP_T_PHASE_3' '2')

phase-4 ('MAP_T_PHASE_4' '3')

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

offered-Camel4-CSIs-In-VLR

A bit string containing zero or more of the following bits:

o-csi ('MAP_T_O_CSI' '0')
d-csi ('MAP_T_D_CSI' '1')
vt-csi ('MAP_T_VT_CSI' '2')
t-csi ('MAP_T_T_CSI' '3')
mt-sms-csi ('MAP_T_MT_SMS_CSI' '4')
mg-csi ('MAP_T_MG_CSI' '5')
psi-enhancements
('MAP_T_PSI_ENHANCEMENTS' '6')

offered-Camel4-CSIs-In-SGSN

A bit string containing zero or more of the following bits:

o-csi ('MAP_T_O_CSI' '0')
d-csi ('MAP_T_D_CSI' '1')
vt-csi ('MAP_T_VT_CSI' '2')
t-csi ('MAP_T_T_CSI' '3')
mt-sms-csi ('MAP_T_MT_SMS_CSI' '4')
mg-csi ('MAP_T_MG_CSI' '5')
psi-enhancements
('MAP_T_PSI_ENHANCEMENTS' '6')

msisdn-BS-List

A Null value whose presence indicates support.

5.4.1.10 APN-Configuration-Profile

An instance of OM class **APN-Configuration-Profile** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.59](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
default-Context	Integer	1-50	1	—
complete-Data-List-Included	Null	—	0-1	—
eps-Data-List	Object(EPS-Data-List)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.59: OM Attributes of OM Class **APN-Configuration-Profile**

This OM class contains the following class-specific OM attributes:

default-Context

ContextID ::= INTEGER(1..50)

complete-Data-List-Included

A Null value whose presence provides indication.

eps-Data-List

This optional attribute is an instance of OM class **EPS-Data-List**. See [Section 5.4.1.50 \[EPS-Data-List\]](#), page 168.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.11 APN-Configuration

An instance of OM class **APN-Configuration** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.60](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
context-Id	Integer	1-50	1	—
served-Party-IP-Address	String(Octet)	1-16	0-1	—
apn	String(Octet)	2-63	1	—
eps-Qos-Subscribed	Object(EPS-QoS-Subscribed)	—	1	—
pdn-Gw-Identity	Object(PDN-GW-Identity)	—	0-1	—
pdn-Gw-Allocation-Type	Enum(PDN-GW-Allocation-Type)	—	0-1	—
vplmn-Address-Allowed	Null	—	0-1	—
charging-Characteristics	String(Octet)	2	0-1	—
ambr	Object(AMBR)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.60: OM Attributes of OM Class **APN-Configuration**

This OM class contains the following class-specific OM attributes:

context-Id **ContextID** ::= INTEGER(1..50)

served-Party-IP-Address

PDP-Address ::= OCTET STRING (SIZE(1..16)) Octets are coded according to 3GPP TS 29.060. The possible values are: 1-7 octets X.25 address type, 4 octets IPv4 address type, 16 octets IPv6 address type.

apn **APN** ::= OCTET STRING (SIZE(2..63)) Octets are coded according to 3GPP TS 23.003.

eps-Qos-Subscribed

This optional attribute is an instance of OM class **EPS-QoS-Subscribed**. See [Section 5.4.1.52 \[EPS-QoS-Subscribed\]](#), page 169.

pdn-Gw-Identity

This optional attribute is an instance of OM class **PDN-GW-Identity**. See [Section 5.4.1.127 \[PDN-GW-Identity\]](#), page 229.

pdn-Gw-Allocation-Type

An enumeration containing one of the following values:

static ('MAP_T_STATIC' '0')

dynamic ('MAP_T_DYNAMIC' '1')

vplmn-Address-Allowed

A Null value whose presence provides indication.

charging-Characteristics

ChargingCharacteristics ::= OCTET STRING (SIZE(2)) Octets are coded according to 3GPP TS 32.215.

ambr This optional attribute is an instance of OM class **AMBR**. See [Section 5.4.1.3 \[AMBR\]](#), page 132.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.12 Authentication-Failure-Report-Arg

An instance of OM class **Authentication-Failure-Report-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.61](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	1	—
failure-Cause	Enum(Failure-Cause)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
re-attempt	Boolean	—	0-1	—
access-type	Enum(Access-Type)	—	0-1	—
rand	String(Octet)	16	0-1	—
vlr-Number	String(Address)	1-9	0-1	—
sgsn-Number	String(Address)	1-9	0-1	—

Table 5.61: OM Attributes of OM Class **Authentication-Failure-Report-Arg**

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

failure-Cause

An enumeration containing one of the following values:

wrong-user-response

(‘MAP_T_WRONG_USER_RESPONSE’ ‘0’)

wrong-network-signature

(‘MAP_T_WRONG_NETWORK_SIGNATURE’ ‘1’)

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

re-attempt A boolean value indicating whether reattempt should be performed.

access-Type

An enumeration containing one of the following values:

call

(‘MAP_T_CALL’ ‘0’)

emergency-call

(‘MAP_T_EMERGENCY_CALL’ ‘1’)

location-updating

(‘MAP_T_LOCATION_UPDATING’ ‘2’)

supplementary-service

(‘MAP_T_SUPPLEMENTARY_SERVICE’ ‘3’)

short-message	(‘MAP_T_SHORT_MESSAGE’ ‘4’)
gprs-attach	(‘MAP_T_GPRS_ATTACH’ ‘5’)
routing-area-updating	(‘MAP_T_ROUTING_AREA_UPDATING’ ‘6’)
service-request	(‘MAP_T_SERVICE_REQUEST’ ‘7’)
pdp-context-activation	(‘MAP_T_PDP_CONTEXT_ACTIVATION’ ‘8’)
pdp-context-deactivation	(‘MAP_T_PDP_CONTEXT_DEACTIVATION’ ‘9’)
gprs-detach	(‘MAP_T_GPRS_DETACH’ ‘10’)
<i>rand</i>	RAND ::= OCTET STRING (SIZE(16))
<i>vlr-Number</i>	This attribute refers to the ISDN number of a VLR. An ISDN Address String containing the ISDN address of the VLR.
<i>sgsn-Number</i>	This attribute refers to the ISDN number of an SGSN. An ISDN Address String containing the ISDN address of the SGSN.

5.4.1.13 Authentication-Failure-Report-Res

An instance of OM class **Authentication-Failure-Report-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.62](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.62: OM Attributes of OM Class **Authentication-Failure-Report-Res**

This OM class contains the following class-specific OM attributes:

<i>extension-Container</i>	This optional attribute is an instance of OM class Extension-Container . See Section 5.3.19.6 [Extension-Container], page 121 .
<i>extension</i>	This optional attribute is an instance of OM class Extension . See Section 5.2.13 [Extension], page 91 .

5.4.1.14 Authentication-Quintuplet

An instance of OM class **Authentication-Quintuplet** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.63](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
rand	String(Octet)	16	1	—
xres	String(Octet)	4-16	1	—
ck	String(Octet)	16	1	—
ik	String(Octet)	16	1	—
autn	String(Octet)	16	1	—
extension	Object(Extension)	—	0-1	—

Table 5.63: OM Attributes of OM Class **Authentication-Quintuplet**

This OM class contains the following class-specific OM attributes:

<i>rand</i>	RAND ::= OCTET STRING (SIZE(16))
<i>xres</i>	XRES ::= OCTET STRING (SIZE(4..16))
<i>ck</i>	CK ::= OCTET STRING (SIZE(16))
<i>ik</i>	IK ::= OCTET STRING (SIZE(16))
<i>autn</i>	AUTN ::= OCTET STRING (SIZE(16))
<i>extension</i>	This optional attribute is an instance of OM class Extension . See Section 5.2.13 [Extension] , page 91.

5.4.1.15 Authentication-Set-List

An instance of OM class **Authentication-Set-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.64](#). This OM class represents a choice and exactly one attributes shall be present in an instance of this object.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
triplet-List	Object(Triplet-List)	—	0-1	—
quintuplet-List	Object(Quintuplet-List)	—	0-1	—

Table 5.64: OM Attributes of OM Class **Authentication-Set-List**

This OM class contains the following class-specific OM attributes:

<i>triplet-List</i>	TripletList ::= SEQUENCE SIZE(1..5) OF AuthenticationTriplet This optional attribute is an instance of OM class Triplet-List . See Section 5.4.1.186 [Triplet-List] , page 279.
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quintuplet-List

QuintupletList ::= SEQUENCE SIZE(1..5) OF AuthenticationQuintuplet This optional attribute is an instance of OM class **Quintuplet-List**. See [Section 5.4.1.143 \[Quintuplet-List\]](#), page 248.

5.4.1.16 Authentication-Triplet

An instance of OM class **Authentication-Triplet** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.65](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
rand	String(Octet)	16	1	—
sres	String(Octet)	4	1	—
kc	String(Octet)	8	1	—
extension	Object(Extension)	—	0-1	—

Table 5.65: OM Attributes of OM Class **Authentication-Triplet**

This OM class contains the following class-specific OM attributes:

<i>rand</i>	RAND ::= OCTET STRING (SIZE(16))
<i>sres</i>	SRES ::= OCTET STRING (SIZE(4))
<i>kc</i>	KC ::= OCTET STRING (SIZE(8))
<i>extension</i>	This optional attribute is an instance of OM class Extension . See Section 5.2.13 [Extension] , page 91.

5.4.1.17 Basic-Service-Criteria

An instance of OM class **Basic-Service-Criteria** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.66](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ext-Basic-Service-Code	Object(Ext-Basic-Service-Code)	—	1-5	—

Table 5.66: OM Attributes of OM Class **Basic-Service-Criteria**

This OM class contains the following class-specific OM attributes:

<i>ext-Basic-Service-Code</i>	One to five (maxNumOfCamelBasicServiceCriteria) instances of OM class Ext-Basic-Service-Code . See Section 5.3.19.5 [Ext-Basic-Service-Code] , page 120.
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5.4.1.18 Basic-Service-List

An instance of OM class **Basic-Service-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.67](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ext-Basic-Service-Code	Object(Ext-Basic-Service-Code)	—	1-70	—

Table 5.67: OM Attributes of OM Class **Basic-Service-List**

This OM class contains the following class-specific OM attributes:

ext-Basic-Service-Code

One to seventy (`maxNumOfBasicServices`) instances of OM class **Ext-Basic-Service-Code**. See [Section 5.3.19.5 \[Ext-Basic-Service-Code\]](#), page 120.

5.4.1.19 Bearer-Service-List

An instance of OM class **Bearer-Service-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.68](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ext-Bearer-Service-Code	String(Octet)	1-5	1-50	—

Table 5.68: OM Attributes of OM Class **Bearer-Service-List**

This OM class contains the following class-specific OM attributes:

ext-Bearer-Service-Code

One to fifty instances of `Ext-BearerServiceCode`.

`Ext-BearerServiceCode ::= OCTET STRING (SIZE(1..5))` This type is used to represent the code identifying a single bearer service, a group of bearer services, or all bearer services. The services are defined in 3GPP TS 22.002. The internal structure is defined as follows: octet 1, plmn-specific bearer services, bits 87654321, defined by the HPLMN operator; rest of bearer services, bit 8, 0 (unused); bits 7654321, group (bits 7654), and rate, if applicable (bits 321); octets 2-5: reserved for future use. If received the `Ext-BearerServiceCode` shall be treated according to the exception handling defined for the operation that uses this type. `Ext-BearerServiceCode` includes all values defined for `BearerServiceCode`.

5.4.1.20 BSSMAP-Service-Handover-Info

An instance of OM class **BSSMAP-Service-Handover-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.69](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
bssmap-Service-Handover	String(Octet)	1	1	—
rab-Id	Integer	1-255	1	—
extension	Object(Extension)	—	0-1	—

Table 5.69: OM Attributes of OM Class **BSSMAP-Service-Handover-Info**

This OM class contains the following class-specific OM attributes:

bssmap-Service-Handover

BSSMAP-ServiceHandover ::= OCTET STRING (SIZE(1)) Octets are coded according to the Service Handover information element in 3GPP TS 48.008.

rab-Id **RAB-Id** ::= INTEGER(1..255)

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.21 BSSMAP-Service-Handover-List

An instance of OM class **BSSMAP-Service-Handover-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.70](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
bssmap-Service-Handover-Info	Object(BSSMAP-Service-Handover-Info)	—	1-7	—

Table 5.70: OM Attributes of OM Class **BSSMAP-Service-Handover-List**

This OM class contains the following class-specific OM attributes:

bssmap-Service-Handover-Info

5.4.1.22 Call-Barring-Data

An instance of OM class **Call-Barring-Data** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.71](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
call-Barring-Feature-List	Object(Ext-Call-Bar-Feature-List)	—	1	—
password	String(Numeric)	4	0-1	—
wrong-Password-Attempts-Counter	Integer	0-4	0-1	—
notification-To-CSE	Null	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.71: OM Attributes of OM Class **Call-Barring-Data**

This OM class contains the following class-specific OM attributes:

call-Barring-Feature-List

This attribute is an instance of OM class **Ext-Call-Bar-Feature-List**. See [Section 5.4.1.56 \[Ext-Call-Bar-Feature-List\]](#), page 172.

password Password ::= NumericString (FROM (0|1|2|3|4|5|6|7|8|9)) (SIZE(4))

wrong-Password-Attempts-Counter

WrongPasswordAttemptsCounter ::= INTEGER(0..4)

notification-To-CSE

A Null value whose presence provides indication.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.23 Call-Forwarding-Data

An instance of OM class **Call-Forwarding-Data** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.72](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
forwarding-Feature-List	Object(Ext-Forw-Feature-List)	—	1	—
notification-To-CSE	Null	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.72: OM Attributes of OM Class **Call-Forwarding-Data**

This OM class contains the following class-specific OM attributes:

forwarding-Feature-List

This attribute is an instance of OM class **Ext-Forw-Feature-List**. See [Section 5.4.1.64 \[Ext-Forw-Feature-List\]](#), page 177.

notification-To-CSE

A Null value whose presence provides indication.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.24 CAMEL-Subscription-Info

An instance of OM class **CAMEL-Subscription-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.73](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
o-CSI	Object(O-CSI)	—	0-1	—
o-Bcsm-Camel-TDP-Criteria-List	Object(O-Bcsm-Camel-TDP-Criteria-List)	—	0-1	—
d-CSI	Object(D-CSI)	—	0-1	—
t-CSI	Object(T-CSI)	—	0-1	—
t-BCSM-CAMEL-TDP-Criteria-List	Object(T-BCSM-CAMEL-TDP-Criteria-List)	—	0-1	—
vt-CSI	Object(T-CSI)	—	0-1	—
vt-BCSM-CAMEL-TDP-Criteria-List	Object(T-BCSM-CAMEL-TDP-Criteria-List)	—	0-1	—
tif-CSI	Null	—	0-1	—
tif-CSI-Notification-To-CSE	Null	—	0-1	—
gprs-CSI	Object(GPRS-CSI)	—	0-1	—
mo-sms-CSI	Object(SMS-CSI)	—	0-1	—
ss-CSI	Object(SS-CSI)	—	0-1	—
m-CSI	Object(M-CSI)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
specific-CSI-Deleted-List	String(Bit)	14	0-1	—
mt-sms-CSI	Object(SMS-CSI)	—	0-1	—
mt-sms-CAMEL-TDP-Criteria-List	Object(MT-SMS-CAMEL-TDP-Criteria-List)	—	0-1	—
mg-CSI	Object(MG-CSI)	—	0-1	—
o-IM-CSI	Object(O-CSI)	—	0-1	—
o-IM-Bcsm-Camel-TDP-Criteria-List	Object(O-Bcsm-Camel-TDP-Criteria-List)	—	0-1	—
d-IM-CSI	Object(D-CSI)	—	0-1	—
vt-IM-CSI	Object(T-CSI)	—	0-1	—
vt-IM-BCSM-CAMEL-TDP-Criterial-List	Object(T-BCSM-CAMEL-TDP-Criteria-List)	—	0-1	—

Table 5.73: OM Attributes of OM Class **CAMEL-Subscription-Info**

This OM class contains the following class-specific OM attributes:

- o-CSI* This optional attribute is an instance of OM class **O-CSI**. See [Section 5.4.1.123 \[O-CSI\]](#), page 225.
- o-Bcsm-Camel-TDP-Criteria-List* This optional attribute is an instance of OM class **O-Bcsm-Camel-TDP-Criteria-List**. See [Section 5.4.1.118 \[O-Bcsm-Camel-TDP-Criteria-List\]](#), page 222.
- d-CSI* This optional attribute is an instance of OM class **D-CSI**. See [Section 5.4.1.40 \[D-CSI\]](#), page 161.
- t-CSI* This optional attribute is an instance of OM class **T-CSI**. See [Section 5.4.1.183 \[T-CSI\]](#), page 277.
- t-BCSM-CAMEL-TDP-Criteria-List* This optional attribute is an instance of OM class **T-BCSM-CAMEL-TDP-Criteria-List**. See [Section 5.4.1.178 \[T-BCSM-CAMEL-TDP-Criteria-List\]](#), page 275.
- vt-CSI* This optional attribute is an instance of OM class **T-CSI**. See [Section 5.4.1.183 \[T-CSI\]](#), page 277.
- vt-BCSM-CAMEL-TDP-Criteria-List* This optional attribute is an instance of OM class **T-BCSM-CAMEL-TDP-Criteria-List**. See [Section 5.4.1.178 \[T-BCSM-CAMEL-TDP-Criteria-List\]](#), page 275.
- tif-CSI* A Null value whose presence provides indication.
- tif-CSI-Notification-To-CSE* A Null value whose presence provides indication.
- gprs-CSI* This optional attribute is an instance of OM class **GPRS-CSI**. See [Section 5.4.1.78 \[GPRS-CSI\]](#), page 187.
- mo-sms-CSI* This optional attribute is an instance of OM class **SMS-CSI**. See [Section 5.4.1.169 \[SMS-CSI\]](#), page 267.
- ss-CSI* This optional attribute is an instance of OM class **SS-CSI**. See [Section 5.4.1.171 \[SS-CSI\]](#), page 269.
- m-CSI* This optional attribute is an instance of OM class **M-CSI**. See [Section 5.4.1.97 \[M-CSI\]](#), page 206.
- extension-Container* This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.
- extension* This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.
- specific-CSI-Deleted-List* A bit string containing zero or more of the following bits:
- | | |
|----------------|-----------------------|
| o-csi | ('MAP_T_O_CSI' '0') |
| ss-csi | ('MAP_T_SS_CSI' '1') |
| tif-csi | ('MAP_T_TIF_CSI' '2') |
| d-csi | ('MAP_T_D_CSI' '3') |

vt-csi	(‘MAP_T_VT_CSI’ ‘4’)
mo-sms-csi	(‘MAP_T_MO_SMS_CSI’ ‘5’)
m-csi	(‘MAP_T_M_CSI’ ‘6’)
gprs-csi	(‘MAP_T_GPRS_CSI’ ‘7’)
t-csi	(‘MAP_T_T_CSI’ ‘8’)
mt-sms-csi	(‘MAP_T_MT_SMS_CSI’ ‘9’)
mg-csi	(‘MAP_T_MG_CSI’ ‘10’)
o-im-csi	(‘MAP_T_O_IM_CSI’ ‘11’)
d-im-csi	(‘MAP_T_D_IM_CSI’ ‘12’)
vt-im-csi	(‘MAP_T_VT_IM_CSI’ ‘13’)

mt-sms-CSI

This optional attribute is an instance of OM class **SMS-CSI**. See [Section 5.4.1.169 \[SMS-CSI\]](#), page 267.

mt-sms-CAMEL-TDP-Criteria-List

This optional attribute is an instance of OM class **MT-SMS-CAMEL-TDP-Criteria-List**. See [Section 5.4.1.110 \[MT-SMS-CAMEL-TDP-Criteria-List\]](#), page 216.

mg-CSI

This optional attribute is an instance of OM class **MG-CSI**. See [Section 5.4.1.98 \[MG-CSI\]](#), page 207.

o-IM-CSI

This optional attribute is an instance of OM class **O-CSI**. See [Section 5.4.1.123 \[O-CSI\]](#), page 225.

o-IM-Bcsm-Camel-TDP-Criteria-List

This optional attribute is an instance of OM class **O-Bcsm-Camel-TDP-Criteria-List**. See [Section 5.4.1.118 \[O-Bcsm-Camel-TDP-Criteria-List\]](#), page 222.

d-IM-CSI

This optional attribute is an instance of OM class **D-CSI**. See [Section 5.4.1.40 \[D-CSI\]](#), page 161.

vt-IM-CSI

This optional attribute is an instance of OM class **T-CSI**. See [Section 5.4.1.183 \[T-CSI\]](#), page 277.

vt-IM-BCSM-CAMEL-TDP-Criterial-List

This optional attribute is an instance of OM class **T-BCSM-CAMEL-TDP-Criteria-List**. See [Section 5.4.1.178 \[T-BCSM-CAMEL-TDP-Criteria-List\]](#), page 275.

5.4.1.25 Cancel-Location-Arg

An instance of OM class **Cancel-Location-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.74](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
identity	Object(Identity)	—	1	—
cancellation-Type	Enum(Cancellation-Type)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
type-Of-Update	Enum{Type-Of-Update}	—	0-1	—

Table 5.74: OM Attributes of OM Class **Cancel-Location-Arg**

This OM class contains the following class-specific OM attributes:

identity This attribute is an instance of OM class **Identity**. See [Section 5.3.19.10 \[Identity\]](#), page 123.

cancellation-Type

An enumeration containing one of the following values:

update-procedure

(‘MAP_T_UPDATE_PROCEDURE’ ‘0’)

subscription-withdraw

(‘MAP_T_SUBSCRIPTION_WITHDRAW’ ‘1’)

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

type-Of-Update

An enumeration containing one of the following values:

sgsn-change

(‘MAP_T_SGSN_CHANGE’ ‘0’)

mme-change

(‘MAP_T_MME_CHANGE’ ‘1’)

5.4.1.26 Cancel-Location-Res

An instance of OM class **Cancel-Location-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.75](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.75: OM Attributes of OM Class **Cancel-Location-Res**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.27 Check-IMEI-Arg

An instance of OM class **Check-IMEI-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.76](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imei	String(TBCD)	8	1	—
requested-Equipment-Info	String(Bit)	2	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.76: OM Attributes of OM Class **Check-IMEI-Arg**

This OM class contains the following class-specific OM attributes:

imei IMEI ::= TBCD-STRING(SIZE(8)) Refers to International Mobile Station Equipment Identity defined in 3GPP TS 23.003. The last octet shall contain digit 0 and a filler.

requested-Equipment-Info

A bit string containing zero or more of the following bits:

equipment-status

(‘MAP_T_EQUIPMENT_STATUS’ ‘0’)

bmuef

(‘MAP_T_BMUEF’ ‘1’)

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.28 Check-IMEI-Res

An instance of OM class **Check-IMEI-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.77](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
equipment-Status	Enum(Equipment-Status)	—	0-1	—
bmuef	Object(UESBI-Iu)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.77: OM Attributes of OM Class **Check-IMEI-Res**

This OM class contains the following class-specific OM attributes:

equipment-Status

An enumeration containing one of the following values:

white-listed

(‘MAP_T_WHITE_LISTED’ ‘0’)

black-listed (‘MAP_T_BLACK_LISTED’ ‘1’)

grey-listed (‘MAP_T_GREY_LISTED’ ‘2’)

bmuef This optional attribute is an instance of OM class **UESBI-Iu**. See [Section 5.4.1.187 \[UESBI-Iu\], page 280](#).

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\], page 121](#).

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\], page 91](#).

5.4.1.29 Chosen-Radio-Resource-Information

An instance of OM class **Chosen-Radio-Resource-Information** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.78](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
chosen-Channel-Info	String(Octet)	1	0-1	—
chosen-Speech-Version	String(Octet)	1	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.78: OM Attributes of OM Class **Chosen-Radio-Resource-Information**

This OM class contains the following class-specific OM attributes:

chosen-Channel-Info

ChosenChannelInfo ::= OCTET STRING (SIZE(1)) Octets are coded according to the Chosen Channel information element in 3GPP TS 48.008.

chosen-Speech-Version

ChosenSpeechVersion ::= OCTET STRING (SIZE(1)) Octets are coded according to the Speech Version (chosen) information element in 3GPP TS 48.008.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.30 Codec-List

An instance of OM class **Codec-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.79](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
codec1	String(Octet)	1-4	1	—
codec2	String(Octet)	1-4	0-1	—
codec3	String(Octet)	1-4	0-1	—
codec4	String(Octet)	1-4	0-1	—
codec5	String(Octet)	1-4	0-1	—
codec6	String(Octet)	1-4	0-1	—
codec7	String(Octet)	1-4	0-1	—
codec8	String(Octet)	1-4	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.79: OM Attributes of OM Class **Codec-List**

This OM class contains the following class-specific OM attributes:

codec1 **Codec** ::= OCTET STRING (SIZE(1..4)) The internal structure is defined as follows: octet 1, coded as codec identification code in 3GPP TS 26.103; octets 2, 3, 4, parameters for the codec as defined in 3GPP TS 26.103, if available, length depending on the codec.

codec2 **Codec** ::= OCTET STRING (SIZE(1..4)) The internal structure is defined as follows: octet 1, coded as codec identification code in 3GPP TS 26.103; octets 2, 3, 4, parameters for the codec as defined in 3GPP TS 26.103, if available, length depending on the codec.

- codec3* **Codec** ::= OCTET STRING (SIZE(1..4)) The internal structure is defined as follows: octet 1, coded as codec identification code in 3GPP TS 26.103; octets 2, 3, 4, parameters for the codec as defined in 3GPP TS 26.103, if available, length depending on the codec.
- codec4* **Codec** ::= OCTET STRING (SIZE(1..4)) The internal structure is defined as follows: octet 1, coded as codec identification code in 3GPP TS 26.103; octets 2, 3, 4, parameters for the codec as defined in 3GPP TS 26.103, if available, length depending on the codec.
- codec5* **Codec** ::= OCTET STRING (SIZE(1..4)) The internal structure is defined as follows: octet 1, coded as codec identification code in 3GPP TS 26.103; octets 2, 3, 4, parameters for the codec as defined in 3GPP TS 26.103, if available, length depending on the codec.
- codec6* **Codec** ::= OCTET STRING (SIZE(1..4)) The internal structure is defined as follows: octet 1, coded as codec identification code in 3GPP TS 26.103; octets 2, 3, 4, parameters for the codec as defined in 3GPP TS 26.103, if available, length depending on the codec.
- codec7* **Codec** ::= OCTET STRING (SIZE(1..4)) The internal structure is defined as follows: octet 1, coded as codec identification code in 3GPP TS 26.103; octets 2, 3, 4, parameters for the codec as defined in 3GPP TS 26.103, if available, length depending on the codec.
- codec8* **Codec** ::= OCTET STRING (SIZE(1..4)) The internal structure is defined as follows: octet 1, coded as codec identification code in 3GPP TS 26.103; octets 2, 3, 4, parameters for the codec as defined in 3GPP TS 26.103, if available, length depending on the codec.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

- extension* This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.31 Context-Id-List

An instance of OM class **Context-Id-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.80](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
context-Id	Integer	1-50	1-50	—

Table 5.80: OM Attributes of OM Class **Context-Id-List**

This OM class contains the following class-specific OM attributes:

- context-Id* One to fifty (**maxNumOfPDP-Contexts**) instances of ContextID which is an Integer value between one and 50. **ContextID** ::= INTEGER(1..50)

5.4.1.32 CSG-Subscription-Data-List

An instance of OM class **CSG-Subscription-Data-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.81](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
csg-Subscription-Data	Object(CSG-Subscription-Data)	—	1-50	—

Table 5.81: *OM Attributes of OM Class CSG-Subscription-Data-List*

This OM class contains the following class-specific OM attributes:

csg-Subscription-Data

Between one and fifty instances of the OM Class **CSG-Subscription-Data**. See [Section 5.4.1.33 \[CSG-Subscription-Data\]](#), page 157.

5.4.1.33 CSG-Subscription-Data

An instance of OM class **CSG-Subscription-Data** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.82](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
csg-Id	String(Bit)	27	1	—
expiration-Date	String(Octet)	4	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.82: *OM Attributes of OM Class CSG-Subscription-Data*

This OM class contains the following class-specific OM attributes:

csg-Id CSG-Id ::= BIT STRING (SIZE(27)) Coded according to 3GPP TS 23.003.

expiration-Date

Time ::= OCTET STRING (SIZE(4)) Octets are coded according to IETF RFC 3588.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.34 CUG-Feature-List

An instance of OM class **CUG-Feature-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.83](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.83: OM Attributes of OM Class **CUG-Feature-List**

This OM class contains the following class-specific OM attributes:

cug-Feature

One to `maxNumOfExt-BasicServiceGroups` instances of OM Class **CUG-Feature**. See [Section 5.4.1.35 \[CUG-Feature\]](#), page 158.

5.4.1.35 CUG-Feature

An instance of OM class **CUG-Feature** represents the corresponding GSM MAP information object. An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.84](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
basic-Service	Object(Ext-Basic-Service-Code)	—	0-1	—
preferential-CUG-Indicator	Integer	0-32767	0-1	—
inter-CUG-Restrictions	String(Octet)	1	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.84: OM Attributes of OM Class **CUG-Feature**

This OM class contains the following class-specific OM attributes:

basic-Service

This optional attribute is an instance of OM class **Ext-Basic-Service-Code**. See [Section 5.3.19.5 \[Ext-Basic-Service-Code\]](#), page 120.

preferential-CUG-Indicator

`CUG-Index ::= INTEGER(0..32767)` The internal structure is defined in ETS 300 138.

inter-CUG-Restrictions

`InterCUG-Restrictions ::= OCTET STRING (SIZE(1))` Bits 876543, 000000 (unused); bits 21, 00, CUG only facilities; 01, CUG with outgoing access; 10, CUG with incoming access; 11, CUG with both outgoing and incoming access.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.36 CUG-Info

An instance of OM class **CUG-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.85](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
cug-Subscription-List	Object(CUG-Subscription-List)	—	1	—
cug-Feature-List	Object(CUG-Feature-List)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.85: OM Attributes of OM Class **CUG-Info**

This OM class contains the following class-specific OM attributes:

cug-Subscription-List

This attribute is an instance of OM class **CUG-Subscription-List**. See [Section 5.4.1.37 \[CUG-Subscription-List\]](#), page 159.

cug-Feature-List

This optional attribute is an instance of OM class **CUG-Feature-List**. See [Section 5.4.1.34 \[CUG-Feature-List\]](#), page 157.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.37 CUG-Subscription-List

An instance of OM class **CUG-Subscription-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.86](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
cug-Subscription	Object(CUG-Subscription)	—	1-10	—

Table 5.86: OM Attributes of OM Class **CUG-Subscription-List**

This OM class contains the following class-specific OM attributes:

cug-Subscription

One to ten instances of OM class **CUG-Subscription**. See [Section 5.4.1.38 \[CUG-Subscription\]](#), page 160.

5.4.1.38 CUG-Subscription

An instance of OM class **CUG-Subscription** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.87](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
cug-Index	Integer	0-32767	1	—
cug-Interlock	String(Octet)	4	1	—
intra-CUG-Options	Enum(Intra-CUG-Options)	—	1	—
basic-Service-Group-List	Object(Basic-Service-Group-List)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.87: OM Attributes of OM Class **CUG-Subscription**

This OM class contains the following class-specific OM attributes:

cug-Index **CUG-Index** ::= INTEGER(0..32767) The internal structure is defined in ETS 300 138.

cug-Interlock

CUG-Interlock ::= OCTET STRING (SIZE(4))

intra-CUG-Options

An enumeration containing one of the following values:

no-cug-restrictions

(‘MAP_T_NO_CUG_RESTRICTIONS’ ‘0’)

cug-ic-call-barred

(‘MAP_T_CUG_IC_CALL_BARRED’ ‘1’)

cug-og-call-barred

(‘MAP_T_CUG_OG_CALL_BARRED’ ‘2’)

basic-Service-Group-List

This optional attribute is an instance of OM class **Ext-Basic-Service-Group-List**. See [Section 5.4.1.55 \[Ext-Basic-Service-Group-List\]](#), page 171.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.39 Current-Security-Context

An instance of OM class **Current-Security-Context** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.88](#). The OM class represent a choice and exactly one attribute shall appear in an instance of this class.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
<i>gsm-Security-Context-Data</i>	Object(GSM-Security-Context-Data)	—	0-1	—
<i>umts-Security-Context-Data</i>	Object(UMTS-Security-Context-Data)	—	0-1	—

Table 5.88: *OM Attributes of OM Class Current-Security-Context*

This OM class contains the following class-specific OM attributes:

gsm-Security-Context-Data

This choice attribute is an instance of OM class **GSM-Security-Context-Data**. See [Section 5.4.1.83 \[GSM-Security-Context-Data\]](#), page 189.

umts-Security-Context-Data

This choice attribute is an instance of OM class **UMTS-Security-Context-Data**. See [Section 5.4.1.188 \[UMTS-Security-Context-Data\]](#), page 280.

5.4.1.40 D-CSI

An instance of OM class **D-CSI** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.89](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
<i>dp-Analysed-Info-Criteria-List</i>	Object(DP-Analysed-Info-Criteria-List)	—	0-1	—
<i>camel-Capability-Handling</i>	Integer	1-16	0-1	—
<i>extension-Container</i>	Object(Extension-Container)	—	0-1	—
<i>notification-To-CSE</i>	Null	—	0-1	—
<i>csi-Active</i>	Null	—	0-1	—
<i>extension</i>	Object(Extension)	—	0-1	—

Table 5.89: *OM Attributes of OM Class D-CSI*

This OM class contains the following class-specific OM attributes:

dp-Analysed-Info-Criteria-List

This optional attribute is an instance of OM class **DP-Analysed-Info-Criteria-List**. See [Section 5.4.1.46 \[DP-Analysed-Info-Criteria-List\]](#), page 166.

camel-Capability-Handling

CamelCapabilityHandling ::= INTEGER(1..16) Value 1, CAMEL phase 1; value 2, CAMEL phase 2; value 3, CAMEL phase 3; value 4, CAMEL phase 4. Reception of values greater than 4 shall be treated as CAMEL phase 4.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

notification-To-CSE

A Null value whose presence provides indication.

csi-Active A Null value whose presence provides indication.

extension This optional attribute is an instance of OM class **Extension**. See Section 5.2.13 [Extension], page 91.

5.4.1.41 Delete-Subscriber-Data-Arg

An instance of OM class **Delete-Subscriber-Data-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see Section 4.20 [Service-req()], page 70) or is returned by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in Table 5.90.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	1	—
basic-Service-List	Object(Basic-Service-List)	—	0-1	—
ss-List	Object(SS-List)	—	0-1	—
roaming-Restriction	Null	—	0-1	—
regional-Subscription-Identifier	String(Octet)	2	0-1	—
vbs-Group-Indication	Null	—	0-1	—
vgcs-Group-Indication	Null	—	0-1	—
camel-Subscription-Info-Withdraw	Null	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
gprs-Subscription-Data-Withdraw	Object(GPRS-Subscription-Data-Withdraw)	—	0-1	—
roaming-Restricted-In-Sgsn	Null	—	0-1	—
lsa-Information-Withdraw	Object(LSA-Information-Withdraw)	—	0-1	—
gmlc-List-Withdraw	Null	—	0-1	—
ist-Information-Withdraw	Null	—	0-1	—
specific-CSI-Withdraw	String(Bit)	14	0-1	—
charging-Characteristics-Withdraw	Null	—	0-1	—
stn-sr-Withdraw	Null	—	0-1	—
eps-Subscription-Data-Withdraw	Object(EPS-Subscription-Data-Withdraw)	—	0-1	—
apn-oi-replacement-Withdraw	Null	—	0-1	—
csg-Subscription-Deleted	Null	—	0-1	—

Table 5.90: OM Attributes of OM Class **Delete-Subscriber-Data-Arg**

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see Section 5.2.1 [String(TBCD)], page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

basic-Service-List

This optional attribute is an instance of OM class **Basic-Service-List**. See Section 5.4.1.18 [Basic-Service-List], page 146.

- ss-List* This optional attribute is an instance of OM class **SS-List**. See [Section 5.4.4.40 \[SS-List\]](#), page 361.
- roaming-Restriction-Due-To-Unsupported-Feature*
A Null value whose presence provides indication.
- regional-Subscription-Identifier*
ZoneCode ::= OCTET STRING (SIZE(2)) Internal structure is defined in 3GPP TS 23.003.
- vbs-Group-Indication*
A Null value whose presence provides indication.
- vgcs-Group-Indication*
A Null value whose presence provides indication.
- camel-Subscription-Info-Withdraw*
A Null value whose presence provides indication.
- extension-Container*
This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.
- extension* This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.
- gprs-Subscription-Data-Withdraw*
This optional attribute is an instance of OM class **GPRS-Subscription-Data-Withdraw**. See [Section 5.4.1.82 \[GPRS-Subscription-Data-Withdraw\]](#), page 189.
- roaming-Restricted-In-Sgsn-Due-To-Unsupported-Feature*
A Null value whose presence provides indication.
- lsa-Information-Withdraw*
This optional attribute is an instance of OM class **LSA-Information-Withdraw**. See [Section 5.4.1.96 \[LSA-Information-Withdraw\]](#), page 206.
- gmlc-List-Withdraw*
A Null value whose presence provides indication.
- ist-Information-Withdraw*
A Null value whose presence provides indication.
- specific-CSI-Withdraw*
A bit string containing zero or more of the following bits:
- | | |
|-------------------|--------------------------|
| o-csi | ('MAP_T_O_CSI' '0') |
| ss-csi | ('MAP_T_SS_CSI' '1') |
| tif-csi | ('MAP_T_TIF_CSI' '2') |
| d-csi | ('MAP_T_D_CSI' '3') |
| vt-csi | ('MAP_T_VT_CSI' '4') |
| mo-sms-csi | ('MAP_T_MO_SMS_CSI' '5') |
| m-csi | ('MAP_T_M_CSI' '6') |

gprs-csi ('MAP_T_GPRS_CSI' '7')
t-csi ('MAP_T_T_CSI' '8')
mt-sms-csi ('MAP_T_MT_SMS_CSI' '9')
mg-csi ('MAP_T_MG_CSI' '10')
o-im-csi ('MAP_T_O_IM_CSI' '11')
d-im-csi ('MAP_T_D_IM_CSI' '12')
vt-im-csi ('MAP_T_VT_IM_CSI' '13')

charging-Characteristics-Withdraw

A Null value whose presence provides indication.

stn-sr-Withdraw

A Null value whose presence provides indication.

eps-Subscription-Data-Withdraw

This optional attribute is an instance of OM class **EPS-Subscription-Data-Withdraw**.
 See [Section 5.4.1.54 \[EPS-Subscription-Data-Withdraw\]](#), page 171.

apn-oi-replacement-Withdraw

A Null value whose presence provides indication.

csg-Subscription-Deleted

A Null value whose presence provides indication.

5.4.1.42 Delete-Subscriber-Data-Res

An instance of OM class **Delete-Subscriber-Data-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.91](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
regional-Subscription-Response	Enum(Regional-Subscription-Response)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.91: OM Attributes of OM Class **Delete-Subscriber-Data-Res**

This OM class contains the following class-specific OM attributes:

regional-Subscription-Response

An enumeration containing one of the following values:

network-node-area-restricted
 ('MAP_T_NETWORK_NODE_AREA_RESTRICTED' '0')

too-many-zone-codes

('MAP_T_TOO_MANY_ZONE_CODES' '1')

zone-codes-conflict

('MAP_T_ZONE_CODES_CONFLICT' '2')

regional-subsc-not-supported

('MAP_T_REGIONAL_SUBSC_NOT_SUPPORTED' '3')

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.43 Destination-Number-Criteria

An instance of OM class **Destination-Number-Criteria** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.92](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
match-Type	Enum(Match-Type)	—	1	—
destination-Number-List	Object(Destination-Number-List)	—	0-1	—
destination-Number-Length-List	Object(Destination-Number-Length-List)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.92: OM Attributes of OM Class **Destination-Number-Criteria**

This OM class contains the following class-specific OM attributes:

match-Type

an enumeration containing one of the following values:

inhibiting ('MAP_T_INHIBITING' '0')**enabling** ('MAP_T_ENABLING' '1')*destination-Number-List*

This optional attribute is an instance of OM class **Destination-Number-List**. See [Section 5.4.1.45 \[Destination-Number-List\]](#), page 166.

destination-Number-Length-List

This optional attribute is an instance of OM class **Destination-Number-Length-List**. See [Section 5.4.1.44 \[Destination-Number-Length-List\]](#), page 166.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.44 Destination-Number-Length-List

An instance of OM class **Destination-Number-Length-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.93](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
destination-Number-Length	Integer	1-15	1-3	—

Table 5.93: OM Attributes of OM Class **Destination-Number-Length-List**

This OM class contains the following class-specific OM attributes:

destination-Number-Length

One to three (`maxNumOfCamelDestinationNumberLengths`) instances of number lengths.

5.4.1.45 Destination-Number-List

An instance of OM class **Destination-Number-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.94](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
destination-Number	String(Address)	1-9	1-10	—

Table 5.94: OM Attributes of OM Class **Destination-Number-List**

This OM class contains the following class-specific OM attributes:

destination-Number

One to ten (`maxNumOfCamelDestinationNumbers`) instances of an ISDN address string.

5.4.1.46 DP-Analysed-Info-Criteria-List

An instance of OM class **DP-Analysed-Info-Criteria-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.95](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
dp-Analysed-Info-Criterium	Object(DP-Analysed-Info-Criterium)	—	1-10	—

Table 5.95: OM Attributes of OM Class **DP-Analysed-Info-Criteria-List**

This OM class contains the following class-specific OM attributes:

dp-Analysed-Info-Criterium

One to ten (`maxMumOfDP-AnalysedInfoCriteria`) instances of OM class **DP-Analysed-Info-Criterium**. See [Section 5.4.1.47 \[DP-Analysed-Info-Criterium\]](#), page 167.

5.4.1.47 DP-Analysed-Info-Criterium

An instance of OM class **DP-Analysed-Info-Criterium** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.96](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
dialed-Number	String(Address)	1-9	1	—
service-Key	Integer	—	1	—
gsmSCF-Address	String(Address)	1-9	1	—
default-Call-Handling	Enum(Default-Call-Handling)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.96: OM Attributes of OM Class **DP-Analysed-Info-Criterium**

This OM class contains the following class-specific OM attributes:

dialed-Number

An ISDN Address String.

service-Key

`ServiceKey ::= INTEGER(0..2147483647)`

gsmSCF-Address

An ISDN Address String.

default-Call-Handling

An enumeration containing one of the following values:

continue-call

`(‘MAP_T_CONTINUE_CALL’ ‘0’)`

release-call `(‘MAP_T_RELEASE_CALL’ ‘1’)`

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.48 EPS-Authentication-Set-List

An instance of OM class **EPS-Authentication-Set-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.97](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
eps-AV	Object(EPS-AV)	—	1-5	—

Table 5.97: OM Attributes of OM Class **EPS-Authentication-Set-List**

This OM class contains the following class-specific OM attributes:

epc-AV One to five instances of OM Class **EPS-AV**. See [Section 5.4.1.49 \[EPS-AV\]](#), page 168.

5.4.1.49 EPS-AV

An instance of OM class **EPS-AV** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.98](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
rand	String(Octet)	16	1	—
xres	String(Octet)	4-16	1	—
autn	String(Octet)	16	1	—
kasme	String(Octet)	16	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.98: OM Attributes of OM Class **EPS-AV**

This OM class contains the following class-specific OM attributes:

rand RAND ::= OCTET STRING (SIZE(16))

xres XRES ::= OCTET STRING (SIZE(4..16))

autn AUTN ::= OCTET STRING (SIZE(16))

kasme KASME ::= OCTET STRING (SIZE(16))

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.50 EPS-Data-List

An instance of OM class **EPS-Data-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.99](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
apn-Configuration	Object(APN-Configuration)	—	1-50	—

Table 5.99: OM Attributes of OM Class **EPS-Data-List**

This OM class contains the following class-specific OM attributes:

apn-Configuration

One to fifty instances of OM Class **APN-Configuration**. See [Section 5.4.1.11 \[APN-Configuration\]](#), page 140.

5.4.1.51 EPS-Info

An instance of OM class **EPS-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.100](#). This OM class represents a choice and exactly one instance of one attribute shall exist in an instance of this OM class.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
pdn-Gw-Update	Object(PDN-GW-Update)	—	0-1	—
isr-Information	String(Bit)	2	0-1	—

Table 5.100: OM Attributes of OM Class **EPS-Info**

This OM class contains the following class-specific OM attributes:

pdn-Gw-Update

This optional attribute is an instance of OM class **PDN-GW-Update**. See [Section 5.4.1.128 \[PDN-GW-Update\]](#), page 230.

isr-Information

A bit string containing zero or more of the following bits:

update-mme

(‘MAP_T_UPDATE_MME’ ‘0’)

cancel-sgsn (‘MAP_T_CANCEL_SGSN’ ‘1’)

5.4.1.52 EPS-QoS-Subscribed

An instance of OM class **EPS-QoS-Subscribed** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.101](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
qos-Class-Identifier	Integer	1-9	1	—
arp	String(Octet)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.101: OM Attributes of OM Class **EPS-QoS-Subscribed**

This OM class contains the following class-specific OM attributes:

qos-Class-Identifier

QoS-Class-Identifier ::= INTEGER(1..9) Values are defined in 3GPP TS 29.212.

arp

ARP ::= OCTET STRING Octets are coded according to 3GPP TS 29.272.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.53 EPS-Subscription-Data

An instance of OM class **EPS-Subscription-Data** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.102](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
apn-oi-Replacement	String(Octet)	9-100	0-1	—
rfsp-Id	Integer	1-256	0-1	—
ambr	Object(AMBR)	—	0-1	—
apn-Configuration-Profile	Object(APN-Configuration-Profile)	—	0-1	—
stn-sr	String(Address)	1-9	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.102: OM Attributes of OM Class **EPS-Subscription-Data**

This OM class contains the following class-specific OM attributes:

apn-oi-Replacement

APN-OI-Replacement ::= OCTET STRING (SIZE(9..100)) Octets are coded as APN Operator Identifier according to 3GPP TS 23.003.

rfsp-Id

RFSP-ID ::= INTEGER(1..256)

ambr

This optional attribute is an instance of OM class **AMBR**. See [Section 5.4.1.3 \[AMBR\]](#), page 132.

apn-Configuration-Profile

An optional instance of OM Class **APN-Configuration-Profile**. See [Section 5.4.1.10 \[APN-Configuration-Profile\]](#), page 139.

stn-sr An ISDN address string.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.54 EPS-Subscription-Data-Withdraw

An instance of OM class **EPS-Subscription-Data-Withdraw** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.103](#). This OM class represents a choice and exactly one instance of one attribute shall be present in an instance of this OM class.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
all-EPS-Data	Null	—	0-1	—
context-Id-List	Object(Context-Id-List)	—	0-1	—

Table 5.103: *OM Attributes of OM Class EPS-Subscription-Data-Withdraw*

This OM class contains the following class-specific OM attributes:

all-EPS-Data

A Null value whose presence provides indication.

context-Id-List

This choice attribute is an instance of OM class **Context-Id-List**. See [Section 5.4.1.31 \[Context-Id-List\]](#), page 156.

5.4.1.55 Ext-Basic-Service-Group-List

An instance of OM class **Ext-Basic-Service-Group-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.104](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ext-Basic-Service-Code	Object(Ext-Basic-Service-Code)	—	1-32	—

Table 5.104: *OM Attributes of OM Class Ext-Basic-Service-Group-List*

This OM class contains the following class-specific OM attributes:

ext-Basic-Service-Code

One to thirty-two (`maxNumOfExt-BasicServiceGroups`) instances of OM class **Ext-Basic-Service-Code**. See [Section 5.3.19.5 \[Ext-Basic-Service-Code\]](#), page 120.

5.4.1.56 Ext-Call-Bar-Feature-List

An instance of OM class **Ext-Call-Bar-Feature-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.105](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ext-Call-Barring-Feature	Object(Ext-Call-Barring-Feature)	—	1-more	—

Table 5.105: *OM Attributes of OM Class Ext-Call-Bar-Feature-List*

This OM class contains the following class-specific OM attributes:

ext-Call-Barring-Feature

One to `maxNumOfExt-BasicServiceGroups` instances of OM Class **Ext-Call-Barring-Feature**. See [Section 5.4.1.58 \[Ext-Call-Barring-Feature\]](#), page 173.

5.4.1.57 Ext-Call-Bar-Info

An instance of OM class **Ext-Call-Bar-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.106](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	1	—
call-Barring-Feature-List	Object(Ext-Call-Bar-Feature-List)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.106: *OM Attributes of OM Class Ext-Call-Bar-Info*

This OM class contains the following class-specific OM attributes:

ss-Code `SS-Code ::= OCTET STRING (SIZE(1))`

call-Barring-Feature-List

This attribute is an instance of OM class **Ext-Call-Bar-Feature-List**. See [Section 5.4.1.56 \[Ext-Call-Bar-Feature-List\]](#), page 172.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.58 Ext-Call-Barring-Feature

An instance of OM class **Ext-Call-Barring-Feature** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.107](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
basic-Service	Object(Ext-Basic-Service-Code)	—	0-1	—
ss-Status	String(Octet)	1-5	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.107: OM Attributes of OM Class **Ext-Call-Barring-Feature**

This OM class contains the following class-specific OM attributes:

basic-Service

This optional attribute is an instance of OM class **Ext-Basic-Service-Code**. See [Section 5.3.19.5 \[Ext-Basic-Service-Code\]](#), page 120.

ss-Status **Ext-SS-Status ::= OCTET STRING(SIZE(1..5))** This parameter refers to the state information of individual supplementary services as defined in 3GPP TS 23.011. Octet 1, bits 8765, unused (0000); bits 4321, used to convey the “P bit”, “R bit”, “A bit” and “Q bit”, representing supplementary service state information as defined in 3GPP TS 23.011: bit 4, “Q bit”; bit 3, “P bit”; bit 2, “R bit”; bit 1, “A bit”; octets 2-5, reserved for future use. They shall be discarded if received and not understood.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.59 Ext-Call-Barring-Info-For-CSE

An instance of OM class **Ext-Call-Barring-Info-For-CSE** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.108](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	1	—
call-Barring-Feature-List	Object(Ext-Call-Bar-Feature-List)	—	0-1	—
password	String(Numeric)	4	0-1	—
wrong-Password-Attempts-Counter	Integer	0-4	0-1	—
notification-To-CSE	Null	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.108: OM Attributes of OM Class **Ext-Call-Barring-Info-For-CSE**

This OM class contains the following class-specific OM attributes:

ss-Code **SS-Code** ::= OCTET STRING (SIZE(1))

call-Barring-Feature-List

This optional attribute is an instance of OM class **Ext-Call-Bar-Feature-List**. See [Section 5.4.1.56 \[Ext-Call-Bar-Feature-List\]](#), page 172.

password **Password** ::= NumericString (FROM (0|1|2|3|4|5|6|7|8|9)) (SIZE(4))

wrong-Password-Attempts-Counter

WrongPasswordAttemptsCounter ::= INTEGER(0..4)

notification-To-CSE

A Null value whose presence provides indication.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.60 External-Client-List

An instance of OM class **External-Client-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.109](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
external-Client	Object(External-Client)	—	1-5	—

Table 5.109: OM Attributes of OM Class **External-Client-List**

This OM class contains the following class-specific OM attributes:

external-Client

One to five instances of OM Class **External-Client**. See [Section 5.4.1.61 \[External-Client\]](#), page 175.

5.4.1.61 External-Client

An instance of OM class **External-Client** represents the corresponding GSM MAP information object. An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.110](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
client-Identity	Object(LCS-Client-External-ID)	—	1	—
gmlc-Restriction	Enum(GMLC-Restriction)	—	0-1	—
notification-To-MS-User	Enum(Notification-To-MS-User)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.110: OM Attributes of OM Class **External-Client**

This OM class contains the following class-specific OM attributes:

client-Identity

This attribute is an instance of OM class **LCS-Client-External-ID**. See [Section 5.3.19.12 \[LCS-Client-External-ID\]](#), page 125.

gmlc-Restriction

An enumeration containing one of the following values:

gmlc-list ('MAP_T_GMLC_LIST' '0')

home-country
('MAP_T_HOME_COUNTRY' '1')

notification-To-MS-User

An enumeration containing one of the following values:

notify-location-allowed
('MAP_T_NOTIFY_LOCATION_ALLOWED' '0')

notify-and-verify-location-allowed-no-response
('MAP_T_NOTIFY_AND_VERIFY_LOCATION_ALLOWED_NO_RESPONSE' '1')

notify-and-verify-location-allowed-if-no-response
('MAP_T_NOTIFY_AND_VERIFY_LOCATION_ALLOWED_IF_NO_RESPONSE' '2')

location-not-allowed
('MAP_T_LOCATION_NOT_ALLOWED' '3')

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.62 Ext-External-Client-List

An instance of OM class **Ext-External-Client-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.111](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.111: OM Attributes of OM Class **Ext-External-Client-List**

This OM class contains the following class-specific OM attributes:

ext-External-Client

One to thirty-five instances of OM class **External-Client**. See [Section 5.4.1.61 \[External-Client\]](#), page 175.

5.4.1.63 Ext-Forwarding-Info-For-CSE

An instance of OM class **Ext-Forwarding-Info-For-CSE** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.112](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	1	—
forwarding-Feature-List	Object(Ext-Forw-Feature-List)	—	1	—
notification-To-CSE	Null	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.112: OM Attributes of OM Class **Ext-Forwarding-Info-For-CSE**

This OM class contains the following class-specific OM attributes:

ss-Code **SS-Code** ::= OCTET STRING (SIZE(1))

forwarding-Feature-List

This optional attribute is an instance of OM class **Ext-Forw-Feature-List**. See [Section 5.4.1.64 \[Ext-Forw-Feature-List\]](#), page 177.

notification-To-CSE

A Null value whose presence provides indication.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.64 Ext-Forw-Feature-List

An instance of OM class **Ext-Forw-Feature-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 5.113.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ext-Forw-Feature	Object(Ext-Forw-Feature)	—	1-more	—

Table 5.113: OM Attributes of OM Class **Ext-Forw-Feature-List**

This OM class contains the following class-specific OM attributes:

ext-Forw-Feature

One to `maxNumOfExt-BasicServiceGroups` instances of OM Class **Ext-Forw-Feature**. See Section 5.4.1.65 [Ext-Forw-Feature], page 177.

5.4.1.65 Ext-Forw-Feature

An instance of OM class **Ext-Forw-Feature** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 5.114.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
basic-Service	Object(Ext-Basic-Service-Code)	—	0-1	—
ss-Status	String(Octet)	1-5	—	1
forwarded-To-Number	String(Address)	1-9	0-1	—
forwarded-To-Subaddress	String(Subaddress)	1-21	0-1	—
forwarding-Options	String(Octet)	1-5	0-1	—
no-Reply-Condition-Time	Integer	1-100	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
long-Forwarded-To-Number	String(Address)	1-15	0-1	—

Table 5.114: OM Attributes of OM Class **Ext-Forw-Feature**

This OM class contains the following class-specific OM attributes:

basic-Service

This optional attribute is an instance of OM class **Ext-Basic-Service-Code**. See Section 5.3.19.5 [Ext-Basic-Service-Code], page 120.

ss-Status

Ext-SS-Status ::= OCTET STRING(SIZE(1..5)) This parameter refers to the state information of individual supplementary services as defined in 3GPP TS 23.011. Octet 1, bits 8765, unused (0000); bits 4321, used to convey the “P bit”, “R bit”, “A bit” and “Q bit”, representing supplementary service state information as defined in 3GPP

TS 23.011: bit 4, “Q bit”; bit 3, “P bit”; bit 2, “R bit”; bit 1, “A bit”; octets 2-5, reserved for future use. They shall be discarded if received and not understood.

forwarded-To-Number

An ISDN Address String. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

forwarded-To-Subaddress

An ISDN Subaddress String. See [Section 5.3.2 \[String\(Subaddress\)\]](#), page 102.

forwarding-Options

Ext-ForwOptions ::= OCTET STRING (SIZE(1..5)) Octet 1, bit 8, notification to forwarding party: 0, no notification, 1 notification; bit 7, redirecting presentation: 0, no presentation, 1, presentation; bit 6, notification to calling party: 0, no notification, 1, notification; bit 5, 0 (unused); bits 43, forwarding reason: 00, ms not reachable, 01 ms busy, 10, no reply, 11 unconditional; bits 21, 00 (unused); octets 2-5, reserved for future use. They shall be discarded if received and not understood.

no-Reply-Condition-Time

Ext-NoRepCondTime ::= INTEGER(1..100) Only values 5-30 are used. Values in the range 1-4 and 31-100 are reserved for future use: if received, values 1-4 shall be mapped onto value 5; values 31-100 shall be mapped onto value 30.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

long-Forwarded-To-Number

FTN-AddressString ::= AddressString (SIZE(1..15)) This type is used to represent forwarded-to numbers. If NAI is “international”, the first digits represent the country code (CC) and the network destination code (NDC) as for E.164.

5.4.1.66 Ext-Forw-Info

An instance of OM class **Ext-Forw-Info** represents the corresponding GSM MAP information object. An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.115](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	1	—
forwarding-Feature-List	Object(Ext-Forw-Feature-List)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.115: OM Attributes of OM Class **Ext-Forw-Info**

This OM class contains the following class-specific OM attributes:

ss-Code **SS-Code** ::= OCTET STRING (SIZE(1))

forwarding-Feature-List

This attribute is an instance of OM class **Ext-Forw-Feature-List**. See [Section 5.4.1.64 \[Ext-Forw-Feature-List\]](#), page 177.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.67 Ext-SS-Data

An instance of OM class **Ext-SS-Data** represents the corresponding GSM MAP information object. An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.116](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	1	—
ss-Status	String(Octet)	1-5	1	—
ss-Subscription-Option	Object(SS-Subscription-Option)	—	0-1	—
basic-Service-Group-List	Object(Ext-Basic-Service-Group-List)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.116: *OM Attributes of OM Class Ext-SS-Data*

This OM class contains the following class-specific OM attributes:

ss-Code **SS-Code ::= OCTET STRING (SIZE(1))**

ss-Status **Ext-SS-Status ::= OCTET STRING(SIZE(1..5))** This parameter refers to the state information of individual supplementary services as defined in 3GPP TS 23.011. Octet 1, bits 8765, unused (0000); bits 4321, used to convey the “P bit”, “R bit”, “A bit” and “Q bit”, representing supplementary service state information as defined in 3GPP TS 23.011: bit 4, “Q bit”; bit 3, “P bit”; bit 2, “R bit”; bit 1, “A bit”; octets 2-5, reserved for future use. They shall be discarded if received and not understood.

ss-Subscription-Option

This optional attribute is an instance of OM class **SS-Subscription-Option**. See [Section 5.4.4.41 \[SS-Subscription-Option\]](#), page 362.

basic-Service-Group-List

This optional attribute is an instance of OM class **Ext-Basic-Service-Group-List**. See [Section 5.4.1.55 \[Ext-Basic-Service-Group-List\]](#), page 171.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.68 Ext-SS-Info-For-CSE

An instance of OM class **Ext-SS-Info-For-CSE** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.117](#). This OM class represents a choice and exactly one attribute is present in an instance of this OM class.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
forwarding-Info-For-CSE	Object(Ext-Forwarding-Info-For-CSE)	—	0-1	—
call-Barring-Info-For-CSE	Object(Ext-Call-Barring-Info-For-CSE)	—	0-1	—

Table 5.117: OM Attributes of OM Class **Ext-SS-Info-For-CSE**

This OM class contains the following class-specific OM attributes:

forwarding-Info-For-CSE

This choice attribute is an instance of OM class **Ext-Forwarding-Info-For-CSE**. See [Section 5.4.1.63 \[Ext-Forwarding-Info-For-CSE\]](#), page 176.

call-Barring-Info-For-CSE

This choice attribute is an instance of OM class **Ext-Call-Barring-Info-For-CSE**. See [Section 5.4.1.59 \[Ext-Call-Barring-Info-For-CSE\]](#), page 173.

5.4.1.69 Ext-SS-Info-List

An instance of OM class **Ext-SS-Info-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.118](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ext-SS-Info	Object(Ext-SS-Info)	—	1-30	—

Table 5.118: OM Attributes of OM Class **Ext-SS-Info-List**

This OM class contains the following class-specific OM attributes:

ext-SS-Info One to thirty (`maxNumOfSS`) instances of OM Class **Ext-SS-Info**. See [Section 5.4.1.70 \[Ext-SS-Info\]](#), page 180.

5.4.1.70 Ext-SS-Info

An instance of OM class **Ext-SS-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.119](#). This OM class represents a choice and exactly one attribute is present in an instance of this OM class.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
forwarding-Info	Object(Ext-Forw-Info)	—	0-1	—
call-Barring-Info	Object(Ext-Call-Bar-Info)	—	0-1	—
cug-Info	Object(CUG-Info)	—	0-1	—
ss-Data	Object(Ext-SS-Data)	—	0-1	—
emlpp-Info	Object(EMLPP-Info)	—	0-1	—

Table 5.119: OM Attributes of OM Class **Ext-SS-Info**

This OM class contains the following class-specific OM attributes:

forwarding-Info

This choice attribute is an instance of OM class **Ext-Forw-Info**. See [Section 5.4.1.66 \[Ext-Forw-Info\]](#), page 178.

call-Barring-Info

This choice attribute is an instance of OM class **Ext-Call-Bar-Info**. See [Section 5.4.1.57 \[Ext-Call-Bar-Info\]](#), page 172.

cug-Info

This choice attribute is an instance of OM class **CUG-Info**. See [Section 5.4.1.36 \[CUG-Info\]](#), page 159.

ss-Data

This choice attribute is an instance of OM class **Ext-SS-Data**. See [Section 5.4.1.67 \[Ext-SS-Data\]](#), page 179.

emlpp-Info

This choice attribute is an instance of OM class **EMLPP-Info**. See [Section 5.3.19.4 \[EMLPP-Info\]](#), page 119.

5.4.1.71 Failure-Report-Arg

An instance of OM class **Failure-Report-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.120](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	1	—
ggsn-Number	String(Address)	1-9	1	—
ggsn-Address	String(Octet)	5-17	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.120: OM Attributes of OM Class **Failure-Report-Arg**

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

ggsn-Number
An ISDN Address String.

ggsn-Address
GGSN-Address ::= OCTET STRING(SIZE(5..17)) Octets are coded according to 3GPP TS 23.003.

extension-Container
This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.72 Failure-Report-Res

An instance of OM class **Failure-Report-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.121](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
<i>ggsn-Address</i>	String(Octet)	5-17	0-1	—
<i>extension-Container</i>	Object(Extension-Container)	—	0-1	—
<i>extension</i>	Object(Extension)	—	0-1	—

Table 5.121: OM Attributes of OM Class **Failure-Report-Res**

This OM class contains the following class-specific OM attributes:

ggsn-Address
GGSN-Address ::= OCTET STRING(SIZE(5..17)) Octets are coded according to 3GPP TS 23.003.

extension-Container
This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.73 Forward-Access-Signalling-Arg

An instance of OM class **Forward-Access-Signalling-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.122](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
an-APDU	Object(Access-Network-Signal-Info)	—	1	—
integrity-Protection-Info	String(Octet)	18-100	0-1	—
encryption-Info	String(Octet)	18-100	0-1	—
key-Status	Enum(Key-Status)	—	0-1	—
allowed-GSM-Algorithms	String(Octet)	1	0-1	—
allowed-UMTS-Algorithms	Object(Allowed-UMTS-Algorithms)	—	0-1	—
radio-Resource-Information	String(Octet)	3-13	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
radio-Resource-List	Object(Radio-Resource-List)	—	0-1	—
bssmap-Service-Handover	String(Octet)	1	0-1	—
ranap-Service-Handover	String(Octet)	1	0-1	—
bssmap-Service-Handover-List	Object(BSSMAP-Service-Handover-List)	—	0-1	—
currently-Used-Codec	String(Octet)	1-4	0-1	—
iu-Supported-Codecs-List	Object(Supported-Codecs-List)	—	0-1	—
rab-Configuration-Indicator	Null	—	0-1	—
iu-Selected-Codec	String(Octet)	1-4	0-1	—
alternative-Channel-Type	String(Octet)	3-13	0-1	—
trace-Propagation-List	Object(Trace-Propagation-List)	—	0-1	—

Table 5.122: OM Attributes of OM Class **Forward-Access-Signalling-Arg**

This OM class contains the following class-specific OM attributes:

an-APDU This attribute is an instance of OM class **Access-Network-Signal-Info**. See [Section 5.3.19.1 \[Access-Network-Signal-Info\], page 118](#).

integrity-Protection-Info

IntegrityProtectionInformation ::= OCTET STRING (SIZE(18..100)) Octets contain a complete IntegrityProtectionInformation data type as defined in 3GPP TS 25.413, encoded according to the encoding scheme mandated by 3GPP TS 25.413. Padding bits are included, if needed, in the least significant bits of the last octet of the octet string.

encryption-Info

EncryptionInformation ::= OCTET STRING (SIZE(18..100)) Octets contain a complete EncryptionInformation data type as defined in 3GPP TS 25.413, encoded according to the encoding scheme mandated by 3GPP TS 25.413. Padding bits are included, if needed, in the least significant bits of the last octet of the octet string.

key-Status

old ('MAP_T_OLD' '0')
new ('MAP_T_NEW' '1')

allowed-GSM-Algorithms

AllowedGSM-Algorithms ::= OCTET STRING (SIZE(1)) Internal structure is coded as Algorithm identifier octet from Permitted Algorithms defined in 3GPP TS 48.008. A node shall mark all GSM algorithms that are allowed in MSC-B.

allowed-UMTS-Algorithms

This optional attribute is an instance of OM class **Allowed-UMTS-Algorithms**. See [Section 5.4.1.2 \[Allowed-UMTS-Algorithms\]](#), page 132.

radio-Resource-Information

RadioResourceInformation ::= OCTET STRING (SIZE(3..13)) Octets are coded according to the Channel Type information element in 3GPP TS 48.008.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

radio-Resource-List

This optional attribute is an instance of OM class **Radio-Resource-List**. See [Section 5.4.1.144 \[Radio-Resource-List\]](#), page 248.

bssmap-Service-Handover

BSSMAP-ServiceHandover ::= OCTET STRING (SIZE(1)) Octets are coded according to the Service Handover information element in 3GPP TS 48.008.

ranap-Service-Handover

RANAP-ServiceHandover ::= OCTET STRING (SIZE(1)) Octet contains a complete Service-Handover data type as defined in 3GPP TS 25.413, encoded according to the encoding scheme mandated by 3GPP TS 25.413. Padding bits are included in the least significant bits.

bssmap-Service-Handover-List

This optional attribute is an instance of OM class **BSSMAP-Service-Handover-List**. See [Section 5.4.1.21 \[BSSMAP-Service-Handover-List\]](#), page 147.

currently-Used-Codec

Codec ::= OCTET STRING (SIZE(1..4)) The internal structure is defined as follows: octet 1, coded as codec identification code in 3GPP TS 26.103; octets 2, 3, 4, parameters for the codec as defined in 3GPP TS 26.103, if available, length depending on the codec.

iu-Supported-Codecs-List

This optional attribute is an instance of OM class **Supported-Codecs-List**. See [Section 5.4.1.177 \[Supported-Codecs-List\]](#), page 274.

rab-Configuration-Indicator

A Null value whose presence provides indication.

iu-Selected-Codec

Codec ::= OCTET STRING (SIZE(1..4)) The internal structure is defined as follows: octet 1, coded as codec identification code in 3GPP TS 26.103; octets 2, 3, 4, parameters for the codec as defined in 3GPP TS 26.103, if available, length depending on the codec.

alternative-Channel-Type

RadioResourceInformation ::= OCTET STRING (SIZE(3..13)) Octets are coded according to the Channel Type information element in 3GPP TS 48.008.

trace-Propagation-List

This optional attribute is an instance of OM class **Trace-Propagation-List**. See [Section 5.4.2.10 \[Trace-Propagation-List\]](#), page 301.

5.4.1.74 Forward-Check-SS-Indication-Arg

An instance of OM class **Forward-Check-SS-Indication-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*; it does not define any class-specific OM attributes.

5.4.1.75 GMLC-List

An instance of OM class **GMLC-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.123](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
gmlc	String(Address)	1-9	1-5	—

Table 5.123: *OM Attributes of OM Class GMLC-List*

This OM class contains the following class-specific OM attributes:

gmlc One to five instances of an ISDN Address String.

5.4.1.76 GPRS-Camel-TDP-Data-List

An instance of OM class **GPRS-Camel-TDP-Data-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.124](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
grps-Camel-TDP-Data	Object(GPRS-Camel-TDP-Data)	—	1-10	—

Table 5.124: *OM Attributes of OM Class GPRS-Camel-TDP-Data-List*

This OM class contains the following class-specific OM attributes:

gprs-Camel-TDP-Data

One to ten instances of OM Class **GPRS-Camel-TDP-Data**. See [Section 5.4.1.77 \[GPRS-Camel-TDP-Data\]](#), page 186.

5.4.1.77 GPRS-Camel-TDP-Data

An instance of OM class **GPRS-Camel-TDP-Data** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.125](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
gprs-Trigger-Detection-Point	Enum(GPRS-Trigger-Detection-Point)	—	1	—
service-Key	Integer	—	1	—
gsmSCF-Address	String(Address)	1-9	1	—
default-Session-Handling	Enum(Default-Session-Handling)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.125: OM Attributes of OM Class **GPRS-Camel-TDP-Data**

This OM class contains the following class-specific OM attributes:

gprs-Trigger-Detection-Point

An enumeration containing one of the following values:

attach ('MAP_T_ATTACH' '1')

attach-change-of-position

('MAP_T_ATTACH_CHANGE_OF_POSITION' '2')

pdp-context-establishment

('MAP_T_PDP_CONTEXT_ESTABLISHMENT' '11')

pdp-context-establishment-acknowledgement

('MAP_T_PDP_CONTEXT_ESTABLISHMENT_ACKNOWLEDGEMENT' '12')

pdp-context-change-of-position

('MAP_T_PDP_CONTEXT_CHANGE_OF_POSITION' '14')

service-Key

ServiceKey ::= INTEGER(0..2147483647)

gsmSCF-Address

An ISDN Address String.

default-Session-Handling

An enumeration containing one of the following values:

continue-transaction

('MAP_T_CONTINUE_TRANSACTION' '0')

release-transaction

('MAP_T_RELEASE_TRANSACTION' '1')

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.78 GPRS-CSI

An instance of OM class **GPRS-CSI** represents the corresponding GSM MAP information object. An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.126](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
gprs-Camel-TDP-Data-List	Object(GPRS-CAMEL-TDP-Data-List)	—	0-1	—
camel-Capability-Handling	Integer	1-16	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
notification-To-CSE	Null	—	0-1	—
csi-Active	Null	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.126: *OM Attributes of OM Class GPRS-CSI*

This OM class contains the following class-specific OM attributes:

gprs-Camel-TDP-Data-List

This optional attribute is an instance of OM class **GPRS-Camel-TDP-Data-List**. See [Section 5.4.1.76 \[GPRS-Camel-TDP-Data-List\]](#), page 185.

camel-Capability-Handling

CamelCapabilityHandling ::= INTEGER(1..16) Value 1, CAMEL phase 1; value 2, CAMEL phase 2; value 3, CAMEL phase 3; value 4, CAMEL phase 4. Reception of values greater than 4 shall be treated as CAMEL phase 4.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

notification-To-CSE

A Null value whose presence provides indication.

csi-Active

A Null value whose presence provides indication.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.79 GPRS-Data-List

An instance of OM class **GPRS-Data-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.127](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
pdp-Context	Object(PDP-Context)	—	1-50	—

Table 5.127: *OM Attributes of OM Class GPRS-Data-List*

This OM class contains the following class-specific OM attributes:

pdp-Context

One to fifty instances of OM Class **PDP-Context**. See [Section 5.4.1.131 \[PDP-Context\]](#), page 234.

5.4.1.80 GPRS-MS-Class

An instance of OM class **GPRS-MS-Class** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.128](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ms-Network-Capability	String(Octet)	1-8	1	—
ms-Radio-Access-Capability	String(Octet)	1-50	0-1	—

Table 5.128: OM Attributes of OM Class **GPRS-MS-Class**

This OM class contains the following class-specific OM attributes:

ms-Network-Capability

MSNetworkCapability ::= OCTET STRING (SIZE(1..8)) This parameter carries the value part of the MS Network Capability IE defined in 3GPP TS 24.008.

ms-Radio-Access-Capability

MSRadioAccessCapability ::= OCTET STRING (SIZE(1..50)) This parameter carries the value part of the MS Radio Access Capability IE defined in 3GPP TS 24.008.

5.4.1.81 GPRS-Subscription-Data

An instance of OM class **GPRS-Subscription-Data** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.129](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
complete-Data-List-Included	Null	—	0-1	—
gprs-Data-List	Object(GPRS-Data-List)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.129: OM Attributes of OM Class **GPRS-Subscription-Data**

This OM class contains the following class-specific OM attributes:

complete-Data-List-Included

A Null value whose presence provides indication.

gprs-Data-List

This attribute is an instance of OM class **GPRS-Data-List**. See [Section 5.4.1.79 \[GPRS-Data-List\]](#), page 187.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.82 GPRS-Subscription-Data-Withdraw

An instance of OM class **GPRS-Subscription-Data-Withdraw** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.130](#). This OM class represents a choice and exactly one instance of one attribute shall be present in an instance of this OM class.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
all-GPRS-Data	Null	—	0-1	—
context-Id-List	Object(Context-Id-List)	—	0-1	—

Table 5.130: *OM Attributes of OM Class GPRS-Subscription-Data-Withdraw*

This OM class contains the following class-specific OM attributes:

all-GPRS-Data

A Null value whose presence provides indication.

context-Id-List

This choice attribute is an instance of OM class **Context-Id-List**. See [Section 5.4.1.31 \[Context-Id-List\]](#), page 156.

5.4.1.83 GSM-Security-Context-Data

An instance of OM class **GSM-Security-Context-Data** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.131](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
kc	String(Octet)	8	1	—
cksn	String(Octet)	1	1	—
extension	Object(Extension)	—	0-1	—

Table 5.131: *OM Attributes of OM Class GSM-Security-Context-Data*

This OM class contains the following class-specific OM attributes:

kc KC ::= OCTET STRING (SIZE(8))

cksn Cksn ::= OCTET STRING (SIZE(1)) The internal structure is defined in 3GPP TS 24.008.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.84 Insert-Subscriber-Data-Arg

An instance of OM class **Insert-Subscriber-Data-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.132](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	0-1	—
<i>subscriber-Data</i>				
msisdn	String(Address)	1-9	0-1	—
category	String(Octet)	1	0-1	—
subscriber-Status	Enum(Subscriber-Status)	—	0-1	—
bearer-Service-List	Object(Bearer-Service-List)	—	0-1	—
teleservice-List	Object(Teleservice-List)	—	0-1	—
provisioned-SS	Object(Ext-SS-Info-List)	—	0-1	—
odb-Data	Object(ODB-Data)	—	0-1	—
roaming-Restriction	Null	—	0-1	—
regional-Subscription-Data	Object(Zone-Code-List)	—	0-1	—
vbs-Subscription-Data	Object(VBS-Data-List)	—	0-1	—
vgcs-Subscription-Data	Object(VGCS-Data-List)	—	0-1	—
vlr-Camel-Subscription-Info	Object(Vlr-Camel-Subscription-Info)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
naea-Preferred-CI	Object(NAEA-Preferred-CI)	—	0-1	—
gprs-Subscription-Data	Object(GPRS-Subscription-Data)	—	0-1	—
roaming-Restricted-In-Sgsn	Null	—	0-1	—
network-Access-Mode	Enum(Network-Access-Mode)	—	0-1	—
lsa-Information	Object(LSA-Information)	—	0-1	—
lmu-Indicator	Null	—	0-1	—
lcs-Information	Object(LCS-Information)	—	0-1	—
ist-Alert-Timer	Integer	15-255	0-1	—
super-Charger-Supported-In-HLR	String(Octet)	1-6	0-1	—
mc-SS-Info	Object(MC-SS-Info)	—	0-1	—
cs-Allocation-Retention-Priority	String(Octet)	1	0-1	—
sgsn-Camel-Subscription-Info	Object(SGSN-CAMEL-Subscription-Info)	—	0-1	—
charging-Characteristics	String(Octet)	2	0-1	—
access-Restriction-Data	String(Bit)	6	0-1	—
ics-Indicator	Boolean	—	0-1	—
eps-Subscription-Data	Object(EPS-Subscription-Data)	—	0-1	—
csg-Subscription-Data-List	Object(CSG-Subscription-Data-List)	—	0-1	—

Table 5.132: OM Attributes of OM Class **Insert-Subscriber-Data-Arg**

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

subscriber-Data

Components of subscriber data as follows:

<i>msisdn</i>	This attribute refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute has syntax <i>String(Address)</i> . See Section 5.3.1 [String(Address)] , page 101.
<i>category</i>	Category ::= OCTET STRING (SIZE(1)) The internal structure is defined in ITU-T Rec. Q.763.
<i>subscriber-Status</i>	An enumeration containing one of the following values: service-granted (‘MAP_T_SERVICE_GRANTED’ ‘0’) operator-determined-barring (‘MAP_T_OPERATOR_DETERMINED_BARRING’ ‘1’)
<i>bearer-Service-List</i>	This optional attribute is an instance of OM class Bearer-Service-List . See Section 5.4.1.19 [Bearer-Service-List] , page 146.
<i>teleservice-List</i>	This optional attribute is an instance of OM class Teleservice-List . See Section 5.4.1.184 [Teleservice-List] , page 278.
<i>provisioned-SS</i>	This optional attribute is an instance of OM class Ext-SS-Info-List . See Section 5.4.1.69 [Ext-SS-Info-List] , page 180.
<i>odb-Data</i>	This optional attribute is an instance of OM class ODB-Data . See Section 5.4.1.124 [ODB-Data] , page 226.
<i>roaming-Restriction-Due-To-Unsupported-Feature</i>	A Null value whose presence provides indication.
<i>regional-Subscription-Data</i>	This optional attribute is an instance of OM class Zone-Code-List . See Section 5.4.1.199 [Zone-Code-List] , page 291.
<i>vbs-Subscription-Data</i>	This optional attribute is an instance of OM class VBS-Data-List . See Section 5.4.1.193 [VBS-Data-List] , page 286.
<i>vgcs-Subscription-Data</i>	This optional attribute is an instance of OM class VGCS-Data-List . See Section 5.4.1.194 [VGCS-Data-List] , page 286.
<i>vlr-Camel-Subscription-Info</i>	This optional attribute is an instance of OM class Vlr-Camel-Subscription-Info . See Section 5.4.1.195 [Vlr-Camel-Subscription-Info] , page 286.
<i>extension-Container</i>	This optional attribute is an instance of OM class Extension-Container . See Section 5.3.19.6 [Extension-Container] , page 121.
<i>extension</i>	This optional attribute is an instance of OM class Extension . See Section 5.2.13 [Extension] , page 91.

naea-Preferred-CI

This optional attribute is an instance of OM class **NAEA-Preferred-CI**. See [Section 5.3.19.14 \[NAEA-Preferred-CI\]](#), page 126.

gprs-Subscription-Data

This optional attribute is an instance of OM class **GPRS-Subscription-Data**. See [Section 5.4.1.81 \[GPRS-Subscription-Data\]](#), page 188.

roaming-Restricted-In-Sgsn-Due-To-Unsupported-Feature

A Null value whose presence provides indication.

network-Access-Mode

An enumeration containing one of the following values:

packet-and-circuit

(‘MAP_T_PACKET_AND_CIRCUIT’ ‘0’)

only-circuit (‘MAP_T_ONLY_CIRCUIT’ ‘1’)

only-packet (‘MAP_T_ONLY_PACKET’ ‘2’)

lsa-Information

This optional attribute is an instance of OM class **LSA-Information**. See [Section 5.4.1.95 \[LSA-Information\]](#), page 205.

lmu-Indicator

A Null value whose presence provides indication.

lcs-Information

This optional attribute is an instance of OM class **LCS-Information**. See [Section 5.4.1.86 \[LCS-Information\]](#), page 197.

ist-Alert-Timer

IST-AlertTimerValue ::= INTEGER(15..255)

super-Charger-Supported-In-HLR

AgeIndicator ::= OCTET STRING (SIZE(1..6)) The internal structure of this parameter is implementation specific.

mc-SS-Info This optional attribute is an instance of OM class **MC-SS-Info**. See [Section 5.3.19.13 \[MC-SS-Info\]](#), page 125.

cs-Allocation-Retention-Priority

CS-AllocationRetentionPriority ::= OCTET STRING (SIZE(1)) This data type encodes each priority level defined in TS 23.107 as the binary value of the priority level.

sgsn-Camel-Subscription-Info

This optional attribute is an instance of OM class **SGSN-CAMEL-Subscription-Info**. See [Section 5.4.1.165 \[SGSN-CAMEL-Subscription-Info\]](#), page 264.

charging-Characteristics

ChargingCharacteristics ::= OCTET STRING (SIZE(2)) Octets are coded according to 3GPP TS 32.215.

access-Restriction-Data

A bit string containing zero or more of the following bits:

utran-not-allowed

(‘MAP_T_UTRAN_NOT_ALLOWED’ ‘0’)

geran-not-allowed
 ('MAP_T_GERAN_NOT_ALLOWED' '1')

gan-not-allowed
 ('MAP_T_GAN_NOT_ALLOWED' '2')

i-hspa-evolution-not-allowed
 ('MAP_T_I_HSPA_EVOLUTION_NOT_ALLOWED' '3')

e-utran-not-allowed
 ('MAP_T_E_UTRAN_NOT_ALLOWED' '4')

ho-to-non-3gpp-access-not-allowed
 ('MAP_T_HO_TO_NON_3GPP_ACCESS_NOT_ALLOWED' '5')

ics-Indicator

A boolean value indicator.

eps-Subscription-Data

This optional attribute is an instance of OM class **EPS-Subscription-Data**. See [Section 5.4.1.53 \[EPS-Subscription-Data\]](#), page 170.

csg-Subscription-Data-List

This optional attribute is an instance of OM class **CSG-Subscription-Data-List**. See [Section 5.4.1.32 \[CSG-Subscription-Data-List\]](#), page 156.

5.4.1.85 Insert-Subscriber-Data-Res

An instance of OM class **Insert-Subscriber-Data-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.133](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
teleservice-List	Object(Teleservice-List)	—	0-1	—
bearer-Service-List	Object(Bearer-Service-List)	—	0-1	—
ss-List	Object(SS-List)	—	0-1	—
odb-General-Data	String(Bit)	29	0-1	—
regional-Subscription-Response	Enum(Regional-Subscription-Response)	—	0-1	—
supported-Camel-Phases	String(Bit)	4	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
offered-Camel4-CSIs	String(Bit)	7	0-1	—
supported-Features	String(Bit)	4	0-1	—

Table 5.133: OM Attributes of OM Class **Insert-Subscriber-Data-Res**

This OM class contains the following class-specific OM attributes:

teleservice-List

This optional attribute is an instance of OM class **Teleservice-List**. See [Section 5.4.1.184 \[Teleservice-List\]](#), page 278.

bearer-Service-List

This optional attribute is an instance of OM class **Bearer-Service-List**. See [Section 5.4.1.19 \[Bearer-Service-List\]](#), page 146.

ss-List

This optional attribute is an instance of OM class **SS-List**. See [Section 5.4.4.40 \[SS-List\]](#), page 361.

odb-General-Data

A bit string containing zero or more of the following bits:

all-og-calls-barred

(‘MAP_T_ALL_OG_CALLS_BARRED’ ‘0’)

international-og-calls-barred

(‘MAP_T_INTERNATIONAL_OG_CALLS_BARRED’ ‘1’)

international-og-calls-not-to-hplmn-country-barred

(‘MAP_T_INTERNATIONAL_OG_CALLS_NOT_TO_HPLMN_COUNTRY_BARRED’ ‘2’)

interzonal-og-calls-barred

(‘MAP_T_INTERZONAL_OG_CALLS_BARRED’ ‘6’)

interzonal-og-calls-no-to-hplmn-country-barred

(‘MAP_T_INTERZONAL_OG_CALLS_NO_TO_HPLMN_COUNTRY_BARRED’ ‘7’)

interzonal-og-calls-and-international-og-calls-not-to-hplmn-country-barred

(‘MAP_T_INTERZONAL_OG_CALLS_AND_INTERNATIONAL_OG_CALLS_NOT_TO_HPLMN_COUNTRY_BARRED’ ‘8’)

premium-rate-information-og-calls-barred

(‘MAP_T_PREMIUM_RATE_INFORMATION_OG_CALLS_BARRED’ ‘3’)

premium-rate-entertainment-og-calls-barred

(‘MAP_T_PREMIUM_RATE_ENTERTAINMENT_OG_CALLS_BARRED’ ‘4’)

ss-access-barred

(‘MAP_T_SS_ACCESS_BARRED’ ‘5’)

all-ect-barred

(‘MAP_T_ALL_ECT_BARRED’ ‘9’)

chargeable-ect-barred

(‘MAP_T_CHARGEABLE_ECT_BARRED’ ‘10’)

international-ect-barred

(‘MAP_T_INTERNATIONAL_ECT_BARRED’ ‘11’)

interzonal-ect-barred

(‘MAP_T_INTERZONAL_ECT_BARRED’ ‘12’)

doubly-chargeable-ect-barred

(‘MAP_T_DOUBLY_CHARGEABLE_ECT_BARRED’ ‘13’)

multiple-ect-barred
('MAP_T_MULTIPLE_ECT_BARRED' '14')

all-packet-oriented-service-barred
('MAP_T_ALL_PACKET_ORIENTED_SERVICE_BARRED' '15')

roamer-access-to-hplmn-ap-barred
('MAP_T_ROAMER_ACCESS_TO_HPLMN_AP_BARRED' '16')

roamer-access-to-vplmn-ap-barred
('MAP_T_ROAMER_ACCESS_TO_VPLMN_AP_BARRED' '17')

roaming-outside-plmn-og-calls-barred
('MAP_T_ROAMING_OUTSIDE_PLMN_OG_CALLS_BARRED' '18')

all-ic-calls-barred
('MAP_T_ALL_IC_CALLS_BARRED' '19')

roaming-outside-plmn-ic-calls-barred
('MAP_T_ROAMING_OUTSIDE_PLMN_IC_CALLS_BARRED' '20')

roaming-outside-plmn-i-country-ic-calls-barred
('MAP_T_ROAMING_OUTSIDE_PLMN_I_COUNTRY_IC_CALLS_BARRED' '21')

roaming-outside-plmn-barred
('MAP_T_ROAMING_OUTSIDE_PLMN_BARRED' '22')

roaming-outside-plmn-country-barred
('MAP_T_ROAMING_OUTSIDE_PLMN_COUNTRY_BARRED' '23')

registration-all-cf-barred
('MAP_T_REGISTRATION_ALL_CF_BARRED' '24')

registration-cf-not-to-hplmn-barred
('MAP_T_REGISTRATION_CF_NOT_TO_HPLMN_BARRED' '25')

registration-interzonal-cf-barred
('MAP_T_REGISTRATION_INTERZONAL_CF_BARRED' '26')

registration-interzonal-cf-not-to-hplmn-barred
('MAP_T_REGISTRATION_INTERZONAL_CF_NOT_TO_HPLMN_BARRED' '27')

registration-interational-cf-barred
('MAP_T_REGISTRATION_INTERATIONAL_CF_BARRED' '28')

regional-Subscription-Response

An enumeration containing one of the following values:

network-node-area-restricted
('MAP_T_NETWORK_NODE_AREA_RESTRICTED' '0')

too-many-zone-codes
('MAP_T_TOO_MANY_ZONE_CODES' '1')

zone-codes-conflict
('MAP_T_ZONE_CODES_CONFLICT' '2')

regional-subsc-not-supported
('MAP_T_REGIONAL_SUBSC_NOT_SUPPORTED' '3')

supported-Camel-Phases

A bit string containing zero or more of the following bits:

phase-1 ('MAP_T_PHASE_1' '0')

phase-2 ('MAP_T_PHASE_2' '1')

phase-3 ('MAP_T_PHASE_3' '2')

phase-4 ('MAP_T_PHASE_4' '3')

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

offered-Camel4-CSIs

A bit string containing zero or more of the following bits:

o-csi ('MAP_T_O_CSI' '0')

d-csi ('MAP_T_D_CSI' '1')

vt-csi ('MAP_T_VT_CSI' '2')

t-csi ('MAP_T_T_CSI' '3')

mt-sms-csi ('MAP_T_MT_SMS_CSI' '4')

mg-csi ('MAP_T_MG_CSI' '5')

psi-enhancements
('MAP_T_PSI_ENHANCEMENTS' '6')

supported-Features

A bit string containing zero or more of the following bits:

odb-all ('MAP_T_ODB_ALL' '0')

odb-HPLMN-APN
('MAP_T_ODB_HPLMN_APN' '1')

odb-VPLMN-APN
('MAP_T_ODB_VPLMN_APN' '2')

reg-Sub ('MAP_T_REG_SUB' '3')

5.4.1.86 LCS-Information

An instance of OM class **LCS-Information** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.134](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
gmlc-List	Object(GMLC-List)	—	0-1	—
lcs-Privacy-Exception-List	Object(LCS-Privacy-Exception-List)	—	0-1	—
molr-List	Object(MOLR-List)	—	0-1	—
extension	Object(Extension)	—	0-1	—
add-Lcs-Privacy-Exception-List	Object(LCS-Privacy-Exception-List)	—	0-1	—

Table 5.134: OM Attributes of OM Class **LCS-Information**

This OM class contains the following class-specific OM attributes:

gmlc-List This optional attribute is an instance of OM class **GMLC-List**. See [Section 5.4.1.75 \[GMLC-List\]](#), page 185.

lcs-Privacy-Exception-List This optional attribute is an instance of OM class **LCS-Privacy-Exception-List**. See [Section 5.4.1.88 \[LCS-Privacy-Exception-List\]](#), page 199.

molr-List This optional attribute is an instance of OM class **MOLR-List**. See [Section 5.4.1.107 \[MOLR-List\]](#), page 214.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

add-Lcs-Privacy-Exception-List This optional attribute is an instance of OM class **LCS-Privacy-Exception-List**. See [Section 5.4.1.88 \[LCS-Privacy-Exception-List\]](#), page 199.

5.4.1.87 LCS-Privacy-Class

An instance of OM class **LCS-Privacy-Class** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.135](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	1	—
ss-Status	String(Octet)	1-5	1	—
notification-To-MS-User	Enum(Notification-To-MS-User)	—	0-1	—
external-Client-List	Object(External-Client-List)	—	0-1	—
plmn-Client-List	Object(PLMN-Client-List)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
ext-external-Client-List	Object(Ext-External-Client-List)	—	0-1	—
service-Type-List	Object(Service-Type-List)	—	0-1	—

Table 5.135: OM Attributes of OM Class **LCS-Privacy-Class**

This OM class contains the following class-specific OM attributes:

- ss-Code* **SS-Code** ::= OCTET STRING (SIZE(1))
- ss-Status* **Ext-SS-Status** ::= OCTET STRING(SIZE(1..5)) This parameter refers to the state information of individual supplementary services as defined in 3GPP TS 23.011. Octet 1, bits 8765, unused (0000); bits 4321, used to convey the “P bit”, “R bit”, “A bit” and “Q bit”, representing supplementary service state information as defined in 3GPP TS 23.011: bit 4, “Q bit”; bit 3, “P bit”; bit 2, “R bit”; bit 1, “A bit”; octets 2-5, reserved for future use. They shall be discarded if received and not understood.
- notification-To-MS-User*
An enumeration containing one of the following values:
- notify-location-allowed**
 ('MAP_T_NOTIFY_LOCATION_ALLOWED' '0')
- notify-and-verify-location-allowed-no-response**
 ('MAP_T_NOTIFY_AND_VERIFY_LOCATION_ALLOWED_NO_RESPONSE' '1')
- notify-and-verity-location-allowed-if-no-response**
 ('MAP_T_NOTIFY_AND_VERIFY_LOCATION_ALLOWED_IF_NO_RESPONSE' '2')
- location-not-allowed**
 ('MAP_T_LOCATION_NOT_ALLOWED' '3')
- external-Client-List*
This optional attribute is an instance of OM class **External-Client-List**. See [Section 5.4.1.60 \[External-Client-List\]](#), page 174.
- plmn-Client-List*
This optional attribute is an instance of OM class **PLMN-Client-List**. See [Section 5.4.1.132 \[PLMN-Client-List\]](#), page 235.
- extension-Container*
This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.
- extension* This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.
- ext-external-Client-List*
This optional attribute is an instance of OM class **Ext-External-Client-List**. See [Section 5.4.1.62 \[Ext-External-Client-List\]](#), page 175.
- service-Type-List*
This optional attribute is an instance of OM class **Service-Type-List**. See [Section 5.4.1.163 \[Service-Type-List\]](#), page 262.

5.4.1.88 LCS-Privacy-Exception-List

An instance of OM class **LCS-Privacy-Exception-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.136](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
lcs-Privacy-Class	Object(LCS-Privacy-Class)	—	1-4	—

Table 5.136: OM Attributes of OM Class **LCS-Privacy-Exception-List**

This OM class contains the following class-specific OM attributes:

lcs-Privacy-Class

One to four instances of OM Class **LCS-Privacy-Class**. See [Section 5.4.1.87 \[LCS-Privacy-Class\]](#), page 198.

5.4.1.89 Location-Area

An instance of OM class **Location-Area** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.137](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
lai-Fixed-Length	String(Octet)	5	1	—
lac	String(Octet)	2	1	—

Table 5.137: OM Attributes of OM Class **Location-Area**

This OM class contains the following class-specific OM attributes:

lai-Fixed-Length

LAIFixedLength = OCTET STRING(SIZE(5)) Refers to Location Area Identification defined in 3GPP TS 23.003. The internal structure is defined as follows: octet 1, bits 4321, mobile country code 1st digit; bits 8765, mobile country code 2nd digit; octet 2, bits 4321, mobile country code 3rd digit; 8765 mobile network code 3rd digit or filler (1111) for 2 digit MNCs; octet 3, bits 4321, mobile network code 1st digit; bits 8765, mobile network code 2nd digit; octets 4 and 5, location area code (LAC) according to 3GPP TS 24.008.

lac

LAC ::= OCTET STRING(SIZE(2)) Refers to Location Area Code of the Location Area Identification defined in 3GPP TS 23.003. Location Area Code according to 3GPP TS 24.008.

5.4.1.90 Location-Information-GPRS

An instance of OM class **Location-Information-GPRS** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.138](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
cell-Global-Id-Or-SAI-Or-LAI	Object(Cell-Global-Id-Or-SAI-Or-LAI)	—	0-1	—
routeing-Area-Identity	String(Octet)	6	0-1	—
geographical-Information	String(Octet)	8	0-1	—
sgsn-Number	String(Address)	1-9	0-1	—
selected-LSA-Identity	String(Octet)	3	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
sai-Present	Null	—	0-1	—
geodetic-Information	String(Octet)	10	0-1	—
current-Location-Retrieved	Null	—	0-1	—
age-Of-Location-Information	Integer	0-32767	0-1	—

Table 5.138: OM Attributes of OM Class **Location-Information-GPRS**

This OM class contains the following class-specific OM attributes:

cell-Global-Id-Or-Service-Area-Id-Or-LAI

This optional attribute is an instance of OM class **Cell-Global-Id-Or-Service-Area-Id-Or-LAI**. See [Section 5.3.19.3 \[Cell-Global-Id-Or-Service-Area-Id-Or-LAI\]](#), page 119.

routeing-Area-Identity

RAIdentity ::= OCTET STRING (SIZE(6)) Routing Area Identity is coded in accordance with 3GPP TS 29.060. It shall contain the value part defined in 3GPP TS 29.060 only. That is, the 3GPP TS 29.060 type identifier octet shall not be included.

geographical-Information

GeographicalInformation ::= OCTET STRING (SIZE(8)) Refers to geographical information defined in 3GPP TS 23.032. Only the description of an ellipsoid point with uncertainty circle as specified in 3GPP TS 23.032 is allowed to be used. The internal structure according to 3GPP TS 23.032 is as follows: 1 octet, type of shape (ellipsoid point with uncertainty circle), 3 octets, degrees of latitude, 3 octets degrees of longitude, 1 octet, uncertainty code.

sgsn-Number

This attribute refers to the ISDN number of an SGSN. An ISDN Address String containing the ISDN address of the SGSN.

selected-LSA-Identity

LSA-Identity ::= OCTET STRING (SIZE(3)) Octets are coded according to 3GPP TS 23.003.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

sai-Present

A Null value whose presence provides indication.

geodetic-Information

GeodeticInformation ::= OCTET STRING (SIZE(10)) Refers to calling geodetic location defined in ITU-T Recommendation Q.763 (1999). Only the description of an ellipsoid point with uncertainty circle as specified in Q.763 (1999) is allowed to be used. The internal structure according to Q.763 (1999) is as follows: 1 octet, screening and presence indicators, 1 octet, type of shape (ellipsoid point with uncertainty circle), 3 octets, degrees of latitude, 3 octets, degrees of longitude, 1 octet, uncertainty code, 1 octet, confidence.

current-Location-Retrieved

A Null value whose presence provides indication.

age-Of-Location-Information

AgeOfLocationInformation ::= INTEGER (0..32767) The value represents the elapsed time in minutes since the last network contact of the mobile station (i.e. the actuality of the location information). A value of '0' indicates that the MS is currently in contact with the network. A value of '32767' indicates that the location information is at least '32767' minutes old.

5.4.1.91 Location-Information

An instance of OM class **Location-Information** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.139](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
age-Of-Location-Information	Integer	0-32767	0-1	—
geographical-Information	String(Octet)	8	0-1	—
vlr-Number	String(Address)	1-9	0-1	—
location-Number	String(Octet)	2-10	0-1	—
cell-Global-Id-Or-SAI-Or-LAI	Object(Cell-Global-Id-Or-SAI-Or-LAI)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
selected-LSA-Id	String(Octet)	3	0-1	—
msc-Number	String(Address)	1-9	0-1	—
geodetic-Information	String(Octet)	10	0-1	—
current-Location-Retrieved	Null	—	0-1	—
sai-Present	Null	—	0-1	—

Table 5.139: *OM Attributes of OM Class Location-Information*

This OM class contains the following class-specific OM attributes:

age-Of-Location-Information

AgeOfLocationInformation ::= INTEGER (0..32767) The value represents the elapsed time in minutes since the last network contact of the mobile station (i.e. the actuality of the location information). A value of '0' indicates that the MS is currently in contact with the network. A value of '32767' indicates that the location information is at least '32767' minutes old.

geographical-Information

GeographicalInformation ::= OCTET STRING (SIZE(8)) Refers to geographical information defined in 3GPP TS 23.032. Only the description of an ellipsoid point with uncertainty circle as specified in 3GPP TS 23.032 is allowed to be used. The internal structure according to 3GPP TS 23.032 is as follows: 1 octet, type of shape (ellipsoid point with uncertainty circle), 3 octets, degrees of latitude, 3 octets degrees of longitude, 1 octet, uncertainty code.

vlr-Number

This attribute refers to the ISDN number of a VLR. An ISDN Address String containing the ISDN address of the VLR.

location-Number

LocationNumber ::= OCTET STRING (SIZE(2..10)) The internal structure is defined in ITU-T Rec. Q.763.

cell-Global-Id-Or-Service-Area-Id-Or-LAI

This optional attribute is an instance of OM class **Cell-Global-Id-Or-Service-Area-Id-Or-LAI**. See [Section 5.3.19.3 \[Cell-Global-Id-Or-Service-Area-Id-Or-LAI\]](#), page 119.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

selected-LSA-Id

LSA-Identity ::= OCTET STRING (SIZE(3)) Octets are coded according to 3GPP TS 23.003.

msc-Number

This attribute refers to the ISDN number of an MSC. An ISDN Address String containing the number of the MSC.

geodetic-Information

GeodeticInformation ::= OCTET STRING (SIZE(10)) Refers to calling geodetic location defined in ITU-T Recommendation Q.763 (1999). Only the description of an ellipsoid point with uncertainty circle as specified in Q.763 (1999) is allowed to be used. The internal structure according to Q.763 (1999) is as follows: 1 octet, screening and presence indicators, 1 octet, type of shape (ellipsoid point with uncertainty circle), 3 octets, degrees of latitude, 3 octets, degrees of longitude, 1 octet, uncertainty code, 1 octet, confidence.

current-Location-Retrieved

A Null value whose presence provides indication.

sai-Present

A Null value whose presence provides indication.

5.4.1.92 LSA-Data-List

An instance of OM class **LSA-Data-List** represents the corresponding GSM MAP information object. An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.140](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
lsa-Data	Object(LSA-Data)	—	1-20	—

Table 5.140: OM Attributes of OM Class **LSA-Data-List**

This OM class contains the following class-specific OM attributes:

lsa-Data One to twenty instances of of OM class **LSA-Data**. See [Section 5.4.1.93 \[LSA-Data\]](#), page 204.

5.4.1.93 LSA-Data

An instance of OM class **LSA-Data** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.141](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
lsa-Identity	String(Octet)	3	1	—
lsa-Attributes	String(Octet)	1	1	—
lsa-Active-Mode-Indicator	Null	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.141: OM Attributes of OM Class **LSA-Data**

This OM class contains the following class-specific OM attributes:

lsa-Identity **LSA-Identity ::= OCTET STRING (SIZE(3))** Octets are coded according to 3GPP TS 23.003.

lsa-Attributes

LSA-Attributes ::= OCTET STRING (SIZE(1)) Octets are coded according to 3GPP TS 48.008.

lsa-Active-Mode-Indicator

A Null value whose presence provides indication.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.94 LSA-Identity-List

An instance of OM class **LSA-Identity-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.142](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
lsa-Identity	String(Octet)	3	1-more	—

Table 5.142: OM Attributes of OM Class **LSA-Identity-List**

This OM class contains the following class-specific OM attributes:

lsa-Identity One to `maxNumOfLSAs` instances of an LSA-Identity. `LSA-Identity ::= OCTET STRING (SIZE(3))` Octets are coded according to 3GPP TS 23.003.

5.4.1.95 LSA-Information

An instance of OM class **LSA-Information** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 5.143.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
complete-Data-List-Included	Null	—	0-1	—
lsa-Only-Access-Indicator	Enum(LSA-Only-Access-Indicator)	—	0-1	—
lsa-Data-List	Object(LSA-Data-List)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.143: OM Attributes of OM Class **LSA-Information**

This OM class contains the following class-specific OM attributes:

complete-Data-List-Included

A Null value whose presence provides indication.

lsa-Only-Access-Indicator

An enumeration containing one of the following values:

access-outside-lsas-allowed

(‘MAP_T_ACCESS_OUTSIDE_LSAS_ALLOWED’ ‘0’)

access-outside-lsas-restricted

(‘MAP_T_ACCESS_OUTSIDE_LSAS_RESTRICTED’ ‘1’)

lsa-Data-List

This optional attribute is an instance of OM class **LSA-Data-List**. See Section 5.4.1.92 [LSA-Data-List], page 203.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See Section 5.3.19.6 [Extension-Container], page 121.

extension

This optional attribute is an instance of OM class **Extension**. See Section 5.2.13 [Extension], page 91.

5.4.1.96 LSA-Information-Withdraw

An instance of OM class **LSA-Information-Withdraw** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 5.144. This OM class represents a choice and exactly one instance of one attribute shall be present in an instance of this OM class.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
all-LSA-Data	Null	—	0-1	—
lsa-Identity-List	Object(LSA-Identity-List)	—	0-1	—

Table 5.144: OM Attributes of OM Class **LSA-Information-Withdraw**

This OM class contains the following class-specific OM attributes:

all-LSA-Data

A Null value whose presence provides indication.

lsa-Identity-List

This choice attribute is an instance of OM class **LSA-Identity-List**. See Section 5.4.1.94 [LSA-Identity-List], page 204.

5.4.1.97 M-CSI

An instance of OM class **M-CSI** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 5.145.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
mobility-Triggers	Object(Mobility-Triggers)	—	1—	—
service-Key	Integer	—	1	—
gsmSCF-Address	String(Address)	1-9	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
notification-To-CSE	Null	—	0-1	—
csi-Active	Null	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.145: OM Attributes of OM Class **M-CSI**

This OM class contains the following class-specific OM attributes:

mobility-Triggers

This attribute is an instance of OM class **Mobility-Triggers**. See Section 5.4.1.100 [Mobility-Triggers], page 209.

service-Key

`ServiceKey ::= INTEGER(0..2147483647)`

gsmSCF-Address

An ISDN Address String.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

notification-To-CSE

A Null value whose presence provides indication.

csi-Active A Null value whose presence provides indication.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.98 MG-CSI

An instance of OM class **MG-CSI** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.146](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
mobility-Triggers	Object(Mobility-Triggers)	—	1	—
service-Key	Integer	—	1	—
gsmSCF-Address	String(Address)	1-9	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
notification-To-CSE	Null	—	0-1	—
csi-Active	Null	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.146: *OM Attributes of OM Class MG-CSI*

This OM class contains the following class-specific OM attributes:

mobility-Triggers

This attribute is an instance of OM class **Mobility-Triggers**. See [Section 5.4.1.100 \[Mobility-Triggers\]](#), page 209.

service-Key

ServiceKey ::= INTEGER(0..2147483647)

gsmSCF-Address

An ISDN Address String.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

notification-To-CSE

A Null value whose presence provides indication.

csi-Active A Null value whose presence provides indication.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.99 MNP-Info-Res

An instance of OM class **MNP-Info-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.147](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
routeing-Number	String(TBCD)	1-5	0-1	—
imsi	String(TBCD)	3-8	0-1	—
msisdn	String(Address)	1-9	0-1	—
number-Portability-Status	Enum(Number-Portability-Status)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.147: OM Attributes of OM Class **MNP-Info-Res**

This OM class contains the following class-specific OM attributes:

routeing-Number

`RouteingNumber ::= TBCD-STRING(SIZE(1..5))`

imsi

This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\], page 83](#)) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

msisdn

This attribute refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\], page 101](#).

number-Portability-Status

An enumeration containing one of the following values:

not-known-to-be-portcd

`('MAP_T_NOT_KNOWN_TO_BE_PORTCD' '0')`

own-number-portcd-out

`('MAP_T_OWN_NUMBER_PORTCD_OUT' '1')`

foreign-number-portcd-to-foreign-network

`('MAP_T_FOREIGN_NUMBER_PORTCD_TO_FOREIGN_NETWORK' '2')`

own-number-not-portcd-out

`('MAP_T_OWN_NUMBER_NOT_PORTCD_OUT' '4')`

foreign-number-portcd-in

`('MAP_T_FOREIGN_NUMBER_PORTCD_IN' '5')`

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\], page 121](#).

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.100 Mobility-Triggers

An instance of OM class **Mobility-Triggers** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.148](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
mm-Code	String(Octet)	1	1-10	—

Table 5.148: OM Attributes of OM Class **Mobility-Triggers**

This OM class contains the following class-specific OM attributes:

mm-Code One to ten (`maxNumOfMobilityTriggers`) instances of a MM-code. `MM-Code ::= OCTET STRING (SIZE(1))`

5.4.1.101 Modification-Request-For-CB-Info

An instance of OM class **Modification-Request-For-CB-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.149](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	1	—
basic-Service	Object(Ext-Basic-Service-Code)	—	0-1	—
ss-Status	String(Octet)	1-5	0-1	—
password	String(Numeric)	4	0-1	—
wrong-Password-Attempts-Counter	Integer	0-4	0-1	—
modify-Notification-To-CSE	Enum(Modification-Instruction)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.149: OM Attributes of OM Class **Modification-Request-For-CB-Info**

This OM class contains the following class-specific OM attributes:

ss-Code `SS-Code ::= OCTET STRING (SIZE(1))`

basic-Service

This optional attribute is an instance of OM class **Ext-Basic-Service-Code**. See [Section 5.3.19.5 \[Ext-Basic-Service-Code\]](#), page 120.

ss-Status `Ext-SS-Status ::= OCTET STRING(SIZE(1..5))` This parameter refers to the state information of individual supplementary services as defined in 3GPP TS 23.011. Octet

1, bits 8765, unused (0000); bits 4321, used to convey the “P bit”, “R bit”, “A bit” and “Q bit”, representing supplementary service state information as defined in 3GPP TS 23.011: bit 4, “Q bit”; bit 3, “P bit”; bit 2, “R bit”; bit 1, “A bit”; octets 2-5, reserved for future use. They shall be discarded if received and not understood.

password Password ::= NumericString (FROM (0|1|2|3|4|5|6|7|8|9)) (SIZE(4))

wrong-Password-Attempts-Counter

WrongPasswordAttemptsCounter ::= INTEGER(0..4)

modify-Notification-To-CSE

An enumeration containing one of the following values:

deactivate ('MAP_T_DEACTIVATE' '0')

activate ('MAP_T_ACTIVATE' '1')

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.102 Modification-Request-For-CF-Info

An instance of OM class **Modification-Request-For-CF-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.150](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	1	—
basic-Service	Object(Ext-Basic-Service-Code)	—	0-1	—
ss-Status	String(Octet)	1-5	0-1	—
forwarded-To-Number	String(Address)	1-20	0-1	—
forwarded-To-Subaddress	String(Subaddress)	1-21	0-1	—
no-Reply-Condition-Time	Integer	1-100	0-1	—
modify-Notification-To-CSE	Enum(Modification-Instruction)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.150: OM Attributes of OM Class **Modification-Request-For-CF-Info**

This OM class contains the following class-specific OM attributes:

ss-Code SS-Code ::= OCTET STRING (SIZE(1))

basic-Service

This optional attribute is an instance of OM class **Ext-Basic-Service-Code**. See [Section 5.3.19.5 \[Ext-Basic-Service-Code\]](#), page 120.

ss-Status Ext-SS-Status ::= OCTET STRING(SIZE(1..5)) This parameter refers to the state information of individual supplementary services as defined in 3GPP TS 23.011. Octet

1, bits 8765, unused (0000); bits 4321, used to convey the “P bit”, “R bit”, “A bit” and “Q bit”, representing supplementary service state information as defined in 3GPP TS 23.011: bit 4, “Q bit”; bit 3, “P bit”; bit 2, “R bit”; bit 1, “A bit”; octets 2-5, reserved for future use. They shall be discarded if received and not understood.

forwarded-To-Number

An address string.

forwarded-To-Subaddress

An ISDN subaddress string.

no-Reply-Condition-Time

Ext-NoRepCondTime ::= INTEGER(1..100) Only values 5-30 are used. Values in the range 1-4 and 31-100 are reserved for future use. If received, values 1-4 shall be mapped onto value 5 and values 31-100 shall be mapped onto value 30.

modify-Notification-To-CSE

An enumeration containing one of the following values:

deactivate ('MAP_T_DEACTIVATE' '0')

activate ('MAP_T_ACTIVATE' '1')

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.103 Modification-Request-For-CSI

An instance of OM class **Modification-Request-for-CSI** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.151](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
req-Camel-Subscription-Info	Enum(Req-CAMEL-Sub-Info)	—	1	—
modify-Notification-To-CSE	Enum(Modification-Instruction)	—	0-1	—
modify-CSI-State	Enum(Modification-Instruction)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
add-Req-Camel-Subscription-Info	Enum(Add-Req-CAMEL-Sub-Info)	—	0-1	—

Table 5.151: OM Attributes of OM Class **Modification-Request-for-CSI**

This OM class contains the following class-specific OM attributes:

requested-Camel-Subscription-Info

An enumeration containing one of the following values:

o-csi ('MAP_T_O_CSI' '0')

t-csi ('MAP_T_T_CSI' '1')

vt-csi ('MAP_T_VT_CSI' '2')

tif-csi ('MAP_T_TIF_CSI' '3')

grps-csi ('MAP_T_GPRS_CSI' '4')

mo-sms-csi ('MAP_T_MO_SMS_CSI' '5')

ss-csi ('MAP_T_SS_CSI' '6')

m-csi ('MAP_T_M_CSI' '7')

d-csi ('MAP_T_D_CSI' '8')

modify-Notification-To-CSE

An enumeration containing one of the following values:

deactivate ('MAP_T_DEACTIVATE' '0')

activate ('MAP_T_ACTIVATE' '1')

modify-CSI-State

An enumeration containing one of the following values:

deactivate ('MAP_T_DEACTIVATE' '0')

activate ('MAP_T_ACTIVATE' '1')

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

additional-Requested-Camel-Subscription-Info

An enumeration containing one of the following values:

mt-sms-csi ('MAP_T_MT_SMS_CSI' '0')

mg-csi ('MAP_T_MG_CSI' '1')

o-im-csi ('MAP_T_O_IM_CSI' '2')

d-im-csi ('MAP_T_D_IM_CSI' '3')

vt-im-csi ('MAP_T_VT_IM_CSI' '4')

5.4.1.104 Modification-Request-For-IP-SM-GW-Data

An instance of OM class **Modification-Request-For-IP-SM-GW-Data** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.152](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
modify-Registration-Status	Enum(Modification-Instruction)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.152: OM Attributes of OM Class **Modification-Request-For-IP-SM-GW-Data**

This OM class contains the following class-specific OM attributes:

modify-Registration-Status

deactivate ('MAP_T_DEACTIVATE' '0')

activate ('MAP_T_ACTIVATE' '1')

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.105 Modification-Request-For-ODB-Data

An instance of OM class **Modification-Request-For-ODB-Data** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.153](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
odb-Data	Object(ODB-Data)	—	0-1	—
modify-Notification-To-CSE	Enum(Modification-Instruction)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.153: OM Attributes of OM Class **Modification-Request-For-ODB-Data**

This OM class contains the following class-specific OM attributes:

odb-Data This optional attribute is an instance of OM class **ODB-Data**. See [Section 5.4.1.124 \[ODB-Data\]](#), page 226.

modify-Notification-To-CSE

An enumeration containing one of the following values:

deactivate ('MAP_T_DEACTIVATE' '0')

activate ('MAP_T_ACTIVATE' '1')

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.106 MOLR-Class

An instance of OM class **MOLR-Class** represents the corresponding GSM MAP information object. An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.154](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	1	—
ss-Status	String(Octet)	1-5	—	1
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.154: OM Attributes of OM Class **MOLR-Class**

This OM class contains the following class-specific OM attributes:

ss-Code SS-Code ::= OCTET STRING (SIZE(1))

ss-Status Ext-SS-Status ::= OCTET STRING(SIZE(1..5)) This parameter refers to the state information of individual supplementary services as defined in 3GPP TS 23.011. Octet 1, bits 8765, unused (0000); bits 4321, used to convey the “P bit”, “R bit”, “A bit” and “Q bit”, representing supplementary service state information as defined in 3GPP TS 23.011: bit 4, “Q bit”; bit 3, “P bit”; bit 2, “R bit”; bit 1, “A bit”; octets 2-5, reserved for future use. They shall be discarded if received and not understood.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.107 MOLR-List

An instance of OM class **MOLR-List** represents the corresponding GSM MAP information object. An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.155](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
molr-Class	Object(MOLR-Class)	—	1-3	—

Table 5.155: OM Attributes of OM Class **MOLR-List**

This OM class contains the following class-specific OM attributes:

molr-Class One to three instances of OM class **MOLR-Class**. See [Section 5.4.1.106 \[MOLR-Class\]](#), page 214.

5.4.1.108 MSISDN-BS-List

An instance of OM class **MSISDN-BS-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.156](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
msisdn-BS	Object(MSISDN-BS)	—	1-50	—

Table 5.156: *OM Attributes of OM Class MSISDN-BS-List*

This OM class contains the following class-specific OM attributes:

msisdn-BS One to fifty (`maxNumOfMSISDN`) instances of OM class **MSISDN-BS**. See [Section 5.4.1.109 \[MSISDN-BS\]](#), page 215.

5.4.1.109 MSISDN-BS

An instance of OM class **MSISDN-BS** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.157](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
msisdn	String(Address)	1-9	1	—
basic-Service-List	Object(Basic-Service-List)	—;0-1	—	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.157: *OM Attributes of OM Class MSISDN-BS*

This OM class contains the following class-specific OM attributes:

msisdn This attribute refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

basic-Service-List

This optional attribute is an instance of OM class **Basic-Service-List**. See [Section 5.4.1.18 \[Basic-Service-List\]](#), page 146.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.110 MT-SMS-CAMEL-TDP-Criteria-List

An instance of OM class **MT-SMS-CAMEL-TDP-Criteria-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.158](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
mt-Sms-Camel-TDP-Criteria	Object(MT-SMS-CAMEL-TDP-Criteria)	—	1-10	—

Table 5.158: *OM Attributes of OM Class MT-SMS-CAMEL-TDP-Criteria-List*

This OM class contains the following class-specific OM attributes:

mt-Sms-Camel-TDP-Criteria

One to ten (`maxNumOfCamelTDPData`) instances of OM class **MT-SMS-CAMEL-TDP-Criteria**. See [Section 5.4.1.111 \[MT-SMS-CAMEL-TDP-Criteria\]](#), page 216.

5.4.1.111 MT-SMS-CAMEL-TDP-Criteria

An instance of OM class **MT-SMS-CAMEL-TDP-Criteria** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.159](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
sms-Trigger-Detection-Point	Enum(SMS-Trigger-Detection-Point)	—	1	—
tpdu-Type-Criterion	Object(TPDU-Type-Criterion)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.159: *OM Attributes of OM Class MT-SMS-CAMEL-TDP-Criteria*

This OM class contains the following class-specific OM attributes:

sms-Trigger-Detection-Point

An enumeration containing one of the following values:

sms-collected-info

(‘MAP_T_SMS_COLLECTED_INFO’ ‘1’)

sms-delivery-request

(‘MAP_T_SMS_DELIVERY_REQUEST’ ‘2’)

tpdu-Type-Criterion

This optional attribute is an instance of OM class **TPDU-Type-Criterion**. See [Section 5.4.1.185 \[TPDU-Type-Criterion\]](#), page 279.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.112 Note-MM-Event-Arg

An instance of OM class **Note-MM-Event-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.160](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
service-Key	Integer	—	1	—
event-Met	String(Octet)	1	1	—
imsi	String(TBCD)	3-8	1	—
msisdn	String(Address)	1-9	1	—
supported-Camel-Phases	String(Bit)	4	0-1	—
location-Information	Object(Location-Information)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
location-Information-GPRS	Object(Location-Information-GPRS)	—	0-1	—
offered-Camel4-Functionalities	String(Bit)	20	0-1	—

Table 5.160: OM Attributes of OM Class **Note-MM-Event-Arg**

This OM class contains the following class-specific OM attributes:

service-Key

ServiceKey ::= INTEGER(0..2147483647)

event-Met **MM-Code** ::= OCTET STRING (SIZE(1))

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

msisdn This attribute refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

location-Information

This optional attribute is an instance of OM class **Location-Information**. See [Section 5.4.1.91 \[Location-Information\]](#), page 202. A bit string containing zero or more of the following bits:

supported-Camel-Phases

phase-1 ('MAP_T_PHASE_1' '0')

phase-2 ('MAP_T_PHASE_2' '1')

phase-3 ('MAP_T_PHASE_3' '2')

phase-4 ('MAP_T_PHASE_4' '3')

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

location-Information-GPRS

This optional attribute is an instance of OM class **Location-Information-GPRS**. See [Section 5.4.1.90 \[Location-Information-GPRS\]](#), page 200.

offered-Camel4-Functionalities

A bit string containing zero or more of the following bits:

initiate-call-attempt

(‘MAP_T_INITIATE_CALL_ATTEMPT’ ‘0’)

split-leg

(‘MAP_T_SPLIT_LEG’ ‘1’)

move-leg

(‘MAP_T_MOVE_LEG’ ‘2’)

disconnect-leg

(‘MAP_T_DISCONNECT_LEG’ ‘3’)

entity-released

(‘MAP_T_ENTITY_RELEASED’ ‘4’)

dfc-with-argument

(‘MAP_T_DFS_WITH_ARGUMENT’ ‘5’)

play-tone

(‘MAP_T_PLAY_TONE’ ‘6’)

dtmf-midcall

(‘MAP_T_DTMF_MIDCALL’ ‘7’)

charging-indicator

(‘MAP_T_CHARGING_INDICATOR’ ‘8’)

altering-dp

(‘MAP_T_ALERTING_DP’ ‘9’)

location-at-alerting

(‘MAP_T_LOCATION_AT_ALERTING’ ‘10’)

change-of-position-dp

(‘MAP_T_CHANGE_OF_POSITION_DP’ ‘11’)

or-interactions

(‘MAP_T_OR_INTERACTIONS’ ‘12’)

warning-tone-enhancements

(‘MAP_T_WARNING_TONE_ENHANCEMENTS’ ‘13’)

cf-enhancements

(‘MAP_T_CF_ENHANCEMENTS’ ‘14’)

subscribed-enhanced-dialled-services

(‘MAP_T_SUBSCRIBED_ENHANCED_DIALLED_SERVICES’ ‘15’)

serving-network-enhanced-dialled-services

(‘MAP_T_SERVING_NETWORK_ENHANCED_DIALLED_SERVICES’ ‘16’)

criteria-for-change-of-position-dp

('MAP_T_CRITERIA_FOR_CHANGE_OF_POSITION_DP' '17')

service-change-dp

('MAP_T_SERVICE_CHANGE_DP' '18')

collect-information

('MAP_T_COLLECT_INFORMATION' '19')

5.4.1.113 Note-MM-Event-Res

An instance of OM class **Note-MM-Event-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.161](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.161: OM Attributes of OM Class **Note-MM-Event-Res**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\], page 121](#).

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\], page 91](#).

5.4.1.114 Note-Ms-Present-For-Gprs-Arg

An instance of OM class **Note-Ms-Present-For-Gprs-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.162](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	1	—
sgsn-Address	String(Octet)	5-17	1	—
ggsn-Address	String(Octet)	5-17	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.162: OM Attributes of OM Class **Note-Ms-Present-For-Gprs-Arg**

This OM class contains the following class-specific OM attributes:

- imsi* This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.
- sgsn-Address* GSN-Address ::= OCTET STRING(SIZE(5..17)) Octets are coded according to 3GPP TS 23.003.
- ggsn-Address* GSN-Address ::= OCTET STRING(SIZE(5..17)) Octets are coded according to 3GPP TS 23.003.
- extension-Container* This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.
- extension* This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.115 Note-Ms-Present-For-Gprs-Res

An instance of OM class **Note-Ms-Present-For-Gprs-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.163](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.163: OM Attributes of OM Class **Note-Ms-Present-For-Gprs-Res**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.116 Note-Subscriber-Data-Modified-Arg

An instance of OM class **Note-Subscriber-Data-Modified-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.164](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
<i>imsi</i>	String(TBCD)	3-8	1	—
<i>msisdn</i>	String(Address)	1-9	1	—
<i>forwarding-Info-For-CSE</i>	Object(Ext-Forwarding-Info-For-CSE)	—	0-1	—
<i>call-Barring-Info-For-CSE</i>	Object(Ext-Call-Barring-Info-For-CSE)	—	0-1	—
<i>odb-Info</i>	Object(ODB-Info)	—	0-1	—
<i>camel-Subscription-Info</i>	Object(CAMEL-Subscription-Info)	—	0-1	—
<i>all-Information-Sent</i>	Null	—	0-1	—
<i>extension-Container</i>	Object(Extension-Container)	—	0-1	—
<i>extension</i>	Object(Extension)	—	0-1	—

Table 5.164: OM Attributes of OM Class **Note-Subscriber-Data-Modified-Arg**

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

msisdn This attribute refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

forwarding-Info-For-CSE

This optional attribute is an instance of OM class **Ext-Forwarding-Info-For-CSE**. See [Section 5.4.1.63 \[Ext-Forwarding-Info-For-CSE\]](#), page 176.

call-Barring-Info-For-CSE

This optional attribute is an instance of OM class **Ext-Call-Barring-Info-For-CSE**. See [Section 5.4.1.59 \[Ext-Call-Barring-Info-For-CSE\]](#), page 173.

odb-Info This optional attribute is an instance of OM class **ODB-Info**. See [Section 5.4.1.125 \[ODB-Info\]](#), page 229.

camel-Subscription-Info

This optional attribute is an instance of OM class **CAMEL-Subscription-Info**. See [Section 5.4.1.24 \[CAMEL-Subscription-Info\]](#), page 149.

all-Information-Sent

A Null value whose presence provides indication.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.117 Note-Subscriber-Data-Modified-Res

An instance of OM class **Note-Subscriber-Data-Modified-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.165](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.165: *OM Attributes of OM Class Note-Subscriber-Data-Modified-Res*

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.118 O-Bcsm-Camel-TDP-Criteria-List

An instance of OM class **O-Bcsm-Camel-TDP-Criteria-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.166](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
o-Bcsm-Camel-TDP-Criteria	Object(O-Bcsm-Camel-TDP-Criteria)	—	1-10	—

Table 5.166: *OM Attributes of OM Class O-Bcsm-Camel-TDP-Criteria-List*

This OM class contains the following class-specific OM attributes:

o-Bcsm-Camel-TDP-Criteria

One to ten (`maxNumOfCamelTDPData`) instances of OM class **O-Bcsm-Camel-TDP-Criteria**. See [Section 5.4.1.119 \[O-Bcsm-Camel-TDP-Criteria\]](#), page 223.

5.4.1.119 O-Bcsm-Camel-TDP-Criteria

An instance of OM class **O-Bcsm-Camel-TDP-Criteria** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.167](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
o-Bcsm-Trigger-Detection-Point	Enum(O-Bcsm-Trigger-Detection-Point)	—	1	—
destination-Number-Criteria	Object(Destination-Number-Criteria)	—	0-1	—
basic-Service-Criteria	Object(Basic-Service-Criteria)	—	0-1	—
call-Type-Criteria	Enum(Call-Type-Criteria)	—	0-1	—
extension	Object(Extension)	—	0-1	—
o-Cause-Value-Criteria	Object(O-Cause-Value-Criteria)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—

Table 5.167: OM Attributes of OM Class **O-Bcsm-Camel-TDP-Criteria**

This OM class contains the following class-specific OM attributes:

o-Bcsm-Trigger-Detection-Point

An enumeration containing one of the following values:

collected-info

(‘MAP_T_COLLECTED_INFO’ ‘2’)

route-select-failure

(‘MAP_T_ROUTE_SELECT_FAILURE’ ‘4’)

destination-Number-Criteria

This optional attribute is an instance of OM class **Destination-Number-Criteria**. See [Section 5.4.1.43 \[Destination-Number-Criteria\]](#), page 165.

basic-Service-Criteria

This optional attribute is an instance of OM class **Basic-Service-Criteria**. See [Section 5.4.1.17 \[Basic-Service-Criteria\]](#), page 145.

call-Type-Criteria

An enumeration containing one of the following values:

forwarded (‘MAP_T_FORWARDED’ ‘0’)

not-forwarded

(‘MAP_T_NOT_FORWARDED’ ‘1’)

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

o-Cause-Value-Criteria

This optional attribute is an instance of OM class **O-Cause-Value-Criteria**. See [Section 5.4.1.122 \[O-Cause-Value-Criteria\]](#), page 225.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

5.4.1.120 O-Bcsm-Camel-TDP-Data-List

An instance of OM class **O-Bcsm-Camel-TDP-Data-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.168](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
o-Bcsm-Camel-TDP-Data	Object(O-Bcsm-Camel-TDP-Data)	—	1-10	—

Table 5.168: *OM Attributes of OM Class O-Bcsm-Camel-TDP-Data-List*

This OM class contains the following class-specific OM attributes:

o-Bcsm-Camel-TDP-Data

One to ten (`maxNumOfCamelTDPData`) instances of OM class **O-Bcsm-Camel-TDP-Data**. See [Section 5.4.1.121 \[O-Bcsm-Camel-TDP-Data\]](#), page 224.

5.4.1.121 O-Bcsm-Camel-TDP-Data

An instance of OM class **O-Bcsm-Camel-TDP-Data** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.169](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
o-Bcsm-Trigger-Detection-Point	Enum(O-Bcsm-Trigger-Detection-Point)	—	1	—
service-Key	Integer	—	1	—
gsmSCF-Address	String(Address)	1-9	1	—
default-Call-Handling	Enum(Default-Call-Handling)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.169: *OM Attributes of OM Class O-Bcsm-Camel-TDP-Data*

This OM class contains the following class-specific OM attributes:

o-Bcsm-Trigger-Detection-Point

An enumeration containing one of the following values:

collected-info

(‘MAP_T_COLLECTED_INFO’ ‘2’)

route-select-failure

('MAP_T_ROUTE_SELECT_FAILURE' '4')

service-Key

ServiceKey ::= INTEGER(0..2147483647)

gsmSCF-Address

An ISDN Address String.

default-Call-Handling

An enumeration containing one of the following values:

continue-call

('MAP_T_CONTINUE_CALL' '0')

release-call

('MAP_T_RELEASE_CALL' '1')

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.122 O-Cause-Value-Criteria

An instance of OM class **O-Cause-Value-Criteria** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.170](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
cause-Value	String(Octet)	1	1-5	—

Table 5.170: OM Attributes of OM Class **O-Cause-Value-Criteria**

This OM class contains the following class-specific OM attributes:

cause-Value

One to five (`maxNumOfCAMEL-O-CauseValueCriteria`) instances of a cause value. `CauseValue ::= OCTET STRING (SIZE(1))` Type extracted from Cause parameter in ITU-T Recommendation Q.763. For the use of cause value refer to ITU-T Recommendation Q.850.

5.4.1.123 O-CSI

An instance of OM class **O-CSI** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.171](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
o-Bcsm-Camel-TDP-Data-List	Object(O-Bcsm-Camel-TDP-Data-List)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
camel-Capability-Handling	Integer	1-16	0-1	—
notification-To-CSE	Null	—	0-1	—
csi-Active	Null	—	0-1	—

Table 5.171: OM Attributes of OM Class **O-CSI**

This OM class contains the following class-specific OM attributes:

o-Bcsm-Camel-TDP-Data-List

This optional attribute is an instance of OM class **O-Bcsm-Camel-TDP-Data-List**. See [Section 5.4.1.120 \[O-Bcsm-Camel-TDP-Data-List\]](#), page 224.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

camel-Capability-Handling

CamelCapabilityHandling ::= INTEGER(1..16) Value 1, CAMEL phase 1; value 2, CAMEL phase 2; value 3, CAMEL phase 3; value 4, CAMEL phase 4. Reception of values greater than 4 shall be treated as CAMEL phase 4.

notification-To-CSE

A Null value whose presence provides indication.

csi-Active A Null value whose presence provides indication.

5.4.1.124 ODB-Data

An instance of OM class **ODB-Data** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.172](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
odb-General-Data	String(Bit)	29	1	—
odb-HPLMN-Data	String(bit)	4	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.172: OM Attributes of OM Class **ODB-Data**

This OM class contains the following class-specific OM attributes:

odb-General-Data

A bit string containing zero or more of the following bits:

all-og-calls-barred

(‘MAP_T_ALL_OG_CALLS_BARRED’ ‘0’)

international-og-calls-barred

(‘MAP_T_INTERNATIONAL_OG_CALLS_BARRED’ ‘1’)

international-og-calls-not-to-hplmn-country-barred

(‘MAP_T_INTERNATIONAL_OG_CALLS_NOT_TO_HPLMN_COUNTRY_BARRED’
‘2’)

interzonal-og-calls-barred

(‘MAP_T_INTERZONAL_OG_CALLS_BARRED’ ‘6’)

interzonal-og-calls-no-to-hplmn-country-barred

(‘MAP_T_INTERZONAL_OG_CALLS_NO_TO_HPLMN_COUNTRY_BARRED’ ‘7’)

interzonal-og-calls-and-international-og-calls-not-to-hplmn-country-barred

(‘MAP_T_INTERZONAL_OG_CALLS_AND_INTERNATIONAL_OG_CALLS_NOT_TO_HPLMN_COUNTRY_BARRED’
‘8’)

premium-rate-information-og-calls-barred

(‘MAP_T_PREMIUM_RATE_INFORMATION_OG_CALLS_BARRED’ ‘3’)

premium-rate-entertainment-og-calls-barred

(‘MAP_T_PREMIUM_RATE_ENTERTAINMENT_OG_CALLS_BARRED’ ‘4’)

ss-access-barred

(‘MAP_T_SS_ACCESS_BARRED’ ‘5’)

all-ect-barred

(‘MAP_T_ALL_ECT_BARRED’ ‘9’)

chargeable-ect-barred

(‘MAP_T_CHARGEABLE_ECT_BARRED’ ‘10’)

international-ect-barred

(‘MAP_T_INTERNATIONAL_ECT_BARRED’ ‘11’)

interzonal-ect-barred

(‘MAP_T_INTERZONAL_ECT_BARRED’ ‘12’)

doubly-chargeable-ect-barred

(‘MAP_T_DOUBLY_CHARGEABLE_ECT_BARRED’ ‘13’)

multiple-ect-barred

(‘MAP_T_MULTIPLE_ECT_BARRED’ ‘14’)

all-packet-oriented-service-barred

(‘MAP_T_ALL_PACKET_ORIENTED_SERVICE_BARRED’ ‘15’)

roamer-access-to-hplmn-ap-barred

(‘MAP_T_ROAMER_ACCESS_TO_HPLMN_AP_BARRED’ ‘16’)

roamer-access-to-vplmn-ap-barred

(‘MAP_T_ROAMER_ACCESS_TO_VPLMN_AP_BARRED’ ‘17’)

roaming-outside-plmn-og-calls-barred
 ('MAP_T_ROAMING_OUTSIDE_PLMN_OG_CALLS_BARRED' '18')

all-ic-calls-barred
 ('MAP_T_ALL_IC_CALLS_BARRED' '19')

roaming-outside-plmn-ic-calls-barred
 ('MAP_T_ROAMING_OUTSIDE_PLMN_IC_CALLS_BARRED' '20')

roaming-outside-plmn-i-country-ic-calls-barred
 ('MAP_T_ROAMING_OUTSIDE_PLMN_I_COUNTRY_IC_CALLS_BARRED' '21')

roaming-outside-plmn-barred
 ('MAP_T_ROAMING_OUTSIDE_PLMN_BARRED' '22')

roaming-outside-plmn-country-barred
 ('MAP_T_ROAMING_OUTSIDE_PLMN_COUNTRY_BARRED' '23')

registration-all-cf-barred
 ('MAP_T_REGISTRATION_ALL_CF_BARRED' '24')

registration-cf-not-to-hplmn-barred
 ('MAP_T_REGISTRATION_CF_NOT_TO_HPLMN_BARRED' '25')

registration-interzonal-cf-barred
 ('MAP_T_REGISTRATION_INTERZONAL_CF_BARRED' '26')

registration-interzonal-cf-not-to-hplmn-barred
 ('MAP_T_REGISTRATION_INTERZONAL_CF_NOT_TO_HPLMN_BARRED' '27')

registration-interational-cf-barred
 ('MAP_T_REGISTRATION_INTERATIONAL_CF_BARRED' '28')

odb-HPLMN-Data

A bit string containing zero or more of the following bits:

plmn-specific-barring-type1
 ('MAP_T_PLMN_SPECIFIC_BARRING_TYPE1' '0')

plmn-specific-barring-type2
 ('MAP_T_PLMN_SPECIFIC_BARRING_TYPE2' '1')

plmn-specific-barring-type3
 ('MAP_T_PLMN_SPECIFIC_BARRING_TYPE3' '2')

plmn-specific-barring-type4
 ('MAP_T_PLMN_SPECIFIC_BARRING_TYPE4' '3')

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.125 ODB-Info

An instance of OM class **ODB-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.173](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
odb-Data	Object(ODB-Data)	—	1	—
notification-To-CSE	Null	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.173: *OM Attributes of OM Class ODB-Info*

This OM class contains the following class-specific OM attributes:

odb-Data This attribute is an instance of OM class **ODB-Data**. See [Section 5.4.1.124 \[ODB-Data\]](#), page 226.

notification-To-CSE
A Null value whose presence provides indication.

extension-Container
This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.126 Paging-Area

An instance of OM class **Paging-Area** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.174](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
location-Area	Object(Location-Area)	—	1-5	—

Table 5.174: *OM Attributes of OM Class Paging-Area*

This OM class contains the following class-specific OM attributes:

location-Area
One to five instances of the OM Class **Location-Area**. See [Section 5.4.1.89 \[Location-Area\]](#), page 200.

5.4.1.127 PDN-GW-Identity

An instance of OM class **PDN-GW-Identity** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.175](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
pdn-Gw-IPv4-Address	String(Octet)	1-16	0-1	—
pdn-Gw-IPv6-Address	String(Octet)	1-16	0-1	—
pdn-Gw-Name	String(Octet)	9-100	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.175: *OM Attributes of OM Class PDN-GW-Identity*

This OM class contains the following class-specific OM attributes:

pdn-Gw-IPv4-Address

PDP-Address ::= OCTET STRING (SIZE(1..16)) Octets are coded according to 3GPP TS 29.060. The possible values are: 1-7 octets X.25 address type, 4 octets IPv4 address type, 16 octets IPv6 address type.

pdn-Gw-IPv6-Address

PDP-Address ::= OCTET STRING (SIZE(1..16)) Octets are coded according to 3GPP TS 29.060. The possible values are: 1-7 octets X.25 address type, 4 octets IPv4 address type, 16 octets IPv6 address type.

pdn-Gw-Name

FQDN ::= OCTET STRING (SIZE(9..100))

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.128 PDN-GW-Update

An instance of OM class **PDN-GW-Update** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.176](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
apn	String(Octet)	2-63	1	—
pdn-gw-Identity	Object(PDN-GW-Identity)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.176: *OM Attributes of OM Class PDN-GW-Update*

This OM class contains the following class-specific OM attributes:

apn APN ::= OCTET STRING (SIZE(2..63)) Octets are coded according to 3GPP TS 23.003.

pdn-Gw-Identity

This attribute is an instance of OM class **PDN-GW-Identity**. See [Section 5.4.1.127 \[PDN-GW-Identity\]](#), page 229.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.129 PDP-Context-Info-List

An instance of OM class **PDP-Context-Info-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.177](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
pdp-Context-Info	Object(PDP-Context-Info)	—	1-50	—

Table 5.177: OM Attributes of OM Class **PDP-Context-Info-List**

This OM class contains the following class-specific OM attributes:

pdp-Context-Info

One to fifty (**maxNumOfPDP-Contexts**) instances of OM class **PDP-Context-Info**. See [Section 5.4.1.130 \[PDP-Context-Info\]](#), page 231.

5.4.1.130 PDP-Context-Info

An instance of OM class **PDP-Context-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.178](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
pdp-Context-Identifier	Integer	1-50	1	—
pdp-Context-Active	Null	—	0-1	—
pdp-Type	String(Octet)	2	1	—
apn-Subscribed	String(Octet)	2-63	0-1	—
apn-In-Use	String(Octet)	2-63	0-1	—
nsapi	Integer	0-15	0-1	—
transaction-Id	String(Octet)	1-2	0-1	—
teid-For-Gn-And-Gp	String(Octet)	4	0-1	—
teid-For-Iu	String(Octet)	4	0-1	—
ggsn-Address	String(Octet)	5-17	0-1	—
qos-Subscribed	String(Octet)	1-9	0-1	—
qos-Requested	String(Octet)	1-9	0-1	—
qos-Negotiated	String(Octet)	1-9	0-1	—
charging-Id	String(Octet)	4	0-1	—
charging-Characteristics	String(Octet)	2	0-1	—
rnc-Address	String(Octet)	5-17	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
qos2-Subscribed	String(Octet)	1-3	0-1	—
qos2-Requested	String(Octet)	1-3	0-1	—
qos2-Negotiated	String(Octet)	1-3	0-1	—
qos3-Subscribed	String(Octet)	1-2	0-1	—
qos3-Requested	String(Octet)	1-2	0-1	—
qos3-Negotiated	String(Octet)	1-2	0-1	—

Table 5.178: OM Attributes of OM Class **PDP-Context-Info**

This OM class contains the following class-specific OM attributes:

pdp-Context-Identifier

ContextID ::= INTEGER(1..50)

pdp-Context-Active

A Null value whose presence provides indication.

pdp-Type

PDP-Type ::= OCTET STRING (SIZE(2)) Octets are coded according to 3GPP TS 29.060.

apn-Subscribed

APN ::= OCTET STRING (SIZE(2..63)) Octets are coded according to 3GPP TS 23.003.

apn-In-Use

APN ::= OCTET STRING (SIZE(2..63)) Octets are coded according to 3GPP TS 23.003.

nsapi

NAPSI ::= INTEGER(0..15) This type is used to indicate the Network layer Service Access Point.

transaction-Id

TransactionId ::= OCTET STRING (SIZE(1..2)) This type carries the value part of the transaction identifier which is used in the session management messages on the access interface. The encoding is defined in 3GPP TS 24.008.

teid-For-Gn-And-Gp

TEID ::= OCTET STRING (SIZE(4)) This type carries the value part of the Tunnel Endpoint Identifier which is used to distinguish between different tunnels between the same pair of entities which communicate using GPRS Tunnelling Protocol. The encoding is defined in 3GPP TS 29.060.

teid-For-Iu

TEID ::= OCTET STRING (SIZE(4)) This type carries the value part of the Tunnel Endpoint Identifier which is used to distinguish between different tunnels between the same pair of entities which communicate using GPRS Tunnelling Protocol. The encoding is defined in 3GPP TS 29.060.

ggsn-Address

GSN-Address ::= OCTET STRING (SIZE(5..17)) Octets are coded according to 3GPP TS 23.003.

qos-Subscribed

Ext-QoS-Subscribed ::= OCTET STRING (SIZE(1..9)) Octet 1, allocation/retention priority (this octet encodes each priority level defined in 23.107 as the binary value of the priority level, declaration in 29.060); octets 2-9 are coded according to 3GPP TS 24.008 Quality of Service Octets 6-13.

qos-Requested

Ext-QoS-Subscribed ::= OCTET STRING (SIZE(1..9)) Octet 1, allocation/retention priority (this octet encodes each priority level defined in 23.107 as the binary value of the priority level, declaration in 29.060); octets 2-9 are coded according to 3GPP TS 24.008 Quality of Service Octets 6-13.

qos-Negotiated

Ext-QoS-Subscribed ::= OCTET STRING (SIZE(1..9)) Octet 1, allocation/retention priority (this octet encodes each priority level defined in 23.107 as the binary value of the priority level, declaration in 29.060); octets 2-9 are coded according to 3GPP TS 24.008 Quality of Service Octets 6-13.

charging-Id

GPRSCchargingID ::= OCTET STRING (SIZE(4)) The Charging ID is a unique four octet value generated by the GGSN when a PDP context is activated. A Charging ID is generated for each activated context. The encoding is defined in 3GPP TS 29.060.

charging-Characteristics

ChargingCharacteristics ::= OCTET STRING (SIZE(2)) Octets are coded according to 3GPP TS 32.215.

rnc-Address

GSN-Address ::= OCTET STRING (SIZE(5..17)) Octets are coded according to 3GPP TS 23.003.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

qos2-Subscribed

Ext2-QoS-Subscribed ::= OCTET STRING (SIZE(1..3)) Octets 1-3 are coded according to 3GPP TS 24.008 Quality of Service octets 14-16. If Quality of Service information is structured with 14 octet length, then Octet 1 is coded according to 3GPP TS 24.008 Quality of Service Octet 14.

qos2-Requested

Ext2-QoS-Subscribed ::= OCTET STRING (SIZE(1..3)) Octets 1-3 are coded according to 3GPP TS 24.008 Quality of Service octets 14-16. If Quality of Service information is structured with 14 octet length, then Octet 1 is coded according to 3GPP TS 24.008 Quality of Service Octet 14.

qos2-Negotiated

Ext2-QoS-Subscribed ::= OCTET STRING (SIZE(1..3)) Octets 1-3 are coded according to 3GPP TS 24.008 Quality of Service octets 14-16. If Quality of Service information is structured with 14 octet length, then Octet 1 is coded according to 3GPP TS 24.008 Quality of Service Octet 14.

qos3-Subscribed

Ext3-QoS-Subscribed ::= OCTET STRING (SIZE(1..2)) Octets 1-2 are coded according to 3GPP TS 24.008 Quality of Service Octets 17-18.

qos3-Requested

Ext3-QoS-Subscribed ::= OCTET STRING (SIZE(1..2)) Octets 1-2 are coded according to 3GPP TS 24.008 Quality of Service Octets 17-18.

qos3-Negotiated

Ext3-QoS-Subscribed ::= OCTET STRING (SIZE(1..2)) Octets 1-2 are coded according to 3GPP TS 24.008 Quality of Service Octets 17-18.

5.4.1.131 PDP-Context

An instance of OM class **PDP-Context** represents the corresponding GSM MAP information object. An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.179](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
pdp-Context-Id	Integer	1-50	1	—
pdp-Type	String(Octet)	2	1	—
pdp-Address	String(Octet)	1-16	0-1	—
qos-Subscribed	String(Octet)	3	1	—
vplmn-Address-Allowed	Null	—	0-1	—
apn	String(Octet)	2-63	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
ext-QoS-Subscribed	String(Octet)	1-9	0-1	—
pdp-Charging-Characteristics	String(Octet)	2	0-1	—
ext2-QoS-Subscribed	String(Octet)	1-3	0-1	—
ext3-QoS-Subscribed	String(Octet)	1-2	0-1	—

Table 5.179: OM Attributes of OM Class **PDP-Context**

This OM class contains the following class-specific OM attributes:

pdp-Context-Id

ContextID ::= INTEGER(1..50)

pdp-Type **PDP-Type** ::= OCTET STRING (SIZE(2)) Octets are coded according to 3GPP TS 29.060.

pdp-Address

PDP-Address ::= OCTET STRING (SIZE(1..16)) Octets are coded according to 3GPP TS 29.060. The possible values are: 1-7 octets X.25 address type, 4 octets IPv4 address type, 16 octets IPv6 address type.

qos-Subscribed

QoS-Subscribed ::= OCTET STRING (SIZE(3)) Octets are coded according to 3GPP TS 24.008 Quality of Service Octets 3-5.

vplmn-Address-Allowed

A Null value whose presence provides indication.

apn **APN** ::= OCTET STRING (SIZE(2..63)) Octets are coded according to 3GPP TS 23.003.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

ext-QoS-Subscribed

Ext-QoS-Subscribed ::= OCTET STRING (SIZE(1..9)) Octet 1, allocation/retention priority (this octet encodes each priority level defined in 23.107 as the binary value of the priority level, declaration in 29.060); octets 2-9 are coded according to 3GPP TS 24.008 Quality of Service Octets 6-13.

pdp-Charging-Characteristics

ChargingCharacteristics ::= OCTET STRING (SIZE(2)) Octets are coded according to 3GPP TS 32.215.

ext2-QoS-Subscribed

Ext2-QoS-Subscribed ::= OCTET STRING (SIZE(1..3)) Octets 1-3 are coded according to 3GPP TS 24.008 Quality of Service octets 14-16. If Quality of Service information is structured with 14 octet length, then Octet 1 is coded according to 3GPP TS 24.008 Quality of Service Octet 14.

ext3-QoS-Subscribed

Ext3-QoS-Subscribed ::= OCTET STRING (SIZE(1..2)) Octets 1-2 are coded according to 3GPP TS 24.008 Quality of Service Octets 17-18.

5.4.1.132 PLMN-Client-List

An instance of OM class **PLMN-Client-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.180](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
lcs-Client-Internal-ID	Enum(LCS-Client-Internal-ID)	—	1-5	—

Table 5.180: OM Attributes of OM Class **PLMN-Client-List**

This OM class contains the following class-specific OM attributes:

lcs-Client-Internal-ID

One to five instances of *Enum(LCS-Client-Internal-ID)*, where *LCS-Client-Internal-ID* is an enumeration containing one of the following values:

broadcast-service

(‘MAP_T_BROADCAST_SERVICE’ ‘0’)

o-and-m-hplmn

(‘MAP_T_O_AND_M_HPLMN’ ‘1’)

o-and-m-vplmn

(‘MAP_T_O_AND_M_VPLMN’ ‘2’)

anonymous-location

(‘MAP_T_ANONYMOUS_LOCATION’ ‘3’)

target-ms-subscribed-service

(‘MAP_T_TARGET_MS_SUBSCRIBED_SERVICE’ ‘4’)

5.4.1.133 Prepare-HO-Arg

An instance of OM class **Prepare-HO-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.181](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
target-Cell-Id	String(Octet)	5-7	0-1	—
ho-Number-Not-Required	Null	—	0-1	—
an-APDU	Object(Access-Network-Signal-Info)	—	0-1	—
multiple-Bearer-Requested	Null	—	0-1	—
imsi	String(TBCD)	3-8	0-1	—
integrity-Protection-Info	String(Octet)	18-100	0-1	—
encryption-Info	String(Octet)	18-100	0-1	—
radio-Resource-Information	String(Octet)	3-13	0-1	—
allowed-GSM-Algorithms	String(Octet)	1	0-1	—
allowed-UMTS-Algorithms	Object(Allowed-UMTS-Algorithms)	—	0-1	—
radio-Resource-List	Object(Radio-Resource-List)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
rab-Id	Integer	1-255	0-1	—
bssmap-Service-Handover	String(Octet)	1	0-1	—
ranap-Service-Handover	String(Octet)	1	0-1	—
bssmap-Service-Handover-List	Object(BSSMAP-Service-Handover-List)	—	0-1	—
ascii-Call-Reference	String(Octet)	1-8	0-1	—
geran-Classmark	String(Octet)	2-87	0-1	—
iu-Current-Used-Codec	String(Octet)	4	0-1	—
iu-Supported-Codecs-List	Object(Supported-Codecs-List)	—	0-1	—
rab-Configuration-Indicator	Null	—	0-1	—
uesbi-Iu	Object(UESBI-Iu)	—	0-1	—
imeisv	String(TBCD)	8	0-1	—
alternative-Channel-Type	String(Octet)	3-13	0-1	—
trace-Propagation-List	Object(Trace-Propagation-List)	—	0-1	—

Table 5.181: OM Attributes of OM Class **Prepare-HO-Arg**

This OM class contains the following class-specific OM attributes:

target-Cell-Id

GlobalCellId ::= OCTET STRING (SIZE(5..7)) Refers to Cell Global Identification defined in 3GPP TS 23.003. The internal structures is as follows: octet 1, bits 4321, mobile country code 1st digit; bits 8765, mobile country code 2nd digit; octet 2, bits 4321, mobile country code 3rd digit; bits 8765, mobile network code 3rd digit or filler (1111) for 2 digit MNCs; octet 3, bits 4321, mobile network code 1st digit; bits 8765, mobile network code 2nd digit; octets 4 and 5, Location Area Code according to 3GPP TS 24.008; octets 6 and 7, Call Identity (CI) according to 3GPP TS 24.008.

ho-Number-Not-Required

A Null value whose presence provides indication.

an-APDU This attribute is an instance of OM class **Access-Network-Signal-Info**. See [Section 5.3.19.1 \[Access-Network-Signal-Info\]](#), page 118.

multiple-Bearer-Requested

A Null value whose presence provides indication.

- imsi* This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.
- integrity-Protection-Info*
IntegrityProtectionInformation ::= OCTET STRING (SIZE(18..100)) Octets contain a complete IntegrityProtectionInformation data type as defined in 3GPP TS 25.413, encoded according to the encoding scheme mandated by 3GPP TS 25.413. Padding bits are included, if needed, in the least significant bits of the last octet of the octet string.
- encryption-Info*
EncryptionInformation ::= OCTET STRING (SIZE(18..100)) Octets contain a complete EncryptionInformation data type as defined in 3GPP TS 25.413, encoded according to the encoding scheme mandated by 3GPP TS 25.413. Padding bits are included, if needed, in the least significant bits of the last octet of the octet string.
- radio-Resource-Information*
RadioResourceInformation ::= OCTET STRING (SIZE(3..13)) Octets are coded according to the Channel Type information element in 3GPP TS 48.008.
- allowed-GSM-Algorithms*
AllowedGSM-Algorithms ::= OCTET STRING (SIZE(1)) Internal structure is coded as Algorithm identifier octet from Permitted Algorithms defined in 3GPP TS 48.008. A node shall mark all GSM algorithms that are allowed in MSC-B.
- allowed-UMTS-Algorithms*
This optional attribute is an instance of OM class **Allowed-UMTS-Algorithms**. See [Section 5.4.1.2 \[Allowed-UMTS-Algorithms\]](#), page 132.
- radio-Resource-List*
This optional attribute is an instance of OM class **Radio-Resource-List**. See [Section 5.4.1.144 \[Radio-Resource-List\]](#), page 248.
- extension-Container*
This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.
- extension* This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.
- rab-Id* **RAB-Id** ::= INTEGER(1..255)
- bssmap-Service-Handover*
BSSMAP-ServiceHandover ::= OCTET STRING (SIZE(1)) Octets are coded according to the Service Handover information element in 3GPP TS 48.008.
- ranap-Service-Handover*
RANAP-ServiceHandover ::= OCTET STRING (SIZE(1)) Octet contains a complete Service-Handover data type as defined in 3GPP TS 25.413, encoded according to the encoding scheme mandated by 3GPP TS 25.413. Padding bits are included in the least significant bits.

bssmap-Service-Handover-List

This optional attribute is an instance of OM class **BSSMAP-Service-Handover-List**. See [Section 5.4.1.21 \[BSSMAP-Service-Handover-List\]](#), page 147.

ascii-Call-Reference

A TBCD string of 1 to 8 octets representing the destination of the Short Message. Digits of VGCS/VBS-area and Group-ID are concatenated in this order if there is a VGCS/VBS-area.

geran-Classmark

GERAN-Classmark ::= OCTET STRING (SIZE(2..87)) Octets are coded according to GERAN Classmark information element in 3GPP TS 48.008.

iu-Current-Used-Codec

Codec ::= OCTET STRING (SIZE(1..4)) The internal structure is defined as follows: octet 1, coded as codec identification code in 3GPP TS 26.103; octets 2, 3, 4, parameters for the codec as defined in 3GPP TS 26.103, if available, length depending on the codec.

iu-Supported-Codecs-List

This optional attribute is an instance of OM class **Supported-Codecs-List**. See [Section 5.4.1.177 \[Supported-Codecs-List\]](#), page 274.

rab-Configuration-Indicator

A Null value whose presence provides indication.

uesbi-Iu

This optional attribute is an instance of OM class **UESBI-Iu**. See [Section 5.4.1.187 \[UESBI-Iu\]](#), page 280.

imeisv

IMEI ::= TBCD-STRING(SIZE(8)) Refers to International Mobile Station Equipment Identity and Software Version Number (SVN) defined in 3GPP TS 23.003. If the SVN is not present, the last octet shall contain digit 0 and a filler. If present, the SVN shall be included in the last octet.

alternative-Channel-Type

RadioResourceInformation ::= OCTET STRING (SIZE(3..13)) Octets are coded according to the Channel Type information element in 3GPP TS 48.008.

trace-Propagation-List

This optional attribute is an instance of OM class **Trace-Propagation-List**. See [Section 5.4.2.10 \[Trace-Propagation-List\]](#), page 301.

5.4.1.134 Prepare-HO-Res

An instance of OM class **Prepare-HO-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.182](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
handover-Number	String(Address)	1-9	0-1	—
relocation-Number-List	Object(Relocation-Number-List)	—	0-1	—
an-APDU	Object(Access-Network-Signal-Info)	—	0-1	—
multicall-Bearer-Info	Integer	1-7	0-1	—
multiple-Bearer-Not-Supported	Null	—	0-1	—
selected-UMTS-Algorithms	Object(Selected-UMTS-Algorithms)	—	0-1	—
chosen-Radio-Resource-Information	String(Octet)	3-13	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
iu-Selected-Codec	String(Octet)	1-4	0-1	—
iu-Available-Codec-List	Object(Codec-List)	—	0-1	—

Table 5.182: OM Attributes of OM Class **Prepare-HO-Res**

This OM class contains the following class-specific OM attributes:

handover-Number

An ISDN Address string.

relocation-Number-List

This optional attribute is an instance of OM class **Relocation-Number-List**. See [Section 5.4.1.146 \[Relocation-Number-List\]](#), page 249.

an-APDU

This attribute is an instance of OM class **Access-Network-Signal-Info**. See [Section 5.3.19.1 \[Access-Network-Signal-Info\]](#), page 118.

multicall-Bearer-Info

`MulticallBearerInfo ::= INTEGER(1..7)`

multiple-Bearer-Not-Supported

A Null value whose presence provides indication.

selected-UMTS-Algorithms

This optional attribute is an instance of OM class **Selected-UMTS-Algorithms**. See [Section 5.4.1.154 \[Selected-UMTS-Algorithms\]](#), page 255.

chosen-Radio-Resource-Information

`RadioResourceInformation ::= OCTET STRING (SIZE(3..13))` Octets are coded according to the Channel Type information element in 3GPP TS 48.008.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

iu-Selected-Codec

`Codec ::= OCTET STRING (SIZE(1..4))` The internal structure is defined as follows: octet 1, coded as codec identification code in 3GPP TS 26.103; octets 2, 3, 4, parameters for the codec as defined in 3GPP TS 26.103, if available, length depending on the codec.

iu-Available-Codec-List

This optional attribute is an instance of OM class **Codec-List**. See [Section 5.4.1.30 \[Codec-List\]](#), page 155.

5.4.1.135 Prepare-Subsequent-HO-Arg

An instance of OM class **Prepare-Subsequent-HO-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.183](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
target-Cell-Id	String(Octet)	5-7	0-1	—
target-MS-Number	String(Address)	1-9	1	—
target-RNC-Id	String(Octet)	7	0-1	—
an-APDU	Object(Access-Network-Signal-Info)	—	0-1	—
selected-Rab-Id	Integer	1-255	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
geran-Classmark	String(Octet)	2-87	0-1	—
rab-Configuration-Indicator	Null	—	0-1	—

Table 5.183: OM Attributes of OM Class **Prepare-Subsequent-HO-Arg**

This OM class contains the following class-specific OM attributes:

target-Cell-Id

GlobalCellId ::= OCTET STRING (SIZE(5..7)) Refers to Cell Global Identification defined in 3GPP TS 23.003. The internal structure is as follows: octet 1, bits 4321, mobile country code 1st digit; bits 8765, mobile country code 2nd digit; octet 2, bits 4321, mobile country code 3rd digit; bits 8765, mobile network code 3rd digit or filler (1111) for 2 digit MNCs; octet 3, bits 4321, mobile network code 1st digit; bits 8765, mobile network code 2nd digit; octets 4 and 5, Location Area Code according to 3GPP TS 24.008; octets 6 and 7, Call Identity (CI) according to 3GPP TS 24.008.

target-MS-Number

This parameter refers to the ISDN number of an MSC to which a call has to be handed over. An ISDN Address String containing the number of the MSC.

target-RNC-Id

RNCId ::= OCTET STRING (SIZE(7)) The internal structure is defined as follows: octet 1, bits 4321, mobile country code 1st digit; octet 1, bits 8765, mobile country code 2nd digit; octet 2, bits 4321, mobile country code, 3rd digit; bits 8765, mobile network code 3rd digit or filler (1111) for 2 digit MNCs; octet 3, bits 4321, mobile network code 1st digit; bits 8765, mobile network code 2nd digit; octets 4 and 5, location area code according to 3GPP TS 24.008; octets 6 and 7, RNC Id value according to 3GPP TS 25.413.

an-APDU This attribute is an instance of OM class **Access-Network-Signal-Info**. See Section 5.3.19.1 [Access-Network-Signal-Info], page 118.

selected-Rab-Id
RAB-Id ::= INTEGER(1..255)

extension-Container
This optional attribute is an instance of OM class **Extension-Container**. See Section 5.3.19.6 [Extension-Container], page 121.

extension This optional attribute is an instance of OM class **Extension**. See Section 5.2.13 [Extension], page 91.

geran-Classmark
GERAN-Classmark ::= OCTET STRING (SIZE(2..87)) Octets are coded according to GERAN Classmark information element in 3GPP TS 48.008.

rab-Configuration-Indicator
A Null value whose presence provides indication.

5.4.1.136 Prepare-Subsequent-HO-Res

An instance of OM class **Prepare-Subsequent-HO-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see Section 4.21 [Service-rsp()], page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in Table 5.184.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
an-APDU	Object(Access-Network-Signal-Info)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.184: OM Attributes of OM Class **Prepare-Subsequent-HO-Res**

This OM class contains the following class-specific OM attributes:

an-APDU This attribute is an instance of OM class **Access-Network-Signal-Info**. See Section 5.3.19.1 [Access-Network-Signal-Info], page 118.

extension-Container
This optional attribute is an instance of OM class **Extension-Container**. See Section 5.3.19.6 [Extension-Container], page 121.

extension This optional attribute is an instance of OM class **Extension**. See Section 5.2.13 [Extension], page 91.

5.4.1.137 Process-Access-Signalling-Arg

An instance of OM class **Process-Access-Signalling-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see Section 4.20

[Service-req()], page 70) or is returned by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in Table 5.185.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
an-APDU	Object(Access-Network-Signal-Info)	—	1	—
selected-UMTS-Algorithm	Object(Selected-UMTS-Algorithm)	—	0-1	—
selected-GSM-Algorithm	String(Octet)	1	0-1	—
chosen-Radio-Resource-Information	String(Octet)	3-13	0-1	—
selected-Rab-Id	Integer	1-255	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
iu-Selected-Codec	String(Octet)	1-4	0-1	—
iu-Available-Codec-List	Object(Codec-List)	—	0-1	—

Table 5.185: OM Attributes of OM Class **Process-Access-Signalling-Arg**

This OM class contains the following class-specific OM attributes:

an-APDU This attribute is an instance of OM class **Access-Network-Signal-Info**. See Section 5.3.19.1 [Access-Network-Signal-Info], page 118.

selected-UMTS-Algorithm This optional attribute is an instance of OM class **Selected-UMTS-Algorithms**. See Section 5.4.1.154 [Selected-UMTS-Algorithms], page 255.

selected-GSM-Algorithm **SelectedGSM-Algorithm ::= OCTET STRING (SIZE(1))** Internal structure is coded as Algorithm Identifier octet from Chosen Encryption Algorithm defined in 3GPP TS 48.008. A node shall mark only the selected GSM algorithm.

chosen-Radio-Resource-Information **RadioResourceInformation ::= OCTET STRING (SIZE(3..13))** Octets are coded according to the Channel Type information element in 3GPP TS 48.008.

selected-Rab-Id **RAB-Id ::= INTEGER(1..255)**

extension-Container This optional attribute is an instance of OM class **Extension-Container**. See Section 5.3.19.6 [Extension-Container], page 121.

extension This optional attribute is an instance of OM class **Extension**. See Section 5.2.13 [Extension], page 91.

iu-Selected-Codec **Codec ::= OCTET STRING (SIZE(1..4))** The internal structure is defined as follows: octet 1, coded as codec identification code in 3GPP TS 26.103; octets 2, 3, 4, parameters for the codec as defined in 3GPP TS 26.103, if available, length depending on the codec.

iu-Available-Codec-List

This optional attribute is an instance of OM class **Codec-List**. See [Section 5.4.1.30 \[Codec-List\]](#), page 155.

5.4.1.138 Provide-Subscriber-Info-Arg

An instance of OM class **Provide-Subscriber-Info-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.186](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	1	—
lmsi	String(Octet)	4	0-1	—
requested-Info	Object(Requested-Info)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
call-Priority	Integer	0-15	0-1	—

Table 5.186: OM Attributes of OM Class **Provide-Subscriber-Info-Arg**

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

lmsi This attribute provides the local identity allocated by the VLR to a given subscriber for internal management of data in the VLR. The LMSI shall not be sent to an SGSN. This attribute is encoded as a 4 octet string.

requested-Info This attribute is an instance of OM class **Requested-Info**. See [Section 5.4.1.148 \[Requested-Info\]](#), page 250.

extension-Container This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

call-Priority EMLPP-Priority ::= INTEGER(0..15). The mapping from the values, A, B, 0, 1, 2, 3, 4 to the integer value is specified as follows where A is the highest and 4 is the lowest priority level. The integer values 7-15 are spare and shall be mapped to value 4.

5.4.1.139 Provide-Subscriber-Info-Res

An instance of OM class **Provide-Subscriber-Info-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.187](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
subscriber-Info	Object(Subscriber-Info)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.187: OM Attributes of OM Class **Provide-Subscriber-Info-Res**

This OM class contains the following class-specific OM attributes:

subscriber-Info

This attribute is an instance of OM class **Subscriber-Info**. See [Section 5.4.1.174 \[Subscriber-Info\], page 271](#).

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\], page 121](#).

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\], page 91](#).

5.4.1.140 PS-Subscriber-State

An instance of OM class **PS-Subscriber-State** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.188](#). This OM class represents a choice and exactly one instance of one attribute shall be present in an instance of this OM class.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
not-Provided-From-SGSN	Null	—	0-1	—
ps-Detached	Null	—	0-1	—
ps-Attached-Not-Reachable-For-Paging	Null	—	0-1	—
ps-Attached-Reachable-For-Paging	Null	—	0-1	—
ps-PDP-Active-Not-Reachable-For-Paging	Object(PDP-Context-Info-List)	—	0-1	—
ps-PDP-Active-Reachable-For-Paging	Object(PDP-Context-Info-List)	—	0-1	—
net-Det-Not-Reachable	Enum(Not-Reachable-Reason)	—	0-1	—

Table 5.188: OM Attributes of OM Class **PS-Subscriber-State**

This OM class contains the following class-specific OM attributes:

not-Provided-From-SGSN

A Null value whose presence provides indication.

ps-Detached

A Null value whose presence provides indication.

ps-Attached-Not-Reachable-For-Paging

A Null value whose presence provides indication.

ps-Attached-Reachable-For-Paging

A Null value whose presence provides indication.

ps-PDP-Active-Not-Reachable-For-Paging

This optional attribute is an instance of OM class **PDP-Context-Info-List**. See [Section 5.4.1.129 \[PDP-Context-Info-List\]](#), page 231.

ps-PDP-Active-Reachable-For-Paging

This optional attribute is an instance of OM class **PDP-Context-Info-List**. See [Section 5.4.1.129 \[PDP-Context-Info-List\]](#), page 231.

net-Det-Not-Reachable

An enumeration containing one of the following values:

ms-purged ('MAP_T_MS_PURGED' '0')

imsi-detached

('MAP_T_IMSI_DETACHED' '1')

restricted-area

('MAP_T_RESTRICTED_AREA' '2')

not-registered

('MAP_T_NOT_REGISTERED' '3')

5.4.1.141 Purge-MS-Arg

An instance of OM class **Purge-MS-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.189](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	1	—
vlr-Number	String(Address)	1-9	0-1	—
sgsn-Number	String(Address)	1-9	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.189: OM Attributes of OM Class **Purge-MS-Arg**

This OM class contains the following class-specific OM attributes:

- imsi* This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.
- vlr-Number* This attribute refers to the ISDN number of a VLR. An ISDN Address String containing the ISDN address of the VLR.
- sgsn-Number* This attribute refers to the ISDN number of an SGSN. An ISDN Address String containing the ISDN address of the SGSN.
- extension-Container* This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.
- extension* This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.142 Purge-MS-Res

An instance of OM class **Purge-MS-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.190](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
freeze-TMSI	Null	—	0-1	—
freeze-P-TMSI	Null	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
freeze-N-TMSI	Null	—	0-1	—

Table 5.190: OM Attributes of OM Class **Purge-MS-Res**

This OM class contains the following class-specific OM attributes:

freeze-TMSI

A Null value whose presence provides indication.

freeze-P-TMSI

A Null value whose presence provides indication.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

freeze-N-TMSI

A Null value whose presence provides indication.

5.4.1.143 Quintuplet-List

An instance of OM class **Quintuplet-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.191](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
authentication-Quintuplet	Object(Authentication-Quintuplet)	—	1-5	—

Table 5.191: OM Attributes of OM Class **Quintuplet-List**

This OM class contains the following class-specific OM attributes:

authentication-Quintuplet

This optional attribute is one to five instances of OM class **Authentication-Quintuplet**. See [Section 5.4.1.14 \[Authentication-Quintuplet\]](#), page 144.

5.4.1.144 Radio-Resource-List

An instance of OM class **Radio-Resource-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.192](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
radio-Resource	Object(Radio-Resource)	—	1-7	—

Table 5.192: OM Attributes of OM Class **Radio-Resource-List**

This OM class contains the following class-specific OM attributes:

radio-Resource

One to seven instances of OM class **Radio-Resource**. See [Section 5.4.1.145 \[Radio-Resource\]](#), page 248.

5.4.1.145 Radio-Resource

An instance of OM class **Radio-Resource** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.193](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
radio-Resource-Information	String(Octet)	3-13	1	—
rab-Id	Integer	1-255	1	—
extension	Object(Extension)	—	0-1	—

Table 5.193: OM Attributes of OM Class **Radio-Resource**

This OM class contains the following class-specific OM attributes:

radio-Resource-Information

RadioResourceInformation ::= OCTET STRING (SIZE(3..13)) Octets are coded according to the Channel Type information element in 3GPP TS 48.008.

rab-Id **RAB-Id** ::= INTEGER(1..255)

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.146 Relocation-Number-List

An instance of OM class **Relocation-Number-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.194](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
relocation-Number	Object(Relocation-Number)	—	1-7	—

Table 5.194: OM Attributes of OM Class **Relocation-Number-List**

This OM class contains the following class-specific OM attributes:

relocation-Number

This optional attribute is an instance of OM class **Relocation-Number**. See [Section 5.4.1.147 \[Relocation-Number\]](#), page 249.

5.4.1.147 Relocation-Number

An instance of OM class **Relocation-Number** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.195](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
handover-Number	String(Address)	1-9	1	—
rab-Id	Integer	1-255	1	—
extension	Object(Extension)	—	0-1	—

Table 5.195: OM Attributes of OM Class **Relocation-Number**

This OM class contains the following class-specific OM attributes:

handover-Number

An ISDN address string.

rab-Id RAB-Id ::= INTEGER(1..255)

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.148 Requested-Info

An instance of OM class **Requested-Info** represents the corresponding GSM MAP information object. An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.196](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
location-Information	Null	—	0-1	—
subscriber-State	Null	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
current-Location	Null	—	0-1	—
requested-Domain	Enum(Domain-Type)	—	0-1	—
imei	Null	—	0-1	—
ms-Classmark	Null	—	0-1	—
mnp-Requested-Info	Null	—	0-1	—

Table 5.196: OM Attributes of OM Class **Requested-Info**

This OM class contains the following class-specific OM attributes:

location-Information

A Null value whose presence provides indication.

subscriber-State

A Null value whose presence provides indication.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

current-Location

A Null value whose presence provides indication.

requested-Domain

An enumeration containing one of the following values:

cs-domain ('MAP_T_CS_DOMAIN' '0')

ps-domain ('MAP_T_PS_DOMAIN' '1')

imei

A Null value whose presence provides indication.

ms-Classmark

A Null value whose presence provides indication.

mnp-Requested-Info

A Null value whose presence provides indication.

5.4.1.149 Requested-Subscription-Info

An instance of OM class **Requested-Subscription-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.197](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
requested-SS-Info	Object(SS-For-BS-Code)	—	0-1	—
odb	Null	—	0-1	—
requested-CAMEL-Subscription-Info	String(Bit)	9	0-1	—
supported-VLR-CAMEL-Phases	Null	—	0-1	—
supported-SGSN-CAMEL-Phases	Null	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
additional-Requested-CAMEL-Subscription-Info	String(Bit)	5	0-1	—
msdisdn-BS-List	Null	—	0-1	—

Table 5.197: *OM Attributes of OM Class Requested-Subscription-Info*

This OM class contains the following class-specific OM attributes:

requested-SS-Info

This optional attribute is an instance of OM class **SS-For-BS-Code**. See [Section 5.4.4.36 \[SS-For-BS-Code\]](#), page 358.

odb

A Null value whose presence indicates support.

requested-CAMEL-Subscription-Info

A bit string containing zero or more of the following bits:

o-csi ('MAP_T_O_CSI' '0')

t-csi ('MAP_T_T_CSI' '1')

vt-csi ('MAP_T_VT_CSI' '2')

tif-csi ('MAP_T_TIF_CSI' '3')
gprs-csi ('MAP_T_GPRS_CSI' '4')
mo-sms-csi ('MAP_T_MO_SMS_CSI' '5')
ss-csi ('MAP_T_SS_CSI' '6')
m-csi ('MAP_T_M_CSI' '7')
d-csi ('MAP_T_D_CSI' '8')

supported-VLR-CAMEL-Phases

A Null value whose presence indicates support.

supported-SGSN-CAMEL-Phases

A Null value whose presence indicates support.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

additional-Requested-CAMEL-Subscription-Info

A bit string containing zero or more of the following bits:

mt-sms-csi ('MAP_T_MT_SMS_CSI' '0')
mg-csi ('MAP_T_MG_CSI' '1')
o-im-csi ('MAP_T_O_IM_CSI' '2')
d-im-csi ('MAP_T_D_IM_CSI' '3')
vt-im-csi ('MAP_T_VT_IM_CSI' '4')

msdisdn-BS-List

A Null value whose presence indicates support.

5.4.1.150 Reset-Arg

An instance of OM class **Reset-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.198](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
hlr-Number	String(Address)	1-9	1	—
hlr-List	Object(HLR-List)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.198: OM Attributes of OM Class **Reset-Arg**

This OM class contains the following class-specific OM attributes:

hlr-Number

This attribute refers to the ISDN number of an HLR. An ISDN Address String containing the ISDN address of the HLR.

hlr-List

This optional attribute is an instance of OM class **HLR-List**. See [Section 5.3.19.9 \[HLR-List\]](#), page 123.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.151 Restore-Data-Arg

An instance of OM class **Restore-Data-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.199](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	1	—
lmsi	String(Octet)	4	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
vlr-Capability	Object(VLR-Capability)	—	0-1	—

Table 5.199: OM Attributes of OM Class **Restore-Data-Arg**

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

lmsi This attribute provides the local identity allocated by the VLR to a given subscriber for internal management of data in the VLR. The LMSI shall not be sent to an SGSN. This attribute is encoded as a 4 octet string.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

vlr-Capability

This optional attribute is an instance of OM class **VLR-Capability**. See [Section 5.4.1.196 \[VLR-Capability\]](#), page 288.

5.4.1.152 Restore-Data-Res

An instance of OM class **Restore-Data-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.200](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
hlr-Number	String(Address)	1-9	1	—
ms-Not-Reachable	Null	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.200: OM Attributes of OM Class **Restore-Data-Res**

This OM class contains the following class-specific OM attributes:

hlr-Number

This attribute refers to the ISDN number of an HLR. An ISDN Address String containing the ISDN address of the HLR.

ms-Not-Reachable

A Null value whose presence indicates support.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\], page 121](#).

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\], page 91](#).

5.4.1.153 Resynchronisation-Info

An instance of OM class **Resynchronisation-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.201](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
rand	String(Octet)	16	1	—
auts	String(Octet)	16	1	—
extension	Object(Extension)	—	0-1	—

Table 5.201: OM Attributes of OM Class **Resynchronisation-Info**

This OM class contains the following class-specific OM attributes:

rand

RAND ::= OCTET STRING (SIZE(16))

auts **AUTS** ::= OCTET STRING (SIZE(16))

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.154 Selected-UMTS-Algorithms

An instance of OM class **Selected-UMTS-Algorithms** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.202](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
integrity-Protection-Algorithm	String(Octet)	1	0-1	—
encryption-Algorithm	String(Octet)	1	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.202: OM Attributes of OM Class **Selected-UMTS-Algorithms**

This OM class contains the following class-specific OM attributes:

integrity-Protection-Algorithm

ChosenIntegrityProtectionAlgorithm ::= OCTET STRING(SIZE(1)) Octet contains a complete IntegrityProtectionAlgorithm data type as defined in 3GPP TS 25.413, encoded according to the encoding scheme mandated by 3GPP TS 25.413. Padding bits are included in the least significant bits.

encryption-Algorithm

ChosenEncryptionAlgorithm ::= OCTET STRING(SIZE(1)) Octet contains a complete EncryptionAlgorithm data type as defined in 3GPP TS 25.413, encoded according to the encoding scheme mandated by 3GPP TS 25.413. Padding bits are included in the least significant bits.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.155 Send-Authentication-Info-Arg

An instance of OM class **Send-Authentication-Info-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.203](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
<i>imsi</i>	String(TBCD)	3-8	1	—
<i>number-Of-Requested-Vectors</i>	Integer	1-5	1	—
<i>segmentation-Prohibited</i>	Null	—	0-1	—
<i>immediate-Response-Preferred</i>	Null	—	0-1	—
<i>re-synchronisation-Info</i>	Object(Resynchronisation-Info)	—	0-1	—
<i>extension-Container</i>	Object(Extension-Container)	—	0-1	—
<i>extension</i>	Object(Extension)	—	0-1	—
<i>requesting-Node-Type</i>	Enum(Requesting-Node-Type)	—	0-1	—
<i>requesting-PLMN-Id</i>	String(Octet)	3	0-1	—
<i>number-Of-Requested-Additional-Vectors</i>	Integer	1-5	0-1	—
<i>additional-Vectors-Are-For-EPS</i>	Null	—	0-1	—

Table 5.203: OM Attributes of OM Class **Send-Authentication-Info-Arg**

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

number-Of-Requested-Vectors
`NumberOfRequestedVectors ::= INTEGER(1..5)`

segmentation-Prohibited
 A Null value whose presence provides indication.

immediate-Response-Preferred
 A Null value whose presence provides indication.

re-synchronisation-Info
 This optional attribute is an instance of OM class **Resynchronisation-Info**. See [Section 5.4.1.153 \[Resynchronisation-Info\]](#), page 254.

extension-Container
 This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

requesting-Node-Type
 An enumeration containing one of the following values:

vlr ('MAP_T_VLR' '0')
sgsn ('MAP_T_SGSN' '1')
s-cscf ('MAP_T_S_CSCF' '2')
bsf ('MAP_T_BSF' '3')

```

gan-aaa-server
    ('MAP_T_GAN_AAA_SERVER' '4')

wlan-aaa-server
    ('MAP_T_WLAN_AAA_SERVER' '5')

mme
    ('MAP_T_MME' '16')

mme-sgsn
    ('MAP_T_MME_SGSN' '17')

```

requesting-PLMN-Id

PLMN-Id ::= OCTET STRING (SIZE(3)) The internal structure is defined as follows:
 octet 1, bits 4321, mobile country code 1st digit; bits 8765, mobile country code 2nd
 digit; octet 2, bits 4321, mobile country code 3rd digit; bits 8765, mobile network code
 3rd digit or filler (1111) for 2 digit MNCs; octet 3, bits 4321, mobile network code 1st
 digit; bits 8765, mobile network code 2nd digit.

number-Of-Requested-Additional-Vectors

NumberOfRequestedVectors ::= INTEGER(1..5)

additional-Vectors-Are-For-EPS

A Null value whose presence provides indication.

5.4.1.156 Send-Authentication-Info-Res

An instance of OM class **Send-Authentication-Info-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.204](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
authentication-Set-List	Object(Authentication-Set-List)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
eps-Authentication-Set-List	Object(EPS-Authentication-Set-List)	—	0-1	—

Table 5.204: OM Attributes of OM Class **Send-Authentication-Info-Res**

This OM class contains the following class-specific OM attributes:

authentication-Set-List

This optional attribute is an instance of OM class **Authentication-Set-List**. See [Section 5.4.1.15 \[Authentication-Set-List\], page 144](#).

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\], page 121](#).

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\], page 91](#).

eps-Authentication-Set-List

This optional attribute is an instance of OM class **EPS-Authentication-Set-List**. See [Section 5.4.1.48 \[EPS-Authentication-Set-List\]](#), page 167.

5.4.1.157 Send-End-Signal-Arg

An instance of OM class **Send-End-Signal-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.205](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
an-APDU	Object(Access-Network-Signal-Info)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.205: OM Attributes of OM Class **Send-End-Signal-Arg**

This OM class contains the following class-specific OM attributes:

an-APDU This attribute is an instance of OM class **Access-Network-Signal-Info**. See [Section 5.3.19.1 \[Access-Network-Signal-Info\]](#), page 118.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.158 Send-End-Signal-Res

An instance of OM class **Send-End-Signal-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.206](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.206: OM Attributes of OM Class **Send-End-Signal-Res**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.159 Send-Identification-Arg

An instance of OM class **Send-Identification-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.207](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
tmsi	String(Octet)	1-4	1	—
number-Of-Requested-Vectors	Integer	1-5	1	—
segmentation-Prohibited	Null	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
msc-Number	String(Address)	1-9	0-1	—
previous-LAI	String(Octet)	5	1	—
hop-Counter	Integer	0-3	0-1	—

Table 5.207: *OM Attributes of OM Class Send-Identification-Arg*

This OM class contains the following class-specific OM attributes:

tmsi TMSI ::= OCTET STRING(SIZE(1..4)) This attribute is the Temporary Mobile Subscriber Identity defined in 3GPP TS 23.003. It is between one and four octets in length.

number-Of-Requested-Vectors

NumberOfRequestedVectors ::= INTEGER(1..5)

segmentation-Prohibited

A Null value whose presence provides indication.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

msc-Number

This attribute refers to the ISDN number of an MSC. An ISDN Address String containing the number of the MSC.

previous-LAI

LAIFixedLength = OCTET STRING(SIZE(5)) Refers to Location Area Identification defined in 3GPP TS 23.003. The internal structure is defined as follows: octet 1, bits

4321, mobile country code 1st digit; bits 8765, mobile country code 2nd digit; octet 2, bits 4321, mobile country code 3rd digit; 8765 mobile network code 3rd digit or filler (1111) for 2 digit MNCs; octet 3, bits 4321, mobile network code 1st digit; bits 8765, mobile network code 2nd digit; octets 4 and 5, location area code (LAC) according to 3GPP TS 24.008.

hop-Counter

HopCounter ::= INTEGER(0..3)

5.4.1.160 Send-Identification-Res

An instance of OM class **Send-Identification-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.208](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	1	—
authentication-Set-List	Object(Authentication-Set-List)	—	0-1	—
current-Security-Context	Object(Current-Security-Context)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.208: OM Attributes of OM Class **Send-Identification-Res**

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\], page 83](#)) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

authentication-Set-List

This optional attribute is an instance of OM class **Authentication-Set-List**. See [Section 5.4.1.15 \[Authentication-Set-List\], page 144](#).

current-Security-Context

This optional attribute is an instance of OM class **Current-Security-Context**. See [Section 5.4.1.39 \[Current-Security-Context\], page 160](#).

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\], page 121](#).

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\], page 91](#).

5.4.1.161 Send-Routing-Info-For-Gprs-Arg

An instance of OM class **Send-Routing-Info-For-Gprs-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.209](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	1	—
ggsn-Address	String(Octet)	5-17	0-1	—
ggsn-Number	String(Address)	1-9	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.209: OM Attributes of OM Class **Send-Routing-Info-For-Gprs-Arg**

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\], page 83](#)) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

ggsn-Address GSN-Address ::= OCTET STRING(SIZE(5..17)) Octets are coded according to 3GPP TS 23.003.

ggsn-Number An ISDN Address String.

extension-Container This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\], page 121](#).

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\], page 91](#).

5.4.1.162 Send-Routing-Info-For-Gprs-Res

An instance of OM class **Send-Routing-Info-For-Gprs-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.210](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
sgsn-Address	String(Octet)	5-17	1	—
ggsn-Address	String(Octet)	5-17	0-1	—
mobile-Not-Reachable-Reason	Integer	0-255	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.210: OM Attributes of OM Class **Send-Routing-Info-For-Gprs-Res**

This OM class contains the following class-specific OM attributes:

sgsn-Address

GSN-Address ::= OCTET STRING(SIZE(5..17)) Octets are coded according to 3GPP TS 23.003.

ggsn-Address

GSN-Address ::= OCTET STRING(SIZE(5..17)) Octets are coded according to 3GPP TS 23.003.

mobile-Not-Reachable-Reason

AbsentSubscriberDiagnosticSM ::= INTEGER (0..255) Values are defined in 3GPP TS 23.040.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.163 Service-Type-List

An instance of OM class **Service-Type-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.211](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
service-Type	Object(Service-Type)	—	1-32	—

Table 5.211: OM Attributes of OM Class **Service-Type-List**

This OM class contains the following class-specific OM attributes:

service-Type

One to thirty-two instances of OM class **Service-Type**. See [Section 5.4.1.164 \[Service-Type\]](#), page 263.

5.4.1.164 Service-Type

An instance of OM class **Service-Type** represents the corresponding GSM MAP information object. An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.212](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
service-Type-Identity	Integer	0-127	1	—
gmlc-Restriction	Enum(GMLC-Restriction)	—	0-1	—
notification-To-MS-User	Enum(Notification-To-MS-User)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.212: OM Attributes of OM Class **Service-Type**

This OM class contains the following class-specific OM attributes:

service-Type-Identity

LCSServiceTypeID ::= INTEGER (0..127) The integer values 0-63 are reserved for standard LCS service types; the integer values 64-127 are reserved for non-standard LCS service types.

gmlc-Restriction

An enumeration containing one of the following values:

gmlc-list ('MAP_T_GMLC_LIST' '0')

home-country
('MAP_T_HOME_COUNTRY' '1')

notification-To-MS-User

An enumeration containing one of the following values:

notify-location-allowed
('MAP_T_NOTIFY_LOCATION_ALLOWED' '0')

notify-and-verify-location-allowed-no-response
('MAP_T_NOTIFY_AND_VERIFY_LOCATION_ALLOWED_NO_RESPONSE' '1')

notify-and-verity-location-allowed-if-no-response
('MAP_T_NOTIFY_AND_VERIFY_LOCATION_ALLOWED_IF_NO_RESPONSE' '2')

location-not-allowed
('MAP_T_LOCATION_NOT_ALLOWED' '3')

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.165 SGSN-CAMEL-Subscription-Info

An instance of OM class **SGSN-CAMEL-Subscription-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.213](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
gprs-CSI	Object(GPRS-CSI)	—	0-1	—
mo-sms-CSI	Object(SMS-CSI)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
mt-sms-CSI	Object(SMS-CSI)	—	0-1	—
mt-sms-CAMEL-TDP-Criteria-List	Object(MT-SMS-CAMEL-TDP-Criteria-List)	—	0-1	—
mg-CSI	Object(MG-CSI)	—	0-1	—

Table 5.213: *OM Attributes of OM Class SGSN-CAMEL-Subscription-Info*

This OM class contains the following class-specific OM attributes:

gprs-CSI This optional attribute is an instance of OM class **GPRS-CSI**. See [Section 5.4.1.78 \[GPRS-CSI\]](#), page 187.

mo-sms-CSI This optional attribute is an instance of OM class **SMS-CSI**. See [Section 5.4.1.169 \[SMS-CSI\]](#), page 267.

extension-Container This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

mt-sms-CSI This optional attribute is an instance of OM class **SMS-CSI**. See [Section 5.4.1.169 \[SMS-CSI\]](#), page 267.

mt-sms-CAMEL-TDP-Criteria-List This optional attribute is an instance of OM class **MT-SMS-CAMEL-TDP-Criteria-List**. See [Section 5.4.1.110 \[MT-SMS-CAMEL-TDP-Criteria-List\]](#), page 216.

mg-CSI This optional attribute is an instance of OM class **MG-CSI**. See [Section 5.4.1.98 \[MG-CSI\]](#), page 207.

5.4.1.166 SGSN-Capability

An instance of OM class **SGSN-Capability** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.214](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
<i>solsa-Support-Indicator</i>	Null	—	0-1	—
<i>super-Charger-Supported-In-Serving-NE</i>	Object(Super-Charger-Info)	—	0-1	—
<i>extension-Container</i>	Object(Extension-Container)	—	0-1	—
<i>extension</i>	Object(Extension)	—	0-1	—
<i>gprs-Enhancement-Support-Indicator</i>	Null	—	0-1	—
<i>supported-Camel-Phases</i>	String(Bit)	4	0-1	—
<i>offered-Camel4-CSIs</i>	String(Bit)	7	0-1	—
<i>sms-Call-Barring-Support-Indicator</i>	Null	—	0-1	—
<i>supported-RAT-Types-Indicator</i>	String(Bit)	5	0-1	—
<i>supported-Features</i>	String(Bit)	4	0-1	—

Table 5.214: OM Attributes of OM Class **SGSN-Capability**

This OM class contains the following class-specific OM attributes:

solsa-Support-Indicator

A Null value whose presence provides indication.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

super-Charger-Supported-In-Serving-Network-Entity

This optional attribute is an instance of OM class **Super-Charger-Info**. See [Section 5.4.1.176 \[Super-Charger-Info\]](#), page 273.

gprs-Enhancement-Support-Indicator

A Null value whose presence provides indication.

supported-Camel-Phases

A bit string containing zero or more of the following bits:

phase-1 ('MAP_T_PHASE_1' '0')

phase-2 ('MAP_T_PHASE_2' '1')

phase-3 ('MAP_T_PHASE_3' '2')

phase-4 ('MAP_T_PHASE_4' '3')

offered-Camel4-CSIs

A bit string containing zero or more of the following bits:

o-csi ('MAP_T_O_CSI' '0')

d-csi ('MAP_T_D_CSI' '1')

vt-csi ('MAP_T_VT_CSI' '2')

t-csi ('MAP_T_T_CSI' '3')

mt-sms-csi ('MAP_T_MT_SMS_CSI' '4')

mg-csi ('MAP_T_MG_CSI' '5')

psi-enhancements
('MAP_T_PSI_ENHANCEMENTS' '6')

sms-Call-Barring-Support-Indicator

A Null value whose presence provides indication.

supported-RAT-Types-Indicator

A bit string containing zero or more of the following bits:

utran ('MAP_T_UTRAN' '0')

geran ('MAP_T_GERAN' '1')

gan ('MAP_T_GAN' '2')

i-hspa-evolution
('MAP_T_I_HSPA_EVOLUTION' '3')

e-utran ('MAP_T_E_UTRAN' '4')

supported-Features

A bit string containing zero or more of the following bits:

odb-all ('MAP_T_ODB_ALL' '0')

odb-HPLMN-APN
('MAP_T_ODB_HPLMN_APN' '1')

odb-VPLMN-APN
('MAP_T_ODB_VPLMN_APN' '2')

reg-Sub ('MAP_T_REG_SUB' '3')

5.4.1.167 SMS-CAMEL-TDP-Data-List

An instance of OM class **SMS-CAMEL-TDP-Data-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.215](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
sms-CAMEL-TDP-Data	Object(SMS-CAMEL-TDP-Data)	—	1-10	—

Table 5.215: *OM Attributes of OM Class SMS-CAMEL-TDP-Data-List*

This OM class contains the following class-specific OM attributes:

sms-CAMEL-TDP-Data

One to ten (**maxNumOfCamelTDPData**) instances of OM class **SMS-CAMEL-TDP-Data**.
See [Section 5.4.1.168 \[SMS-CAMEL-TDP-Data\]](#), page 267.

5.4.1.168 SMS-CAMEL-TDP-Data

An instance of OM class **SMS-CAMEL-TDP-Data** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.216](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
sms-Trigger-Detection-Point	Enum(SMS-Trigger-Detection-Point)	—	1	—
service-Key	Integer	—	1	—
gsmSCF-Address	String(Address)	1-9	1	—
default-SMS-Handling	Enum(Default-SMS-Handling)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.216: *OM Attributes of OM Class SMS-CAMEL-TDP-Data*

This OM class contains the following class-specific OM attributes:

sms-Trigger-Detection-Point

An enumeration containing one of the following values:

sms-collected-info

(‘MAP_T_SMS_COLLECTED_INFO’ ‘1’)

sms-delivery-request

(‘MAP_T_SMS_DELIVERY_REQUEST’ ‘2’)

service-Key

ServiceKey ::= INTEGER(0..2147483647)

gsmSCF-Address

An ISDN Address String.

default-SMS-Handling

continue-transaction

(‘MAP_T_CONTINUE_TRANSACTION’ ‘0’)

release-transaction

(‘MAP_T_RELEASE_TRANSACTION’ ‘1’)

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.169 SMS-CSI

An instance of OM class **SMS-CSI** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.217](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
sms-CAMEL-TDP-Data-List	Object(SMS-CAMEL-TDP-Data-List)	—	0-1	—
camel-Capability-Handling	Integer	1-16	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
notification-To-CSE	Null	—	0-1	—
csi-Active	Null	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.217: OM Attributes of OM Class **SMS-CSI**

This OM class contains the following class-specific OM attributes:

sms-CAMEL-TDP-Data-List

This optional attribute is an instance of OM class **SMS-CAMEL-TDP-Data-List**. See [Section 5.4.1.167 \[SMS-CAMEL-TDP-Data-List\]](#), page 266.

camel-Capability-Handling

CamelCapabilityHandling ::= INTEGER(1..16) Value 1, CAMEL phase 1; value 2, CAMEL phase 2; value 3, CAMEL phase 3; value 4, CAMEL phase 4. Reception of values greater than 4 shall be treated as CAMEL phase 4.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

notification-To-CSE

A Null value whose presence provides indication.

csi-Active

A Null value whose presence provides indication.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.170 SS-Camel-Data

An instance of OM class **SS-Camel-Data** represents the corresponding GSM MAP information object. An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.218](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Event-List	Object(SS-Event-List)	—	1	—
gsmSCF-Address	String(Address)	1-9	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.218: OM Attributes of OM Class **SS-Camel-Data**

This OM class contains the following class-specific OM attributes:

ss-Event-List

This optional attribute is an instance of OM class **SS-Event-List**. See [Section 5.4.1.172 \[SS-Event-List\]](#), page 269.

gsmSCF-Address

An ISDN Address String.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.171 SS-CSI

An instance of OM class **SS-CSI** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.219](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Camel-Data	Object(SS-Camel-Data)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
notification-To-CSE	Null	—	0-1	—
csi-Active	Null	—	0-1	—

Table 5.219: *OM Attributes of OM Class SS-CSI*

This OM class contains the following class-specific OM attributes:

ss-Camel-Data

This attribute is an instance of OM class **SS-Camel-Data**. See [Section 5.4.1.170 \[SS-Camel-Data\]](#), page 268.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

notification-To-CSE

A Null value whose presence provides indication.

csi-Active

A Null value whose presence provides indication.

5.4.1.172 SS-Event-List

An instance of OM class **SS-Event-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.220](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	1-10	—

Table 5.220: OM Attributes of OM Class **SS-Event-List**

This OM class contains the following class-specific OM attributes:

ss-Code One to ten (`maxNumOfCamelSSEvents`) instances of an SS-Code. `SS-Code ::= OCTET STRING (SIZE(1))`

5.4.1.173 Subscriber-Data

An instance of OM class **Subscriber-Data** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.221](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
msisdn	String(Address)	1-9	0-1	—
category	String(Octet)	1	0-1	—
subscriber-Status	Enum(Subscriber-Status)	—	0-1	—
bearer-Service-List	Object(Bearer-Service-List)	—	0-1	—
teleservice-List	Object(Teleservice-List)	—	0-1	—
provisioned-SS	Object(Ext-SS-Info-List)	—	0-1	—
odb-Data	Object(ODB-Data)	—	0-1	—
roaming-Restriction	Null	—	0-1	—
regional-Subscription-Data	Object(Zone-Code-List)	—	0-1	—
vbs-Subscription-Data	Object(VBS-Data-List)	—	0-1	—
vgcs-Subscription-Data	Object(VGCS-Data-List)	—	0-1	—
vlr-Camel-Subscription-Info	Object(Vlr-Camel-Subscription-Info)	—	0-1	—

Table 5.221: OM Attributes of OM Class **Subscriber-Data**

This OM class contains the following class-specific OM attributes:

msisdn This attribute refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

category `Category ::= OCTET STRING (SIZE(1))` The internal structure is defined in ITU-T Rec. Q.763.

subscriber-Status

An enumeration containing one of the following values:

service-granted

(`'MAP_T_SERVICE_GRANTED'` `'0'`)

operator-determined-barring
 ('MAP_T_OPERATOR_DETERMINED_BARRING' '1')

bearer-Service-List

This optional attribute is an instance of OM class **Bearer-Service-List**. See [Section 5.4.1.19 \[Bearer-Service-List\]](#), page 146.

teleservice-List

This optional attribute is an instance of OM class **Teleservice-List**. See [Section 5.4.1.184 \[Teleservice-List\]](#), page 278.

provisioned-SS

This optional attribute is an instance of OM class **Ext-SS-Info-List**. See [Section 5.4.1.69 \[Ext-SS-Info-List\]](#), page 180.

odb-Data

This optional attribute is an instance of OM class **ODB-Data**. See [Section 5.4.1.124 \[ODB-Data\]](#), page 226.

roaming-Restriction-Due-To-Unsupported-Feature

A Null value whose presence provides indication.

regional-Subscription-Data

This optional attribute is an instance of OM class **Zone-Code-List**. See [Section 5.4.1.199 \[Zone-Code-List\]](#), page 291.

vbs-Subscription-Data

This optional attribute is an instance of OM class **VBS-Data-List**. See [Section 5.4.1.193 \[VBS-Data-List\]](#), page 286.

vgcs-Subscription-Data

This optional attribute is an instance of OM class **VGCS-Data-List**. See [Section 5.4.1.194 \[VGCS-Data-List\]](#), page 286.

vlr-Camel-Subscription-Info

This optional attribute is an instance of OM class **Vlr-Camel-Subscription-Info**. See [Section 5.4.1.195 \[Vlr-Camel-Subscription-Info\]](#), page 286.

5.4.1.174 Subscriber-Info

An instance of OM class **Subscriber-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.222](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
location-Information	Object(Location-Information)	—	0-1	—
subscriber-State	Object(Subscriber-State)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
location-Information-GPRS	Object(Location-Information-GPRS)	—	0-1	—
ps-Subscriber-State	Object(PS-Subscriber-State)	—	0-1	—
imei	String(Octet)	8	0-1	—
ms-Classmark-2	String(Octet)	3	0-1	—
gprs-MS-Class	Object(GPRS-MS-Class)	—	0-1	—
mnp-Info-Res	Object(MNP-Info-Res)	—	0-1	—

Table 5.222: OM Attributes of OM Class **Subscriber-Info**

This OM class contains the following class-specific OM attributes:

location-Information

This optional attribute is an instance of OM class **Location-Information**. See [Section 5.4.1.91 \[Location-Information\]](#), page 202.

subscriber-State

This attribute is an instance of OM class **Subscriber-State**. See [Section 5.4.1.175 \[Subscriber-State\]](#), page 273.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

location-Information-GPRS

This optional attribute is an instance of OM class **Location-Information-GPRS**. See [Section 5.4.1.90 \[Location-Information-GPRS\]](#), page 200.

ps-Subscriber-State

This attribute is an instance of OM class **PS-Subscriber-State**. See [Section 5.4.1.140 \[PS-Subscriber-State\]](#), page 245.

imei **IMEI ::= TBCD-STRING(SIZE(8))** Refers to International Mobile Station Equipment Identity defined in 3GPP TS 23.003. The last octet shall contain digit 0 and a filler.

ms-Classmark-2

MS-Classmark2 ::= OCTET STRING (SIZE(3)) This parameter carries the value part of the MS Classmark 2 IE defined in 3GPP TS 24.008.

gprs-MS-Class

This optional attribute is an instance of OM class **GPRS-MS-Class**. See [Section 5.4.1.80 \[GPRS-MS-Class\]](#), page 188.

mnp-Info-Res

This optional attribute is an instance of OM class **MNP-Info-Res**. See [Section 5.4.1.99 \[MNP-Info-Res\]](#), page 208.

5.4.1.175 Subscriber-State

An instance of OM class **Subscriber-State** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in Table 5.223. This OM class represents a choice and exactly one instance of one attribute shall be present in an instance of this OM class.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
assumed-Idle	Null	—	0-1	—
camel-Busy	Null	—	0-1	—
net-Det-Not-Reachable	Enum(Not-Reachable-Reason)	—	0-1	—
not-Provided-From-VLR	Null	—	0-1	—

Table 5.223: OM Attributes of OM Class **Subscriber-State**

This OM class contains the following class-specific OM attributes:

assumed-Idle

A Null value whose presence provides indication.

camel-Busy

A Null value whose presence provides indication.

net-Det-Not-Reachable

An enumeration containing one of the following values:

ms-purged ('MAP_T_MS_PURGED' '0')

imsi-detached
('MAP_T_IMSI_DETACHED' '1')

restricted-area
('MAP_T_RESTRICTED_AREA' '2')

not-registered
('MAP_T_NOT_REGISTERED' '3')

not-Provided-From-VLR

A Null value whose presence provides indication.

5.4.1.176 Super-Charger-Info

An instance of OM class **Super-Charger-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in Table 5.224. This OM class represents a choice and exactly one attribute must appear in an instance of this OM class.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
send-Subscriber-Data	Null	—	0-1	—
subscriber-Data-Stored	String(Octet)	1-6	0-1	—

Table 5.224: OM Attributes of OM Class **Super-Charger-Info**

This OM class contains the following class-specific OM attributes:

send-Subscriber-Data

A Null value whose presence provides indication.

subscriber-Data-Stored

AgeIndicator ::= OCTET STRING (SIZE(1..6)) The internal structure of this parameter is implementation specific.

5.4.1.177 Supported-Codecs-List

An instance of OM class **Supported-Codecs-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 5.225.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
utran-Codec-List	Object(Codec-List)	—	0-1	—
geran-Codec-List	Object(Codec-List)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.225: OM Attributes of OM Class **Supported-Codecs-List**

This OM class contains the following class-specific OM attributes:

utran-Codec-List

This optional attribute is an instance of OM class **Codec-List**. See Section 5.4.1.30 [Codec-List], page 155.

geran-Codec-List

This optional attribute is an instance of OM class **Codec-List**. See Section 5.4.1.30 [Codec-List], page 155.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See Section 5.3.19.6 [Extension-Container], page 121.

extension

This optional attribute is an instance of OM class **Extension**. See Section 5.2.13 [Extension], page 91.

5.4.1.178 T-BCSM-CAMEL-TDP-Criteria-List

An instance of OM class **T-BCSM-CAMEL-TDP-Criteria-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.226](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
t-BCSM-CAMEL-TDP-Criteria	Object(T-BCSM-CAMEL-TDP-Criteria)	—	1-10	—

Table 5.226: OM Attributes of OM Class **T-BCSM-CAMEL-TDP-Criteria-List**

This OM class contains the following class-specific OM attributes:

t-BCSM-CAMEL-TDP-Criteria

One to ten (`maxNumOfCamelTDPData`) instances of OM class **T-BCSM-CAMEL-TDP-Criteria**. See [Section 5.4.1.179 \[T-BCSM-CAMEL-TDP-Criteria\]](#), page 275.

5.4.1.179 T-BCSM-CAMEL-TDP-Criteria

An instance of OM class **T-BCSM-CAMEL-TDP-Criteria** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.227](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
t-BCSM-Trigger-Detection-Point	Enum(T-BCSM-Trigger-Detection-Point)	—	1	—
basic-Service-Criteria	Object(Basic-Service-Criteria)	—	0-1	—
t-Cause-Value-Criteria	Object(T-Cause-Value-Criteria)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.227: OM Attributes of OM Class **T-BCSM-CAMEL-TDP-Criteria**

This OM class contains the following class-specific OM attributes:

t-BCSM-Trigger-Detection-Point

An enumeration containing one of the following values:

term-attempt-authorized

(‘MAP_T_TERM_ATTEMPT_AUTHORIZED’ ‘12’)

t-busy

(‘MAP_T_T_BUSY’ ‘13’)

t-no-answer

(‘MAP_T_T_NO_ANSWER’ ‘14’)

basic-Service-Criteria

This optional attribute is an instance of OM class **Basic-Service-Criteria**. See [Section 5.4.1.17 \[Basic-Service-Criteria\]](#), page 145.

t-Cause-Value-Criteria

This optional attribute is an instance of OM class **T-Cause-Value-Criteria**. See [Section 5.4.1.182 \[T-Cause-Value-Criteria\]](#), page 277.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.180 T-Bcsm-Camel-TDP-Data-List

An instance of OM class **T-Bcsm-Camel-TDP-Data-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.228](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
t-Bcsm-Camel-TDP-Data	Object(T-Bcsm-Camel-TDP-Data)	—	1-10	—

Table 5.228: *OM Attributes of OM Class T-Bcsm-Camel-TDP-Data-List*

This OM class contains the following class-specific OM attributes:

t-Bcsm-Camel-TDP-Data

One to ten (`maxNumOfCamelTDPData`) instances of OM class **T-Bcsm-Camel-TDP-Data**. See [Section 5.4.1.181 \[T-Bcsm-Camel-TDP-Data\]](#), page 276.

5.4.1.181 T-Bcsm-Camel-TDP-Data

An instance of OM class **T-Bcsm-Camel-TDP-Data** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.229](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
t-Bcsm-Trigger-Detection-Point	Enum(T-Bcsm-Trigger-Detection-Point)	—	1	—
service-Key	Integer	—	1	—
gsmSCF-Address	String(Addres)	1-9	1	—
default-Call-Handling	Enum(Default-Call-Handling)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.229: *OM Attributes of OM Class T-Bcsm-Camel-TDP-Data*

This OM class contains the following class-specific OM attributes:

t-Bcsm-Trigger-Detection-Point

An enumeration containing one of the following values:

term-attempt-authorized
(‘MAP_T_TERM_ATTEMPT_AUTHORIZED’ ‘12’)

t-busy ('MAP_T_T_BUSY' '13')

t-no-answer ('MAP_T_T_NO_ANSWER' '14')

service-Key

ServiceKey ::= INTEGER(0..2147483647)

gsmSCF-Address

An ISDN Address String.

default-Call-Handling

An enumeration containing one of the following values:

continue-call ('MAP_T_CONTINUE_CALL' '0')

release-call ('MAP_T_RELEASE_CALL' '1')

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.182 T-Cause-Value-Criteria

An instance of OM class **T-Cause-Value-Criteria** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.230](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
cause-Value	String(Octet)	1	1-5	—

Table 5.230: OM Attributes of OM Class **T-Cause-Value-Criteria**

This OM class contains the following class-specific OM attributes:

cause-Value

One to five (**maxNumOfCAMEL-T-CauseValueCriteria**) instances of a cause value. **CauseValue** ::= OCTET STRING (SIZE(1)) Type extracted from Cause parameter in ITU-T Recommendation Q.763. For the use of cause value refer to ITU-T Recommendation Q.850.

5.4.1.183 T-CSI

An instance of OM class **T-CSI** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.231](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
t-Bcsm-Camel-TDP-Data-List	Object(T-Bcsm-Camel-TDP-Data-List)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
camel-Capability-Handling	Integer	1-16	0-1	—
notification-To-CSE	Null	—	0-1	—
csi-Active	Null	—	0-1	—

Table 5.231: OM Attributes of OM Class **T-CSI**

This OM class contains the following class-specific OM attributes:

t-Bcsm-Camel-TDP-Data-List

This attribute is an instance of OM class **T-Bcsm-Camel-TDP-Data-List**. See [Section 5.4.1.180 \[T-Bcsm-Camel-TDP-Data-List\]](#), page 276.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

camel-Capability-Handling

CamelCapabilityHandling ::= INTEGER(1..16) Value 1, CAMEL phase 1; value 2, CAMEL phase 2; value 3, CAMEL phase 3; value 4, CAMEL phase 4. Reception of values greater than 4 shall be treated as CAMEL phase 4.

notification-To-CSE

A Null value whose presence provides indication.

csi-Active A Null value whose presence provides indication.

5.4.1.184 Teleservice-List

An instance of OM class **Teleservice-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.232](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ext-Teleservice-Code	String(Octet)	1-5	1-20	—

Table 5.232: OM Attributes of OM Class **Teleservice-List**

This OM class contains the following class-specific OM attributes:

ext-Teleservice-Code

One to twenty instances of **Ext-TeleserviceCode**.

Ext-TeleserviceCode ::= OCTET STRING (SIZE(1..5)) This type is used to represent the code identifying a single teleservice, group of teleservices, or all teleservices. The services are defined in GSM TS 22.003. The internal structure is defined as follows: octet 1, bits 87654321, group (bits 8765) and specific service (bits 4321); octets 2-5, reserved for future use. If received, Ext-TeleserviceCode shall be treated according to the exception handling defined for the operation that uses this type. Ext-TeleserviceCode includes all values defined for TeleserviceCode.

5.4.1.185 TPDU-Type-Criterion

An instance of OM class **TPDU-Type-Criterion** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.233](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
mt-Sms-TPDU-Type	Enum(MT-SMS-TPDU-Type)	—	1-5	—

Table 5.233: OM Attributes of OM Class **TPDU-Type-Criterion**

This OM class contains the following class-specific OM attributes:

mt-Sms-TPDU-Type

One to five (`maxNumOfTPDUTypes`) instances of an MT-SMS-TPDU-Type, which is an enumeration containing one of the following values:

sms-deliver ('MAP_T_SMS_DELIVER' '0')

sms-submit-report
('MAP_T_SMS_SUBMIT_REPORT' '1')

sms-status-report
('MAP_T_SMS_STATUS_REPORT' '2')

5.4.1.186 Triplet-List

An instance of OM class **Triplet-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.234](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
authentication-Triplet	Object(Authentication-Triplet)	—	1-5	—

Table 5.234: OM Attributes of OM Class **Triplet-List**

This OM class contains the following class-specific OM attributes:

authentication-Triplet

This optional attribute is one to five instances of OM class **Authentication-Triplet**. See [Section 5.4.1.16 \[Authentication-Triplet\]](#), page 145.

5.4.1.187 UESBI-Iu

An instance of OM class **UESBI-Iu** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.235](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
uesbi-IuA	String(Bit)	1-128	0-1	—
uesbi-IuB	String(Bit)	1-128	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.235: *OM Attributes of OM Class UESBI-Iu*

This OM class contains the following class-specific OM attributes:

uesbi-IuA UESBI-IuA ::= BIT STRING (SIZE(1..128)) See 3GPP TS 25.413.

uesbi-IuB UESBI-IuB ::= BIT STRING (SIZE(1..128)) See 3GPP TS 25.413.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.188 UMTS-Security-Context-Data

An instance of OM class **UMTS-Security-Context-Data** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.236](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ck	String(Octet)	16	1	—
ik	String(Octet)	16	1	—
ksi	String(Octet)	1	1	—
extension	Object(Extension)	—	0-1	—

Table 5.236: *OM Attributes of OM Class UMTS-Security-Context-Data*

This OM class contains the following class-specific OM attributes:

ck CK ::= OCTET STRING (SIZE(16))

ik IK ::= OCTET STRING (SIZE(16))

ksi KSI ::= OCTET STRING (SIZE(1)) The internal structure is defined in 3GPP TS 24.008.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.1.189 Update-Gprs-Location-Arg

An instance of OM class **Update-Gprs-Location-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.237](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	1	—
sgsn-Number	String(Address)	1-9	1	—
sgsn-Address	String(Octet)	5-17	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
sgsn-Capability	Object(SGSN-Capability)	—	0-1	—
inform-Previous-Network-Entity	Null	—	0-1	—
ps-LCS-Not-Supported-By-UE	Null	—	0-1	—
v-Gmlc-Address	String(Octet)	5-17	0-1	—
add-Info	Object(Add-Info)	—	0-1	—
eps-Info	Object(EPS-Info)	—	0-1	—
serving-Node-Type-Indicator	Null	—	0-1	—
skip-Subscriber-Data-Update	Null	—	0-1	—
used-RAT-Type	Enum(Used-RAT-Type)	—	0-1	—

Table 5.237: OM Attributes of OM Class **Update-Gprs-Location-Arg**

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

sgsn-Number This attribute refers to the ISDN number of an SGSN. An ISDN Address String containing the ISDN address of the SGSN.

sgsn-Address GSN-Address ::= OCTET STRING(SIZE(5..17)) Octets are coded according to 3GPP TS 23.003.

extension-Container This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

sgsn-Capability

This optional attribute is an instance of OM class **SGSN-Capability**. See [Section 5.4.1.166 \[SGSN-Capability\]](#), page 264.

inform-Previous-Network-Entity

A Null value whose presence provides indication.

ps-LCS-Not-Supported-By-UE

A Null value whose presence provides indication.

v-Gmlc-Address

GSN-Address ::= OCTET STRING(SIZE(5..17)) Octets are coded according to 3GPP TS 23.003.

add-Info

This optional attribute is an instance of OM class **Add-Info**. See [Section 5.4.1.1 \[Add-Info\]](#), page 131.

eps-Info

This optional attribute is an instance of OM class **EPS-Info**. See [Section 5.4.1.51 \[EPS-Info\]](#), page 169.

serving-Node-Type-Indicator

A Null value whose presence provides indication.

skip-Subscriber-Data-Update

A Null value whose presence provides indication.

used-RAT-Type

An enumeration containing one of the following values:

utran	('MAP_T_UTRAN' '0')
geran	('MAP_T_GERAN' '1')
gsn	('MAP_T_GSN' '2')
i-hspa-evolution	('MAP_T_I_HSPA_EVOLUTION' '3')
e-utran	('MAP_T_E_UTRAN' '4')

5.4.1.190 Update-Gprs-Location-Res

An instance of OM class **Update-Gprs-Location-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.238](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
hlr-Number	String(Address)	1-9	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
add-Capability	Null	—	0-1	—
sgsn-mme-Separation-Supported	Null	—	0-1	—

Table 5.238: OM Attributes of OM Class **Update-Gprs-Location-Res**

This OM class contains the following class-specific OM attributes:

hlr-Number

This attribute refers to the ISDN number of an HLR. An ISDN Address String containing the ISDN address of the HLR.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

add-Capability

A Null value whose presence provides indication.

sgsn-mme-Separation-Supported

A Null value whose presence provides indication.

5.4.1.191 Update-Location-Arg

An instance of OM class **Update-Location-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.239](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	1	—
msc-Number	String(Address)	1-9	1	—
vlr-Number	String(Address)	1-9	0-1	—
lmsi	String(Octet)	4	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
vlr-Capability	Object(VLR-Capability)	—	0-1	—
inform-Previous-Network-Entity	Null	—	0-1	—
cs-LCS-Not-Supported-By-UE	Null	—	0-1	—
v-Gmlc-Address	String(Octet)	5-17	0-1	—
add-Info	Object(Add-Info)	—	0-1	—
paging-Area	Object(Paging-Area)	—	0-1	—
skip-Subscriber-Data-Update	Null	—	0-1	—

Table 5.239: OM Attributes of OM Class **Update-Location-Arg**

<i>imsi</i>	This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see Section 5.2.1 [String(TBCD)] , page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.
<i>msc-Number</i>	This attribute refers to the ISDN number of an MSC. An ISDN Address String containing the number of the MSC.
<i>vlr-Number</i>	This attribute refers to the ISDN number of a VLR. An ISDN Address String containing the ISDN address of the VLR.
<i>lmsi</i>	This attribute provides the local identity allocated by the VLR to a given subscriber for internal management of data in the VLR. The LMSI shall not be sent to an SGSN. This attribute is encoded as a 4 octet string.
<i>extension-Container</i>	This optional attribute is an instance of OM class Extension-Container . See Section 5.3.19.6 [Extension-Container] , page 121.
<i>extension</i>	This optional attribute is an instance of OM class Extension . See Section 5.2.13 [Extension] , page 91.
<i>vlr-Capability</i>	This optional attribute is an instance of OM class VLR-Capability . See Section 5.4.1.196 [VLR-Capability] , page 288.
<i>inform-Previous-Network-Entity</i>	A Null value whose presence provides indication.
<i>cs-LCS-Not-Supported-By-UE</i>	A Null value whose presence provides indication.

v-Gmlc-Address

GSN-Address ::= OCTET STRING(SIZE(5..17)) Octets are coded according to 3GPP TS 23.003.

add-Info This optional attributes is an instance of OM calss **Add-Info**. See [Section 5.4.1.1 \[Add-Info\]](#), page 131.

paging-Area

PagingArea ::= SEQUENCE SIZE(1..5) OF LocationArea

skip-Subscriber-Data-Update

A Null value whose presence provides indication.

5.4.1.192 Update-Location-Res

An instance of OM class **Update-Location-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.240](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
hlr-Number	String(Address)	1-9	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
add-Capability	Null	—	0-1	—
paging-Area-Capability	Null	—	0-1	—

Table 5.240: OM Attributes of OM Class **Update-Location-Res**

This OM class contains the following class-specific OM attributes:

hlr-Number

This attribute refers to the ISDN number of an HLR. An ISDN Address String containing the ISDN address of the HLR.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

add-Capability

A Null value whose presence provides indication.

paging-Area-Capability

A Null value whose presence provides indication.

5.4.1.193 VBS-Data-List

An instance of OM class **VBS-Data-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.241](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
voice-Broadcast-Data	Object(Voice-Broadcast-Data)	—	1-50	—

Table 5.241: OM Attributes of OM Class **VBS-Data-List**

This OM class contains the following class-specific OM attributes:

voice-Broadcast-Data

One to fifty (`maxNumOfVBSSGroupIds`) instances of OM class **Voice-Broadcast-Data**. See [Section 5.4.1.197 \[Voice-Broadcast-Data\]](#), page 290.

5.4.1.194 VGCS-Data-List

An instance of OM class **VGCS-Data-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.242](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
voice-Group-Call-Data	Object(Voice-Group-Call-Data)	—	1-50	—

Table 5.242: OM Attributes of OM Class **VGCS-Data-List**

This OM class contains the following class-specific OM attributes:

voice-Group-Call-Data

One to fifty (`maxNumOfVGCSGroupIds`) instances of OM class **Voice-Group-Call-Data**. See [Section 5.4.1.198 \[Voice-Group-Call-Data\]](#), page 290.

5.4.1.195 Vlr-Camel-Subscription-Info

An instance of OM class **Vlr-Camel-Subscription-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.243](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
o-CSI	Object(O-CSI)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
ss-CSI	Object(SS-CSI)	—	0-1	—
o-Bcsm-Camel-TDP-Criteria-List	Object(O-Bcsm-Camel-TDP-Criteria-List)	—	0-1	—
tif-CSI	Null	—	0-1	—
m-CSI	Object(M-CSI)	—	0-1	—
mo-sms-CSI	Object(SMS-CSI)	—	0-1	—
vt-CSI	Object(T-CSI)	—	0-1	—
t-BCSM-CAMEL-TDP-Criteria-List	Object(T-BCSM-CAMEL-TDP-Criteria-List)	—	0-1	—
d-CSI	Object(D-CSI)	—	0-1	—
mt-sms-CSI	Object(SMS-CSI)	—	0-1	—
mt-sms-CAMEL-TDP-Criteria-List	Object(MT-SMS-CAMEL-TDP-Criteria-List)	—	0-1	—

Table 5.243: OM Attributes of OM Class **Vlr-Camel-Subscription-Info**

This OM class contains the following class-specific OM attributes:

- o-CSI** This optional attribute is an instance of OM class **O-CSI**. See [Section 5.4.1.123 \[O-CSI\]](#), page 225.
- extension-Container** This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.
- extension** This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.
- ss-CSI** This optional attribute is an instance of OM class **SS-CSI**. See [Section 5.4.1.171 \[SS-CSI\]](#), page 269.
- o-Bcsm-Camel-TDP-Criteria-List** This optional attribute is an instance of OM class **O-Bcsm-Camel-TDP-Criteria-List**. See [Section 5.4.1.118 \[O-Bcsm-Camel-TDP-Criteria-List\]](#), page 222.
- tif-CSI** A Null value whose presence provides indication.
- m-CSI** This optional attribute is an instance of OM class **M-CSI**. See [Section 5.4.1.97 \[M-CSI\]](#), page 206.
- mo-sms-CSI** This optional attribute is an instance of OM class **SMS-CSI**. See [Section 5.4.1.169 \[SMS-CSI\]](#), page 267.
- vt-CSI** This optional attribute is an instance of OM class **T-CSI**. See [Section 5.4.1.183 \[T-CSI\]](#), page 277.
- t-BCSM-CAMEL-TDP-Criteria-List** This optional attribute is an instance of OM class **T-BCSM-CAMEL-TDP-Criteria-List**. See [Section 5.4.1.178 \[T-BCSM-CAMEL-TDP-Criteria-List\]](#), page 275.

d-CSI This optional attribute is an instance of OM class **D-CSI**. See [Section 5.4.1.40 \[D-CSI\]](#), page 161.

mt-sms-CSI This optional attribute is an instance of OM class **SMS-CSI**. See [Section 5.4.1.169 \[SMS-CSI\]](#), page 267.

mt-sms-CAMEL-TDP-Criteria-List This optional attribute is an instance of OM class **MT-SMS-CAMEL-TDP-Criteria-List**. See [Section 5.4.1.110 \[MT-SMS-CAMEL-TDP-Criteria-List\]](#), page 216.

5.4.1.196 VLR-Capability

An instance of OM class **VLR-Capability** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.244](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
supported-Camel-Phases	String(Bit)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
solsa-Support-Indicator	Null	—	0-1	—
ist-Support-Indicator	Enum(IST-Support-Indicator)	—	0-1	—
super-Charger-Supported-In-Serving-NE	Object(Super-Charger-Info)	—	0-1	—
long-FTN-Supported	Null	—	0-1	—
supported-LCS-Capability-Sets	String(Bit)	—	0-1	—
offered-Camel4-CSIs	String(Bit)	—	0-1	—
supported-RAT-Types-Indicator	String(Bit)	—	0-1	—
long-Group-ID-Supported	Null	—	0-1	—

Table 5.244: OM Attributes of OM Class **VLR-Capability**

This OM class contains the following class-specific OM attributes:

supported-Camel-Phases

A bit string containing zero or more of the following bits:

phase-1 ('MAP_T_PHASE_1' '0')

phase-2 ('MAP_T_PHASE_2' '1')

phase-3 ('MAP_T_PHASE_3' '2')

phase-4 ('MAP_T_PHASE_4' '3')

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

solsa-Support-Indicator

A Null value whose presence indicates support.

ist-Support-Indicator

An enumeration containing one of the following values:

basic-ist-support

(‘MAP_T_BASIC_IST_SUPPORT’ ‘0’)

ist-command-supported

(‘MAP_T_IST_COMMAND_SUPPORTED’ ‘1’)

super-Charger-Supported-In-Serving-Network-Entity

An optional instance of OM class **Super-Charger-Info**. See [Section 5.4.1.176 \[Super-Charger-Info\]](#), page 273.

long-FTN-Supported

A Null value whose presence indicates support.

supported-LCS-Capability-Sets

A bit string containing zero or more of the following bits:

lcs-capability-set1

(‘MAP_T_LCS_CAPABILITY_SET1’ ‘0’)

lcs-capability-set2

(‘MAP_T_LCS_CAPABILITY_SET2’ ‘1’)

lcs-capability-set3

(‘MAP_T_LCS_CAPABILITY_SET3’ ‘2’)

lcs-capability-set4

(‘MAP_T_LCS_CAPABILITY_SET4’ ‘3’)

lcs-capability-set5

(‘MAP_T_LCS_CAPABILITY_SET5’ ‘4’)

offered-Camel4-CSIs

A bit string containing zero or more of the following bits:

o-csi (‘MAP_T_O_CSI’ ‘0’)

d-csi (‘MAP_T_D_CSI’ ‘1’)

vt-csi (‘MAP_T_VT_CSI’ ‘2’)

t-csi (‘MAP_T_T_CSI’ ‘3’)

mt-sms-csi (‘MAP_T_MT_SMS_CSI’ ‘4’)

mg-csi (‘MAP_T_MG_CSI’ ‘5’)

psi-enhancements

(‘MAP_T_PSI_ENHANCEMENTS’ ‘6’)

supported-RAT-Types-Indicator

A bit string containing zero or more of the following bits:

utran (‘MAP_T_UTRAN’ ‘0’)

geran (‘MAP_T_GERAN’ ‘1’)

gan ('MAP_T_GAN' '2')

i-hspa-evolution
('MAP_T_I_HSPA_EVOLUTION' '3')

e-utran ('MAP_T_E_UTRAN' '4')

long-Group-ID-Supported

A Null value whose presence indicates support.

5.4.1.197 Voice-Broadcast-Data

An instance of OM class **Voice-Broadcast-Data** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.245](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
group-Id	String(TBCD)	3	1	—
broadcast-Init-Entitlement	Null	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
long-Group-Id	String(TBCD)	4	0-1	—

Table 5.245: OM Attributes of OM Class **Voice-Broadcast-Data**

This OM class contains the following class-specific OM attributes:

group-Id **GroupId** ::= TBCD-STRING(SIZE(3)) When Group-Id is less than six characters in length, the TBCD filler (1111) is used to fill unused half octets. Refers to the Group Identification as specified in 3GPP TS 23.003 and 3GPP TS 43.068/43.069.

broadcast-Init-Entitlement

A Null value whose presence provides indication.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

long-Group-Id

Long-GroupId ::= TBCD-STRING(SIZE(4)) When Long-Group-Id is less than eight characters in length, the TBCD filler (1111) is used to fill unused half octets. Refers to Group Identification as specified in 3GPP TS 23.003 and 3GPP TS 43.068/43.069.

5.4.1.198 Voice-Group-Call-Data

An instance of OM class **Voice-Group-Call-Data** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.246](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
group-Id	String(TBCD)	3	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
additional-Subscriptions	String(Bit)	3	0-1	—
additional-Info	String(Bit)	1-136	0-1	—
long-Group-Id	String(TBCD)	4	0-1	—

Table 5.246: OM Attributes of OM Class **Voice-Group-Call-Data**

This OM class contains the following class-specific OM attributes:

group-Id **GroupId ::= TBCD-STRING(SIZE(3))** When Group-Id is less than six characters in length, the TBCD filler (1111) is used to fill unused half octets. Refers to the Group Identification as specified in 3GPP TS 23.003 and 3GPP TS 43.068/43.069.

extension-Container This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

additional-Subscriptions A bit string containing zero or more of the following bits:

privileged-up-link-request
(‘MAP_T_PRIVILEGED_UP_LINK_REQUEST’ ‘0’)

emergency-up-link-request
(‘MAP_T_EMERGENCY_UP_LINK_REQUEST’ ‘1’)

emergency-reset
(‘MAP_T_EMERGENCY_RESET’ ‘2’)

additional-Info **AdditionalInfo ::= BIT STRING (SIZE(1..136))** Refers to additional info as specified in 3GPP TS 43.068.

long-Group-Id **Long-GroupId ::= TBCD-STRING (SIZE(4))** When Long-Group-Id is less than eight characters in length, the TBCD filler (1111) is used to fill unused half octets. Refers to Group Identification as specified in 3GPP TS 23.003 and 3GPP TS 43.068/43.069.

5.4.1.199 Zone-Code-List

An instance of OM class **Zone-Code-List** represents the corresponding GSM MAP information object. An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.247](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
zone-Code	String(Octet)	2	1-10	—

Table 5.247: OM Attributes of OM Class **Zone-Code-List**

This OM class contains the following class-specific OM attributes:

zone-Code **ZoneCode** ::= OCTET STRING (SIZE(2)) Internal structure is defined in 3GPP TS 23.003. One to ten instances of a Zone-Code. A zone code is a two octet string.

5.4.2 GSM Operations and Maintenance Package

OM Hierarchy

- *Object*
 - *Service-Argument*
 - *GSM-Service-Argument*
 - **Activate-Trace-Mode-Arg**
 - **Deactivate-Trace-Mode-Arg**
- *Service-Result*
 - *GSM-Service-Result*
 - **Activate-Trace-Mode-Res**
 - **Deactivate-Trace-Mode-Res**

5.4.2.1 Activate-Trace-Mode-Arg

An instance of OM class **Activate-Trace-Mode-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), [page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), [page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.248](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	0-1	—
trace-Reference	String(Octet)	1-2	1	—
trace-Type	Integer	0-255	1	—
omc-Id	String(Address)	1-20	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
trace-Reference-2	String(Octet)	3	0-1	—
trace-Depth-List	Object(Trace-Depth-List)	—	0-1	—
trace-NE-Type-List	String(Bit)	6	0-1	—
trace-Interface-List	Object(Trace-Interface-List)	—	0-1	—
trace-Event-List	Object(Trace-Event-List)	—	0-1	—

Table 5.248: OM Attributes of OM Class **Activate-Trace-Mode-Arg**

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

trace-Reference
TraceReference ::= OCTET STRING (SIZE(1..2))

trace-Type TraceType ::= INTEGER(0..255) Trace types are fully defined in 3GPP TS 52.008.

omc-Id An address string.

extension-Container
This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

trace-Reference-2
TraceReference2 ::= OCTET STRING (SIZE(3))

trace-Depth-List
This optional attribute is an instance of OM class **Trace-Depth-List**. See [Section 5.4.2.7 \[Trace-Depth-List\]](#), page 297.

trace-NE-Type-List
A bit string containing zero or more of the following bits:

msc-s ('MAP_T_MSC_S' '0')
mgw ('MAP_T_MGW' '1')
sgsn ('MAP_T_SGSN' '2')
ggsn ('MAP_T_GGSN' '3')

rnc ('MAP_T_RNC' '4')

bm-sc ('MAP_T_BM_SC' '5')

trace-Interface-List

This optional attribute is an instance of OM class **Trace-Interface-List**. See Section 5.4.2.9 [Trace-Interface-List], page 299.

trace-Event-List

This optional attribute is an instance of OM class **Trace-Event-List**. See Section 5.4.2.8 [Trace-Event-List], page 298.

5.4.2.2 Activate-Trace-Mode-Res

An instance of OM class **Activate-Trace-Mode-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see Section 4.21 [Service-rsp()], page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in Table 5.249.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
trace-Support-Indicator	Null	—	0-1	—

Table 5.249: OM Attributes of OM Class **Activate-Trace-Mode-Res**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See Section 5.3.19.6 [Extension-Container], page 121.

extension This optional attribute is an instance of OM class **Extension**. See Section 5.2.13 [Extension], page 91.

trace-Support-Indicator

A Null value whose presence provides indication.

5.4.2.3 Deactivate-Trace-Mode-Arg

An instance of OM class **Deactivate-Trace-Mode-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see Section 4.20 [Service-req()], page 70) or is returned by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in Table 5.250.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	0-1	—
trace-Reference	String(Octet)	1-2	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
trace-Reference-2	String(Octet)	3	0-1	—

Table 5.250: OM Attributes of OM Class **Deactivate-Trace-Mode-Arg**

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

trace-Reference

`TraceReference ::= OCTET STRING (SIZE(1..2))`

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

trace-Reference-2

`TraceReference2 ::= OCTET STRING (SIZE(3))`

5.4.2.4 Deactivate-Trace-Mode-Res

An instance of OM class **Deactivate-Trace-Mode-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.251](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.251: OM Attributes of OM Class **Deactivate-Trace-Mode-Res**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.2.5 Send-IMSI-Arg

An instance of OM class **Send-IMSI-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.252](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
msisdn	String(Address)	1-9	1	—

Table 5.252: *OM Attributes of OM Class Send-IMSI-Arg*

This OM class contains the following class-specific OM attributes:

msisdn An ISDN address string.

5.4.2.6 Send-IMSI-Res

An instance of OM class **Send-IMSI-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.253](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	1	—

Table 5.253: *OM Attributes of OM Class Send-IMSI-Res*

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

5.4.2.7 Trace-Depth-List

An instance of OM class **Trace-Depth-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.254](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
msc-s-Trace-Depth	Enum(Trace-Depth)	—	0-1	—
mgw-Trace-Depth	Enum(Trace-Depth)	—	0-1	—
sgsn-Trace-Depth	Enum(Trace-Depth)	—	0-1	—
ggsn-Trace-Depth	Enum(Trace-Depth)	—	0-1	—
rnc-Trace-Depth	Enum(Trace-Depth)	—	0-1	—
bmsc-Trace-Depth	Enum(Trace-Depth)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.254: OM Attributes of OM Class **Trace-Depth-List**

This OM class contains the following class-specific OM attributes:

msc-s-Trace-Depth

An enumeration containing one of the following values:

minimum ('MAP_T_MINIMUM' '0')

medium ('MAP_T_MEDIUM' '1')

maximum ('MAP_T_MAXIMUM' '2')

The value **medium** is applicable only for RNC. For other network elements, if value medium is received, value minimum shall be applied.

mgw-Trace-Depth

An enumeration containing one of the following values:

minimum ('MAP_T_MINIMUM' '0')

medium ('MAP_T_MEDIUM' '1')

maximum ('MAP_T_MAXIMUM' '2')

The value **medium** is applicable only for RNC. For other network elements, if value medium is received, value minimum shall be applied.

sgsn-Trace-Depth

An enumeration containing one of the following values:

minimum ('MAP_T_MINIMUM' '0')

medium ('MAP_T_MEDIUM' '1')

maximum ('MAP_T_MAXIMUM' '2')

The value **medium** is applicable only for RNC. For other network elements, if value medium is received, value minimum shall be applied.

ggsn-Trace-Depth

An enumeration containing one of the following values:

minimum ('MAP_T_MINIMUM' '0')

medium ('MAP_T_MEDIUM' '1')

maximum ('MAP_T_MAXIMUM' '2')

The value **medium** is applicable only for RNC. For other network elements, if value medium is received, value minimum shall be applied.

rnc-Trace-Depth

An enumeration containing one of the following values:

minimum ('MAP_T_MINIMUM' '0')

medium ('MAP_T_MEDIUM' '1')

maximum ('MAP_T_MAXIMUM' '2')

The value **medium** is applicable only for RNC. For other network elements, if value medium is received, value minimum shall be applied.

bmsc-Trace-Depth

An enumeration containing one of the following values:

minimum ('MAP_T_MINIMUM' '0')

medium ('MAP_T_MEDIUM' '1')

maximum ('MAP_T_MAXIMUM' '2')

The value **medium** is applicable only for RNC. For other network elements, if value medium is received, value minimum shall be applied.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.2.8 Trace-Event-List

An instance of OM class **Trace-Event-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.255](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
msc-s-List	String(Bit)	5	0-1	—
mgw-List	String(Bit)	1	0-1	—
sgsn-List	String(Bit)	4	0-1	—
ggsn-List	String(Bit)	2	0-1	—
bmsc-List	String(Bit)	1	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.255: OM Attributes of OM Class **Trace-Event-List**

This OM class contains the following class-specific OM attributes:

mssc-s-List A bit string containing zero or more of the following bits:

mo-mt-call ('MAP_T_MO_MT_CALL' '0')

mo-mt-sms ('MAP_T_MO_MT_SMS' '1')

lu-imsi-attach-imsi-detach
('MAP_T_LU_IMSI_ATTACH_IMSI_DETACH' '2')

handovers ('MAP_T_HANDOVERS' '3')

ss ('MAP_T_SS' '4')

mgw-List A bit string containing zero or more of the following bits:

context ('MAP_T_CONTEXT' '0')

sgsn-List A bit string containing zero or more of the following bits:

pdp-context
('MAP_T_PDP_CONTEXT' '0')

mo-mt-sms ('MAP_T_MO_MT_SMS' '1')

rau-gprs-attach-gprs-detach
('MAP_T_RAU_GPRS_ATTACH_GRPS_DETACH' '2')

mbms-context
('MAP_T_MBMS_CONTEXT' '3')

ggsn-List A bit string containing zero or more of the following bits:

pdp-context
('MAP_T_PDP_CONTEXT' '0')

mbms-context
('MAP_T_MBMS_CONTEXT' '1')

bmsc-List A bit string containing zero or more of the following bits:

mbms-multicast-service-activation
('MAP_T_MBMS_MULTICAST_SERVICE_ACTIVATION' '0')

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.2.9 Trace-Interface-List

An instance of OM class **Trace-Interface-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.256](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
msc-s-List	String(Bit)	10	0-1	—
mgw-List	String(Bit)	3	0-1	—
sgsn-List	String(Bit)	8	0-1	—
ggsn-List	String(Bit)	3	0-1	—
rnc-List	String(Bit)	4	0-1	—
bmsc-List	String(Bit)	1	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.256: OM Attributes of OM Class **Trace-Interface-List**

This OM class contains the following class-specific OM attributes:

msc-s-List A bit string containing zero or more of the following bits:

a	(‘MAP_T_A’ ‘0’)
iu	(‘MAP_T_IU’ ‘1’)
mc	(‘MAP_T_MC’ ‘2’)
map-g	(‘MAP_T_MAP_G’ ‘3’)
map-b	(‘MAP_T_MAP_B’ ‘4’)
map-e	(‘MAP_T_MAP_E’ ‘5’)
map-f	(‘MAP_T_MAP_F’ ‘6’)
cap	(‘MAP_T_CAP’ ‘7’)
map-d	(‘MAP_T_MAP_D’ ‘8’)
map-c	(‘MAP_T_MAP_C’ ‘9’)

mgw-List A bit string containing zero or more of the following bits:

mc	(‘MAP_T_MC’ ‘0’)
nb-up	(‘MAP_T_NB_UP’ ‘1’)
iu-up	(‘MAP_T_IU_UP’ ‘2’)

sgsn-List A bit string containing zero or more of the following bits:

gb	(‘MAP_T_GB’ ‘0’)
iu	(‘MAP_T_IU’ ‘1’)
gn	(‘MAP_T_GN’ ‘2’)
map-gr	(‘MAP_T_MAP_GR’ ‘3’)
map-gd	(‘MAP_T_MAP_GD’ ‘4’)
map-gf	(‘MAP_T_MAP_GF’ ‘5’)
gs	(‘MAP_T_GS’ ‘6’)

	ge	(‘MAP_T_GE’ ‘7’)
<i>ggsn-List</i>	A bit string containing zero or more of the following bits:	
	gn	(‘MAP_T_GN’ ‘0’)
	gi	(‘MAP_T_GI’ ‘1’)
	gmb	(‘MAP_T_GMB’ ‘2’)
<i>rnc-List</i>	A bit string containing zero or more of the following bits:	
	iu	(‘MAP_T_IU’ ‘0’)
	iur	(‘MAP_T_IUR’ ‘1’)
	iub	(‘MAP_T_IUB’ ‘2’)
	uu	(‘MAP_T_UU’ ‘3’)
<i>bmsc-List</i>	A bit string containing zero or more of the following bits:	
	gmb	(‘MAP_T_GMB’ ‘0’)
<i>extension</i>	This optional attribute is an instance of OM class Extension . See Section 5.2.13 [Extension] , page 91.	

5.4.2.10 Trace-Propagation-List

An instance of OM class **Trace-Propagation-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.257](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
trace-Reference	String(Octet)	1-2	0-1	—
trace-Type	Integer	0-255	0-1	—
trace-Reference-2	String(Octet)	3	0-1	—
trace-Recording-Session-Reference	String(Octet)	2	0-1	—
rnc-Trace-Depth	Enum(Trace-Depth)	—	0-1	—
rnc-Interface-List	String(Bit)	4	0-1	—
msc-s-Trace-Depth	Enum(Trace-Depth)	—	0-1	—
msc-s-Interface-List	String(Bit)	10	0-1	—
msc-s-Event-List	String(Bit)	5	0-1	—
mgw-Trace-Depth	Enum(Trace-Depth)	—	0-1	—
mgw-Interface-List	String(Bit)	3	0-1	—
mgw-Event-List	String(Bit)	1	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.257: OM Attributes of OM Class **Trace-Propagation-List**

This OM class contains the following class-specific OM attributes:

trace-Reference

TraceReference ::= OCTET STRING (SIZE(1..2))

trace-Type **TraceType** ::= INTEGER(0..255) Trace types are fully defined in 3GPP TS 52.008.

trace-Reference-2

TraceReference2 ::= OCTET STRING (SIZE(3))

trace-Recording-Session-Reference

TraceRecordingSessionReference ::= OCTET STRING (SIZE(2))

rnc-Trace-Depth

An enumeration containing one of the following values:

minimum ('MAP_T_MINIMUM' '0')

medium ('MAP_T_MEDIUM' '1')

maximum ('MAP_T_MAXIMUM' '2')

rnc-Interface-List

A bit string containing zero or more of the following bits:

iu ('MAP_T_IU' '0')

iur ('MAP_T_IUR' '1')

iub ('MAP_T_IUB' '2')

uu ('MAP_T_UU' '3')

msc-s-Trace-Depth

An enumeration containing one of the following values:

minimum ('MAP_T_MINIMUM' '0')

medium ('MAP_T_MEDIUM' '1')

maximum ('MAP_T_MAXIMUM' '2')

msc-s-Interface-List

A bit string containing zero or more of the following bits:

a ('MAP_T_A' '0')

iu ('MAP_T_IU' '1')

mc ('MAP_T_MC' '2')

map-g ('MAP_T_MAP_G' '3')

map-b ('MAP_T_MAP_B' '4')

map-e ('MAP_T_MAP_E' '5')

map-f ('MAP_T_MAP_F' '6')

cap ('MAP_T_CAP' '7')

map-d ('MAP_T_MAP_D' '8')

map-c ('MAP_T_MAP_C' '9')

msc-s-Event-List

A bit string containing zero or more of the following bits:

mo-mt-call ('MAP_T_MO_MT_CALL' '0')

mo-mt-sms ('MAP_T_MO_MT_SMS' '1')

lu-imsi-attach-imsi-detach
('MAP_T_LU_IMSI_ATTACH_IMSI_DETACH' '2')

handovers ('MAP_T_HANDOVERS' '3')

ss ('MAP_T_SS' '4')

mgw-Trace-Depth

An enumeration containing one of the following values:

minimum ('MAP_T_MINIMUM' '0')

medium ('MAP_T_MEDIUM' '1')

maximum ('MAP_T_MAXIMUM' '2')

mgw-Interface-List

A bit string containing zero or more of the following bits:

mc ('MAP_T_MC' '0')

nb-up ('MAP_T_NB_UP' '1')

iu-up ('MAP_T_IU_UP' '2')

mgw-Event-List

A bit string containing zero or more of the following bits:

context ('MAP_T_CONTEXT' '0')

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.3 GSM Call Handling Package**OM Hierarchy**

- *Object*
 - *Service-Argument*
 - *GSM-Service-Argument*
 - **IST-Alert-Arg**
 - **IST-Command-Arg**
 - **Provide-Roaming-Number-Arg**
 - **Release-Resources-Arg**
 - **Remote-User-Free-Arg**
 - **Resume-Call-Handling-Arg**
 - **Send-Routing-Info-Arg**
 - **Set-Reporting-State-Arg**
 - **Status-Report-Arg**
- *Service-Result*
 - *GSM-Service-Result*
 - **IST-Alert-Res**

- **IST-Command-Res**
- **Provide-Roaming-Number-Res**
- **Release-Resources-Res**
- **Remote-User-Free-Res**
- **Resume-Call-Handling-Res**
- **Send-Routing-Info-Res**
- **Set-Reporting-State-Res**
- **Status-Report-Res**

5.4.3.1 Call-Report-Data

An instance of OM class **Call-Report-Data** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.258](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
monitoring-Mode	Enum(Monitoring-Mode)	—	0-1	—
call-Outcome	Enum(Call-Outcome)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.258: OM Attributes of OM Class **Call-Report-Data**

This OM class contains the following class-specific OM attributes:

monitoring-Mode

An enumeration containing one of the following values:

a-side ('MAP_T_A_SIDE' '0')

b-side ('MAP_T_B_SIDE' '1')

Values '2' to '10' shall be mapped to '0'; values greater than '10' mapped to '1'.

call-Outcome

An enumeration containing one of the following values:

success ('MAP_T_SUCCESS' '0')

failure ('MAP_T_FAILURE' '1')

busy ('MAP_T_BUSY' '2')

Values '3' to '10' shall be mapped to '0'; '11' to '20', '1', and greater than '20', '2'.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.3.2 Camel-Info

An instance of OM class **Camel-Info** represents the corresponding GSM MAP information object. An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.259](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
supported-Camel-Phases	String(Bit)	4	1	—
suppress-T-CSI	Null	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
offered-Camel4-CSIs	String(Bit)	7	0-1	—

Table 5.259: OM Attributes of OM Class **Camel-Info**

This OM class contains the following class-specific OM attributes:

supported-Camel-Phases

A bit string containing zero or more of the following bits:

phase-1 ('MAP_T_PHASE_1' '0')

phase-2 ('MAP_T_PHASE_2' '1')

phase-3 ('MAP_T_PHASE_3' '2')

phase-4 ('MAP_T_PHASE_4' '3')

suppress-T-CSI

A Null value whose presence provides indication.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

offered-Camel4-CSIs

A bit string containing zero or more of the following bits:

o-csi ('MAP_T_O_CSI' '0')

d-csi ('MAP_T_D_CSI' '1')

vt-csi ('MAP_T_VT_CSI' '2')

t-csi ('MAP_T_T_CSI' '3')

mt-sms-csi ('MAP_T_MT_SMS_CSI' '4')

mg-csi ('MAP_T_MG_CSI' '5')

psi-enhancements

('MAP_T_PSI_ENHANCEMENTS' '6')

5.4.3.3 Camel-Routing-Info

An instance of OM class **Camel-Routing-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 5.260.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
forwarding-Data	Object(Forwarding-Data)	—	0-1	—
gmsc-Camel-Subscription-Info	Object(Gmsc-Camel-Subscription-Info)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.260: OM Attributes of OM Class **Camel-Routing-Info**

This OM class contains the following class-specific OM attributes:

forwarding-Data

This optional attribute is an instance of OM class **Forwarding-Data**. See Section 5.4.3.8 [Forwarding-Data], page 309.

gmsc-Camel-Subscription-Info

This attribute is an instance of OM class **Gmsc-Camel-Subscription-Info**. See Section 5.4.3.9 [Gmsc-Camel-Subscription-Info], page 310.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See Section 5.3.19.6 [Extension-Container], page 121.

extension

This optional attribute is an instance of OM class **Extension**. See Section 5.2.13 [Extension], page 91.

5.4.3.4 CCBS-Indicators

An instance of OM class **CCBS-Indicators** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 5.261.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ccbs-Possible	Null	—	0-1	—
keep-CCBS-Call-Indicator	Null	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.261: OM Attributes of OM Class **CCBS-Indicators**

This OM class contains the following class-specific OM attributes:

ccbs-Possible

A Null value whose presence provides indication.

keep-CCBS-Call-Indicator

A Null value whose presence provides indication.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.3.5 CUG-Check-Info

An instance of OM class **CUG-Check-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.262](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
cug-Interlock	String(Octet)	4	1	—
cug-Outgoing-Access	Null	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.262: OM Attributes of OM Class **CUG-Check-Info**

This OM class contains the following class-specific OM attributes:

cug-Interlock

CUG-Interlock ::= OCTET STRING (SIZE (4))

cug-Outgoing-Access

A Null value whose presence provides indication.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.3.6 Event-Report-Data

An instance of OM class **Event-Report-Data** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.263](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ccbs-Subscriber-Status	Enum(CCBS-Subscriber-Status)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.263: OM Attributes of OM Class **Event-Report-Data**

This OM class contains the following class-specific OM attributes:

ccbs-Subscriber-Status

An enumeration containing one of the following values:

ccbs-not-idle

(‘MAP_T_CCBS_NOT_IDLE’ ‘0’)

ccbs-idle

(‘MAP_T_CCBS_IDLE’ ‘1’)

ccbs-not-reachable

(‘MAP_T_CCBS_NOT_REACHABLE’ ‘2’)

Values of ‘3’ to ‘10’ shall be mapped to ‘0’; ‘11’ to ‘20’, mapped to ‘1’; values greater than ‘20’, to ‘2’.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.3.7 Extended-Routing-Info

An instance of OM class **Extended-Routing-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.264](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
routing-Info	Object(Routing-Info)	—	0-1	—
camel-Routing-Info	Object(Camel-Routing-Info)	—	0-1	—

Table 5.264: OM Attributes of OM Class **Extended-Routing-Info**

This OM class represents a choice and exactly one instance of one attribute shall be present in an instance of this OM class.

This OM class contains the following class-specific OM attributes:

routing-Info

This choice attribute is an instance of OM class **Routing-Info**. See [Section 5.4.3.22 \[Routing-Info\]](#), page 323.

camel-Routing-Info

This choice attribute is an instance of OM class **Camel-Routing-Info**. See Section 5.4.3.3 [Camel-Routing-Info], page 306.

5.4.3.8 Forwarding-Data

An instance of OM class **Forwarding-Data** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 5.265.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
forwarded-To-Number	String(Address)	1-9	0-1	—
forwarded-To-Subaddress	String(Subaddress)	1-21	0-1	—
forwarding-Options	String(Octet)	1	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
long-Forwarded-To-Number	String(Address)	1-15	0-1	—

Table 5.265: OM Attributes of OM Class **Forwarding-Data**

This OM class contains the following class-specific OM attributes:

forwarded-To-Number

An ISDN Address String. When this data type is sent from an HLR that supports CAMEL Phase 2 to a GMSC that supports CAMEL Phase 2 the GMSC shall not check the format of the number.

forwarded-To-Subaddress

An ISDN Subaddress String.

forwarding-Options

ForwardingOptions ::= OCTET STRING (SIZE (1)) Encoded as follows:

bit '8' — notification to forwarding party
 '0' no notification
 '1' notification

bit '7' — redirecting presentation
 '0' no presentation
 '1' presentation

bit '6' — notification to calling party
 '0' no notification
 '1' notification

bit '5'
 '0' unused

bits '43' — forwarding reason
 '00' ms not reachable
 '01' ms busy

'10'	no reply
'11'	unconditional when used in a SRI Result, or call deflection when used in a RCH Argument.
bits '21'	
'00'	(unused)

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

long-Forwarded-To-Number

FTN-AddressString ::= **AddressString** (SIZE(1..15)) This type is used to represent forwarded-to numbers. If NAI is “international”, the first digits represent the country code (CC) and the network destination code (NDC) as for E.164.

5.4.3.9 Gmsc-Camel-Subscription-Info

An instance of OM class **Gmsc-Camel-Subscription-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.266](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
t-CSI	Object(T-CSI)	—	0-1	—
o-CSI	Object(O-CSI)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
o-Bcsm-Camel-TDP-Criteria-List	Object(O-Bcsm-Camel-TDP-Criteria-List)	—	0-1	—
t-BCSM-CAMEL-TDP-Criteria-List	Object(T-BCSM-CAMEL-TDP-Criteria-List)	—	0-1	—
d-CSI	Object(D-CSI)	—	0-1	—

Table 5.266: *OM Attributes of OM Class Gmsc-Camel-Subscription-Info*

This OM class contains the following class-specific OM attributes:

t-CSI This optional attribute is an instance of OM class **T-CSI**. See [Section 5.4.1.183 \[T-CSI\]](#), page 277.

o-CSI This optional attribute is an instance of OM class **O-CSI**. See [Section 5.4.1.123 \[O-CSI\]](#), page 225.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

o-Bcsm-Camel-TDP-Criteria-List

This optional attribute is an instance of OM class **O-Bcsm-Camel-TDP-Criteria-List**. See [Section 5.4.1.118 \[O-Bcsm-Camel-TDP-Criteria-List\]](#), page 222.

t-BCSM-CAMEL-TDP-Criteria-List

This optional attribute is an instance of OM class **T-BCSM-CAMEL-TDP-Criteria-List**. See [Section 5.4.1.178 \[T-BCSM-CAMEL-TDP-Criteria-List\]](#), page 275.

d-CSI

This optional attribute is an instance of OM class **D-CSI**. See [Section 5.4.1.40 \[D-CSI\]](#), page 161.

5.4.3.10 IST-Alert-Arg

An instance of OM class **IST-Alert-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.267](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.267: OM Attributes of OM Class **IST-Alert-Arg**

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.3.11 IST-Alert-Res

An instance of OM class **IST-Alert-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.268](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ist-Alert-Timer	Integer	15-255	0-1	—
ist-Information-Withdraw	Null	—	0-1	—
call-Termination-Indicator	Enum(Call-Termination-Indicator)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.268: OM Attributes of OM Class **IST-Alert-Res**

This OM class contains the following class-specific OM attributes:

ist-Alert-Timer

IST-AlertTimerValue ::= INTEGER(15..255)

ist-Information-Withdraw

A Null value whose presence provides indication.

call-Termination-Indicator

An enumeration containing one of the following values:

terminate-call-activity-referred

(‘MAP_T_TERMINATE_CALL_ACTIVITY_REFERRED’ ‘0’)

terminate-all-call-activities

(‘MAP_T_TERMINATE_ALL_CALL_ACTIVITIES’ ‘1’)

Values ‘2’ to ‘10’ are mapped to ‘0’; greater than ‘10’, ‘1’. In MSCs not supporting linkage of all call activities, any value received shall be interpreted as **terminate-call-activity-referred**.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.3.12 IST-Command-Arg

An instance of OM class **IST-Command-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.269](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.269: OM Attributes of OM Class **IST-Command-Arg**

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

extension-Container This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.3.13 IST-Command-Res

An instance of OM class **IST-Command-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.270](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.270: OM Attributes of OM Class **IST-Command-Res**

This OM class contains the following class-specific OM attributes:

extension-Container This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.3.14 Provide-Roaming-Number-Arg

An instance of OM class **Provide-Roaming-Number-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.271](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	1	—
msc-Number	String(Address)	1-9	1	—
msisdn	String(Address)	1-9	0-1	—
lmsi	String(Octet)	4	0-1	—
gsm-Bearer-Capability	Object(External-Signal-Info)	—	0-1	—
network-Signal-Info	Object(External-Signal-Info)	—	0-1	—
suppression-Of-Announcement	Null	—	0-1	—
gmsc-Address	String(Address)	1-9	0-1	—
call-Reference-Number	String(Octet)	1-8	0-1	—
or-Interrogation	Null	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
alerting-Pattern	String(Octet)	1	0-1	—
ccbs-Call	Null	—	0-1	—
supported-Camel-Phases-In-Interrogating-Node	String(Bit)	4	0-1	—
additional-Signal-Info	Object(Ext-External-Signal-Info)	—	0-1	—
or-Not-Supported-In-GMSC	Null	—	0-1	—
pre-Paging-Supported	Null	—	0-1	—
long-FTN-Supported	Null	—	0-1	—
suppress-VT-CSI	Null	—	0-1	—
offered-Camel4-CSIs-In-Interrogating-Node	String(Bit)	7	0-1	—
mt-Roaming-Retry-Supported	Null	—	0-1	—
paging-Area	Object(Paging-Area)	—	0-1	—
call-Priority	Integer	0-15	0-1	—

Table 5.271: OM Attributes of OM Class **Provide-Roaming-Number-Arg**

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\], page 83](#)) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

msc-Number This attribute refers to the ISDN number of an MSC. An ISDN Address String containing the number of the MSC.

- msisdn* This attribute refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.
- lmsi* This attribute provides the local identity allocated by the VLR to a given subscriber for internal management of data in the VLR. The LMSI shall not be sent to an SGSN. This attribute is encoded as a 4 octet string.
- gsm-Bearer-Capability*
This optional attribute is an instance of OM class **External-Signal-Info**. See [Section 5.3.19.7 \[External-Signal-Info\]](#), page 121.
- network-Signal-Info*
This optional attribute is an instance of OM class **External-Signal-Info**. See [Section 5.3.19.7 \[External-Signal-Info\]](#), page 121.
- suppression-Of-Announcement*
A Null value whose presence provides indication.
- gsmc-Address*
An ISDN Address String.
- call-Reference-Number*
`CallReferenceNumber ::= OCTET STRING (SIZE(1..8))`
- or-Interrogation*
A Null value whose presence provides indication.
- extension-Container*
This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.
- extension* This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.
- alerting-Pattern*
`AlertingPattern ::= OCTET STRING (SIZE (1))` This type is used to represent alerting patterns: bits 8765, '0000' (unused), bits 43, '00', level; '01', category; '10', category; '11', reserved; bits 21, type of alerting.
- alerting-level-0**
(`'MAP_T_ALERTING_LEVEL_0'` '00000000'B)
- alerting-level-1**
(`'MAP_T_ALERTING_LEVEL_1'` '00000001'B)
- alerting-level-2**
(`'MAP_T_ALERTING_LEVEL_2'` '00000010'B)
- alerting-category-1**
(`'MAP_T_ALERTING_CATEGORY_1'` '00000100'B)
- alerting-category-2**
(`'MAP_T_ALERTING_CATEGORY_2'` '00000101'B)
- alerting-category-3**
(`'MAP_T_ALERTING_CATEGORY_3'` '00000110'B)

alerting-category-4

(‘MAP_T_ALERTING_CATEGORY_4’ ’00000111’B)

alerting-category-5

(‘MAP_T_ALERTING_CATEGORY_5’ ’00001000’B)

All other values are reserved. Alerting levels and categories are defined in GSM 02.07.

ccbs-Call A Null value whose presence provides indication.

supported-Camel-Phases-In-Interrogating-Node

A bit string containing zero or more of the following bits:

phase-1 (‘MAP_T_PHASE_1’ ’0’)

phase-2 (‘MAP_T_PHASE_2’ ’1’)

phase-3 (‘MAP_T_PHASE_3’ ’2’)

phase-4 (‘MAP_T_PHASE_4’ ’3’)

additional-Signal-Info

This optional attribute is an instance of OM class **Ext-External-Signal-Info**. See [Section 5.3.19.8 \[Ext-External-Signal-Info\]](#), page 122.

or-Not-Supported-In-GMSC

A Null value whose presence provides indication.

pre-Paging-Supported

A Null value whose presence provides indication.

long-FTN-Supported

A Null value whose presence provides indication.

suppress-VT-CSI

A Null value whose presence provides indication.

offered-Camel4-CSIs-In-Interrogating-Node

A bit string containing zero or more of the following bits:

o-csi (‘MAP_T_O_CSI’ ’0’)

d-csi (‘MAP_T_D_CSI’ ’1’)

vt-csi (‘MAP_T_VT_CSI’ ’2’)

t-csi (‘MAP_T_T_CSI’ ’3’)

mt-sms-csi (‘MAP_T_MT_SMS_CSI’ ’4’)

mg-csi (‘MAP_T_MG_CSI’ ’5’)

psi-enhancements

(‘MAP_T_PSI_ENHANCEMENTS’ ’6’)

mt-Roaming-Retry-Supported

A Null value whose presence provides indication.

paging-Area

This optional attribute is an instance of OM class **Paging-Area**. See [Section 5.4.1.126 \[Paging-Area\]](#), page 229.

call-Priority

EMLPP-Priority ::= INTEGER(0..15). The mapping from the values, A, B, 0, 1, 2, 3, 4 to the integer value is specified as follows where A is the highest and 4 is the lowest priority level. The integer values 7-15 are speare and shall be mapped to value 4.

5.4.3.15 Provide-Roaming-Number-Res

An instance of OM class **Provide-Roaming-Number-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.272](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
roaming-Number	String(Address)	1-9	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
release-Resources-Supported	Null	—	0-1	—

Table 5.272: OM Attributes of OM Class **Provide-Roaming-Number-Res**

This OM class contains the following class-specific OM attributes:

roaming-Number

An ISDN address string.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\], page 121](#).

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\], page 91](#).

release-Resources-Supported

A Null value whose presence provides indication.

5.4.3.16 Release-Resources-Arg

An instance of OM class **Release-Resources-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.273](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
msrn	String(Address)	1-9	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.273: OM Attributes of OM Class **Release-Resources-Arg**

This OM class contains the following class-specific OM attributes:

msrn An ISDN address string.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.3.17 Release-Resources-Res

An instance of OM class **Release-Resources-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.274](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.274: OM Attributes of OM Class **Release-Resources-Res**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.3.18 Remote-User-Free-Arg

An instance of OM class **Remote-User-Free-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.275](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	1	—
call-Info	Object(External-Signal-Info)	—	1	—
ccbs-Feature	Object(CCBS-Feature)	—	1	—
translated-B-Number	String(Address)	1-9	1	—
replace-B-Number	Null	—	0-1	—
alerting-Pattern	String(Octet)	1	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.275: OM Attributes of OM Class **Remote-User-Free-Arg**

This OM class contains the following class-specific OM attributes:

- imsi* This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.
- call-Info* This attribute is an instance of OM class **External-Signal-Info**. See [Section 5.3.19.7 \[External-Signal-Info\]](#), page 121.
- ccbs-Feature* This attribute is an instance of OM class **CCBS-Feature**. See [Section 5.4.4.8 \[CCBS-Feature\]](#), page 339.
- translated-B-Number* An ISDN address string.
- replace-B-Number* A Null value whose presence provides indication.
- alerting-Pattern* **AlertingPattern ::= OCTET STRING (SIZE (1))** This type is used to represent alerting patterns: bits 8765, '0000' (unused), bits 43, '00', level; '01', category; '10', category; '11', reserved; bits 21, type of alerting.
- alerting-level-0**
(**'MAP_T_ALERTING_LEVEL_0'** '00000000'B)
- alerting-level-1**
(**'MAP_T_ALERTING_LEVEL_1'** '00000001'B)
- alerting-level-2**
(**'MAP_T_ALERTING_LEVEL_2'** '00000010'B)
- alerting-category-1**
(**'MAP_T_ALERTING_CATEGORY_1'** '00000100'B)

alerting-category-2
 ('MAP_T_ALERTING_CATEGORY_2' '00000101'B)

alerting-category-3
 ('MAP_T_ALERTING_CATEGORY_3' '00000110'B)

alerting-category-4
 ('MAP_T_ALERTING_CATEGORY_4' '00000111'B)

alerting-category-5
 ('MAP_T_ALERTING_CATEGORY_5' '00001000'B)

All other values are reserved. Alerting levels and categories are defined in GSM 02.07.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.3.19 Remote-User-Free-Res

An instance of OM class **Remote-User-Free-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.276](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ruf-Outcome	Enum(RUF-Outcome)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.276: OM Attributes of OM Class **Remote-User-Free-Res**

This OM class contains the following class-specific OM attributes:

ruf-Outcome

An enumeration containing one of the following values:

accepted ('MAP_T_ACCEPTED' '0')

rejected ('MAP_T_REJECTED' '1')

no-reponse-from-free-ms
 ('MAP_T_NO_RESPONSE_FROM_FREE_MS' '2')

no-reponse-from-busy-ms
 ('MAP_T_NO_RESPONSE_FROM_BUSY_MS' '3')

udub-from-free-ms
 ('MAP_T_UDUB_FROM_FREE_MS' '4')

udub-from-busy-ms

(‘MAP_T_UDUB_FROM_BUSY_MS’ ‘5’)

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.3.20 Resume-Call-Handling-Arg

An instance of OM class **Resume-Call-Handling-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.277](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
call-Reference-Number	String(Octet)	1-8	0-1	—
basic-Service-Group	Object(Ext-Basic-Service-Code)	—	0-1	—
forwarding-Data	Object(Forwarding-Data)	—	0-1	—
imsi	String(TBCD)	3-8	0-1	—
cug-Check-Info	Object(CUG-Check-Info)	—	0-1	—
o-CSI	Object(O-CSI)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
ccbs-Possible	Null	—	0-1	—
msisdn	String(Address)	1-9	0-1	—
uu-Data	Object(UU-Data)	—	0-1	—
all-Information-Sent	Null	—	0-1	—
extension	Object(Extension)	—	0-1	—
d-CSI	Object(D-CSI)	—	0-1	—
o-Bcsm-Camel-TDP-Criteria-List	Object(O-Bcsm-Camel-TDP-Criteria-List)	—	0-1	—
basic-Service-Group-2	Object(Ext-Basic-Service-Code)	—	0-1	—
mt-Roaming-Retry	Null	—	0-1	—

Table 5.277: OM Attributes of OM Class **Resume-Call-Handling-Arg**

This OM class contains the following class-specific OM attributes:

call-Reference-Number

CallReferenceNumber ::= OCTET STRING (SIZE(1..8))

basic-Service-Group

This optional attribute is an instance of OM class **Ext-Basic-Service-Code**. See [Section 5.3.19.5 \[Ext-Basic-Service-Code\]](#), page 120.

forwarding-Data

This optional attribute is an instance of OM class **Forwarding-Data**. See [Section 5.4.3.8 \[Forwarding-Data\]](#), page 309.

<i>imsi</i>	This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see Section 5.2.1 [String(TBCD)] , page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.
<i>cug-Check-Info</i>	This optional attribute is an instance of OM class CUG-Check-Info . See Section 5.4.3.5 [CUG-Check-Info] , page 307.
<i>o-CSI</i>	This optional attribute is an instance of OM class O-CSI . See Section 5.4.1.123 [O-CSI] , page 225.
<i>extension-Container</i>	This optional attribute is an instance of OM class Extension-Container . See Section 5.3.19.6 [Extension-Container] , page 121.
<i>ccbs-Possible</i>	A Null value whose presence provides indication.
<i>msisdn</i>	This attribute refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute has syntax <i>String(Address)</i> . See Section 5.3.1 [String(Address)] , page 101.
<i>uu-Data</i>	This optional attribute is an instance of OM class UU-Data . See Section 5.4.3.29 [UU-Data] , page 334.
<i>all-Information-Sent</i>	A Null value whose presence provides indication.
<i>extension</i>	This optional attribute is an instance of OM class Extension . See Section 5.2.13 [Extension] , page 91.
<i>d-CSI</i>	This optional attribute is an instance of OM class D-CSI . See Section 5.4.1.40 [D-CSI] , page 161.
<i>o-Bcsm-Camel-TDP-Criteria-List</i>	This optional attribute is an instance of OM class O-Bcsm-Camel-TDP-Criteria-List . See Section 5.4.1.118 [O-Bcsm-Camel-TDP-Criteria-List] , page 222.
<i>basic-Service-Group-2</i>	This optional attribute is an instance of OM class Ext-Basic-Service-Code . See Section 5.3.19.5 [Ext-Basic-Service-Code] , page 120.
<i>mt-Roaming-Retry</i>	A Null value whose presence provides indication.

5.4.3.21 Resume-Call-Handling-Res

An instance of OM class **Resume-Call-Handling-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.278](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.278: OM Attributes of OM Class **Resume-Call-Handling-Res**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.3.22 Routing-Info

An instance of OM class **Routing-Info** represents the corresponding GSM MAP information object. An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.279](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
roaming-Number	String(Address)	1-9	0-1	—
forwarding-Data	Object(Forwarding-Data)	—	0-1	—

Table 5.279: OM Attributes of OM Class **Routing-Info**

This OM class represents a choice and exactly one instance of one attribute shall be present in an instances of this OM class.

This OM class contains the following class-specific OM attributes:

roaming-Number

An ISDN Address String.

forwarding-Data

This choice attribute is an instance of OM class **Forwarding-Data**. See [Section 5.4.3.8 \[Forwarding-Data\]](#), page 309.

5.4.3.23 Send-Routing-Info-Arg

An instance of OM class **Send-Routing-Info-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.280](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
msisdn	String(Address)	1-9	1	—
cug-Check-Info	Object(CUG-Check-Info)	—	0-1	—
number-Of-Forwarding	Integer	1-5	0-1	—
interrogation-Type	Enum(Interrogation-Type)	—	0-1	—
or-Interrogation	Null	—	0-1	—
or-Capability	Integer	1-127	0-1	—
gsmc-Or-gsmSCF-Address	String(Address)	1-9	0-1	—
call-Reference-Number	String(Octet)	1-8	0-1	—
forwarding-Reason	Enum(Forwarding-Reason)	—	0-1	—
basic-Service-Group	Object(Ext-Basic-Service-Code)	—	0-1	—
network-Signal-Info	Object(External-Signal-Info)	—	0-1	—
camel-Info	Object(Camel-Info)	—	0-1	—
suppression-Of-Announcement	Null	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
alerting-Pattern	String(Octet)	1	0-1	—
ccbs-Call	Null	—	0-1	—
supported-CCBS-Phase	Integer	1-127	0-1	—
additional-Signal-Info	Object(Ext-External-Signal-Info)	—	0-1	—
ist-Support-Indicator	Enum(IST-Support-Indicator)	—	0-1	—
pre-Paging-Supported	Null	—	0-1	—
call-Diversion-Treatment-Indicator	String(Octet)	1	0-1	—
long-FTN-Supported	Null	—	0-1	—
suppress-VT-CSI	Null	—	0-1	—
suppress-Incoming-Call-Barring	Null	—	0-1	—
gsmSCF-Initiated-Call	Null	—	0-1	—
basic-Service-Group-2	Object(Ext-Basic-Service-Code)	—	0-1	—
network-Signal-Info-2	Object(External-Signal-Info)	—	0-1	—
suppress-MT-SS	Enum(Suppress-MT-SS)	—	0-1	—
mt-Roaming-Retry-Supported	Null	—	0-1	—
call-Priority	Integer	0-15	0-1	—

Table 5.280: OM Attributes of OM Class **Send-Routing-Info-Arg**

This OM class contains the following class-specific OM attributes:

msisdn This attribute refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

cug-Check-Info This optional attribute is an instance of OM class **CUG-Check-Info**. See [Section 5.4.3.5 \[CUG-Check-Info\]](#), page 307.

number-Of-Forwarding
 NumberOfForwarding ::= INTEGER (1..5)

interrogation-Type

An enumeration containing one of the following values:

basic-call ('MAP_T_BASIC_CALL' '0')

forwarding ('MAP_T_FORWARDING' '2')

or-Interrogation

A Null value whose presence provides indication.

or-Capability

OR-Phase ::= INTEGER(1..127)

gsmc-Or-gsmSCF-Address

An ISDN Address String.

call-Reference-Number

CallReferenceNumber ::= OCTET STRING (SIZE(1..8))

forwarding-Reason

An enumeration containing one of the following values:

not-reachable

('MAP_T_NOT_REACHABLE' '0')

busy ('MAP_T_BUSY' '1')

no-reply ('MAP_T_NO_REPLY' '2')

basic-Service-Group

This optional attribute is an instance of OM class **Ext-Basic-Service-Code**. See [Section 5.3.19.5 \[Ext-Basic-Service-Code\]](#), page 120.

network-Signal-Info

This optional attribute is an instance of OM class **External-Signal-Info**. See [Section 5.3.19.7 \[External-Signal-Info\]](#), page 121.

camel-Info This optional attribute is an instance of OM class **Camel-Info**. See [Section 5.4.3.2 \[Camel-Info\]](#), page 305.

suppression-Of-Announcement

A Null value whose presence provides indication.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

alerting-Pattern

AlertingPattern ::= OCTET STRING (SIZE (1)) This type is used to represent alerting patterns: bits 8765, '0000' (unused), bits 43, '00', level; '01', category; '10', category; '11', reserved; bits 21, type of alerting.

alerting-level-0

('MAP_T_ALERTING_LEVEL_0' '00000000'B)

alerting-level-1

('MAP_T_ALERTING_LEVEL_1' '00000001'B)

alerting-level-2
('MAP_T_ALERTING_LEVEL_2' '00000010'B)

alerting-category-1
('MAP_T_ALERTING_CATEGORY_1' '00000100'B)

alerting-category-2
('MAP_T_ALERTING_CATEGORY_2' '00000101'B)

alerting-category-3
('MAP_T_ALERTING_CATEGORY_3' '00000110'B)

alerting-category-4
('MAP_T_ALERTING_CATEGORY_4' '00000111'B)

alerting-category-5
('MAP_T_ALERTING_CATEGORY_5' '00001000'B)

All other values are reserved. Alerting levels and categories are defined in GSM 02.07.

ccbs-Call A Null value whose presence provides indication.

supported-CCBS-Phase
SupportedCCBS-Phase ::= INTEGER(1..127)

additional-Signal-Info
This optional attribute is an instance of OM class **Ext-External-Signal-Info**. See [Section 5.3.19.8 \[Ext-External-Signal-Info\], page 122](#).

ist-Support-Indicator
An enumeration containing one of the following values:

basic-ist-supported
('MAP_T_BASIC_IST_SUPPORTED' '0')

ist-command-supported
('MAP_T_IST_COMMAND_SUPPORTED' '1')

Values greater than 1 shall be mapped to 1.

pre-Paging-Supported
A Null value whose presence provides indication.

call-Diversion-Treatment-Indicator
CallDiversionTreatmentIndicator ::= OCTET STRING (SIZE(1)) call diversion allowed: xxxx xx01; call diversion not allowed xxxx xx10; network default is call diversion allowed.

long-FTN-Supported
A Null value whose presence provides indication.

suppress-VT-CSI
A Null value whose presence provides indication.

suppress-Incoming-Call-Barring
A Null value whose presence provides indication.

gsmSCF-Initiated-Call
A Null value whose presence provides indication.

basic-Service-Group-2

This optional attribute is an instance of OM class **Ext-Basic-Service-Code**. See [Section 5.3.19.5 \[Ext-Basic-Service-Code\]](#), page 120.

network-Signal-Info-2

This optional attribute is an instance of OM class **External-Signal-Info**. See [Section 5.3.19.7 \[External-Signal-Info\]](#), page 121.

suppress-MT-SS

An enumeration containing one of the following values:

suppress-cug
(‘MAP_T_SUPPRESS_CUG’ ‘0’)

suppress-ccbs
(‘MAP_T_SUPPRESS_CCBS’ ‘1’)

mt-Roaming-Retry-Supported

A Null value whose presence provides indication.

call-Priority

EMLPP-Priority ::= INTEGER(0..15). The mapping from the values, A, B, 0, 1, 2, 3, 4 to the integer value is specified as follows where A is the highest and 4 is the lowest priority level. The integer values 7-15 are spare and shall be mapped to value 4.

5.4.3.24 Send-Routing-Info-Res

An instance of OM class **Send-Routing-Info-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.281](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	see text	—
extended-Routing-Info	Object(Extended-Routing-Info)	—	0-1	—
cug-Check-Info	Object(CUG-Check-Info)	—	0-1	—
cug-Subscription-Flag	Null	—	0-1	—
subscriber-Info	Object(Subscriber-Info)	—	0-1	—
ss-List	Object(SS-List)	—	0-1	—
basic-Service	Object(Ext-Basic-Service-Code)	—	0-1	—
forwarding-Interrogation-Required	Null	—	0-1	—
vmsec-Address	String(Address)	1-9	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
naea-Preferred-CI	Object(NAEA-Preferred-CI)	—	0-1	—
ccbs-Indicators	Object(CCBS-Indicators)	—	0-1	—
msisdn	String(Address)	1-9	0-1	—
number-Portability-Status	Enum(Number-Portability-Status)	—	0-1	—
ist-Alert-Timer	Integer	15-255	0-1	—
supported-Camel-Phases-In-VMSC	String(Bit)	4	0-1	—
offered-Camel4-CSIs-In-VMSC	String(Bit)	7	0-1	—
routing-Info-2	Object(Routing-Info)	—	0-1	—
ss-List-2	Object(SS-List)	—	0-1	—
basic-Service-2	Object(Ext-Basic-Service-Code)	—	0-1	—
allowed-Services	String(Bit)	2	0-1	—
unavailability-Cause	Enum(Unavailability-Cause)	—	0-1	—
release-Resources-Supported	Null	—	0-1	—
gsm-Bearer-Capability	Object(External-Signal-Info)	—	0-1	—

Table 5.281: OM Attributes of OM Class **Send-Routing-Info-Res**

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

IMSI must be present if the request is not segmented. If the result is segmented (TC-Result-NL), the IMSI must be present in one segmented transmission.

extended-Routing-Info

This optional attribute is an instance of OM class **Extended-Routing-Info**. See [Section 5.4.3.7 \[Extended-Routing-Info\]](#), page 308.

cug-Check-Info

This optional attribute is an instance of OM class **CUG-Check-Info**. See [Section 5.4.3.5 \[CUG-Check-Info\]](#), page 307.

cug-Subscription-Flag

A Null value whose presence provides indication.

subscriber-Info

This optional attribute is an instance of OM class **Subscriber-Info**. See [Section 5.4.1.174 \[Subscriber-Info\]](#), page 271.

ss-List

This optional attribute is an instance of OM class **SS-List**. See [Section 5.4.4.40 \[SS-List\]](#), page 361.

basic-Service

This optional attribute is an instance of OM class **Ext-Basic-Service-Code**. See [Section 5.3.19.5 \[Ext-Basic-Service-Code\]](#), page 120.

forwarding-Interrogation-Required

A Null value whose presence provides indication.

vmsec-Address

An ISDN Address String.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

naea-Preferred-CI

This optional attribute is an instance of OM class **NAEA-Preferred-CI**. See [Section 5.3.19.14 \[NAEA-Preferred-CI\]](#), page 126.

ccbs-Indicators

This optional attribute is an instance of OM class **CCBS-Indicators**. See [Section 5.4.3.4 \[CCBS-Indicators\]](#), page 306.

msisdn

This attribute refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

number-Portability-Status

An enumeration containing one of the following values:

not-known-to-be-portcd

(‘MAP_T_NOT_KNOWN_TO_BE_PORTCD’ ‘0’)

own-number-portcd-out

(‘MAP_T_OWN_NUMBER_PORTCD_OUT’ ‘1’)

foreign-number-portcd-to-foreign-network

(‘MAP_T_FOREIGN_NUMBER_PORTCD_TO_FOREIGN_NETWORK’ ‘2’)

own-number-not-portcd-out

(‘MAP_T_OWN_NUMBER_NOT_PORTCD_OUT’ ‘4’)

foreign-number-portcd-in

(‘MAP_T_FOREIGN_NUMBER_PORTCD_IN’ ‘5’)

ist-Alert-Timer

IST-AlertTimerValue ::= INTEGER (15..255)

supported-Camel-Phases-In-VMSC

A bit string containing zero or more of the following bits:

phase-1 ('MAP_T_PHASE_1' '0')

phase-2 ('MAP_T_PHASE_2' '1')

phase-3 ('MAP_T_PHASE_3' '2')

phase-4 ('MAP_T_PHASE_4' '3')

offered-Camel4-CSIs-In-VMSC

A bit string containing zero or more of the following bits:

o-csi ('MAP_T_O_CSI' '0')

d-csi ('MAP_T_D_CSI' '1')

vt-csi ('MAP_T_VT_CSI' '2')

t-csi ('MAP_T_T_CSI' '3')

mt-sms-csi ('MAP_T_MT_SMS_CSI' '4')

mg-csi ('MAP_T_MG_CSI' '5')

psi-enhancements
('MAP_T_PSI_ENHANCEMENTS' '6')

routing-Info-2

This optional attribute is an instance of OM class **Routing-Info**. See [Section 5.4.3.22 \[Routing-Info\]](#), page 323.

ss-List-2 This optional attribute is an instance of OM class **SS-List**. See [Section 5.4.4.40 \[SS-List\]](#), page 361.

basic-Service-2

This optional attribute is an instance of OM class **Ext-Basic-Service-Code**. See [Section 5.3.19.5 \[Ext-Basic-Service-Code\]](#), page 120.

allowed-Services

A bit string containing zero or more of the following bits:

first-service-allowed
('MAP_T_FIRST_SERVICE_ALLOWED' '0')

second-service-allowed
('MAP_T_SECOND_SERVICE_ALLOWED' '1')

unavailability-Cause

An enumeration containing one of the following values:

bearer-service-not-provisioned
('MAP_T_BEARER_SERVICE_NOT_PROVISIONED' '1')

teleservice-not-provisioned
('MAP_T_TELESERVICE_NOT_PROVISIONED' '2')

absent-subscriber
('MAP_T_ABSENT_SUBSCRIBER' '3')

busy-subscriber
('MAP_T_BUSY_SUBSCRIBER' '4')

call-barred ('MAP_T_CALL_BARRED' '5')

cug-reject ('MAP_T_CUG_REJECT' '6')

release-Resources-Supported

A Null value whose presence provides indication.

gsm-Bearer-Capability

This optional attribute is an instance of OM class **External-Signal-Info**. See [Section 5.3.19.7 \[External-Signal-Info\]](#), page 121.

5.4.3.25 Set-Reporting-State-Arg

An instance of OM class **Resume-Call-Handling-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.282](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	0-1	—
lmsi	String(Octet)	4	0-1	—
ccbs-Monitoring	Enum(Reporting-State)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.282: OM Attributes of OM Class **Set-Reporting-State-Arg**

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

lmsi This attribute provides the local identity allocated by the VLR to a given subscriber for internal management of data in the VLR. The LMSI shall not be sent to an SGSN. This attribute is encoded as a 4 octet string.

ccbs-Monitoring

An enumeration containing one of the following values:

stop-monitoring

('MAP_T_STOP_MONITORING' '0')

start-monitoring

('MAP_T_START_MONITORING' '1')

Values from '2' to '10' shall be mapped to '0'. Values greater than '10' shall be mapped to '1'.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.3.26 Set-Reporting-State-Res

An instance of OM class **Set-Reporting-State-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.283](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ccbs-Subscriber-Status	Enum(CCBS-Subscriber-Status)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.283: OM Attributes of OM Class **Set-Reporting-State-Res**

This OM class contains the following class-specific OM attributes:

ccbs-Subscriber-Status

An enumeration containing one of the following values:

ccbs-not-idle

(‘MAP_T_CCBS_NOT_IDLE’ ‘0’)

ccbs-idle (‘MAP_T_CCBS_IDLE’ ‘1’)

ccbs-not-reachable

(‘MAP_T_CCBS_NOT_REACHABLE’ ‘2’)

Values of ‘3’ to ‘10’ shall be mapped to ‘0’; ‘11’ to ‘20’, mapped to ‘1’; values greater than ‘20’, to ‘2’.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.3.27 Status-Report-Arg

An instance of OM class **Status-Report-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.284](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	1	—
event-Report-Data	Object(Event-Report-Data)	—	0-1	—
call-Report-Data	Object(Call-Report-Data)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.284: OM Attributes of OM Class **Status-Report-Arg**

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

event-Report-Data

This optional attribute is an instance of OM class **Event-Report-Data**. See [Section 5.4.3.6 \[Event-Report-Data\]](#), page 307.

call-Report-Data

This optional attribute is an instance of OM class **Call-Report-Data**. See [Section 5.4.3.1 \[Call-Report-Data\]](#), page 304.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.3.28 Status-Report-Res

An instance of OM class **Status-Report-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.285](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.285: OM Attributes of OM Class **Status-Report-Res**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.3.29 UU-Data

An instance of OM class **UU-Data** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.286](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
uu-Indicator	String(Octet)	1	0-1	—
uui	String(Octet)	1-131	0-1	—
uusCF-Interaction	Null	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.286: OM Attributes of OM Class **UU-Data**

This OM class contains the following class-specific OM attributes:

uu-Indicator

UUIndicator ::= OCTET STRING (SIZE(1)) Octets are coded according to ETS 300 356.

uui **UUI** ::= OCTET STRING (SIZE(1..131)) Octets are coded according to ETS 300 356.

uusCF-Interaction

A Null value whose presence provides indication.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.4 GSM Supplementary Service Package

OM Hierarchy

- *Object*
 - *Service-Argument*
 - *GSM-Service-Argument*
 - **Activate-SS-Arg**

- **Deactivate-SS-Arg**
- **Erase-CC-Entry-Arg**
- **Erase-SS-Arg**
- **Get-Password-Arg**
- **Interrogate-SS-Arg**
- **Notify-USSD-Arg**
- **Process-USSD-Arg**
- **Register-CC-Entry-Arg**
- **Register-Password-Arg**
- **Register-SS-Arg**
- **SS-Invocation-Notification-Arg**
- **USSD-Arg**
- *Service-Result*
 - *GSM-Service-Result*
 - **Activate-SS-Res**
 - **Deactivate-SS-Res**
 - **Erase-CC-Entry-Res**
 - **Erase-SS-Res**
 - **Get-Password-Res**
 - **Interrogate-SS-Res**
 - **Notify-USSD-Res**
 - **Process-USSD-Res**
 - **Register-CC-Entry-Res**
 - **Register-Password-Res**
 - **Register-SS-Res**
 - **SS-Invocation-Notification-Res**
 - **USSD-Res**

5.4.4.1 Activate-SS-Arg

An instance of OM class **Activate-SS-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.287](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	1	—
basic-Service	Object(Basic-Service-Code)	—	0-1	—
extension	Object(Extension)	—	0-1	—
long-FTN-Supported	Null	—	0-1	—

Table 5.287: OM Attributes of OM Class **Activate-SS-Arg**

This OM class contains the following class-specific OM attributes:

ss-Code **SS-Code** ::= OCTET STRING (SIZE(1))

basic-Service

This optional attribute is an instance of OM class **Basic-Service-Code**. See [Section 5.3.19.2 \[Basic-Service-Code\]](#), page 118.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

long-FTN-Supported

A Null value whose presence provides indication.

This OM class does not directly correspond to an ASN.1 type in TS 29.002.

This OM class encodes the same as [Section 5.4.4.42 \[USSD-Arg\]](#), page 362.

5.4.4.2 Activate-SS-Res

An instance of OM class **Activate-SS-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.288](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
forwarding-Info	Object(Forwarding-Info)	—	0-1	—
call-Barring-Info	Object(Call-Barring-Info)	—	0-1	—
ss-Data	Object(SS-Data)	—	0-1	—

Table 5.288: OM Attributes of OM Class **Activate-SS-Res**

This OM class represents a choice and exactly one instance of one attribute shall be present in an instance of this OM class.

This OM class contains the following class-specific OM attributes:

forwarding-Info

This choice attribute is an instance of OM class **Forwarding-Info**. See [Section 5.4.4.18 \[Forwarding-Info\]](#), page 346.

call-Barring-Info

This choice attribute is an instance of OM class **Call-Barring-Info**. See [Section 5.4.4.6 \[Call-Barring-Info\]](#), page 338.

ss-Data

This choice attribute is an instance of OM class **SS-Data**. See [Section 5.4.4.34 \[SS-Data\]](#), page 357.

This service result is optional.

This OM class does not directly correspond to an ASN.1 type in TS 29.002.

This OM class encodes the same as [Section 5.4.4.43 \[USSD-Res\]](#), page 364.

5.4.4.3 Basic-Service-Group-List

An instance of OM class **Basic-Service-Group-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.289](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
basic-Service-Code	Object(Basic-Service-Code)	—	1-13	—

Table 5.289: OM Attributes of OM Class **Basic-Service-Group-List**

This OM class contains the following class-specific OM attributes:

basic-Service-Code

One to thirteen (`maxNumOfBasicServiceGroups`) instances of OM class **Basic-Service-Code**. See [Section 5.3.19.2 \[Basic-Service-Code\]](#), page 118.

5.4.4.4 Call-Barring-Feature

An instance of OM class **Call-Barring-Feature** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.290](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
basic-Service	Object(Basic-Service-Code)	—	0-1	—
ss-Status	String(Octet)	1	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.290: OM Attributes of OM Class **Call-Barring-Feature**

This OM class contains the following class-specific OM attributes:

basic-Service

This optional attribute is an instance of OM class **Basic-Service-Code**. See [Section 5.3.19.2 \[Basic-Service-Code\]](#), page 118.

- ss-Status* **SS-Status** ::= OCTET STRING (SIZE(1)) This parameter refers to the state information of individual supplementary services as defined in 3GPP TS 23.011. SS-Status is a one byte octet string where bits 8765 are unused and coded zero. Bit 4 is the “Q bit”; 3, the “P bit”, 2 the “R bit”, 1, “A bit”. These bits are defined in 3GPP TS 23.011.
- extension* This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.4.5 Call-Barring-Feature-List

An instance of OM class **Call-Barring-Feature-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.291](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
call-Barring-Feature	Object(Call-Barring-Feature)	—	1-13	—

Table 5.291: OM Attributes of OM Class **Call-Barring-Feature-List**

This OM class contains the following class-specific OM attributes:

call-Barring-Feature

One to thirteen (`maxNumOfBasicServiceGroups`) instances of OM class **Call-Barring-Feature**. See [Section 5.4.4.4 \[Call-Barring-Feature\]](#), page 337.

5.4.4.6 Call-Barring-Info

An instance of OM class **Call-Barring-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.292](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	0-1	—
call-Barring-Feature-List	Object(Call-Barring-Feature-List)	—	1	—
extension	Object(Extension)	—	0-1	—

Table 5.292: OM Attributes of OM Class **Call-Barring-Info**

This OM class contains the following class-specific OM attributes:

ss-Code **SS-Code** ::= OCTET STRING (SIZE(1))

call-Barring-Feature-List

This attribute is an instance of OM class **Call-Barring-Feature-List**. See [Section 5.4.4.5 \[Call-Barring-Feature-List\]](#), page 338.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.4.7 CCBS-Data

An instance of OM class **CCBS-Data** represents the corresponding GSM MAP information object. An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.293](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ccbs-Feature	Object(CCBS-Feature)	—	1	—
translated-B-Number	String(Address)	1-9	1	—
service-Indicator	Enum(Service-Indicator)	—	0-1	—
call-Info	Object(External-Signal-Info)	—	1	—
network-Signal-Info	Object(External-Signal-Info)	—	1	—
extension	Object(Extension)	—	0-1	—

Table 5.293: OM Attributes of OM Class **CCBS-Data**

This OM class contains the following class-specific OM attributes:

ccbs-Feature

This attribute is an instance of OM class **CCBS-Feature**. See [Section 5.4.4.8 \[CCBS-Feature\]](#), page 339.

translated-B-Number

An ISDN address string.

service-Indicator

An enumeration containing one of the following values:

clir-invoked

(‘MAP_T_CLIR_INVOKED’ ‘0’)

camel-invoked

(‘MAP_T_CAMEL_INVOKED’ ‘1’)

call-Info

This attribute is an instance of OM class **External-Signal-Info**. See [Section 5.3.19.7 \[External-Signal-Info\]](#), page 121.

network-Signal-Info

This attribute is an instance of OM class **External-Signal-Info**. See [Section 5.3.19.7 \[External-Signal-Info\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.4.8 CCBS-Feature

An instance of OM class **CCBS-Feature** represents the corresponding GSM MAP information object. An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.294](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ccbs-Index	Integer	1-5	0-1	—
b-Subscriber-Number	String(Address)	1-9	0-1	—
b-Subscriber-Subaddress	String(Subaddress)	1-21	0-1	—
basic-Service-Group	Object(Basic-Service-Code)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.294: OM Attributes of OM Class **CCBS-Feature**

This OM class contains the following class-specific OM attributes:

ccbs-Index **CCBS-Index** ::= INTEGER (1..5)

b-Subscriber-Number
An ISDN address string.

b-Subscriber-Subaddress
An ISDN subaddress string.

basic-Service-Group
This optional attribute is an instance of OM class **Basic-Service-Code**. See [Section 5.3.19.2 \[Basic-Service-Code\]](#), page 118.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.4.9 CCBS-Feature-List

An instance of OM class **CCBS-Feature-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.295](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ccbs-Feature	Object(CCBS-Feature)	—	1-5	—

Table 5.295: OM Attributes of OM Class **CCBS-Feature-List**

This OM class contains the following class-specific OM attributes:

ccbs-Feature
One to five (**maxNumOfCCBS-Requests**) instances of OM class **CCBS-Feature**. See [Section 5.4.4.8 \[CCBS-Feature\]](#), page 339.

5.4.4.10 Deactivate-SS-Arg

An instance of OM class **Deactivate-SS-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.296](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	1	—
basic-Service	Object(Basic-Service-Code)	—	0-1	—
extension	Object(Extension)	—	0-1	—
long-FTN-Supported	Null	—	0-1	—

Table 5.296: OM Attributes of OM Class **Deactivate-SS-Arg**

This OM class contains the following class-specific OM attributes:

ss-Code **SS-Code** ::= OCTET STRING (SIZE(1))

basic-Service

This optional attribute is an instance of OM class **Basic-Service-Code**. See [Section 5.3.19.2 \[Basic-Service-Code\]](#), page 118.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

long-FTN-Supported

A Null value whose presence provides indication.

This OM class does not directly correspond to an ASN.1 type in TS 29.002.

This OM class encodes the same as [Section 5.4.4.42 \[USSD-Arg\]](#), page 362.

5.4.4.11 Deactivate-SS-Res

An instance of OM class **Deactivate-SS-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.297](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
forwarding-Info	Object(Forwarding-Info)	—	0-1	—
call-Barring-Info	Object(Call-Barring-Info)	—	0-1	—
ss-Data	Object(SS-Data)	—	0-1	—

Table 5.297: OM Attributes of OM Class **Deactivate-SS-Res**

This OM class represents a choice and exactly one instance of one attribute shall be present in an instance of this OM class.

This OM class contains the following class-specific OM attributes:

forwarding-Info

This choice attribute is an instance of OM class **Forwarding-Info**. See [Section 5.4.4.18 \[Forwarding-Info\]](#), page 346.

call-Barring-Info

This choice attribute is an instance of OM class **Call-Barring-Info**. See [Section 5.4.4.6 \[Call-Barring-Info\]](#), page 338.

ss-Data

This choice attribute is an instance of OM class **SS-Data**. See [Section 5.4.4.34 \[SS-Data\]](#), page 357.

This service result is optional.

This OM class does not directly correspond to an ASN.1 type in TS 29.002.

This OM class encodes the same as [Section 5.4.4.43 \[USSD-Res\]](#), page 364.

5.4.4.12 Erase-CC-Entry-Arg

An instance of OM class **Erase-CC-Entry-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.298](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	1	—
ccbs-Index	Integer	1-5	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.298: OM Attributes of OM Class **Erase-CC-Entry-Arg**

This OM class contains the following class-specific OM attributes:

ss-Code **SS-Code** ::= OCTET STRING (SIZE(1))

ccbs-Index **CCBS-Index** ::= INTEGER (1..5)

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.4.13 Erase-CC-Entry-Res

An instance of OM class **Erase-CC-Entry-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.299](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	1	—
ss-Status	String(Octet)	1	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.299: OM Attributes of OM Class **Erase-CC-Entry-Res**

This OM class contains the following class-specific OM attributes:

<i>ss-Code</i>	SS-Code ::= OCTET STRING (SIZE(1))
<i>ss-Status</i>	SS-Status ::= OCTET STRING (SIZE(1)) This parameter refers to the state information of individual supplementary services as defined in 3GPP TS 23.011. SS-Status is a one byte octet string where bits 8765 are unused and coded zero. Bit 4 is the “Q bit”; 3, the “P bit”, 2 the “R bit”, 1, “A bit”. These bits are defined in 3GPP TS 23.011.
<i>extension</i>	This optional attribute is an instance of OM class Extension . See Section 5.2.13 [Extension], page 91.

5.4.4.14 Erase-SS-Arg

An instance of OM class **Erase-SS-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see Section 4.20 [Service-req()], page 70) or is returned by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in Table 5.300.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	1	—
basic-Service	Object(Basic-Service-Code)	—	0-1	—
extension	Object(Extension)	—	0-1	—
long-FTN-Supported	Null	—	0-1	—

Table 5.300: OM Attributes of OM Class **Erase-SS-Arg**

This OM class contains the following class-specific OM attributes:

<i>ss-Code</i>	SS-Code ::= OCTET STRING (SIZE(1))
<i>basic-Service</i>	This optional attribute is an instance of OM class Basic-Service-Code . See Section 5.3.19.2 [Basic-Service-Code], page 118.
<i>extension</i>	This optional attribute is an instance of OM class Extension . See Section 5.2.13 [Extension], page 91.
<i>long-FTN-Supported</i>	A Null value whose presence provides indication.

This OM class does not directly correspond to an ASN.1 type in TS 29.002.

5.4.4.15 Erase-SS-Res

An instance of OM class **Erase-SS-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.301](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
forwarding-Info	Object(Forwarding-Info)	—	0-1	—
call-Barring-Info	Object(Call-Barring-Info)	—	0-1	—
ss-Data	Object(SS-Data)	—	0-1	—

Table 5.301: OM Attributes of OM Class **Erase-SS-Res**

This OM class represents a choice and exactly one instance of one attribute shall be present in an instance of this OM class.

This OM class contains the following class-specific OM attributes:

forwarding-Info

This choice attribute is an instance of OM class **Forwarding-Info**. See [Section 5.4.4.18 \[Forwarding-Info\], page 346](#).

call-Barring-Info

This choice attribute is an instance of OM class **Call-Barring-Info**. See [Section 5.4.4.6 \[Call-Barring-Info\], page 338](#).

ss-Data

This choice attribute is an instance of OM class **SS-Data**. See [Section 5.4.4.34 \[SS-Data\], page 357](#).

This service result is optional.

This OM class does not directly correspond to an ASN.1 type in TS 29.002.

5.4.4.16 Forwarding-Feature

An instance of OM class **Forwarding-Feature** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.302](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
basic-Service	Object(Basic-Service-Code)	—	0-1	—
ss-Status	String(Octet)	1	0-1	—
forwarded-To-Number	String(Address)	1-9	0-1	—
forwarded-To-Subaddress	String(Subaddress)	1-21	0-1	—
forwarding-Options	String(Octet)	1	0-1	—
no-Reply-Condition-Time	Integer	5-30	0-1	—
extension	Object(Extension)	—	0-1	—
long-Forwarded-To-Number	String(Address)	1-15	0-1	—

Table 5.302: OM Attributes of OM Class **Forwarding-Feature**

This OM class contains the following class-specific OM attributes:

basic-Service

This optional attribute is an instance of OM class **Basic-Service-Code**. See [Section 5.3.19.2 \[Basic-Service-Code\]](#), page 118.

ss-Status

SS-Status ::= OCTET STRING (SIZE(1)) This parameter refers to the state information of individual supplementary services as defined in 3GPP TS 23.011. SS-Status is a one byte octet string where bits 8765 are unused and coded zero. Bit 4 is the “Q bit”; 3, the “P bit”, 2 the “R bit”, 1, “A bit”. These bits are defined in 3GPP TS 23.011.

forwarded-To-Number

An ISDN address string.

forwarded-To-Subaddress

An ISDN subaddress string.

forwarding-Options

ForwardingOptions ::= OCTET STRING (SIZE(1))

no-Reply-Condition-Time

NoReplyConditionTime ::= INTEGER(5..30)

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

long-Forwarded-To-Number

FTN-AddressString ::= AddressString (SIZE(1..15)) This type is used to represent forwarded-to numbers. If NAI is “international”, the first digits represent the country code (CC) and the network destination code (NDC) as for E.164.

5.4.4.17 Forwarding-Feature-List

An instance of OM class **Forwarding-Feature-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.303](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
forwarding-Feature	Object(Forwarding-Feature)	—	1-13	—

Table 5.303: OM Attributes of OM Class **Forwarding-Feature-List**

This OM class contains the following class-specific OM attributes:

forwarding-Feature

One to thirteen (`maxNumOfBasicServiceGroups`) instances of OM class **Forwarding-Feature**. See [Section 5.4.4.16 \[Forwarding-Feature\]](#), page 344.

5.4.4.18 Forwarding-Info

An instance of OM class **Forwarding-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.304](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	0-1	—
forwarding-Feature-List	Object(Forwarding-Feature-List)	—	1	—
extension	Object(Extension)	—	0-1	—

Table 5.304: OM Attributes of OM Class **Forwarding-Info**

This OM class contains the following class-specific OM attributes:

ss-Code `SS-Code ::= OCTET STRING (SIZE(1))`

forwarding-Feature-List

This optional attribute is an instance of OM class **Forwarding-Feature-List**. See [Section 5.4.4.17 \[Forwarding-Feature-List\]](#), page 345.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.4.19 Generic-Service-Info

An instance of OM class **Generic-Service-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.305](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Status	String(Octet)	1	1	—
cli-Restriction-Option	Enum(Cli-Restriction-Option)	—	0-1	—
extension	Object(Extension)	—	0-1	—
maximum-Entitled-Priority	Integer	0-15	0-1	—
default-Priority	Integer	0-15	0-1	—
ccbs-Feature-List	Object(CCBS-Feature-List)	—	0-1	—
nbr-SB	Integer	2-7	0-1	—
nbr-User	Integer	1-7	0-1	—
nbr-SN	Integer	1-7	0-1	—

Table 5.305: OM Attributes of OM Class **Generic-Service-Info**

This OM class contains the following class-specific OM attributes:

ss-Status **SS-Status ::= OCTET STRING (SIZE(1))** This parameter refers to the state information of individual supplementary services as defined in 3GPP TS 23.011. SS-Status is a one byte octet string where bits 8765 are unused and coded zero. Bit 4 is the “Q bit”; 3, the “P bit”, 2 the “R bit”, 1, “A bit”. These bits are defined in 3GPP TS 23.011.

cli-Restriction-Option

An enumeration containing one of the following values:

permanent ('MAP_T_PERMANENT' '0')

temporary-default-restricted
('MAP_T_TEMPORARY_DEFAULT_RESTRICTED' '1')

temporary-default-allowed
('MAP_T_TEMPORARY_DEFAULT_ALLOWED' '2')

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

maximum-Entitled-Priority

EMLPP-Priority ::= INTEGER(0..15). The mapping from the values, A, B, 0, 1, 2, 3, 4 to the integer value is specified as follows where A is the highest and 4 is the lowest priority level. The integer values 7-15 are spare and shall be mapped to value 4.

default-Priority

EMLPP-Priority ::= INTEGER(0..15). The mapping from the values, A, B, 0, 1, 2, 3, 4 to the integer value is specified as follows where A is the highest and 4 is the lowest priority level. The integer values 7-15 are spare and shall be mapped to value 4.

ccbs-Feature-List

This optional attribute is an instance of OM class **CCBS-Feature-List**. See [Section 5.4.4.9 \[CCBS-Feature-List\]](#), page 340.

nbr-SB **MaxMC-Bearers ::= INTEGER (2..7)**

nbr-User **MC-Bearers ::= INTEGER(1..7)**

nbr-SN **MC-Bearers ::= INTEGER(1..7)**

5.4.4.20 Get-Password-Arg

An instance of OM class **Get-Password-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.306](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	1	—

Table 5.306: OM Attributes of OM Class **Get-Password-Arg**

This OM class contains the following class-specific OM attributes:

ss-Code **SS-Code** ::= OCTET STRING (SIZE(1))

This OM class does not directly correspond to an ASN.1 type in TS 29.002.

5.4.4.21 Get-Password-Res

An instance of OM class **Get-Password-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.307](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
password	String(Numeric)	4	1	—

Table 5.307: OM Attributes of OM Class **Get-Password-Res**

This OM class contains the following class-specific OM attributes:

password **Password** ::= NumericString (FROM (0|1|2|3|4|5|6|7|8|9)) (SIZE(4))

This OM class does not directly correspond to an ASN.1 type in TS 29.002.

5.4.4.22 Interrogate-SS-Arg

An instance of OM class **Interrogate-SS-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.308](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	1	—
basic-Service	Object(Basic-Service-Code)	—	0-1	—
extension	Object(Extension)	—	0-1	—
long-FTN-Supported	Null	—	0-1	—

Table 5.308: OM Attributes of OM Class **Interrogate-SS-Arg**

This OM class contains the following class-specific OM attributes:

ss-Code **SS-Code** ::= OCTET STRING (SIZE(1))

basic-Service

This optional attribute is an instance of OM class **Basic-Service-Code**. See [Section 5.3.19.2 \[Basic-Service-Code\]](#), page 118.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

long-FTN-Supported

A Null value whose presence provides indication.

This OM class does not directly correspond to an ASN.1 type in TS 29.002.

5.4.4.23 Interrogate-SS-Res

An instance of OM class **Interrogate-SS-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.309](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Status	String(Octet)	1	1	—
basic-Service-Group-List	Object(Basic-Service-Group-List)	—	1	—
forwarding-Feature-List	Object(Forwarding-Feature-List)	—	1	—
generic-Service-Info	Object(Generic-Service-Info)	—	1	—

Table 5.309: OM Attributes of OM Class **Interrogate-SS-Res**

This OM class contains the following class-specific OM attributes:

ss-Status **SS-Status** ::= OCTET STRING (SIZE(1)) This parameter refers to the state information of individual supplementary services as defined in 3GPP TS 23.011. SS-Status is a one byte octet string where bits 8765 are unused and coded zero. Bit 4 is the “Q bit”; 3, the “P bit”, 2 the “R bit”, 1, “A bit”. These bits are defined in 3GPP TS 23.011.

basic-Service-Group-List

This attribute is an instance of OM class **Basic-Service-Group-List**. See [Section 5.4.4.3 \[Basic-Service-Group-List\]](#), page 337.

forwarding-Feature-List

This attribute is an instance of OM class **Forwarding-Feature-List**. See [Section 5.4.4.17 \[Forwarding-Feature-List\]](#), page 345.

generic-Service-Info

This attribute is an instance of OM class **Generic-Service-Info**. See [Section 5.4.4.19 \[Generic-Service-Info\]](#), page 346.

5.4.4.24 Notify-USSD-Arg

An instance of OM class **Notify-USSD-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.310](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ussd-Data-Coding-Scheme	String(Octet)	1	1	—
ussd-String	String(Octet)	1-160	1	—
extension	Object(Extension)	—	0-1	—
alerting-Pattern	String(Octet)	1	0-1	—
msisdn	String(Address)	1-9	0-1	—

Table 5.310: OM Attributes of OM Class **Notify-USSD-Arg**

This OM class contains the following class-specific OM attributes:

ussd-Data-Coding-Scheme

USSD-DataCodingScheme ::= OCTET STRING (SIZE (1)) The structure of the USSD-DataCodingScheme is defined by the Cell Broadcast Data Scheme as described in 3GPP TS 23.038.

ussd-String **USSD-String** ::= OCTET STRING (SIZE (1..160)) The structure of the contents of the USSD-String is dependent on the USSD-DataCodingScheme as described in 3GPP TS 23.038.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

alerting-Pattern

AlertingPattern ::= OCTET STRING (SIZE (1)) This type is used to represent alerting patterns: bits 8765, ‘0000’ (unused), bits 43, ‘00’, level; ‘01’, category; ‘10’, category; ‘11’, reserved; bits 21, type of alerting.

alterting-level-0

(‘MAP_T_ALERTING_LEVEL_0’ ’00000000’B)

```

alerting-level-1
    ('MAP_T_ALERTING_LEVEL_1' '00000001'B)

alerting-level-2
    ('MAP_T_ALERTING_LEVEL_2' '00000010'B)

alerting-category-1
    ('MAP_T_ALERTING_CATEGORY_1' '00000100'B)

alerting-category-2
    ('MAP_T_ALERTING_CATEGORY_2' '00000101'B)

alerting-category-3
    ('MAP_T_ALERTING_CATEGORY_3' '00000110'B)

alerting-category-4
    ('MAP_T_ALERTING_CATEGORY_4' '00000111'B)

alerting-category-5
    ('MAP_T_ALERTING_CATEGORY_5' '00001000'B)

```

All other values are reserved. Alerting levels and categories are defined in GSM 02.07.

msisdn This attribute refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

This OM class does not directly correspond to an ASN.1 type in TS 29.002.

5.4.4.25 Notify-USSD-Res

An instance of OM class **Notify-USSD-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.311](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ussd-Data-Coding-Scheme	String(Octet)	1	1	—
ussd-String	String(Octet)	1-160	1	—
extension	Object(Extension)	—	0-1	—

Table 5.311: OM Attributes of OM Class **Notify-USSD-Res**

This OM class contains the following class-specific OM attributes:

ack (Boolean) ::= TRUE

This OM class does not directly correspond to an ASN.1 type in TS 29.002.

5.4.4.26 Process-USSD-Arg

An instance of OM class **Process-USSD-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20](#)

[Service-req()], page 70) or is returned by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in Table 5.312.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ussd-Data-Coding-Scheme	String(Octet)	1	1	—
ussd-String	String(Octet)	1-160	1	—
extension	Object(Extension)	—	0-1	—
alerting-Pattern	String(Octet)	1	0-1	—
msisdn	String(Address)	1-9	0-1	—

Table 5.312: OM Attributes of OM Class **Process-USSD-Arg**

This OM class contains the following class-specific OM attributes:

ussd-Data-Coding-Scheme

USSD-DataCodingScheme ::= OCTET STRING (SIZE (1)) The structure of the USSD-DataCodingScheme is defined by the Cell Broadcast Data Scheme as described in 3GPP TS 23.038.

ussd-String

USSD-String ::= OCTET STRING (SIZE (1..160)) The structure of the contents of the USSD-String is dependent on the USSD-DataCodingScheme as described in 3GPP TS 23.038.

extension

This optional attribute is an instance of OM class **Extension**. See Section 5.2.13 [Extension], page 91.

alerting-Pattern

AlertingPattern ::= OCTET STRING (SIZE (1)) This type is used to represent alerting patterns: bits 8765, ‘0000’ (unused), bits 43, ‘00’, level; ‘01’, category; ‘10’, category; ‘11’, reserved; bits 21, type of alerting.

alerting-level-0

(‘MAP_T_ALERTING_LEVEL_0’ ‘00000000’B)

alerting-level-1

(‘MAP_T_ALERTING_LEVEL_1’ ‘00000001’B)

alerting-level-2

(‘MAP_T_ALERTING_LEVEL_2’ ‘00000010’B)

alerting-category-1

(‘MAP_T_ALERTING_CATEGORY_1’ ‘00000100’B)

alerting-category-2

(‘MAP_T_ALERTING_CATEGORY_2’ ‘00000101’B)

alerting-category-3

(‘MAP_T_ALERTING_CATEGORY_3’ ‘00000110’B)

alerting-category-4

(‘MAP_T_ALERTING_CATEGORY_4’ ‘00000111’B)

alerting-category-5

('MAP_T_ALERTING_CATEGORY_5' '00001000'B)

All other values are reserved. Alerting levels and categories are defined in GSM 02.07.

msisdn This attribute refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

This OM class does not directly correspond to an ASN.1 type in TS 29.002.

5.4.4.27 Process-USSD-Res

An instance of OM class **Process-USSD-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.313](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ussd-Data-Coding-Scheme	String(Octet)	1	1	—
ussd-String	String(Octet)	1-160	1	—
extension	Object(Extension)	—	0-1	—

Table 5.313: OM Attributes of OM Class **Process-USSD-Res**

This OM class contains the following class-specific OM attributes:

ussd-Data-Coding-Scheme

USSD-DataCodingScheme ::= OCTET STRING (SIZE(1)) The structure of the USSD-DataCodingScheme is defined by the Cell Broadcast Data Coding Scheme as described in 3GPP TS 23.038.

ussd-String **USSD-String ::= OCTET STRING (SIZE(1..160))** The structure of the contents of the USSD-String is dependent on the USSD-DataCodingScheme as described in 3GPP TS 23.038.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

This OM class does not directly correspond to an ASN.1 type in TS 29.002.

5.4.4.28 Register-CC-Entry-Arg

An instance of OM class **Register-CC-Entry-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.314](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	1	—
ccbs-Data	Object(CCBS-Data)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.314: OM Attributes of OM Class **Register-CC-Entry-Arg**

This OM class contains the following class-specific OM attributes:

<i>ss-Code</i>	SS-Code ::= OCTET STRING (SIZE(1))
<i>ccbs-Data</i>	This optional attribute is an instance of OM class CCBS-Data . See Section 5.4.4.7 [CCBS-Data] , page 339.
<i>extension</i>	This optional attribute is an instance of OM class Extension . See Section 5.2.13 [Extension] , page 91.

5.4.4.29 Register-CC-Entry-Res

An instance of OM class **Register-CC-Entry-Res** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.315](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ccbs-Feature	Object(CCBS-Feature)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.315: OM Attributes of OM Class **Register-CC-Entry-Res**

This OM class contains the following class-specific OM attributes:

<i>ccbs-Feature</i>	This optional attribute is an instance of OM class CCBS-Feature . See Section 5.4.4.8 [CCBS-Feature] , page 339.
<i>extension</i>	This optional attribute is an instance of OM class Extension . See Section 5.2.13 [Extension] , page 91.

5.4.4.30 Register-Password-Arg

An instance of OM class **Register-Password-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.316](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	1	—

Table 5.316: OM Attributes of OM Class **Register-Password-Arg**

This OM class contains the following class-specific OM attributes:

```
ss-Code      SS-Code ::= OCTET STRING (SIZE(1))
```

This OM class does not directly correspond to an ASN.1 type in TS 29.002.

5.4.4.31 Register-Password-Res

An instance of OM class **Register-Password-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.317](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
password	String(Numeric)	4	1	—

Table 5.317: OM Attributes of OM Class **Register-Password-Res**

This OM class contains the following class-specific OM attributes:

```
password      Password ::= NumericString (FROM (0|1|2|3|4|5|6|7|8|9)) (SIZE(4))
```

This OM class does not directly correspond to an ASN.1 type in TS 29.002.

5.4.4.32 Register-SS-Arg

An instance of OM class **Register-SS-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.318](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	1	—
basic-Service	Object(Basic-Service-Code)	—	0-1	—
forwarded-To-Number	String(Address)	1-20	0-1	—
forwarded-To-Subaddress	String(Subaddress)	1-21	0-1	—
no-Reply-Condition-Time	Integer	5-30	0-1	—
extension	Object(Extension)	—	0-1	—
default-Priority	Integer	0-15	0-1	—
nbr-User	Integer	1-7	0-1	—
long-FTN-Supported	Null	—	0-1	—

Table 5.318: OM Attributes of OM Class **Register-SS-Arg**

This OM class contains the following class-specific OM attributes:

ss-Code **SS-Code** ::= OCTET STRING (SIZE(1))

basic-Service

This optional attribute is an instance of OM class **Basic-Service-Code**. See [Section 5.3.19.2 \[Basic-Service-Code\]](#), page 118.

forwarded-To-Number

An address string.

forwarded-To-Subaddress

An ISDN subaddress string.

no-Reply-Condition-Time

NoReplyConditionTime ::= INTEGER(5..30)

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

default-Priority

EMLPP-Priority ::= INTEGER(0..15). The mapping from the values, A, B, 0, 1, 2, 3, 4 to the integer value is specified as follows where A is the highest and 4 is the lowest priority level. The integer values 7-15 are spare and shall be mapped to value 4.

nbr-User **MC-Bearers** ::= INTEGER(1..7)

long-FTN-Supported

A Null value whose presence provides indication.

5.4.4.33 Register-SS-Res

An instance of OM class **Register-SS-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.319](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	1	—
basic-Service	Object(Basic-Service-Code)	—	0-1	—
extension	Object(Extension)	—	0-1	—
long-FTN-Supported	Null	—	0-1	—

Table 5.319: OM Attributes of OM Class **Register-SS-Res**

This OM class represents a choice and exactly one instance of one attribute shall be present in an instance of this OM class.

This OM class contains the following class-specific OM attributes:

forwarding-Info

This choice attribute is an instance of OM class **Forwarding-Info**. See [Section 5.4.4.18 \[Forwarding-Info\]](#), page 346.

call-Barring-Info

This choice attribute is an instance of OM class **Call-Barring-Info**. See [Section 5.4.4.6 \[Call-Barring-Info\]](#), page 338.

ss-Data This choice attribute is an instance of OM class **SS-Data**. See [Section 5.4.4.34 \[SS-Data\]](#), page 357.

This service result is optional.

This OM class does not directly correspond to an ASN.1 type in TS 29.002.

5.4.4.34 SS-Data

An instance of OM class **SS-Data** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.320](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	0-1	—
ss-Status	String(Octet)	1	0-1	—
ss-Subscription-Option	Object(SS-Subscription-Option)	—	0-1	—
basic-Service-Group-List	Object(Basic-Service-Group-List)	—	0-1	—
extension	Object(Extension)	—	0-1	—
default-Priority	Integer	0-15	0-1	—
nbr-User	Integer	1-7	0-1	—

Table 5.320: OM Attributes of OM Class **SS-Data**

This OM class contains the following class-specific OM attributes:

ss-Code **SS-Code** ::= OCTET STRING (SIZE(1))

ss-Status **SS-Status** ::= OCTET STRING (SIZE(1)) This parameter refers to the state information of individual supplementary services as defined in 3GPP TS 23.011. SS-Status is a

one byte octet string where bits 8765 are unused and coded zero. Bit 4 is the “Q bit”; 3, the “P bit”, 2 the “R bit”, 1, “A bit”. These bits are defined in 3GPP TS 23.011.

ss-Subscription-Option

This optional attribute is an instance of OM class **SS-Subscription-Option**. See [Section 5.4.4.41 \[SS-Subscription-Option\]](#), page 362.

basic-Service-Group-List

This optional attribute is an instance of OM class **Basic-Service-Group-List**. See [Section 5.4.4.3 \[Basic-Service-Group-List\]](#), page 337.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

default-Priority

EMLPP-Priority ::= INTEGER(0..15). The mapping from the values, A, B, 0, 1, 2, 3, 4 to the integer value is specified as follows where A is the highest and 4 is the lowest priority level. The integer values 7-15 are spare and shall be mapped to value 4.

nbr-User **MC-Bearers** ::= INTEGER(1..7)

5.4.4.35 SS-Event-Specification

An instance of OM class **SS-Event-Specification** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.321](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Event-Spec	String(Address)	1-20	1-2	—

Table 5.321: OM Attributes of OM Class **SS-Event-Specification**

This OM class contains the following class-specific OM attributes:

ss-Event-Spec

One to two (**maxEventSpecification**) instances of *AddressString*.

5.4.4.36 SS-For-BS-Code

An instance of OM class **SS-For-BS-Code** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.322](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	1	—
basic-Service	Object(Basic-Service-Code)	—	0-1	—
extension	Object(Extension)	—	0-1	—
long-FTN-Supported	Null	—	0-1	—

Table 5.322: OM Attributes of OM Class **SS-For-BS-Code**

This OM class contains the following class-specific OM attributes:

ss-Code **SS-Code** ::= OCTET STRING (SIZE(1))

basic-Service

This optional attribute is an instance of OM class **Basic-Service-Code**. See [Section 5.3.19.2 \[Basic-Service-Code\]](#), page 118.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

long-FTN-Supported

A Null value whose presence provides indication.

5.4.4.37 SS-Info

An instance of OM class **SS-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.323](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
forwarding-Info	Object(Forwarding-Info)	—	0-1	—
call-Barring-Info	Object(Call-Barring-Info)	—	0-1	—
ss-Data	Object(SS-Data)	—	0-1	—

Table 5.323: OM Attributes of OM Class **SS-Info**

This OM class represents a choice and exactly one instance of one attribute shall be present in an instance of this OM class.

This OM class contains the following class-specific OM attributes:

forwarding-Info

This choice attribute is an instance of OM class **Forwarding-Info**. See [Section 5.4.4.18 \[Forwarding-Info\]](#), page 346.

call-Barring-Info

This choice attribute is an instance of OM class **Call-Barring-Info**. See [Section 5.4.4.6 \[Call-Barring-Info\]](#), page 338.

ss-Data

This choice attribute is an instance of OM class **SS-Data**. See [Section 5.4.4.34 \[SS-Data\]](#), page 357.

5.4.4.38 SS-Invocation-Notification-Arg

An instance of OM class **SS-Invocation-Notification-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.324](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	1	—
msisdn	String(Address)	1-9	1	—
ss-Event	String(Octet)	1	1	—
ss-Event-Specification	Object(SS-Event-Specification)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
b-Subscriber-Number	String(Address)	1-9	0-1	—
ccbs-Request-State	Enum(CCBS-Request-State)	—	0-1	—

Table 5.324: OM Attributes of OM Class **SS-Invocation-Notification-Arg**

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\], page 83](#)) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

msisdn This attribute refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\], page 101](#).

ss-Event **SS-Code ::= OCTET STRING (SIZE(1))** The following SS-Code values are allowed: **ect**, '00110001'B, **multi-pty**, '01010001'B, **cd**, '00100100'B, **ccbs**, '01000100'B.

ss-Event-Specification This optional attribute is an instance of OM class **SS-Event-Specification**. See [Section 5.4.4.35 \[SS-Event-Specification\], page 358](#).

extension-Container This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\], page 121](#).

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\], page 91](#).

b-Subscriber-Number
An ISDN address string.

ccbs-Request-State
An enumeration containing one of the following values:

request	('MAP_T_REQUEST' '0')
recall	('MAP_T_RECALL' '1')
active	('MAP_T_ACTIVE' '2')
completed	('MAP_T_COMPLETED' '3')
suspended	('MAP_T_SUSPENDED' '4')
frozen	('MAP_T_FROZEN' '5')
deleted	('MAP_T_DELETED' '6')

5.4.4.39 SS-Invocation-Notification-Res

An instance of OM class **SS-Invocation-Notification-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.325](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.325: OM Attributes of OM Class **SS-Invocation-Notification-Res**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\], page 121](#).

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\], page 91](#).

This service result is optional.

5.4.4.40 SS-List

An instance of OM class **SS-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.326](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	1-30	—

Table 5.326: OM Attributes of OM Class **SS-List**

This OM class contains the following class-specific OM attributes:

ss-Code One to thirty (`maxNumOfSS`) instances of SS-Code. `SS-Code ::= OCTET STRING (SIZE(1))`

5.4.4.41 SS-Subscription-Option

An instance of OM class **SS-Subscription-Option** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.327](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
cli-Restriction-Option	Enum(Cli-Restriction-Option)	—	0-1	—
override-Category	Enum(Override-Category)	—	0-1	—

Table 5.327: OM Attributes of OM Class **SS-Subscription-Option**

This OM class represents a choice and exactly one instance of one attribute shall exist in an instance of this OM class.

This OM class contains the following class-specific OM attributes:

cli-Restriction-Option

An enumeration containing one of the following values:

permanent ('MAP_T_PERMANENT' '0')

temporary-default-restricted
('MAP_T_TEMPORARY_DEFAULT_RESTRICTED' '1')

temporary-default-allowed
('MAP_T_TEMPORARY_DEFAULT_ALLOWED' '2')

override-Category

An enumeration containing one of the following values:

override-enabled
('MAP_T_OVERRIDE_ENABLED' '0')

override-disabled
('MAP_T_OVERRIDE_DISABLED' '1')

5.4.4.42 USSD-Arg

An instance of OM class **USSD-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), [page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), [page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.328](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ussd-Data-Coding-Scheme	String(Octet)	1	1	—
ussd-String	String(Octet)	1-160	1	—
extension	Object(Extension)	—	0-1	—
alerting-Pattern	String(Octet)	1	0-1	—
msisdn	String(Address)	1-9	0-1	—

Table 5.328: OM Attributes of OM Class **USSD-Arg**

This OM class contains the following class-specific OM attributes:

ussd-Data-Coding-Scheme

USSD-DataCodingScheme ::= OCTET STRING (SIZE (1)) The structure of the USSD-DataCodingScheme is defined by the Cell Broadcast Data Scheme as described in 3GPP TS 23.038.

ussd-String **USSD-String** ::= OCTET STRING (SIZE (1..160)) The structure of the contents of the USSD-String is dependent on the USSD-DataCodingScheme as described in 3GPP TS 23.038.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

alerting-Pattern

AlertingPattern ::= OCTET STRING (SIZE (1)) This type is used to represent alerting patterns: bits 8765, '0000' (unused), bits 43, '00', level; '01', category; '10', category; '11', reserved; bits 21, type of alerting.

alerting-level-0

('MAP_T_ALERTING_LEVEL_0' '00000000'B)

alerting-level-1

('MAP_T_ALERTING_LEVEL_1' '00000001'B)

alerting-level-2

('MAP_T_ALERTING_LEVEL_2' '00000010'B)

alerting-category-1

('MAP_T_ALERTING_CATEGORY_1' '00000100'B)

alerting-category-2

('MAP_T_ALERTING_CATEGORY_2' '00000101'B)

alerting-category-3

('MAP_T_ALERTING_CATEGORY_3' '00000110'B)

alerting-category-4

('MAP_T_ALERTING_CATEGORY_4' '00000111'B)

alerting-category-5

('MAP_T_ALERTING_CATEGORY_5' '00001000'B)

All other values are reserved. Alerting levels and categories are defined in GSM 02.07.

msisdn This attribute refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

5.4.4.43 USSD-Res

An instance of OM class **USSD-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.329](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ussd-Data-Coding-Scheme	String(Octet)	1	1	—
ussd-String	String(Octet)	1-160	1	—
extension	Object(Extension)	—	0-1	—

Table 5.329: OM Attributes of OM Class **UUSD-Res**

This OM class contains the following class-specific OM attributes:

ussd-Data-Coding-Scheme

USSD-DataCodingScheme ::= OCTET STRING (SIZE(1)) The structure of the **USSD-DataCodingScheme** is defined by the Cell Broadcast Data Coding Scheme as described in 3GPP TS 23.038.

ussd-String **USSD-String ::= OCTET STRING (SIZE(1..160))** The structure of the contents of the **USSD-String** is dependent on the **USSD-DataCodingScheme** as described in 3GPP TS 23.038.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

This service result is optional.

5.4.5 GSM Short Message Service Package

- *Object*
 - *Service-Argument*
 - *GSM-Service-Argument*
 - **Alert-Service-Centre-Arg**
 - **Inform-Service-Centre-Arg**
 - **MO-Forward-SM-Arg**
 - **MT-Forward-SM-Arg**
 - **MT-Forward-SM-VGCS-Arg**
 - **Ready-For-SM-Arg**
 - **Report-SM-Delivery-Status-Arg**
 - **Send-Info-For-Mo-Sms-Argument**

- **Send-Info-For-Mt-Sms-Argument**
- **Routing-Info-For-SM-Arg**
- *Service-Result*
 - *GSM-Service-Result*
 - **Alert-Service-Centre-Res**
 - **MO-Forward-SM-Res**
 - **MT-Forward-SM-Res**
 - **MT-Forward-SM-VGCS-Res**
 - **Ready-For-SM-Res**
 - **Report-SM-Delivery-Status-Res**
 - **Send-Info-For-Mo-Sms-Result**
 - **Send-Info-For-Mt-Sms-Result**
 - **Routing-Info-For-SM-Res**

5.4.5.1 Additional-Number

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.330](#). This class represents a choice and exactly one of the attributes must be present in an instance of the object.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
msc-Number	String(TBCD)	1-8	0-1	—
sgsn-Number	String(TBCD)	1-8	0-1	—

Table 5.330: OM Attributes of OM class **Additional-Number**

This OM class contains the following class-specific OM attributes:

msc-Number

This attribute refers to the ISDN number of an MSC. An ISDN Address String containing the number of the MSC.

sgsn-Number

This attribute refers to the ISDN number of an SGSN. An ISDN Address String containing the ISDN address of the SGSN.

5.4.5.2 Alert-Service-Centre-Arg

An instance of OM class **Alert-Service-Centre-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.331](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
msisdn	String(Address)	1-9	1	—
service-Center-Address	String(Address)	1-20	—	1
extension	Object(Extension)	—	0-1	—

Table 5.331: OM Attributes of OM class **Alert-Service-Centre-Arg**

This OM class contains the following class-specific OM attributes:

msisdn This attribute refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute refers to the MSISDN stored in a Message Waiting Data File in the HLR. It is used to alert the Service Centre when the MS is again attainable. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

service-Centre-Address

This attribute represents the address of a Short Message Service Centre. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

5.4.5.3 Alert-Service-Centre-Res

An instance of OM class **Alert-Service-Centre-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*; it does not provide any attributes of its own.

5.4.5.4 Dispatcher-List

An instance of OM class **Dispatcher-List** represents a list of one to five ISDN dispatch addresses.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.332](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
dispatcher	String(Address)	1-8	1-5	—

Table 5.332: OM Attributes of OM class **Dispatcher-List**

dispatcher One to five ISDN address strings.

5.4.5.5 Inform-Service-Centre-Arg

An instance of OM class **Inform-Service-Centre-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.333](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
<i>msisdn</i>	String(Address)	1-9	0-1	—
<i>mw-Status</i>	String(Bit)	6-16	0-1	—
<i>extension-Container</i>	Object(Extension-Container)	—	0-1	—
<i>extension</i>	Object(Extension)	—	0-1	—
<i>absent-Subscriber-Diagnostic-SM</i>	Integer	—	0-1	—
<i>additional-Absent-Subscriber-Diagnostic-SM</i>	Integer	—	0-1	—

Table 5.333: OM Attributes of OM class **Inform-Service-Centre-Arg**

This OM class contains the following class-specific OM attributes:

msisdn An MS-ISDN refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute refers to the MS-ISDN stored in a Message Waiting Data File in the HLR. It is used to alert the Service Centre when the MS is again attainable. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

mw-Status This attribute indicates whether or not the address of the originator service centre is already contained in the Message Waiting Data file. In addition, it contains the status of the Memory Capacity Exceeded Flag (MCEF), the status of the Mobile Subscriber Not Reachable Flag (MNRF) and the status of the Mobile station Not Reachable for GPRS flag (MNRG).

mw-Status is a bit string with 6 to 16 bits with the following bits defined:

sc-Address-Not-Included

(‘MAP_T_SC_ADDRESS_NOT_INCLUDED’ ‘0’)

mnrf-Set (‘MAP_T_MNRF_SET’ ‘1’)

mcef-Set (‘MAP_T_MCEF_SET’ ‘2’)

mnrng-Set (‘MAP_T_MNRG_SET’ ‘3’)

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

absent-Subscriber-Diagnostic-SM

This optional attribute is used to indicate the reason why the subscribe is absent. For the values for this attribute, see 3GPP TS 23.040.

additional-Absent-Subscriber-Diagnostic-SM

This optional attribute indicates the reason of the additional SM Delivery Outcome. *additional-Absent-Subscriber-Diagnostic-SM* may be present only if *absent-Subscriber-Diagnostic-SM* is present. If included, *additional-Absent-Subscriber-Diagnostic-SM* is for GPRS and *absent-Subscriber-Diagnostic-SM* is for non-GPRS.

5.4.5.6 Location-Info-With-LMSI

An instance of OM class **Location-Info-With-LMSI** contains information returned as a result in a object of OM class **Routing-Info-For-SM-Res**.⁵ It contains information as to where to route a relayed short message.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 5.334.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
network-Node-Number	String(TBCD)	1-8	1	—
lmsi	String(Octet)	4	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
gprs-Node-Indicator	Null	—	0-1	—
additional-Number	Object(Additional-Number)	—	0-1	—

Table 5.334: OM Attributes of OM class **Location-Info-With-LMSI**

This OM class contains the following class-specific OM attributes:

network-Node-Number

This attribute provides a network node number coded as an octet string containing one to sixteen TBCD encoded digits. This attribute has syntax *String(TBCD)*. See Section 5.2.1 [String(TBCD)], page 83.

lmsi

This attribute provides the local identity allocated by the VLR to a given subscriber for internal management of data in the VLR. The LMSI shall not be sent to an SGSN. This attribute is encoded as a 4 octet string.

gprs-Node-Indicator

A Null value whose presence provides indication.

additional-Number

This optional attribute provides an additional network node number as an instance of OM class **Additional-Number**. See Section 5.4.5.1 [Additional-Number], page 365.

5.4.5.7 MO-Forward-SM-Arg

An instance of OM class **MO-Forward-SM-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see Section 4.20 [Service-req()], page 70) or is returned by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in Table 5.335.

⁵ See Section 5.4.5.18 [Routing-Info-For-SM-Res], page 379.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
sm-RP-DA	Object(SM-RP-DA)	—	1	—
sm-RP-OA	Object(SM-RP-OA)	—	1	—
sm-RP-UI	String(Octet)	1-200	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
imsi	String(TBCD)	3-8	0-1	—

Table 5.335: OM Attributes of OM class **MO-Forward-SM-Arg**

This OM class contains the following class-specific OM attributes:

sm-RP-DA This attribute is a **SM-RP-DA** object that represents the destination address used by the short message service relay sub-layer protocol. See [Section 5.4.5.23 \[SM-RP-DA\]](#), page 381.

sm-RP-OA This attribute is a **SM-RP-OA** object that refers to the originating address used by the short message service relay sub-layer protocol. See [Section 5.4.5.24 \[SM-RP-OA\]](#), page 382.

sm-RP-UI This attribute is the user data field carried by the short message service relay sub-layer protocol. It is an octet string between one and two hundred octets in length.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

5.4.5.8 MO-Forward-SM-Res

An instance of OM class **MO-Forward-SM-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.336](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
sm-RP-UI	String(Octet)	1-200	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.336: OM Attributes of OM class **MO-Forward-SM-Res**

This OM class contains the following class-specific OM attributes:

sm-RP-UI This attribute represents the user data field carried by the short message service relay sub-layer protocol. It is an octet string between one and two hundred octets in length.

extension-Container This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.5.9 MT-Forward-SM-Arg

An instance of OM class **MT-Forward-SM-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.337](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
sm-RP-DA	Object(SM-RP-DA)	—	1	—
sm-RP-OA	Object(SM-RP-OA)	—	1	—
sm-RP-UI	String(Octet)	1-200	1	—
more-Messages-To-Send	Null	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.337: OM Attributes of OM class **MT-Forward-SM-Arg**

This OM class contains the following class-specific OM attributes:

sm-RP-DA This attribute is a **SM-RP-DA** object that represents the destination address used by the short message service relay sub-layer protocol. See [Section 5.4.5.23 \[SM-RP-DA\]](#), page 381.

sm-RP-OA This attribute is a **SM-RP-OA** object that refers to the originating address used by the short message service relay sub-layer protocol. See [Section 5.4.5.24 \[SM-RP-OA\]](#), page 382.

sm-RP-UI This attribute represents the user data field carried by the short message service relay sub-layer protocol. It is an octet string between one and two hundred octets in length.

more-Messages-To-Send

This attribute is used to indicate whether or not the service center has more short messages to send. Its presence indicates that there are more messages.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.5.10 MT-Forward-SM-Res

An instance of OM class **MT-Forward-SM-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.338](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
sm-RP-UI	String(Octet)	1-200	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.338: OM Attributes of OM class **MT-Forward-SM-Res**

This OM class contains the following class-specific OM attributes:

sm-RP-UI This attribute represents the user data field carried by the short message service relay sub-layer protocol. It is an octet string between one and two hundred octets in length.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.5.11 MT-Forward-SM-VGCS-Arg

An instance of OM class **MT-Forward-SM-VGCS-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.339](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ascii-Call-Reference	String(TBCD)	1-8	1	—
sm-RP-OA	Object(SM-RP-OA)	—	1	—
sm-RP-UI	String(Octet)	1-200	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.339: OM Attributes of OM class **MT-Forward-SM-VGCS-Arg***ascii-Call-Reference*

A TBCD string of 1 to 8 octets representing the destination of the Short Message. Digits of VGCS/VBS-area and Group-ID are concatenated in this order if there is a VGCS/VBS-area.

sm-RP-OA This attribute is a **SM-RP-OA** object that refers to the originating address used by the short message service relay sub-layer protocol. See [Section 5.4.5.24 \[SM-RP-OA\]](#), page 382.

sm-RP-UI This attribute represents the user data field carried by the short message service relay sub-layer protocol. It is an octet string between one and two hundred octets in length.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.5.12 MT-Forward-SM-VGCS-Res

An instance of OM class **MT-Forward-SM-VGCS-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.340](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
sm-RP-UI	String(Octet)	1-200	0-1	—
dispatcher-List	Object(Dispatcher-List)	—	0-1	—
ongoing-Call	Null	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.340: OM Attributes of OM class **MT-Forward-SM-VGCS-Res**

sm-RP-UI This attribute represents the user data field carried by the short message service relay sub-layer protocol. It is an octet string between one and two hundred octets in length.

dispatcher-List

This optional attribute is an instance of OM class **Dispatcher-List**. See [Section 5.4.5.4 \[Dispatcher-List\]](#), page 366.

ongoing-Call

A Null value whose presence provides indication.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.5.13 Ready-For-SM-Arg

An instance of OM class **Ready-For-SM-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.341](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
<i>imsi</i>	String(TBCD)	3-8	1	—
<i>alert-Reason</i>	Enum(Alert-Reason)	—	1	—
<i>alert-Reason-Indicator</i>	Null	—	0-1	—
<i>extension-Container</i>	Object(Extension-Container)	—	0-1	—
<i>extension</i>	Object(Extension)	—	0-1	—

Table 5.341: OM Attributes of OM class **Ready-For-SM-Arg**

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

alert-Reason

This attribute is used to indicate the reason why the service center is alerted. It can take one of the following values:

ms-Present ('MAP_T_MS_PRESENT' '0')

memory-Available

('MAP_T_MEMORY_AVAILABLE' '1')

alert-Reason-Indicator

This attribute indicates that the alert reason is sent to the HLR due to GPRS activity. *alert-Reason-Indicator* is only set when the *alert-Reason* sent to HLR is for GPRS.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See Section 5.3.19.6 [Extension-Container], page 121.

extension This optional attribute is an instance of OM class **Extension**. See Section 5.2.13 [Extension], page 91.

5.4.5.14 Ready-For-SM-Res

An instance of OM class **Ready-For-SM-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see Section 4.21 [Service-rsp()], page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in Table 5.342.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.342: OM Attributes of OM class **Ready-For-SM-Res**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See Section 5.3.19.6 [Extension-Container], page 121.

extension This optional attribute is an instance of OM class **Extension**. See Section 5.2.13 [Extension], page 91.

5.4.5.15 Report-SM-Delivery-Status-Arg

An instance of OM class **Report-SM-Delivery-Status-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see Section 4.20 [Service-req()], page 70) or is returned by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in Table 5.343.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
<i>msisdn</i>	String(Address)	1-9	1	—
<i>service-Center-Address</i>	String(Address)	1-20	1	—
<i>sm-Delivery-Outcome</i>	Enum(SM-Delivery-Outcome)	—	1	—
<i>absent-Subscriber-Diagnostic-SM</i>	Integer	—	0-1	—
<i>extension-Container</i>	Object(Extension-Container)	—	0-1	—
<i>extension</i>	Object(Extension)	—	0-1	—
<i>gprs-Support-Indicator</i>	Null	—	0-1	—
<i>delivery-Outcome-Indicator</i>	Null	—	0-1	—
<i>additional-SM-Delivery-Outcome</i>	Enum(SM-Delivery-Outcome)	—	0-1	—
<i>additional-Absent-Subscriber-Diagnostic-SM</i>	Integer	—	0-1	—
<i>ip-sm-gw-Indicator</i>	Null	—	0-1	—
<i>ip-sm-gw-sm-Delivery-Outcome</i>	Enum(SM-Delivery-Outcome)	—	0-1	—
<i>ip-sm-gw-Absent-Subscriber-Diagnostic-SM</i>	Integer	—	0-1	—

Table 5.343: OM Attributes of OM class **Report-SM-Delivery-Status-Arg**

This OM class contains the following class-specific OM attributes:

msisdn This attribute refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

service-Centre-Address This attribute represents the address of a Short Message Service Centre. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

sm-Delivery-Outcome This attribute indicates the cause for setting the message waiting data. It can take one of the following values:

memory-capacity-exceeded
(‘MAP_T_MEMORY_CAPACITY_EXCEEDED’ ‘0’)

absent-subscriber
(‘MAP_T_ABSENT_SUBSCRIBER’ ‘1’)

successful-transfer
(‘MAP_T_SUCCESSFUL_TRANSFER’ ‘2’)

absent-Subscriber-Diagnostic-SM This attribute is used to indicate the reason why the subscriber is absent. For the values for this attribute, see 3GPP TS 23.040.

extension-Container This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

gprs-Support-Indicator

This attribute indicates that the SMS-GMSC supports GPRS specific procedure of combine delivery of Short Message via MSC and/or via the SGSN.

delivery-Outcome-Indicator

This attribute indicates that the delivery outcome sent to the HLR is for GPRS.

additional-SM-Delivery-Outcome

This attribute is used to indicate the GPRS deliver outcome in case a combination between deliver outcome for GPRS and non-GPRS are sent to the HLR. It can take one of the following values:

memory-capacity-exceeded

(‘MAP_T_MEMORY_CAPACITY_EXCEEDED’ ‘0’)

absent-subscriber

(‘MAP_T_ABSENT_SUBSCRIBER’ ‘1’)

successful-transfer

(‘MAP_T_SUCCESSFUL_TRANSFER’ ‘2’)

additional-Absent-Subscriber-Diagnostic-SM

This attribute indicates the reason of the additional SM Delivery Outcome. For the values for this attribute, see 3GPP TS 23.040.

ip-sm-gw-Indicator

The **ip-sm-gw-Indicator** indicates by its presence that sm-Delivery-Outcome is for delivery via IMS. When present, delivery-Outcome-Indicator shall be absent.

ip-sm-gw-sm-Delivery-Outcome

memory-capacity-exceeded

(‘MAP_T_MEMORY_CAPACITY_EXCEEDED’ ‘0’)

absent-subscriber

(‘MAP_T_ABSENT_SUBSCRIBER’ ‘1’)

successful-transfer

(‘MAP_T_SUCCESSFUL_TRANSFER’ ‘2’)

If present, ip-sm-gw-sm-Delivery-Outcome is for delivery via IMS. Only present when ip-sm-gw-Indicator is present.

ip-sm-gw-Absent-Subscriber-Diagnostic-SM is for delivery via IMS.

If present, ip-sm-gw-sm-Absent-Subscriber-Diagnostic Only present when ip-sm-gw-Indicator is present.

5.4.5.16 Report-SM-Delivery-Status-Res

An instance of OM class **Report-SM-Delivery-Status-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see Section 4.21 [Service-rsp()], page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in Table 5.344.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
msisdn	String(Address)	1-9	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.344: OM Attributes of OM class **Report-SM-Delivery-Status-Res**

This OM class contains the following class-specific OM attributes:

msisdn An MS-ISDN refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute refers to the MS-ISDN stored in a Message Waiting Data File in the HLR. It is used to alert the Service Centre when the MS is again attainable. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

extension-Container This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.5.17 Routing-Info-For-SM-Arg

An instance of OM class **Routing-Info-For-SM-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.345](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
msisdn	String(Address)	3-8	1	—
sm-RP-PRI	Boolean	—	1	—
service-Center-Address	String(Address)	1-20	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
gprs-Support-Indication	Null	—	0-1	—
sm-RP-MTI	Integer	—	0-1	—
sm-RP-SMEA	String(Octet)	1-12	0-1	—
sm-Delivery-Not-Intended	Enum(SM-Delivery-Not-Intended)	—	0-1	—

Table 5.345: OM Attributes of OM class **Routing-Info-For-SM-Arg**

This OM class contains the following class-specific OM attributes:

msisdn This attribute refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

sm-RP-PRI This attribute is used to indicate whether or not delivery of the short message shall be attempted when a service centre address is already contained in the Message Waiting Data file.

service-Centre-Address This attribute represents the address of a Short Message Service Centre. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

extension-Container This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

gprs-Support-Indicator This attribute indicates that the SMS-GMSC supports GPRS specific procedure of combine delivery of Short Message via MSC and/or via the SGSN.

sm-RP-MTI This parameter represents the RP-Message Type Indicator of the Short Message. It is used to distinguish a SM sent to the mobile station in order to acknowledge an MO-SM initiated by the mobile from a normal MT-SM. This parameter is formatted according to the formatting rules of address fields as described in 3GPP TS 23.040.
This attribute is an Integer value between 0 and 10 inclusive and can assume the following defined values:

sms-deliver ('MAP_T_SMS_DELIVER')

sms-status-report
('MAP_T_STATUS_REPORT')

sm-RP-SMEA This parameter represents the RP-Originating SME-address of the Short Message Entity that has originated the SM. This parameter is used by the short message service relay sub-layer protocol and is formatted according to the formatting rules of address fields as described in 3GPP TS 23.040.

This parameter contains an address field that is encoded as defined in 3GPP TS 23.040. An address field contains 3 elements:

- address-length
- type-of-address
- address-value

sm-Delivery-Not-Intended

only-imsi-requested
('MAP_T_ONLY_IMSI_REQUESTED' '0')

only-mcc-mnc-requested
('MAP_T_ONLY_MCC_MNC_REQUESTED' '1')

5.4.5.18 Routing-Info-For-SM-Res

An instance of OM class **Routing-Info-For-SM-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.346](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	1	—
location-Info-With-LMSI	Object(Location-Info-With-LMSI)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.346: OM Attributes of OM class **Routing-Info-For-SM-Res**

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\], page 83](#)) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

location-Info-With-LMSI

This attribute is an object of OM class **Location-Info-With-LMSI**. It provides location information for delivery of short messages. See [Section 5.4.5.6 \[Location-Info-With-LMSI\], page 368](#).

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\], page 121](#).

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\], page 91](#).

5.4.5.19 Send-Info-For-Mo-Sms-Arg

An instance of OM class **Send-Info-For-Mo-Sms-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.347](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
service-Centre-Address	String(Address)	1-20	1	—

Table 5.347: OM Attributes of OM class **Send-Info-For-Mo-Sms-Arg**

This OM class contains the following class-specific OM attributes:

service-Centre-Address

This parameter represents the address of a Short Message Service Centre. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

5.4.5.20 Send-Info-For-Mo-Sms-Res

An instance of OM class **Send-Info-For-Mo-Sms-Res** is the information supplied as an argument of a Mobile Application Service response operation to be performed. This object is passed to *Service-rsp()* or returned from *Receive()*.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.348](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
msisdn	String(Address)	1-9	1	—

Table 5.348: OM Attributes of OM class **Send-Info-For-Mo-Sms-Res**

This OM class contains the following class-specific OM attributes:

msisdn This attribute refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

5.4.5.21 Send-Info-For-Mt-Sms-Arg

An instance of OM class **Send-Info-For-Mt-Sms-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.349](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
sm-RP-DA	Object(SM-RP-DA)	—	1	—
imsi	String(Address)	3-8	1	—

Table 5.349: OM Attributes of OM class **Send-Info-For-Mt-Sms-Arg**

This OM class contains the following class-specific OM attributes:

- sm-RP-DA* This attribute is a **SM-RP-DA** object that represents the destination address used by the short message service relay sub-layer protocol. See [Section 5.4.5.23 \[SM-RP-DA\]](#), page 381.
- imsi* This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

5.4.5.22 Send-Info-For-Mt-Sms-Res

An instance of OM class **Send-Info-For-Mt-Sms-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.350](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
msisdn	String(Address)	1-9	1	—

Table 5.350: OM Attributes of OM class **Send-Info-For-Mt-Sms-Res**

This OM class contains the following class-specific OM attributes:

- msisdn* This attribute refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

5.4.5.23 SM-RP-DA

An instance of OM class **SM-RP-DA** represents the destination address of a short message used by the short message service relay sub-layer protocol.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.351](#). This OM class represents a choice and exactly one of the attributes must appear in an instance of this class.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	0-1	—
lmsi	String(Octet)	4	0-1	—
service-Centre-Address	String(Address)	1-20	0-1	—
no-SM-RP-DA	Null	—	0-1	—

Table 5.351: OM Attributes of OM class **SM-RP-DA**

This OM class contains the following class-specific OM attributes:

- imsi* This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.
- lmsi* This attribute provides the local identity allocated by the VLR to a given subscriber for internal management of data in the VLR. The LMSI shall not be sent to an SGSN. This attribute is encoded as a 4 octet string.
- service-Centre-Address*
This attribute represents the address of a Short Message Service Centre. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.
- no-SM-RP-DA*
This attributes specifies that there is no SM-RP-DA.

5.4.5.24 SM-RP-OA

An instance of OM class **SM-RP-OA** represents the originating address of an short message used by the short message service relay sub-layer protocol.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.352](#). This OM class represents a choice and exactly one of the attributes must appear in an instance of this class.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
msisdn	String(Address)	1-9	0-1	—
service-Centre-Address	String(Address)	1-20	0-1	—
no-SM-RP-OA	Null	—	0-1	—

Table 5.352: OM Attributes of OM class **SM-RP-OA**

This OM class contains the following class-specific OM attributes:

- msisdn* This attribute refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.
- service-Centre-Address*
This attribute represents the address of a Short Message Service Centre. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.
- no-SM-RP-OA*
This attributes specifies that there is no SM-RP-OA.

5.4.6 GSM Group Call Package

OM Hierarchy

- *Object*
- *Service-Argument*

- *GSM-Service-Argument*
- **Forward-Group-Call-Signalling-Arg**
- **Prepare-Group-Call-Arg**
- **Process-Group-Call-Signalling-Arg**
- **Send-Group-Call-End-Signal-Arg**
- **Send-Group-Call-Info-Arg**
- *Service-Result*
 - *GSM-Service-Result*
 - **Prepare-Group-Call-Res**
 - **Send-Group-Call-End-Signal-Res**
 - **Send-Group-Call-Info-Res**

5.4.6.1 Forward-Group-Call-Signalling-Arg

An instance of OM class **Forward-Group-Call-Signalling-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.353](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(Address)	3-8	0-1	—
uplink-Request-Ack	Null	—	0-1	—
uplink-Release-Indication	Null	—	0-1	—
uplink-Reject-Command	Null	—	0-1	—
uplink-Seized-Command	Null	—	0-1	—
uplink-Release-Command	Null	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
state-Attributes	Object(State-Attributes)	—	0-1	—
talker-Priority	Enum(Talker-Priority)	—	0-1	—
additional-Info	String(Octet)	1-136	0-1	—
emergency-Mode-Reset-Command-Flag	Null	—	0-1	—
sm-RP-UI	String(Octet)	1-200	0-1	—
an-APDU	Object(Access-Network-Signal-Info)	—	0-1	—

Table 5.353: OM Attributes of OM Class **Forward-Group-Call-Signalling-Arg**

This OM class contains the following class-specific OM attributes:

- imsi* This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\], page 83](#)) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

uplink-Request-Ack

A Null value whose presence provides indication.

uplink-Release-Indication

A Null value whose presence provides indication.

uplink-Reject-Command

A Null value whose presence provides indication.

uplink-Seized-Command

A Null value whose presence provides indication.

uplink-Release-Command

A Null value whose presence provides indication.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

state-Attributes

This optional attribute is an instance of OM class **State-Attributes**. See [Section 5.4.6.9 \[State-Attributes\]](#), page 392.

talker-Priority

An enumeration containing one of the following values:

normal ('MAP_T_NORMAL' '0')
privileged ('MAP_T_PRIVILEGED' '1')
emergency ('MAP_T_EMERGENCY' '2')

additional-Info

AdditionalInfo ::= BIT STRING (SIZE(1..136)) Refers to additional info as specified in 3GPP TS 43.068.

emergency-Mode-Reset-Command-Flag

A Null value whose presence provides indication.

sm-RP-UI

This attribute is the user data field carried by the short message service relay sub-layer protocol. It is an octet string between one and two hundred octets in length.

an-APDU

This attribute is an instance of OM class **Access-Network-Signal-Info**. See [Section 5.3.19.1 \[Access-Network-Signal-Info\]](#), page 118.

5.4.6.2 Prepare-Group-Call-Arg

An instance of OM class **Prepare-Group-Call-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.354](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
teleservice	String(Octet)	1-5	1	—
ascii-Call-Reference	String(TBCD)	1-8	1	—
codec-Info	String(Octet)	5-10	1	—
ciphering-Algorithm	String(Octet)	1	1	—
group-Key-Number-Vk-Id	Integer	0-15	0-1	—
group-Key	String(Octet)	8	0-1	—
priority	Integer	0-15	0-1	—
uplink-Free	Null	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
vstk	String(Octet)	16	0-1	—
vstk-rand	String(Octet)	5	0-1	—
talker-Channel-Parameter	Null	—	0-1	—

Table 5.354: OM Attributes of OM Class **Prepare-Group-Call-Arg**

This OM class contains the following class-specific OM attributes:

teleservice **Ext-TeleserviceCode** ::= OCTET STRING (SIZE(1..5)) This type is used to represent the code identifying a single teleservice, group of teleservices, or all teleservices. The services are defined in GSM TS 22.003. The internal structure is defined as follows: octet 1, bits 87654321, group (bits 8765) and specific service (bits 4321); octets 2-5, reserved for future use. If received, Ext-TeleserviceCode shall be treated according to the exception handling defined for the operation that uses this type. Ext-TeleserviceCode includes all values defined for TeleserviceCode.

ascii-Call-Reference

A TBCD string of 1 to 8 octets representing the destination of the Short Message. Digits of VGCS/VBS-area and Group-ID are concatenated in this order if there is a VGCS/VBS-area.

codec-Info **Codec-Info** ::= OCTET STRING (SIZE(5..10)) Refers to channel type. Coded according to 3GPP TS 48.008 and including Element identifier and Length.

ciphering-Algorithm

CipheringAlgorithm ::= OCTET STRING (SIZE(1)) Refers to permitted algorithms in encryption information coded according to 3GPP TS 48.008: Bits 87654321: 0000 0001, No encryption; 0000 0010, GSM A5/1, 0000 0100, GSM A5/2, 0000 1000, GSM A5/3, 0001 0000, GSM A5/4, 0010 0000, GSM A5/5, 0100 0000, GSM A5/6, 1000 0000, GSM A5/7.

group-Key-Number-Vk-Id

GroupKey-Number ::= INTEGER(0..15)

group-Key **Kc** ::= OCTET STRING (SIZE (8))

priority **EMLPP-Priority** ::= INTEGER(0..15). The mapping from the values, A, B, 0, 1, 2, 3, 4 to the integer value is specified as follows where A is the highest and 4 is the lowest priority level. The integer values 7-15 are spare and shall be mapped to value 4.

uplink-Free A Null value whose presence provides indication.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

vstk VSTK ::= OCTET STRING (SIZE(16))

vstk-rand VSTK-RANE ::= OCTET STRING (SIZE(5)) The 36 bit value is carried in bit 7 of octet 1 ot bit 4 of octet 5. Bits 3210 of octet 5 are padded with zeroes.

talker-Channel-Parameter

A Null value whose presence provides indication.

5.4.6.3 Prepare-Group-Call-Res

An instance of OM class **Prepare-Group-Call-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.355](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
group-Call-Number	String(Address)	1-9	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.355: OM Attributes of OM Class **Prepare-Group-Call-Res**

This OM class contains the following class-specific OM attributes:

group-Call-Number

An ISDN address string.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.6.4 Process-Group-Call-Signalling-Arg

An instance of OM class **Process-Group-Call-Signalling-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.356](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
uplink-Request	Null	—	0-1	—
uplink-Release-Indication	Null	—	0-1	—
release-Group-Call	Null	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
talker-Priority	Enum(Talker-Priority)	—	0-1	—
additional-Info	String(Octet)	1-136	0-1	—
emergency-Mode-Reset-Command-Flag	Null	—	0-1	—
an-APDU	Object(Access-Network-Signal-Info)	—	0-1	—

Table 5.356: OM Attributes of OM Class **Process-Group-Call-Signalling-Arg**

This OM class contains the following class-specific OM attributes:

uplink-Request

A Null value whose presence provides indication.

uplink-Release-Indication

A Null value whose presence provides indication.

release-Group-Call

A Null value whose presence provides indication.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

talker-Priority

An enumeration containing one of the following values:

normal ('MAP_T_NORMAL' '0')

privileged ('MAP_T_PRIVILEGED' '1')

emergency ('MAP_T_EMERGENCY' '2')

additional-Info

AdditionalInfo ::= BIT STRING (SIZE(1..136)) Refers to additional info as specified in 3GPP TS 43.068.

emergency-Mode-Reset-Command-Flag

A Null value whose presence provides indication.

an-APDU This attribute is an instance of OM class **Access-Network-Signal-Info**. See [Section 5.3.19.1 \[Access-Network-Signal-Info\]](#), page 118.

5.4.6.5 Send-Group-Call-End-Signal-Arg

An instance of OM class **Send-Group-Call-End-Signal-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.357](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
imsi	String(TBCD)	3-8	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
talker-Priority	Enum(Talker-Priority)	—	0-1	—
additional-Info	String(Octet)	1-136	0-1	—

Table 5.357: OM Attributes of OM Class **Send-Group-Call-End-Signal-Arg**

This OM class contains the following class-specific OM attributes:

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\], page 83](#)) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

extension-Container This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\], page 121](#).

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\], page 91](#).

talker-Priority An enumeration containing one of the following values:

normal ('MAP_T_NORMAL' '0')
privileged ('MAP_T_PRIVILEGED' '1')
emergency ('MAP_T_EMERGENCY' '2')

additional-Info AdditionalInfo ::= BIT STRING (SIZE(1..136)) Refers to additional info as specified in 3GPP TS 43.068.

5.4.6.6 Send-Group-Call-End-Signal-Res

An instance of OM class **Send-Group-Call-End-Signal-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in Table 5.358.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.358: OM Attributes of OM Class **Send-Group-Call-End-Signal-Res**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See Section 5.3.19.6 [Extension-Container], page 121.

extension

This optional attribute is an instance of OM class **Extension**. See Section 5.2.13 [Extension], page 91.

5.4.6.7 Send-Group-Call-Info-Arg

An instance of OM class **Send-Group-Call-Info-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see Section 4.20 [Service-req()], page 70) or is returned by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in Table 5.359.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
requested-Info	Enum(Requested-Info)	—	1	—
group-Id	String(TBCD)	4	1	—
teleservice	String(Octet)	1-5	1	—
cell-Id	String(Octet)	5-7	0-1	—
imsi	String(TBCD)	3-8	0-1	—
tmsi	String(Octet)	1-4	0-1	—
additional-Info	String(Octet)	1-136	0-1	—
talker-Priority	Enum(Talker-Priority)	—	0-1	—
cksn	String(Octet)	1	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.359: OM Attributes of OM Class **Send-Group-Call-Info-Arg**

This OM class contains the following class-specific OM attributes:

requested-Info

An enumeration containing one of the following values:

anchor-msc-address-and-ascii-call-reference

(‘MAP_T_ANCHOR_MSC_ADDRESS_AND_ASCII_CALL_REFERENCE’ ‘0’)

imsi-and-additional-info-and-additional-subscription

(‘MAP_T_IMSI_AND_ADDITIONAL_INFO_AND_ADDITIONAL_SUBSCRIPTION’
‘1’)

<i>group-Id</i>	Long-GroupId ::= TBCD-STRING (SIZE (4)) When Long-Group-Id is less than eight characters in length, the TBCD filler (1111) is used to fill unused half-octets. Refers to the Group Identification as specified in 3GPP TS 23.003 and 3GPP TS 43.068/43.069.
<i>teleservice</i>	Ext-TeleserviceCode ::= OCTET STRING (SIZE(1..5)) This type is used to represent the code identifying a single teleservice, group of teleservices, or all teleservices. The services are defined in GSM TS 22.003. The internal structure is defined as follows: octet 1, bits 87654321, group (bits 8765) and specific service (bits 4321); octets 2-5, reserved for future use. If received, Ext-TeleserviceCode shall be treated according to the exception handling defined for the operation that uses this type. Ext-TeleserviceCode includes all values defined for TeleserviceCode.
<i>cell-Id</i>	GlobalCellId ::= OCTET STRING (SIZE(5..7)) Refers to Cell Global Identification defined in 3GPP TS 23.003. The internal structures is as follows: octet 1, bits 4321, mobile country code 1st digit; bits 8765, mobile country code 2nd digit; octet 2, bits 4321, mobile country code 3rd digit; bits 8765, mobile network code 3rd digit or filler (1111) for 2 digit MNCs; octet 3, bits 4321, mobile network code 1st digit; bits 8765, mobile network code 2nd digit; octets 4 and 5, Location Area Code according to 3GPP TS 24.008; octets 6 and 7, Call Identity (CI) according to 3GPP TS 24.008.
<i>imsi</i>	This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see Section 5.2.1 [String(TBCD)] , page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.
<i>tmsi</i>	TMSI ::= OCTET STRING(SIZE(1..4)) This attribute is the Temporary Mobile Subscriber Identity defined in 3GPP TS 23.003. It is between one and four octets in length.
<i>additional-Info</i>	AdditionalInfo ::= BIT STRING (SIZE(1..136)) Refers to additional info as specified in 3GPP TS 43.068.
<i>talker-Priority</i>	An enumeration containing one of the following values: normal (‘MAP_T_NORMAL’ ‘0’) privileged (‘MAP_T_PRIVILEGED’ ‘1’) emergency (‘MAP_T_EMERGENCY’ ‘2’)
<i>cksn</i>	Cksn ::= OCTET STRING (SIZE(1)) The internal structure is defined in 3GPP TS 24.008.
<i>extension-Container</i>	This optional attribute is an instance of OM class Extension-Container . See Section 5.3.19.6 [Extension-Container] , page 121.
<i>extension</i>	This optional attribute is an instance of OM class Extension . See Section 5.2.13 [Extension] , page 91.

5.4.6.8 Send-Group-Call-Info-Res

An instance of OM class **Send-Group-Call-Info-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see Section 4.21 [Service-rsp()], page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in Table 5.360.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
anchor-MSC-Address	String(Address)	1-9	0-1	—
ascii-Call-Reference	String(Octet)	1-8	0-1	—
imsi	String(TBCD)	3-8	0-1	—
additional-Info	String(Octet)	1-136	0-1	—
additional-Subscriptions	String(Bit)	3	0-1	—
kc	String(Octet)	8	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.360: OM Attributes of OM Class **Send-Group-Call-Info-Res**

This OM class contains the following class-specific OM attributes:

anchor-MSC-Address

An ISDN address string.

ascii-Call-Reference

A TBCD string of 1 to 8 octets representing the destination of the Short Message. Digits of VGCS/VBS-area and Group-ID are concatenated in this order if there is a VGCS/VBS-area.

imsi

This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see Section 5.2.1 [String(TBCD)], page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

additional-Info

AdditionalInfo ::= BIT STRING (SIZE(1..136)) Refers to additional info as specified in 3GPP TS 43.068.

additional-Subscriptions

A bit string containing zero or more of the following bits:

privileged-up-link-request

('MAP_T_PRIVILEGED_UP_LINK_REQUEST' '0')

emergency-up-link-request

('MAP_T_EMERGENCY_UP_LINK_REQUEST' '1')

emergency-reset

('MAP_T_EMERGENCY_RESET' '2')

kc $Kc ::= \text{OCTET STRING (SIZE (8))}$

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.6.9 State-Attributes

An instance of OM class **State-Attributes** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.361](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
downlink-Attached	Null	—	0-1	—
uplink-Attached	Null	—	0-1	—
dual-Communication	Null	—	0-1	—
call-Originator	Null	—	0-1	—

Table 5.361: *OM Attributes of OM Class State-Attributes*

This OM class contains the following class-specific OM attributes:

downlink-Attached

A Null value whose presence provides indication.

uplink-Attached

A Null value whose presence provides indication.

dual-Communication

A Null value whose presence provides indication.

call-Originator

A Null value whose presence provides indication.

Refer to 3GPP TS 44.068 for definitions of StateAttributes fields.

5.4.7 GSM Location Service Package

OM Hierarchy

- *Object*
 - *Service-Argument*
 - *GSM-Service-Argument*
 - **Provide-Subscriber-Location-Arg**
 - **Routing-Info-For-LCS-Arg**
 - **Subscriber-Location-Report-Arg**
 - *Service-Result*

- *GSM-Service-Result*
 - **Provide-Subscriber-Location-Res**
 - **Routing-Info-For-LCS-Res**
 - **Subscriber-Location-Report-Res**

5.4.7.1 Area

An instance of OM class **Area** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.362](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
area-Type	Enum(Area-type)	—	1	—
area-Identification	String(Octet)	2-7	1	—
extension	Object(Extension)	—	0-1	—

Table 5.362: *OM Attributes of OM Class Area*

This OM class contains the following class-specific OM attributes:

area-Type An enumeration containing one of the following values:

- country-code**
(‘MAP_T_COUNTRY_CODE’ ‘0’)
- plmn-id** (‘MAP_T_PLMN_ID’ ‘1’)
- location-area-id**
(‘MAP_T_LOCATION_AREA_ID’ ‘2’)
- routing-area-id**
(‘MAP_T_ROUTING_AREA_ID’ ‘3’)
- cell-global-id**
(‘MAP_T_CELL_GLOBAL_ID’ ‘4’)
- utran-cell-id**
(‘MAP_T_UTRAN_CELL_ID’ ‘5’)

area-Identification

AreaIdentification ::= OCTET STRING (SIZE(2..7)) The internal structure is defined as follows: octet 1, bits 4321, mobile country code 1st digit; bits 8765, mobile country code 2nd digit; octet 2, bits 4321, mobile country code 3rd digit; bits 8765, mobile network code 3rd digit if 3 digit MNC included or filler (1111); octet 3, bits 4321, mobile network code 1st digit; bits 8765, mobile network code 2nd digit; octets 4 and 5, location area code (LAC) for local area id, routing area id and global id; octets 6, routing area code (RAC) for routing area id; octets 6 and 7, call identity (CI) for cell global id; octets 4 through 7, utran cell identity (UC-Id) for utran cell id.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.7.2 Area-Definition

An instance of OM class **Area-Definition** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.363](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
area-List	Object(Area)	—	1-10	—

Table 5.363: OM Attributes of OM Class **Area-Definition**

This OM class contains the following class-specific OM attributes:

area-List One to ten (`maxNumOfAreas`) instances of OM class **Area**. See [Section 5.4.7.1 \[Area\]](#), page 393.

5.4.7.3 Area-Event-Info

An instance of OM class **Area-Event-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.364](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
area-Definition	Object(Area-Definition)	—	1	—
occurrence-Info	Enum(Occurrence-Info)	—	0-1	—
interval-Time	Integer	1-32767	0-1	(em
extension	Object(Extension)	—	0-1	—

Table 5.364: OM Attributes of OM Class **Area-Event-Info**

This OM class contains the following class-specific OM attributes:

area-Definition

This attribute is an instance of OM class **Area-Definition**. See [Section 5.4.7.2 \[Area-Definition\]](#), page 394.

occurrence-Info

An enumeration containing one of the following values:

one-time-event

(‘MAP_T_ONE_TIME_EVENT’ ‘0’)

multiple-time-event

(‘MAP_T_MULTIPLE_TIME_EVENT’ ‘1’)

interval-Time

`IntervalTime ::= INTEGER(1..32767)` Minimum interval time between area reports in seconds.

5.4.7.4 Deferred-MT-LR-Data

An instance of OM class **Deferred-MT-LR-Data** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.365](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
deferred-Location-Event-Type	Enum(Deferred-Location-Event-Type)	—	1	—
termination-Cause	Enum(Termination-Cause)	—	0-1	—
lcs-Location-Info	Object(LCS-Location-Info)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.365: OM Attributes of OM Class **Deferred-MT-LR-Data**

This OM class contains the following class-specific OM attributes:

deferred-Location-Event-Type

An enumeration containing one of the following values:

ms-available

(‘MAP_T_MS_AVAILABLE’ ‘0’)

entering-into-area

(‘MAP_T_ENTERING_INTO_AREA’ ‘1’)

leaving-from-area

(‘MAP_T_LEAVING_FROM_AREA’ ‘2’)

being-inside-area

(‘MAP_T_BEING_INSIDE_AREA’ ‘3’)

periodic-ldr

(‘MAP_T_PERIODIC_LDR’ ‘4’)

termination-Cause

An enumeration containing one of the following values:

normal

(‘MAP_T_NORMAL’ ‘0’)

error-undefined

(‘MAP_T_ERROR_UNDEFINED’ ‘1’)

internal-timeout

(‘MAP_T_INTERNAL_TIMEOUT’ ‘2’)

congestion

(‘MAP_T_CONGESTION’ ‘3’)

mt-lr-restart

(‘MAP_T_MT_LR_RESTART’ ‘4’)

privacy-violation

(‘MAP_T_PRIVACY_VIOLATION’ ‘5’)

shape-of-location-estimate-not-supported

(‘MAP_T_SHAPE_OF_LOCATION_ESTIMATE_NOT_SUPPORTED’ ‘6’)

subscriber-termination
 ('MAP_T_SUBSCRIBER_TERMINATION' '7')

ue-termination
 ('MAP_T_UE_TERMINATION' '8')

network-termination
 ('MAP_T_NETWORK_TERMINATION' '9')

lcs-Location-Info

This attribute is an instance of OM class **LCS-Location-Info**. See [Section 5.4.7.8 \[LCS-Location-Info\]](#), page 398.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.7.5 LCS-Client-ID

An instance of OM class **LCS-Client-ID** represents the corresponding GSM MAP information object. An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.366](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
lcs-Client-Type	Enum(LCS-Client-Type)	—	1	—
lcs-Client-External-ID	Object(LCS-Client-External-ID)	—	0-1	—
lcs-Client-Dialed-By-MS	String(Address)	1-20	0-1	—
lcs-Client-Internal-ID	Enum(LCS-Client-Internal-ID)	—	0-1	—
lcs-Client-Name	Object(LCS-Client-Name)	—	0-1	—
extension	Object(Extension)	—	0-1	—
lcs-APN	String(Octet)	2-63	0-1	—
lcs-Requestor-ID	Object(LCS-Requestor-ID)	—	0-1	—

Table 5.366: OM Attributes of OM Class **LCS-Client-ID**

This OM class contains the following class-specific OM attributes:

lcs-Client-Type

An enumeration containing one of the following values:

emergency-services
 ('MAP_T_EMERGENCY_SERVICES' '0')

value-added-services
 ('MAP_T_VALUE_ADDED_SERVICES' '1')

plmn-operator-services
 ('MAP_T_PLMN_OPERATOR_SERVICES' '2')

lawful-intercept-services
 ('MAP_T_LAWFUL_INTERCEPT_SERVICES' '3')

lcs-Client-External-ID

This optional attribute is an instance of OM class **LCS-Client-External-ID**. See [Section 5.3.19.12 \[LCS-Client-External-ID\]](#), page 125.

lcs-Client-Dialed-By-MS

An address string.

lcs-Client-Internal-ID

An enumeration containing one of the following values:

broadcast-service

(‘MAP_T_BROADCAST_SERVICE’ ‘0’)

o-and-m-hplmn

(‘MAP_T_O_AND_M_HPLMN’ ‘1’)

o-and-m-vplmn

(‘MAP_T_O_AND_M_VPLMN’ ‘2’)

anonymous-location

(‘MAP_T_ANONYMOUS_LOCATION’ ‘3’)

target-ms-subscribed-service

(‘MAP_T_TARGET_MS_SUBSCRIBED_SERVICE’ ‘4’)

lcs-Client-Name

This optional attribute is an instance of OM class **LCS-Client-Name**. See [Section 5.4.7.6 \[LCS-Client-Name\]](#), page 397.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

lcs-APN

APN ::= OCTET STRING (SIZE(2..63)) Octets are coded according to 3GPP TS 23.003.

lcs-Requestor-ID

This optional attribute is an instance of OM class **LCS-Requestor-ID**. See [Section 5.4.7.11 \[LCS-Requestor-ID\]](#), page 402.

5.4.7.6 LCS-Client-Name

An instance of OM class **LCS-Client-Name** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.367](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
data-Coding-Scheme	String(Octet)	1	1	—
name-String	String(Octet)	1-63	1	—
extension	Object(Extension)	—	0-1	—
lcs-Format-Indicator	Enum(LCS-Format-Indicator)	—	0-1	—

Table 5.367: OM Attributes of OM Class **LCS-Client-Name**

This OM class contains the following class-specific OM attributes:

data-Coding-Scheme

USSD-DataCodingScheme ::= OCTET STRING (SIZE (1)) The structure of the USSD-DataCodingScheme is defined by the Cell Broadcast Data Scheme as described in 3GPP

TS 23.038. The USSD-DataCodingScheme shall indicate use of the default alphabet through the encoding '00001111'.

name-String

`NSString ::= USSD-String (SIZE(1..63))`

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

lcs-Format-Indicator

An enumeration containing one of the following values:

logical-name

(‘MAP_T_LOGICAL_NAME’ ‘0’)

e-mail-address

(‘MAP_T_E_MAIL_ADDRESS’ ‘1’)

msisdn

(‘MAP_T_MSISDN’ ‘2’)

url

(‘MAP_T_URL’ ‘3’)

sip-url

(‘MAP_T_SIP_URL’ ‘4’)

5.4.7.7 LCS-Codeword

An instance of OM class **LCS-Codeword** represents the corresponding GSM MAP information object. An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.368](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
data-Coding-Scheme	String(Octet)	1	1	—
lcs-Codeword-String	String(Octet)	1-20	1	—
extension	Object(Extension)	—	0-1	—

Table 5.368: OM Attributes of OM Class **LCS-Codeword**

This OM class contains the following class-specific OM attributes:

data-Coding-Scheme

`USSD-DataCodingScheme ::= OCTET STRING (SIZE (1))` The structure of the USSD-DataCodingScheme is defined by the Cell Broadcast Data Scheme as described in 3GPP TS 23.038.

lcs-Codeword-String

`LCSCodewordString ::= USSD-String (SIZE(1..20))`

5.4.7.8 LCS-Location-Info

An instance of OM class **LCS-Location-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.369](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
network-Node-Number	String(Address)	1-9	1	—
lmsi	String(Octet)	4	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
gprs-Node-Indicator	Null	—	0-1	—
additional-Number	Object(Additional-Number)	—	0-1	—
supported-LCS-Capability-Sets	String(Bit)	5	0-1	—
additional-LCS-Capability-Sets	String(Bit)	5	0-1	—

Table 5.369: OM Attributes of OM Class **LCS-Location-Info**

This OM class contains the following class-specific OM attributes:

network-Node-Number

An ISDN address string. Network node number can either be msc-Number or sgsn-Number.

lmsi

This attribute provides the local identity allocated by the VLR to a given subscriber for internal management of data in the VLR. The LMSI shall not be sent to an SGSN. This attribute is encoded as a 4 octet string.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

gprs-Node-Indicator

A Null value whose presence provides indication.

additional-Number

This optional attribute is an instance of OM class **Additional-Number**. See [Section 5.4.5.1 \[Additional-Number\]](#), page 365.

supported-LCS-Capability-Sets

A bit string containing zero or more of the following bits:

lcs-capability-set-1

(‘MAP_T_LCS_CAPABILITY_SET_1’ ‘0’)

lcs-capability-set-2

(‘MAP_T_LCS_CAPABILITY_SET_2’ ‘1’)

lcs-capability-set-3

(‘MAP_T_LCS_CAPABILITY_SET_3’ ‘2’)

lcs-capability-set-4

(‘MAP_T_LCS_CAPABILITY_SET_4’ ‘3’)

lcs-capability-set-5

(‘MAP_T_LCS_CAPABILITY_SET_5’ ‘4’)

Set 1 indicates LCS Release 98 or 99 version; set 2, LCS Release 4; set 3, LCS Release 5; set 4, LCS Release 6; set 5, LCS Release 7 or later version. A node shall mark in the bit string all LCS capability sets it supports. If no bit is set then the sending node does not support LCS. If the parameter is not sent by a VLR then the VLR may support at most capability set 1. If the parameter is not sent by a SGSN, then no support for LCS is assumed. An SGSN is not allowed to indicate support of capability set 1. Other bits than listed above shall be discarded.

additional-LCS-Capability-Sets

A bit string containing zero or more of the following bits:

lcs-capability-set-1

(‘MAP_T_LCS_CAPABILITY_SET_1’ ‘0’)

lcs-capability-set-2

(‘MAP_T_LCS_CAPABILITY_SET_2’ ‘1’)

lcs-capability-set-3

(‘MAP_T_LCS_CAPABILITY_SET_3’ ‘2’)

lcs-capability-set-4

(‘MAP_T_LCS_CAPABILITY_SET_4’ ‘3’)

lcs-capability-set-5

(‘MAP_T_LCS_CAPABILITY_SET_5’ ‘4’)

Set 1 indicates LCS Release 98 or 99 version; set 2, LCS Release 4; set 3, LCS Release 5; set 4, LCS Release 6; set 5, LCS Release 7 or later version. A node shall mark in the bit string all LCS capability sets it supports. If no bit is set then the sending node does not support LCS. If the parameter is not sent by a VLR then the VLR may support at most capability set 1. If the parameter is not sent by a SGSN, then no support for LCS is assumed. An SGSN is not allowed to indicate support of capability set 1. Other bits than listed above shall be discarded.

5.4.7.9 LCS-Privacy-Check

An instance of OM class **LCS-Private-Check** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.370](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
call-Session-Unrelated	Enum(Privacy-Check-Related-Action)	—	1	—
call-Session-Related	Enum(Privacy-Check-Related-Action)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.370: *OM Attributes of OM Class **LCS-Private-Check***

This OM class contains the following class-specific OM attributes:

call-Session-Unrelated

An enumeration containing one of the following values:

allowed-without-notification
 ('MAP_T_ALLOWED_WITHOUT_NOTIFICATION' '0')

allowed-with-notification
 ('MAP_T_ALLOWED_WITH_NOTIFICATION' '1')

allowed-if-no-response
 ('MAP_T_ALLOWED_IF_NO_RESPONSE' '2')

restricted-if-no-response
 ('MAP_T_RESTRICTED_IF_NO_RESPONSE' '3')

not-allowed ('MAP_T_NOT_ALLOWED' '4')

call-Session-Related

An enumeration containing one of the following values:

allowed-without-notification
 ('MAP_T_ALLOWED_WITHOUT_NOTIFICATION' '0')

allowed-with-notification
 ('MAP_T_ALLOWED_WITH_NOTIFICATION' '1')

allowed-if-no-response
 ('MAP_T_ALLOWED_IF_NO_RESPONSE' '2')

restricted-if-no-response
 ('MAP_T_RESTRICTED_IF_NO_RESPONSE' '3')

not-allowed ('MAP_T_NOT_ALLOWED' '4')

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.7.10 LCS-QoS

An instance of OM class **LCS-QoS** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.371](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
horizontal-Accuracy	String(Octet)	1	0-1	—
vertical-Coordinate-Request	Null	—	0-1	—
vertical-accuracy	String(Octet)	1	0-1	—
response-Time	Object(Response-Time)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
velocity-Request	Null	—	0-1	—

Table 5.371: *OM Attributes of OM Class LCS-QoS*

This OM class contains the following class-specific OM attributes:

horizontal-Accuracy

Horizontal-Accuracy ::= OCTET STRING (SIZE(1)) Bit 8 is zero, bits 7654321, 7-bit uncertainty code defined in 3GPP TS 23.032. The vertical location error should be less than the error indicated by the uncertainty code with 67% confidence.

vertical-Coordinate-Request

A Null value whose presence provides indication.

vertical-accuracy

Vertical-Accuracy ::= OCTET STRING (SIZE(1)) Bit 8 is zero, bits 7654321, 7-bit vertical uncertainty code defined in 3GPP TS 23.032. The vertical location error should be less than the error indicated by the uncertainty code with 67% confidence.

response-Time

This optional attribute is an instance of OM class **Response-Time**. See [Section 5.4.7.19 \[Response-Time\]](#), page 410.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

velocity-Request

A Null value whose presence provides indication.

5.4.7.11 LCS-Requestor-ID

An instance of OM class **LCS-Requestor-ID** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.372](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
data-Coding-Scheme	String(Octet)	1	1	—
requestor-ID-String	String(Octet)	1-63	1	—
extension	Object(Extension)	—	0-1	—
lcs-Format-Indicator	Enum(LCS-Format-Indicator)	—	0-1	—

Table 5.372: OM Attributes of OM Class **LCS-Requestor-ID**

This OM class contains the following class-specific OM attributes:

data-Coding-Scheme

USSD-DataCodingScheme ::= OCTET STRING (SIZE (1)) The structure of the USSD-DataCodingScheme is defined by the Cell Broadcast Data Scheme as described in 3GPP TS 23.038.

requestor-ID-String

RequestorIDString ::= USSD-String (SIZE(1..63))

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

lcs-Format-Indicator

An enumeration containing one of the following values:

logical-name	(‘MAP_T_LOGICAL_NAME’ ‘0’)
e-mail-address	(‘MAP_T_E_MAIL_ADDRESS’ ‘1’)
msisdn	(‘MAP_T_MSISDN’ ‘2’)
url	(‘MAP_T_URL’ ‘3’)
sip-url	(‘MAP_T_SIP_URL’ ‘4’)

5.4.7.12 Location-Type

An instance of OM class **Location-Type** represents the corresponding GSM MAP information object. An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.373](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
location-Estimate-Type	Enum(Location-Estimate-Type)	—	1	—
extension	Object(Extension)	—	0-1	—
deferred-Location-Event-Type	Enum(Deferred-Location-Event)	—	0-1	—

Table 5.373: OM Attributes of OM Class **Location-Type**

This OM class contains the following class-specific OM attributes:

location-Estimate-Type

An enumeration containing one of the following values:

current-location	(‘MAP_T_CURRENT_LOCATION’ ‘0’)
current-or-last-known-location	(‘MAP_T_CURRENT_OR_LAST_KNOWN_LOCATION’ ‘1’)
initial-location	(‘MAP_T_INITIAL_LOCATION’ ‘2’)
activate-deferred-location	(‘MAP_T_ACTIVATE_DEFERRED_LOCATION’ ‘3’)
cancel-deferred-location	(‘MAP_T_CANCEL_DEFERRED_LOCATION’ ‘4’)
notification-verification-only	(‘MAP_T_NOTIFICATION_VERIFICATION_ONLY’ ‘5’)

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

deferred-Location-Event-Type

An enumeration containing one of the following values:

ms-available
 ('MAP_T_MS_AVAILABLE' '0')

entering-into-area
 ('MAP_T_ENTERING_INTO_AREA' '1')

leaving-from-area
 ('MAP_T_LEAVING_FROM_AREA' '2')

being-inside-area
 ('MAP_T_BEING_INSIDE_AREA' '3')

periodic-ldr
 ('MAP_T_PERIODIC_LDR' '4')

5.4.7.13 Periodic-LDR-Info

An instance of OM class **Periodic-LDR-Info** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.374](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
reporting-Amount	Integer	1-8639999	1	—
reporting-Interval	Integer	1-8639999	1	—
extension	Object(Extension)	—	0-1	—

Table 5.374: OM Attributes of OM Class **Periodic-LDR-Info**

This OM class contains the following class-specific OM attributes:

reporting-Amount

ReportingAmount ::= INTEGER(1..8639999)

reporting-Interval

ReportingInterval ::= INTEGER(1..8639999)

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.7.14 PLMN-List

An instance of OM class **PLMN-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.375](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
reporting-PLMN	Object(Reporting-PLMN)	—	1-10	—

Table 5.375: OM Attributes of OM Class **PLMN-List**

This OM class contains the following class-specific OM attributes:

reporting-PLMN

One to twenty (maxNumOfReportingPLMN) instances of OM class **Reporting-PLMN**.
See [Section 5.4.7.17 \[Reporting-PLMN\]](#), page 409.

5.4.7.15 Provide-Subscriber-Location-Arg

An instance of OM class **Provide-Subscriber-Location-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.376](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
location-Type	Object(Location-Type)	—	1	—
mlc-Number	String(Address)	1-9	1	—
lcs-Client-ID	Object(LCS-Client-ID)	—	0-1	—
privacy-Override	Null	—	0-1	—
imsi	String(TBCD)	3-8	0-1	—
msisdn	String(Address)	1-9	0-1	—
lmsi	String(Octet)	4	0-1	—
imei	String(TBCD)	8	0-1	—
lcs-Priority	String(Octet)	1	0-1	—
lcs-QoS	Object(LCS-QoS)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
supported-GAD-Shapes	Enum{ Supported-GAD-Shapes}	—	0-1	—
lcs-Reference-Number	String(Octet)	1	0-1	—
lcs-Service-Type-ID	Integer	0-127	0-1	—
lcs-Codeword	Object(LCS-Codeword)	—	0-1	—
lcs-Privacy-Check	Object(LCS-Privacy-Check)	—	0-1	—
area-Event-Info	Object(Area-Event-Info)	—	0-1	—
h-gmlc-Address	String(Octet)	5-17	0-1	—
mo-Ir-Short-Circuit-Indicator	Null	—	0-1	—
periodic-LDR-Info	Object(Periodic-LDR-Info)	—	0-1	—
reporting-PLMN-List	Object(Reporting-PLMN-List)	—	0-1	—

Table 5.376: OM Attributes of OM Class **Provide-Subscriber-Location-Arg**

This OM class contains the following class-specific OM attributes:

location-Type

This attribute is an instance of OM class **Location-Type**. See [Section 5.4.7.12 \[Location-Type\]](#), page 403.

mlc-Number

An ISDN address string.

lcs-Client-ID

This optional attribute is an instance of OM class **LCS-Client-ID**. See [Section 5.4.7.5 \[LCS-Client-ID\]](#), page 396.

privacy-Override

A Null value whose presence provides indication.

imsi

This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

msisdn

This attribute refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

lmsi

This attribute provides the local identity allocated by the VLR to a given subscriber for internal management of data in the VLR. The LMSI shall not be sent to an SGSN. This attribute is encoded as a 4 octet string.

imei

IMEI ::= TBCD-STRING(SIZE(8)) Refers to International Mobile Station Equipment Identity defined in 3GPP TS 23.003. The last octet shall contain digit 0 and a filler.

lcs-Priority

LCS-Priority ::= OCTET STRING (SIZE(1)) Values: 0, highest priority; 1, normal priority; all other values treated as 1.

lcs-QoS

This optional attribute is an instance of OM class **LCS-QoS**. See [Section 5.4.7.10 \[LCS-QoS\]](#), page 401.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

supported-GAD-Shapes

An enumeration containing one of the following values:

ellipsoid-point

(‘MAP_T_ELLIPSOID_POINT’ ‘0’)

ellipsoid-point-with-uncertainty-circle

(‘MAP_T_ELLIPSOID_POINT_WITH_UNCERTAINTY_CIRCLE’ ‘1’)

ellipsoid-point-with-uncertainty-ellipse

(‘MAP_T_ELLIPSOID_POINT_WITH_UNCERTAINTY_ELLIPSE’ ‘2’)

polygon

(‘MAP_T_POLYGON’ ‘3’)

ellipsoid-point-with-altitude

(‘MAP_T_ELLIPSOID_POINT_WITH_ALTITUDE’ ‘4’)

ellipsoid-point-with-altitude-and-uncertainty-ellipsoid

(‘MAP_T_ELLIPSOID_POINT_WITH_ALTITUDE_AND_UNCERTAINTY_ELLIPSOID’ ‘5’)

ellipsoid-arc
 ('MAP_T_ELLISPOID_ARC' '6')

lcs-Reference-Number

LCS-ReferenceNumber ::= OCTET STRING(SIZE(1))

lcs-Service-Type-ID

LCSServiceTypeID ::= INTEGER (0..127) The integer values 0-63 are reserved for standard LCS service types; the integer values 64-127 are reserved for non-standard LCS service types.

lcs-Codeword

This optional attribute is an instance of OM class **LCS-Codeword**. See [Section 5.4.7.7 \[LCS-Codeword\]](#), page 398.

lcs-Privacy-Check

This optional attribute is an instance of OM class **LCS-Privacy-Check**. See [Section 5.4.7.9 \[LCS-Privacy-Check\]](#), page 400.

area-Event-Info

This optional attribute is an instance of OM class **Area-Event-Info**. See [Section 5.4.7.3 \[Area-Event-Info\]](#), page 394.

h-gmlc-Address

GSN-Address ::= OCTET STRING(SIZE(5..17)) Octets are coded according to 3GPP TS 23.003.

mo-lr-Short-Circuit-Indicator

A Null value whose presence provides indication.

periodic-LDR-Info

This optional attribute is an instance of OM class **Periodic-LDR-Info**. See [Section 5.4.7.13 \[Periodic-LDR-Info\]](#), page 404.

reporting-PLMN-List

This optional attribute is an instance of OM class **Reporting-PLMN-List**. See [Section 5.4.7.18 \[Reporting-PLMN-List\]](#), page 410.

One of imsi or msisdn is mandatory. If a location estimate type indicates activate deferred location or cancel deferred location, a lcs-Reference number shall be included.

5.4.7.16 Provide-Subscriber-Location-Res

An instance of OM class **Provide-Subscriber-Location-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.377](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
location-Estimate	String(Octet)	1-20	1	—
age-Of-Location-Information	Integer	0-32767	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
add-Location-Estimate	String(Octet)	1-91	0-1	—
deferred-mt-lr-Response-Indicator	Null	—	0-1	—
geran-Positioning-Data	String(Octet)	2-10	0-1	—
utran-Positioning-Data	String(Octet)	3-11	0-1	—
cell-Id-Or-Sai	Object(Cell-Global-Id-Or-Service-Area-Id-Or-LAI)	—	0-1	—
sai-Present	Null	—	0-1	—
accuracy-Fulfilment-Indicator	Enum(Accuracy-Fullfilment-Indicator)	—	0-1	—
velocity-Estimate	String(Octet)	4-7	0-1	—
mo-lr-Short-Circuit-Indicator	Null	—	0-1	—

Table 5.377: OM Attributes of OM Class **Provide-Subscriber-Location-Res**

This OM class contains the following class-specific OM attributes:

location-Estimate

Ext-GeographicalInformation ::= OCTET STRING (SIZE(1..20)) See 3GPP TS 29.002 for coding.

age-Of-Location-Estimate

AgeOfLocationInformation ::= INTEGER (0..32767) The value represents the elapsed time in minutes since the last network contact of the mobile station (i.e. the actuality of the location information). A value of '0' indicates that the MS is currently in contact with the network. A value of '32767' indicates that the location information is at least '32767' minutes old.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

add-Location-Estimate

Add-GeographicalInformation ::= OCTET STRING (SIZE(1..91)) See 3GPP TS 29.002 for coding.

deferred-mt-lr-Response-Indicator

A Null value whose presence provides indication.

geran-Positioning-Data

PositioningDataInformation ::= OCTET STRING (SIZE(2..10)) Refers to the positioning data defined in 3GPP TS 49.031. This is composed of 2 or more octets with an internal structure according to 3GPP TS 49.031.

utran-Positioning-Data

UtranPositioningDataInfo ::= OCTET STRING (SIZE(3..11)) Refers to the positioning data defined in 3GPP TS 25.413. This is composed of the positioningDataDis-

criminator and the positiningDataSet included in positionData as defined in 3GPP TS 25.413.

cell-Id-Or-Sai

This optional attribute is an instance of OM class **Cell-Global-Id-Or-Service-Area-Id-Or-LAI**. See [Section 5.3.19.3 \[Cell-Global-Id-Or-Service-Area-Id-Or-LAI\]](#), page 119.

sai-Present A Null value whose presence provides indication.

accuracy-Fulfilment-Indicator

An enumeration containing one of the following values:

requested-accuracy-fulfilled

(‘MAP_T_REQUESTED_ACCURACY_FULFILLED’ ‘0’)

requested-accuracy-not-fulfilled

(‘MAP_T_REQUESTED_ACCURACY_NOT_FULFILLED’ ‘1’)

velocity-Estimate

VelocityEstimate ::= OCTET STRING (SIZE(4..7)) See 3GPP TS 29.002 for coding.

mo-Ir-Short-Circuit-Indicator

A Null value whose presence provides indication.

If deferred-mt-Ir-Response indicator is set, location-Estimate is ignored.

The add-Location-Estimate parameter shall not be sent to a node that did not indicate the geographic shapes supported in the Provide-Subscriber-Location-Arg.

The location-Estimate and the add-Location-Estimate parameters shall not be sent if the supported-GAD-Shapes parameter has been received in Provide-Subscriber-Location-Arg and the shape encoded in the location-Estimate or add-Location-Estimate is not marked as supported in the supported-GAD-Shapes. In such a case Provide-Subscriber-Location shall be rejected with error Facility-Not-Supported with additional indication shape-Of-Location-Estimate-Not-Supported.

sai-Present indicates that the cell-Id-Or-Sai parameter contains a Service Area Identity.

5.4.7.17 Reporting-PLMN

An instance of OM class **Reporting-PLMN** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.378](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
plmn-Id	String(Octet)	3	1	—
ran-Technology	Enum(RAN-Technology)	—	0-1	—
ran-Periodic-Location-Support	Null	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.378: OM Attributes of OM Class **Reporting-PLMN**

This OM class contains the following class-specific OM attributes:

plmn-Id **PLMN-Id** ::= OCTET STRING (SIZE(3)) The internal structure is defined as follows: octet 1, bits 4321, mobile country code 1st digit; bits 8765, mobile country code 2nd

digit; octet 2, bits 4321, mobile country code 3rd digit; bits 8765, mobile network code 3rd digit or filler (1111) for 2 digit MNCs; octet 3, bits 4321, mobile network code 1st digit; bits 8765, mobile network code 2nd digit.

ran-Technology

An enumeration containing one of the following values:

gsm ('MAP_T_GSM' '0')

umts ('MAP_T_UMTS' '1')

ran-Periodic-Location-Support

A Null value whose presence provides indication.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.7.18 Reporting-PLMN-List

An instance of OM class **Reporting-PLMN-List** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.379](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
plmn-List-Prioritized	Null	—	0-1	—
plmn-List	Object(PLMN-List)	—	1	—
extension	Object(Extension)	—	0-1	—

Table 5.379: OM Attributes of OM Class **Reporting-PLMN-List**

This OM class contains the following class-specific OM attributes:

plmn-List-Prioritized

A Null value whose presence provides indication.

plmn-List This attribute is an instance of OM class **PLMN-List**. See [Section 5.4.7.14 \[PLMN-List\]](#), page 404.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.7.19 Response-Time

An instance of OM class **Response-Time** represents the corresponding GSM MAP information object.

An instance of this OM class has the OM attributes of it superclasses, *Object*, and additionally the OM attributes listed in [Table 5.380](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
response-Time-Category	Enum(Response-Time-Category)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.380: OM Attributes of OM Class **Response-Time**

This OM class contains the following class-specific OM attributes:

response-Time-Category

An enumeration containing one of the following values:

low-delay ('MAP_T_LOW_DELAY' '0')

delay-tolerant
('MAP_T_DELAY_TOLERANT' '1')

An unrecognized value will be treated the same as **delay-tolerant**.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.4.7.20 Routing-Info-For-LCS-Arg

An instance of OM class **Routing-Info-For-LCS-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.381](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
mlc-Number	String(Address)	1-9	1	—
target-MS	Object(Subscriber-Identity)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.381: OM Attributes of OM Class **Routing-Info-For-LCS-Arg**

This OM class contains the following class-specific OM attributes:

mlc-Number

An ISDN address string.

target-MS This attribute is an instance of OM class **Subscriber-Identity**. See [Section 5.3.19.21 \[Subscriber-Identity\]](#), page 129.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See Section 5.2.13 [Extension], page 91.

5.4.7.21 Routing-Info-For-LCS-Res

An instance of OM class **Routing-Info-For-LCS-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see Section 4.21 [Service-rsp()], page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in Table 5.382.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
target-MS	Object(Subscriber-Identity)	—	1	—
lcs-Location-Info	Object(LCS-Location-Info)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
v-Gmlc-Address	String(Octet)	5-17	0-1	—
h-Gmlc-Address	String(Octet)	5-17	0-1	—
ppr-Address	String(Octet)	5-17	0-1	—
additional-v-Gmlc-Address	String(Octet)	5-17	0-1	—

Table 5.382: OM Attributes of OM Class **Routing-Info-For-LCS-Res**

This OM class contains the following class-specific OM attributes:

target-MS This attribute is an instance of OM class **Subscriber-Identity**. See Section 5.3.19.21 [Subscriber-Identity], page 129.

lcs-Location-Info

This attribute is an instance of OM class **LCS-Location-Info**. See Section 5.4.7.8 [LCS-Location-Info], page 398.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See Section 5.3.19.6 [Extension-Container], page 121.

extension This optional attribute is an instance of OM class **Extension**. See Section 5.2.13 [Extension], page 91.

v-Gmlc-Address

GSM-Address ::= OCTET STRING(SIZE(5..17)) Octets are coded according to 3GPP TS 23.003.

h-Gmlc-Address

GSM-Address ::= OCTET STRING(SIZE(5..17)) Octets are coded according to 3GPP TS 23.003.

ppr-Address

GSM-Address ::= OCTET STRING(SIZE(5..17)) Octets are coded according to 3GPP TS 23.003.

additional-v-Gmlc-Address

GSN-Address ::= OCTET STRING(SIZE(5..17)) Octets are coded according to 3GPP TS 23.003.

5.4.7.22 Subscriber-Location-Report-Arg

An instance of OM class **Subscriber-Location-Report-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *GSM-Service-Argument*, and additionally the OM attributes listed in [Table 5.383](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
lcs-Event	Enum(LCS-Event)	—	1	—
lcs-Client-ID	Object(LCS-Client-ID)	—	1	—
lcs-Location-Info	Object(LCS-Location-Info)	—	1	—
msisdn	String(Address)	1-9	0-1	—
imsi	String(TBCD)	3-8	0-1	—
imei	String(TBCD)	8	0-1	—
na-ESRD	String(Address)	1-9	0-1	—
na-ESRK	String(Address)	1-9	0-1	—
location-Estimate	String(Octet)	1-20	0-1	—
age-Of-Location-Information	Integer	0-32767	0-1	—
slr-Arg-Extension-Container	Object(SLR-Arg-Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
add-Location-Estimate	String(Octet)	1-91	0-1	—
deferred-mt-lr-Data	Object(Deferred-MT-LR-Data)	—	0-1	—
lcs-Reference-Number	String(Octet)	1	0-1	—
geran-Positioning-Data	String(Octet)	2-10	0-1	—
utran-Positioning-Data	String(Octet)	3-11	0-1	—
cell-Id-Or-Sai	Object(Cell-Global-Id-Or-Service-Area-Id-Or-LAI)	—	0-1	—
h-gmlc-Address	String(Octet)	5-17	0-1	—
lcs-Service-Type-ID	Integer	0-127	0-1	—
sai-Present	Null	—	0-1	—
pseudonum-Indicator	Null	—	0-1	—
accuracy-Fulfilment-Indicator	Enum(Accuracy-Fulfilment-Indicator)	—	0-1	—
velocity-Estimate	String(Octet)	4-7	0-1	—
sequence-Number	Integer	0-86399990	0-1	—
periodic-LDR-Info	Object(Periodic-LDR-Info)	—	0-1	—
mo-lr-Short-Circuit-Indicator	Null	—	0-1	—

Table 5.383: OM Attributes of OM Class **Subscriber-Location-Report-Arg**

This OM class contains the following class-specific OM attributes:

lcs-Event An enumeration containing one of the following values:

emergency-call-origination
('MAP_T_EMERGENCY_CALL_ORIGINATION' '0')

emergency-call-release
('MAP_T_EMERGENCY_CALL_RELEASE' '1')

mo-lr ('MAP_T_MO_LR' '2')

deferred-mt-lr-response
('MAP_T_DEFERRED_MT_LR_RESPONSE' '3')

deferred-mo-lr-ttpp-initiation
('MAP_T_DEFERRED_MO_LR_TTTP_INITIATION' '4')

lcs-Client-ID

This attribute is an instance of OM class **LCS-Client-ID**. See [Section 5.4.7.5 \[LCS-Client-ID\]](#), page 396.

lcs-Location-Info

This attribute is an instance of OM class **LCS-Location-Info**. See [Section 5.4.7.8 \[LCS-Location-Info\]](#), page 398.

msisdn This attribute refers to one of the ISDN numbers assigned to a mobile subscriber in accordance with ITU-T Recommendation E.213. This attribute has syntax *String(Address)*. See [Section 5.3.1 \[String\(Address\)\]](#), page 101.

imsi This attribute represents the International Mobile Subscriber Identity defined in 3GPP TS 23.003. The syntax of this attribute is an octet string containing a TBCD string (see [Section 5.2.1 \[String\(TBCD\)\]](#), page 83) between 3 and 8 octets (5 and 16 digits) in length, inclusive. Digits of MCC, MNC and MSIN are concatenated in the listed order.

imei **IMEI ::= TBCD-STRING(SIZE(8))** Refers to International Mobile Station Equipment Identity defined in 3GPP TS 23.003. The last octet shall contain digit 0 and a filler.

na-ESRD An ISDN address string.

na-ESRK An ISDN address string.

location-Estimate

Ext-GeographicalInformation ::= OCTET STRING(SIZE(1..20)) See 3GPP TS 29.002 for coding.

age-Of-Location-Estimate

AgeOfLocationInformation ::= INTEGER (0..32767) The value represents the elapsed time in minutes since the last network contact of the mobile station (i.e. the actuality of the location information). A value of '0' indicates that the MS is currently in contact with the network. A value of '32767' indicates that the location information is at least '32767' minutes old.

slr-Arg-Extension-Container

This optional attribute is an instance of OM class **SLR-Arg-Extension-Container**. See [Section 5.3.19.18 \[SLR-Arg-Extension-Container\]](#), page 128.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

add-Location-Estimate

Add-GeographicalInformation ::= OCTET STRING (SIZE(1..91)) See 3GPP TS 29.002 for coding.

deferred-mt-lr-Data

This optional attribute is an instance of OM class **Deferred-MT-LR-Data**. See [Section 5.4.7.4 \[Deferred-MT-LR-Data\]](#), page 395.

lcs-Reference-Number

LCS-ReferenceNumber ::= OCTET STRING (SIZE(1))

geran-Positioning-Data

PositioningDataInformation ::= OCTET STRING (SIZE(2..10)) Refers to the positioning data defined in 3GPP TS 49.031. This is composed of 2 or more octets with an internal structure according to 3GPP TS 49.031.

utran-Positioning-Data

UtranPositioningDataInfo ::= OCTET STRING (SIZE(3..11)) Refers to the position data defined in 3GPP TS 25.413. This is composed of the positioningDataDiscriminator and the positioningDataSet included in positionData as defined in 3GPP TS 25.413.

cell-Id-Or-Sai

This optional attribute is an instance of OM class **Cell-Global-Id-Or-Service-Area-Id-Or-LAI**. See [Section 5.3.19.3 \[Cell-Global-Id-Or-Service-Area-Id-Or-LAI\]](#), page 119.

h-gmlc-Address

GSN-Address ::= OCTET STRING (SIZE(5..17)) Octets are coded according to 3GPP TS 23.003.

lcs-Service-Type-ID

LCSServiceTypeID ::= INTEGER (0..127) The integer values 0-63 are reserved for standard LCS service types; the integer values 64-127 are reserved for non-standard LCS service types.

sai-Present A Null value whose presence provides indication.

pseudonum-Indicator

A Null value whose presence provides indication.

accuracy-Fulfilment-Indicator

An enumeration containing one of the following values:

requested-accuracy-fulfilled

('MAP_T_REQUESTED_ACCURACY_FULFILLED' '0')

requested-accuracy-not-fulfilled

('MAP_T_REQUESTED_ACCURACY_NOT_FULFILLED' '1')

velocity-Estimate

VelocityEstimate ::= OCTET STRING (SIZE(4..7)) See 3GPP TS 29.002 for coding.

sequence-Number

SequenceNumber ::= INTEGER(1..8639999)

periodic-LDR-Info

This optional attribute is an instance of OM class **Periodic-LDR-Info**. See [Section 5.4.7.13 \[Periodic-LDR-Info\]](#), page 404.

mo-lr-Short-Circuit-Indicator

A Null value whose presence provides indication.

One of *imsi* or *msisdn* is mandatory.

5.4.7.23 Subscriber-Location-Report-Res

An instance of OM class **Subscriber-Location-Report-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *GSM-Service-Result*, and additionally the OM attributes listed in [Table 5.384](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
na-ESRK	String(Address)	1-9	0-1	—
na-ESRD	String(Address)	1-9	0-1	—
h-gmlc-Address	String(Octet)	5-17	0-1	—
mo-lr-Short-Circuit-Indicator	Null	—	0-1	—
reporting-PLMN-List	Object(Reporting-PLMN-List)	—	0-1	—
lcs-Reference-Number	String(Octet)	1	0-1	—

Table 5.384: OM Attributes of OM Class **Subscriber-Location-Report-Res**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\], page 121](#).

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\], page 91](#).

na-ESRK An ISDN address string.

na-ESRD An ISDN address string.

h-gmlc-Address

GSM-Address ::= OCTET STRING(SIZE(5..17)) Octets are coded according to 3GPP TS 23.003.

mo-lr-Short-Circuit-Indicator

A Null value whose presence provides indication.

reporting-PLMN-List

This optional attribute is an instance of OM class **Reporting-PLMN-List**. See [Section 5.4.7.18 \[Reporting-PLMN-List\], page 410](#).

lcs-Reference-Number

LCS-ReferenceNumber ::= OCTET STRING(SIZE(1))

Note that *na-ESRK* and *na-ESRD* are mutually exclusive. Receipt of both *na-ESRK* and *na-ESRD* shall be treated the same as a return error.

5.5 ANSI MAP Package

(Currently the ANSI MAP package has not yet been fully defined.)

5.5.1 ANSI-Abort-Argument

An instance of OM class **ANSI-Abort-Argument** represents the information that can be supplied as the *Argument* argument to the *Abort()* function (see [Section 4.2 \[Abort\(\)\], page 39](#)) or is retruned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a provider abort indication.

An instance of this OM class has the OM attributes of its superclass, *Abort-Argument* (see [Section 5.2.3 \[Abort-Argument\], page 86](#)), and additionally the OM attributes listed in xxx.

5.5.2 ANSI-Abort-Result

5.5.3 ANSI-Accept-Result

An instance of OM class **ANSI-Accept-Result** represents the information that is supplied as the *Response* argument to the *Accept()* function (see [Section 4.4 \[Accept\(\)\], page 42](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for an accept confirmation.

An instance of this OM class has the OM attributes of its superclass, *Accept-Result* (see [Section 5.2.5 \[Accept-Result\], page 86](#)), and additionally the OM attributes listed in xxx.

5.5.4 ANSI-Close-Argument

An instance of OM class **ANSI-Close-Argument** represents the information that is supplied as the *Argument* argument to the *Close()* function (see [Section 4.8 \[Close\(\)\], page 50](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a close indication.

An instance of this OM class has the OM attributes of its superclass, *Close-Argument* (see [Section 5.2.11 \[Close-Argument\], page 90](#)), and additionally the OM attributes listed in xxx.

5.5.5 ANSI-Context

5.5.6 ANSI-Map-Assoc-Args

5.5.7 ANSI-Notice-Result

5.5.8 ANSI-Open-Argument

5.5.9 ANSI-P-Abort-Result

5.5.10 ANSI-Refuse-Result

5.5.11 ANSI-Release-Argument

5.5.12 ANSI-Release-Result

5.5.13 ANSI-Service-Argument

5.5.14 ANSI-Service-Error

5.5.15 ANSI-Service-Reject

5.5.16 ANSI-Service-Result

5.6 ANSI MAP Services Packages

5.6.1 ANSI MAP Services Package

OM Hierarchy

- *Object*
 - *Service-Argument*
 - *GSM-Service-Argument*
 - *Service-Result*
 - *GSM-Service-Result*

5.6.1.1 Authentication-Directive-Arg

An instance of OM class **Authentication-Directive-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.385](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
electronic-Serial-Number	String(Octet)	4	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
authentication-Algorithm-Version	String(Octet)	1	0-1	—
authentication-Response-Unique-Challenge	String(Octet)	3	0-1	—
call-History-Count	Integer	0-63	0-1	—
deny-Access	Enum(Deny-Access)	—	0-1	—
location-Area-ID	String(Octet)	2	0-1	—
random-Variable-SSD	String(Octet)	4	0-1	—
random-Variable-Unique-Challenge	String(Octet)	4	0-1	—
sender-Identification-Number	String(Digits)	4-12	0-1	—
shared-Secret-Data	String(Octet)	16	0-1	—
ssd-Not-Shared	Enum(SSD-Not-Shared)	—	0-1	—
update-Count	Enum(Update-Count)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.385: *OM Attributes of OM Class Authentication-Directive-Arg*

This OM class contains the following class-specific OM attributes:

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

mobile-Identification-Number

Specifies the 10-digit representaiton of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

authentication-Algorithm-Version

AuthenticationAlgorithmVersion ::= OCTET STRING (SIZE (1)) Octets are coded as described in ANSI 41-D 6.5.2.7.

authentication-Response-Unique-Challenge

AuthenticationResponseUniqueChallenge ::= OCTET STRING (SIZE (3)) Octets are coded as described in ANSI 41-D section 6.5.2.12.

call-History-Count

CallHistoryCount ::= INTEGER (0..63)

deny-Access

An enumeration containing one of the following values:

unspecified ('MAP_T_UNSPECIFIED' '1')

ssd-update-failure

('MAP_T_SSD_UPDATE_FAILURE' '2')

count-update-failure

('MAP_T_COUNT_UPDATE_FAILURE' '3')

unique-challenge-failure
 ('MAP_T_UNIQUE_CHALLENGE_FAILURE' '4')

authr-mismatch
 ('MAP_T_AUTHR_MISMATCH' '5')

count-mismatch
 ('MAP_T_COUNT_MISMATCH' '6')

process-collision
 ('MAP_T_PROCESS_COLLISION' '7')

missing-authentication-parameters
 ('MAP_T_MISSING_AUTHENTICATION_PARAMETERS' '8')

terminal-type-mismatch
 ('MAP_T_TERMINAL_TYPE_MISMATCH' '9')

min-or-esn-authorization-failure
 ('MAP_T_MIN_OR_ESN_AUTHORIZATION_FAILURE' '10')

location-Area-ID

LocationAreaID ::= [PRIVATE 33] IMPLICIT OCTET STRING (SIZE (2)) Octets encode the location area id, most significant octet first, and least significant octet second. See ANSI 41-D section 6.5.2.77.

random-Variable-SSD

Contains a 32-bit random number that is used as input to the CAVE authentication algorithm for generating shared secret data (SSD-A and SSD-B). The random number is chosen independently by the AC during the process to update the mobile station's SSD. **RandomVariableSSD** ::= [PRIVATE 42] IMPLICIT OCTET STRING (SIZE (4)) Octets are coded most significant byte first. See ANSI 41-D section 6.5.2.103.

random-Variable-Unique-Challenge

Contains a 32-bit random number that is used as input to the CAVE authentication algorithm for authenticating a specific mobile station. The random number is chosen independently by the AC or VLR whenever a unique challenge is prescribed by local AC or VLR authentication procedures. **RandomVariableUniqueChallenge** ::= [PRIVATE 43] IMPLICIT OCTET STRING (SIZE (4)) Octets are coded most significant byte first. See ANSI 41-D section 6.5.2.104.

sender-Identification-Number

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

shared-Secret-Data

SharedSecretData ::= [PRIVATE 46] IMPLICIT OCTET STRING (SIZE (16)) Octets are encoded as specified in ANSI 41-D section 6.5.2.119.

ssd-Not-Shared

An enumeration containing one of the following values:

discard-ssd ('MAP_T_DISCARD_SSD' '1')

update-Count

An enumeration containing one of the following values:

update-count
 ('MAP_T_UPDATE_COUNT' '1')

5.6.1.2 Authentication-Directive-Res

An instance of OM class **Authentication-Directive-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see Section 4.21 [Service-rsp()], page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in Table 5.386.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
call-History-Count	Integer	0-63	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.386: OM Attributes of OM Class **Authentication-Directive-Res**

This OM class contains the following class-specific OM attributes:

call-History-Count

CallHistoryCount ::= INTEGER (0..63)

5.6.1.3 Authentication-Directive-Forward-Arg

An instance of OM class **Authentication-Directive-Forward-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see Section 4.20 [Service-req()], page 70) or is returned by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in Table 5.387.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
inter-MS-Circuit-ID	String(Octet)	2	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
authentication-Response-Unique-Challenge	String(Octet)	3	0-1	—
random-Variable-Unique-ChallengeString(Octet)	4	0-1	—	—

Table 5.387: OM Attributes of OM Class **Authentication-Directive-Forward-Arg**

This OM class contains the following class-specific OM attributes:

inter-MS-Circuit-ID

InterMSCCircuitID ::= [PRIVATE 6] IMPLICIT OCTET STRING (SIZE (2)) Octets consist of the trunk group number and trunk member number in that order. See ANSI 41-D section 6.5.2.72.

mobile-Identification-Number

Specifies the 10-digit representation of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See Section 5.2.1 [String(TBCD)], page 83. MobileIdentificationNumber ::= [PRIVATE 8] IMPLICIT

TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

authentication-Response-Unique-Challenge

AuthenticationResponseUniqueChallenge ::= OCTET STRING (SIZE (3)) Octets are coded as described in ANSI 41-D section 6.5.2.12.

random-Variable-Unique-Challenge

Contains a 32-bit random number that is used as input to the CAVE authentication algorithm for authenticating a specific mobile station. The random number is chosen independently by the AC or VLR whenever a unique challenge is prescribed by local AC or VLR authentication procedures. **RandomVariableUniqueChallenge** ::= [PRIVATE 43] IMPLICIT OCTET STRING (SIZE (4)) Octets are coded most significant byte first. See ANSI 41-D section 6.5.2.104.

5.6.1.4 Authentication-Directive-Forward-Res

An instance of OM class **Authentication-Directive-Forward-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see Section 4.21 [Service-rsp()], page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in Table 5.388.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
unique-Challenge-Report	String(Octet)	1	1	—

Table 5.388: OM Attributes of OM Class **Authentication-Directive-Forward-Res**

This OM class contains the following class-specific OM attributes:

unique-Challenge-Report

UniqueChallengeReport ::= [PRIVATE 124] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.162. The octet can assume the following values:

unique-challenge-not-attempted

(‘MAP_T_UNIQUE_CHALLENGE_NOT_ATTEMPTED’ ‘1’)

unique-challenge-no-response

(‘MAP_T_UNIQUE_CHALLENGE_NO_RESPONSE’ ‘2’)

unique-challenge-successful

(‘MAP_T_UNIQUE_CHALLENGE_SUCCESSFUL’ ‘3’)

unique-challenge-failed

(‘MAP_T_UNIQUE_CHALLENGE_FAILED’ ‘4’)

5.6.1.5 Authentication-Failure-Report-Arg

An instance of OM class **Authentication-Failure-Report-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see

Section 4.20 [Service-req()], page 70) or is returned by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in Table 5.389.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
electronic-Serial-Number	String(Octet)	4	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
report-Type	Enum(Report-Type)	—	1	—
system-Access-Type	Enum(System-Access-Type)	—	1	—
system-Capabilities	String(Octet)	1	1	—
call-History-Count	Integer	0-63	0-1	—
call-History-Count-Expected	Integer	0-63	0-1	—
mscid	String(Octet)	3	0-1	—
report-Type	Enum(Report-Type)	—	0-1	—
sender-Identification-Number	String(Digits)	4-12	0-1	—

Table 5.389: OM Attributes of OM Class **Authentication-Failure-Report-Arg**

This OM class contains the following class-specific OM attributes:

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

mobile-Identification-Number

Specifies the 10-digit representation of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See Section 5.2.1 [String(TBCD)], page 83. **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

report-Type

An enumeration containing one of the following values:

unspecified-security-violation

(‘MAP_T_UNSPECIFIED_SECURITY_VIOLATION’ ‘1’)

min-esn-mismatch

(‘MAP_T_MIN_ESN_MISMATCH’ ‘2’)

randc-mismatch

(‘MAP_T_RANDC_MISMATCH’ ‘3’)

ssd-update-failed

(‘MAP_T_SSD_UPDATE_FAILED’ ‘5’)

count-mismatch

(‘MAP_T_COUNT_MISMATCH’ ‘7’)

unique-challenge-failed

(‘MAP_T_UNIQUE_CHALLENGE_FAILED’ ‘9’)

unsolicited-base-station-challenge
('MAP_T_UNSOLICITED_BASE_STATION_CHALLENGE' '10')

ssd-update-no-response
('MAP_T_SSD_UPDATE_NO_RESPONSE' '11')

count-update-no-response
('MAP_T_COUNT_UPDATE_NO_RESPONSE' '12')

unique-challenge-no-response
('MAP_T_UNIQUE_CHALLENGE_NO_RESPONSE' '13')

authr-mismatch
('MAP_T_AUTHR_MISMATCH' '14')

terminal-type-mismatch
('MAP_T_TERMINAL_TYPE_MISMATCH' '15')

missing-authentication-parameters
('MAP_T_MISSING_AUTHENTICATION_PARAMETERS' '16')

system-Access-Type

An enumeration containing one of the following values:

unspecified ('MAP_T_UNSPECIFIED' '1')

flash-request
('MAP_T_FLASH_REQUEST' '1')

autonomous-registration
('MAP_T_AUTONOMOUS_REGISTRATION' '1')

call-origination
('MAP_T_CALL_ORIGINATION' '1')

page-response
('MAP_T_PAGE_RESPONSE' '1')

no-access ('MAP_T_NO_ACCESS' '1')

power-down-registration
('MAP_T_POWER_DOWN_REGISTRATION' '1')

sms-page-response
('MAP_T_SMS_PAGE_RESPONSE' '1')

system-Capabilities

(Serving) SystemCapabilities ::= [PRIVATE 49] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.146.

call-History-Count

CallHistoryCount ::= INTEGER (0..63)

call-History-Count-Expected

CallHistoryCountExpected ::= INTEGER (0..63)

mscid

(Serving MSC) MSCID ::= [PRIVATE 21] IMPLICIT OCTET STRING (SIZE (3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.82.

report-Type

XXX An enumeration containing one of the following values:

unspecified-security-violation

(‘MAP_T_UNSPECIFIED_SECURITY_VIOLATION’ ‘1’)

min-esn-mismatch

(‘MAP_T_MIN_ESN_MISMATCH’ ‘2’)

randc-mismatch

(‘MAP_T_RANDC_MISMATCH’ ‘3’)

ssd-update-failed

(‘MAP_T_SSD_UPDATE_FAILED’ ‘5’)

count-mismatch

(‘MAP_T_COUNT_MISMATCH’ ‘7’)

unique-challenge-failed

(‘MAP_T_UNIQUE_CHALLENGE_FAILED’ ‘9’)

unsolicited-base-station-challenge

(‘MAP_T_UNSOLICITED_BASE_STATION_CHALLENGE’ ‘10’)

ssd-update-no-response

(‘MAP_T_SSD_UPDATE_NO_RESPONSE’ ‘11’)

count-update-no-response

(‘MAP_T_COUNT_UPDATE_NO_RESPONSE’ ‘12’)

unique-challenge-no-response

(‘MAP_T_UNIQUE_CHALLENGE_NO_RESPONSE’ ‘13’)

authr-mismatch

(‘MAP_T_AUTHR_MISMATCH’ ‘14’)

terminal-type-mismatch

(‘MAP_T_TERMINAL_TYPE_MISMATCH’ ‘15’)

missing-authentication-parameters

(‘MAP_T_MISSING_AUTHENTICATION_PARAMETERS’ ‘16’)

sender-Identification-Number

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

5.6.1.6 Authentication-Failure-Report-Res

An instance of OM class **Authentication-Failure-Report-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.390](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
authentication-Algorithm-Version	String(Octet)	1	0-1	—
authentication-Response-Unique-Challenge	String(Octet)	3	0-1	—
call-History-Count	Integer	0-63	0-1	—
deny-Access	Enum(Deny-Access)	—	0-1	—
random-Variable-SSD	String(Octet)	4	0-1	—
random-Variable-Unique-Challenge	String(Octet)	4	0-1	—
shared-Secret-Data	String(Octet)	16	0-1	—
terminal-Type	Enum(Terminal-Type)	—	0-1	—

Table 5.390: OM Attributes of OM Class **Authentication-Failure-Report-Res**

This OM class contains the following class-specific OM attributes:

authentication-Algorithm-Version

AuthenticationAlgorithmVersion ::= OCTET STRING (SIZE (1)) Octets are coded as described in ANSI 41-D 6.5.2.7.

authentication-Response-Unique-Challenge

AuthenticationResponseUniqueChallenge ::= OCTET STRING (SIZE (3)) Octets are coded as described in ANSI 41-D section 6.5.2.12.

call-History-Count

CallHistoryCount ::= INTEGER (0..63)

deny-Access

An enumeration containing one of the following values:

unspecified ('MAP_T_UNSPECIFIED' '1')

ssd-update-failure
('MAP_T_SSD_UPDATE_FAILURE' '2')

count-update-failure
('MAP_T_COUNT_UPDATE_FAILURE' '3')

unique-challenge-failure
('MAP_T_UNIQUE_CHALLENGE_FAILURE' '4')

authr-mismatch
('MAP_T_AUTHR_MISMATCH' '5')

count-mismatch
('MAP_T_COUNT_MISMATCH' '6')

process-collision
('MAP_T_PROCESS_COLLISION' '7')

missing-authentication-parameters
('MAP_T_MISSING_AUTHENTICATION_PARAMETERS' '8')

terminal-type-mismatch
('MAP_T_TERMINAL_TYPE_MISMATCH' '9')

min-or-esn-authorization-failure

(‘MAP_T_MIN_OR_ESN_AUTHORIZATION_FAILURE’ ‘10’)

random-Variable-SSD

Contains a 32-bit random number that is used as input to the CAVE authentication algorithm for generating shared secret data (SSD-A and SSD-B). The random number is chosen independently by the AC during the process to update the mobile station’s SSD. **RandomVariableSSD** ::= [PRIVATE 42] IMPLICIT OCTET STRING (SIZE (4)) Octets are coded most significant byte first. See ANSI 41-D section 6.5.2.103.

random-Variable-Unique-Challenge

Contains a 32-bit random number that is used as input to the CAVE authentication algorithm for authenticating a specific mobile station. The random number is chosen independently by the AC or VLR whenever a unique challenge is prescribed by local AC or VLR authentication procedures. **RandomVariableUniqueChallenge** ::= [PRIVATE 43] IMPLICIT OCTET STRING (SIZE (4)) Octets are coded most significant byte first. See ANSI 41-D section 6.5.2.104.

shared-Secret-Data

SharedSecretData ::= [PRIVATE 46] IMPLICIT OCTET STRING (SIZE (16)) Octets are encoded as specified in ANSI 41-D section 6.5.2.119.

terminal-Type

An enumeration containing one of the following values:

not-distinguished

(‘MAP_T_NOT_DISTINGUISHED’ ‘1’)

is-54-b (‘MAP_T_IS_54_B’ ‘2’)

is-136 (‘MAP_T_IS_136’ ‘3’)

is-95 (‘MAP_T_IS_95’ ‘32’)

is-95-a (‘MAP_T_IS_95_A’ ‘33’)

is-88 (‘MAP_T_IS_88’ ‘64’)

is-94 (‘MAP_T_IS_94’ ‘65’)

is-91 (‘MAP_T_IS_91’ ‘66’)

update-Count

An enumeration containing one of the following values:

update-count

(‘MAP_T_UPDATE_COUNT’ ‘1’)

5.6.1.7 Authentication-Request-Arg

An instance of OM class **Authentication-Request-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), [page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), [page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.391](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
electronic-Serial-Number	String(Octet)	4	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
mscid	String(Octet)	3	1	—
system-Access-Type	Enum(System-Access-Type)	—	1	—
system-Capabilities	String(Octet)	1	1	—
authentication-Data	String(Octet)	3	0-1	—
authentication-Response	String(Octet)	3	0-1	—
call-History-Count	Integer	0-63	0-1	—
confidentiality-Modes	String(Octet)	1	0-1	—
digits	String(Digits)	4-12	0-1	—
pc-SSN	String(Octet)	5	0-1	—
random-Variable	String(Octet)	4	0-1	—
sender-Identification-Number	String(Digits)	4-12	0-1	—
terminal-Type	Enum(Terminal-Type)	—	0-1	—

Table 5.391: OM Attributes of OM Class **Authentication-Request-Arg**

This OM class contains the following class-specific OM attributes:

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

mobile-Identification-Number

Specifies the 10-digit representation of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

mscid (Serving MSC) **MSCID** ::= [PRIVATE 21] IMPLICIT OCTET STRING (SIZE (3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.82.

system-Access-Type

An enumeration containing one of the following values:

unspecified ('MAP_T_UNSPECIFIED' '1')

flash-request
('MAP_T_FLASH_REQUEST' '1')

autonomous-registration
('MAP_T_AUTONOMOUS_REGISTRATION' '1')

call-origination
('MAP_T_CALL_ORIGINATION' '1')

page-response
('MAP_T_PAGE_RESPONSE' '1')

no-access ('MAP_T_NO_ACCESS' '1')

power-down-registration

(‘MAP_T_POWER_DOWN_REGISTRATION’ ‘1’)

sms-page-response

(‘MAP_T_SMS_PAGE_RESPONSE’ ‘1’)

system-Capabilities

(Serving) **SystemCapabilities** ::= [PRIVATE 49] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.146.

authentication-Data

AuthenticationData ::= OCTET STRING (SIZE (3)) Octets are coded as described in ANSI 41-D section 6.5.2.9.

authentication-Response

AuthenticationResponse ::= OCTET STRING (SIZE (3)) Octets are coded as described in ANSI 41-D section 6.5.2.10.

call-History-Count

CallHistoryCount ::= INTEGER (0..63)

confidentiality-Modes

(Actual) **ConfidentialityModes** ::= [PRIVATE 39] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded a specified in ANSI 41-D section 6.5.2.50.

digits

(Dialed) **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

pc-SSN

(Serving MSC or VLR or HLR) Specifies the ANSI SS7 Point Code (PC) and Subsystem Number (SSN) of a particular cellular functional entity. **PC_SSN** ::= [PRIVATE 32] IMPLICIT OCTET STRING (SIZE (5)) Octets are encoded as follows:

- Octet 1 Encodes the system type and has one of the following values:

serving-msc

(‘MAP_T_SERVING_MSC’ ‘1’)

home-msc

(‘MAP_T_HOME_MSC’ ‘2’)

gateway-msc

(‘MAP_T_GATEWAY_MSC’ ‘3’)

hlr

(‘MAP_T_HLR’ ‘4’)

vlr

(‘MAP_T_VLR’ ‘5’)

eir

(‘MAP_T_EIR’ ‘6’)

ac

(‘MAP_T_AC’ ‘7’)

border-msc

(‘MAP_T_BORDER_MSC’ ‘8’)

originating-msc

(‘MAP_T_ORIGINATING_MSC’ ‘9’)

A value of zero indicates that the system type is unspecified.

- Octet 2 MTP Point Code member number.
- Octet 3 MTP Point Code cluster number.
- Octet 4 MTP Point Code network number.

- Octet 5 SCCP Subsystem Number (SSN).

random-Variable

Contains a 32-bit random number that is used as input to the CAVE algorithm for mobile station authentication, signaling message encryption and digital channel voice privacy. The random number is chosen by the serving MSC. **RandomVariable ::= [PRIVATE 40] IMPLICIT OCTET STRING (SIZE (4))** Octets are coded most significant byte first. See ANSI 41-D section 6.5.2.101.

sender-Identification-Number

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

terminal-Type

An enumeration containing one of the following values:

not-distinguished

(‘MAP_T_NOT_DISTINGUISHED’ ‘1’)

is-54-b (‘MAP_T_IS_54_B’ ‘2’)

is-136 (‘MAP_T_IS_136’ ‘3’)

is-95 (‘MAP_T_IS_95’ ‘32’)

is-95-a (‘MAP_T_IS_95_A’ ‘33’)

is-88 (‘MAP_T_IS_88’ ‘64’)

is-94 (‘MAP_T_IS_94’ ‘65’)

is-91 (‘MAP_T_IS_91’ ‘66’)

5.6.1.8 Authentication-Request-Res

An instance of OM class **Authentication-Request-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.392](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
authentication-Algorithm-Version	String(Octet)	1	0-1	—
authentication-Reponse-Unique-Challenge	String(Octet)	3	0-1	—
call-History-Count	Integer	0-63	0-1	—
cdma-Private-Long-Code-Mask	String(Octet)	8	0-1	—
deny-Access	Enum(Deny-Access)	—	0-1	—
random-Variable-SSD	String(Octet)	4	0-1	—
random-Variable-Unique-Challenge	String(Octet)	4	0-1	—
shared-Secret-Data	String(Octet)	16	0-1	—
signaling-Message-Encryption-Key	String(Octet)	8	0-1	—
ssd-Not-Shared	Enum(SSD-Not-Shared)	—	0-1	—
update-Count	Enum(Update-Count)	—	0-1	—
voice-Privacy-Mask	String(Octet)	66	0-1	—

Table 5.392: OM Attributes of OM Class **Authentication-Request-Res**

This OM class contains the following class-specific OM attributes:

authentication-Algorithm-Version

AuthenticationAlgorithmVersion ::= OCTET STRING (SIZE (1)) Octets are coded as described in ANSI 41-D 6.5.2.7.

authentication-Response-Unique-Challenge

AuthenticationResponseUniqueChallenge ::= OCTET STRING (SIZE (3)) Octets are coded as described in ANSI 41-D section 6.5.2.12.

call-History-Count

CallHistoryCount ::= INTEGER (0..63)

cdma-Private-Long-Code-Mask

CdmaPrivateLongCodeMask ::= OCTET STRING (SIZE (8)) Octets are encoded as specified in ANSI 41-D section 6.5.2.36.

deny-Access

An enumeration containing one of the following values:

unspecified ('MAP_T_UNSPECIFIED' '1')

ssd-update-failure
('MAP_T_SSD_UPDATE_FAILURE' '2')

count-update-failure
('MAP_T_COUNT_UPDATE_FAILURE' '3')

unique-challenge-failure
('MAP_T_UNIQUE_CHALLENGE_FAILURE' '4')

authr-mismatch
('MAP_T_AUTHR_MISMATCH' '5')

count-mismatch
('MAP_T_COUNT_MISMATCH' '6')

process-collision
 ('MAP_T_PROCESS_COLLISION' '7')

missing-authentication-parameters
 ('MAP_T_MISSING_AUTHENTICATION_PARAMETERS' '8')

terminal-type-mismatch
 ('MAP_T_TERMINAL_TYPE_MISMATCH' '9')

min-or-esn-authorization-failure
 ('MAP_T_MIN_OR_ESN_AUTHORIZATION_FAILURE' '10')

random-Variable-SSD

Contains a 32-bit random number that is used as input to the CAVE authentication algorithm for generating shared secret data (SSD-A and SSD-B). The random number is chosen independently by the AC during the process to update the mobile station's SSD. **RandomVariableSSD** ::= [PRIVATE 42] IMPLICIT OCTET STRING (SIZE (4)) Octets are coded most significant byte first. See ANSI 41-D section 6.5.2.103.

random-Variable-Unique-Challenge

Contains a 32-bit random number that is used as input to the CAVE authentication algorithm for authenticating a specific mobile station. The random number is chosen independently by the AC or VLR whenever a unique challenge is prescribed by local AC or VLR authentication procedures. **RandomVariableUniqueChallenge** ::= [PRIVATE 43] IMPLICIT OCTET STRING (SIZE (4)) Octets are coded most significant byte first. See ANSI 41-D section 6.5.2.104.

shared-Secret-Data

SharedSecretData ::= [PRIVATE 46] IMPLICIT OCTET STRING (SIZE (16)) Octets are encoded as specified in ANSI 41-D section 6.5.2.119.

signaling-Message-Encryption-Key

SignalingMessageEncryptionKey ::= [PRIVATE 45] IMPLICIT OCTET STRING (SIZE (8)) Octets are encoded as specified in ANSI 41-D section 6.5.2.120.

ssd-Not-Shared

An enumeration containing one of the following values:

discard-ssd ('MAP_T_DISCARD_SSD' '1')

update-Count

An enumeration containing one of the following values:

update-count
 ('MAP_T_UPDATE_COUNT' '1')

voice-Privacy-Mask

VoicePrivacyMask ::= [PRIVATE 121] IMPLICIT OCTET STRING (SIZE (66)) Octets are encoded as specified in ANSI 41-D section 6.5.2.166.

5.6.1.9 Authentication-Status-Report-Arg

An instance of OM class **Authentication-Status-Report-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.393](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
electronic-Serial-Number	String(Octet)	4	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
system-Capabilities	String(Octet)	1	1	—
count-Update-Report	String(Octet)	1	0-1	—
sender-Identification-Number	String(Digits)	4-12	0-1	—
ssd-Update-Report	String(Octet)	1	0-1	—
unique-Challenge-Report	String(Octet)	1	0-1	—

Table 5.393: OM Attributes of OM Class **Authentication-Status-Report-Arg**

This OM class contains the following class-specific OM attributes:

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

mobile-Identification-Number

Specifies the 10-digit representation of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

system-Capabilities

(Serving) **SystemCapabilities** ::= [PRIVATE 49] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.146.

count-Update-Report

CountUpdateReport ::= [PRIVATE 138] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.52.

sender-Identification-Number

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

ssd-Update-Report

SSDUpdateReport ::= [PRIVATE 156] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.142. The octet can assume values:

ssd-update-not-attempted

(‘MAP_T_SSD_UPDATE_NOT_ATTEMPTED’ ‘1’)

ssd-update-no-response

(‘MAP_T_SSD_UPDATE_NO_RESPONSE’ ‘2’)

ssd-update-successful

(‘MAP_T_SSD_UPDATE_SUCCESSFUL’ ‘3’)

ssd-update-failed

(‘MAP_T_SSD_UPDATE_FAILED’ ‘4’)

unique-Challenge-Report

UniqueChallengeReport ::= [PRIVATE 124] IMPLICIT OCTET STRING (SIZE (1))
 Octets are encoded as specified in ANSI 41-D section 6.5.2.162. The octet can assume the following values:

unique-challenge-not-attempted
 ('MAP_T_UNIQUE_CHALLENGE_NOT_ATTEMPTED' '1')

unique-challenge-no-response
 ('MAP_T_UNIQUE_CHALLENGE_NO_RESPONSE' '2')

unique-challenge-successful
 ('MAP_T_UNIQUE_CHALLENGE_SUCCESSFUL' '3')

unique-challenge-failed
 ('MAP_T_UNIQUE_CHALLENGE_FAILED' '4')

5.6.1.10 Authentication-Status-Report-Res

An instance of OM class **Authentication-Status-Report-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see Section 4.21 [Service-rsp()], page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in Table 5.394.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
authentication-Algorithm-Version	String(Octet)	1	0-1	—
authentication-Response-Unique-Challenge	String(Octet)	3	0-1	—
call-History-Count	Integer	0-63	0-1	—
deny-Access	Enum(Deny-Access)	—	0-1	—
random-Variable-SSD	String(Octet)	4	0-1	—
random-Variable-Unique-Challenge	String(Octet)	4	0-1	—
shared-Secret-Data	String(Octet)	16	0-1	—
ssd-Not-Shared	Enum(SSD-Not-Shared)	—	0-1	—
update-Count	Enum(Update-Count)	—	0-1	—

Table 5.394: OM Attributes of OM Class **Authentication-Status-Report-Res**

This OM class contains the following class-specific OM attributes:

authentication-Algorithm-Version

AuthenticationAlgorithmVersion ::= OCTET STRING (SIZE (1)) Octets are coded as described in ANSI 41-D 6.5.2.7.

authentication-Response-Unique-Challenge

AuthenticationResponseUniqueChallenge ::= OCTET STRING (SIZE (3)) Octets are coded as described in ANSI 41-D section 6.5.2.12.

call-History-Count

CallHistoryCount ::= INTEGER (0..63)

deny-Access

An enumeration containing one of the following values:

unspecified ('MAP_T_UNSPECIFIED' '1')

ssd-update-failure
('MAP_T_SSD_UPDATE_FAILURE' '2')

count-update-failure
('MAP_T_COUNT_UPDATE_FAILURE' '3')

unique-challenge-failure
('MAP_T_UNIQUE_CHALLENGE_FAILURE' '4')

authr-mismatch
('MAP_T_AUTHR_MISMATCH' '5')

count-mismatch
('MAP_T_COUNT_MISMATCH' '6')

process-collision
('MAP_T_PROCESS_COLLISION' '7')

missing-authentication-parameters
('MAP_T_MISSING_AUTHENTICATION_PARAMETERS' '8')

terminal-type-mismatch
('MAP_T_TERMINAL_TYPE_MISMATCH' '9')

min-or-esn-authorization-failure
('MAP_T_MIN_OR_ESN_AUTHORIZATION_FAILURE' '10')

random-Variable-SSD

Contains a 32-bit random number that is used as input to the CAVE authentication algorithm for generating shared secret data (SSD-A and SSD-B). The random number is chosen independently by the AC during the process to update the mobile station's SSD. **RandomVariableSSD ::= [PRIVATE 42] IMPLICIT OCTET STRING (SIZE (4))** Octets are coded most significant byte first. See ANSI 41-D section 6.5.2.103.

random-Variable-Unique-Challenge

Contains a 32-bit random number that is used as input to the CAVE authentication algorithm for authenticating a specific mobile station. The random number is chosen independently by the AC or VLR whenever a unique challenge is prescribed by local AC or VLR authentication procedures. **RandomVariableUniqueChallenge ::= [PRIVATE 43] IMPLICIT OCTET STRING (SIZE (4))** Octets are coded most significant byte first. See ANSI 41-D section 6.5.2.104.

shared-Secret-Data

SharedSecretData ::= [PRIVATE 46] IMPLICIT OCTET STRING (SIZE (16)) Octets are encoded as specified in ANSI 41-D section 6.5.2.119.

ssd-Not-Shared

An enumeration containing one of the following values:

discard-ssd ('MAP_T_DISCARD_SSD' '1')

update-Count

An enumeration containing one of the following values:

```

update-count
    ('MAP_T_UPDATE_COUNT' '1')

```

5.6.1.11 Base-Station-Challenge-Arg

An instance of OM class **Base-Station-Challenge-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.395](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
electronic-Serial-Number	String(Octet)	4	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
random-Variable-Base-Station	String(Octet)	4	1	—
sender-Identification-Number	String(Digits)	4-12	0-1	—

Table 5.395: OM Attributes of OM Class **Base-Station-Challenge-Arg**

This OM class contains the following class-specific OM attributes:

electronic-Serial-Number

```

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

```

mobile-Identification-Number

Specifies the 10-digit representation of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\], page 83](#). **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

random-Variable-Base-Station

Contains a 32-bit random number that is used as input to the CAVE authentication algorithm for base station authentication. The random number is chosen independently by the MS during the process to update its SSD. **RandomVariableBaseStation** ::= [PRIVATE 41] IMPLICIT OCTET STRING (SIZE (4)) Octets are coded most significant byte first. See ANSI 41-D section 6.5.2.102.

sender-Identification-Number

```

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in
ANSI 41-D section 6.5.3.2.

```

5.6.1.12 Base-Station-Challenge-Res

An instance of OM class **Base-Station-Challenge-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in Table 5.396.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
authentication-Response-Base-Station	String(Octet)	3	1	—

Table 5.396: OM Attributes of OM Class **Base-Station-Challenge-Res**

This OM class contains the following class-specific OM attributes:

authentication-Response-Base-Station

`AuthenticationResponseBaseStation ::= OCTET STRING (SIZE (3))` Octets are coded as described in ANSI 41-D section 6.5.2.11.

5.6.1.13 Blocking-Arg

An instance of OM class **Blocking-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see Section 4.20 [*Service-req()*], page 70) or is returned by the *Receive()* function (see Section 4.16 [*Receive()*], page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in Table 5.397.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
inter-MSC-Circuit-ID	String(Octet)	2	1	—

Table 5.397: OM Attributes of OM Class **Blocking-Arg**

This OM class contains the following class-specific OM attributes:

inter-MSC-Circuit-ID

`InterMSCCircuitID ::= [PRIVATE 6] IMPLICIT OCTET STRING (SIZE (2))` Octets consist of the trunk group number and trunk member number in that order. See ANSI 41-D section 6.5.2.72.

5.6.1.14 Blocking-Res

An instance of OM class **Blocking-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see Section 4.21 [*Service-rsp()*], page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see Section 4.16 [*Receive()*], page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*; it does not provide any attributes of its own.

5.6.1.15 Bulk-Deregistration-Arg

An instance of OM class **Bulk-Deregistration-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see Section 4.20

[*Service-req()*], page 70) or is returned by the *Receive()* function (see Section 4.16 [*Receive()*], page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in Table 5.398.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
sender-Identification-Number	String(Digits)	4-12	1	—

Table 5.398: OM Attributes of OM Class **Bulk-Deregistration-Arg**

This OM class contains the following class-specific OM attributes:

sender-Identification-Number

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

5.6.1.16 Bulk-Deregistration-Res

An instance of OM class **Bulk-Deregistration-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see Section 4.21 [*Service-rsp()*], page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see Section 4.16 [*Receive()*], page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*; it does not provide any attributes of its own.

5.6.1.17 Count-Request-Arg

An instance of OM class **Count-Request-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see Section 4.20 [*Service-req()*], page 70) or is returned by the *Receive()* function (see Section 4.16 [*Receive()*], page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in Table 5.399.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
electronic-Serial-Number	String(Octet)	4	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
sender-Identification-Number	String(Digits)	4-12	0-1	—

Table 5.399: OM Attributes of OM Class **Count-Request-Arg**

This OM class contains the following class-specific OM attributes:

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

mobile-Identification-Number

Specifies the 10-digit representaiton of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. `MobileIdentificationNumber ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5))` Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

sender-Identification-Number

`NumberDigits ::= OCTET STRING (SIZE (4..12))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

5.6.1.18 Count-Request-Res

An instance of OM class **Count-Request-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.400](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
call-History-Count	Integer	0-63	0-1	—

Table 5.400: *OM Attributes of OM Class Count-Request-Res*

This OM class contains the following class-specific OM attributes:

call-History-Count

`CallHistoryCount ::= INTEGER (0..63)`

5.6.1.19 Facilities-Directive-Arg

An instance of OM class **Facilities-Directive-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.401](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
billing-ID	String(Octet)	7	1	—
channel-Data	String(Octet	0,3	1	—
electronic-Serial-Number	String(Octet)	4	1	—
inter-MSC-Circuit-ID	String(Octet)	2	1	—
inter-Switch-Count	Integer	0-255	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
serving-Cell-ID	String(Octet)	2	1	—
station-Class-Mark	String(Octet)	1	1	—
target-Cell-ID	String(Octet)	2	1	—
confidentiality-Modes	String(Octet)	1	0-1	—
handoff-Reason	Enum(Handoff-Reason)	—	0-1	—
handoff-State	String(Octet)	1	0-1	—
signaling-Message-Encryption-Key	String(Octet)	8	0-1	—
tdma-Burst-Indicator	String(Octet)	1	0-1	—
tdma-Call-Mode	String(Octet)	1	0-1	—
tdma-Channel-Data	String(Octet)	5	0-1	—
voice-Privacy-Mask	String(Octet)	66	0-1	—

Table 5.401: OM Attributes of OM Class **Facilities-Directive-Arg**

This OM class contains the following class-specific OM attributes:

billing-ID **BillingID ::= OCTET STRING (SIZE (7))** Octets are encoded as specific in ANSI 41-D section 6.5.2.16.

channel-Data
 (Serving) **ChannelData ::= OCTET STRING (SIZE (0|3))** Octets are encoded as specified in ANSI 41-D section 6.5.2.47. **ChannelData ::= OCTET STRING (SIZE (0|3))** Octets are encoded as specified in ANSI 41-D section 6.5.2.47.

electronic-Serial-Number
 ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
 Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

inter-MSC-Circuit-ID
 InterMSCCircuitID ::= [PRIVATE 6] IMPLICIT OCTET STRING (SIZE (2)) Octets consist of the trunk group number and trunk member number in that order. See ANSI 41-D section 6.5.2.72.

inter-Switch-Count
 InterSwitchCount ::= [PRIVATE 7] IMPLICIT INTEGER (0..255)

mobile-Identification-Number
 Specifies the 10-digit representaiton of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\], page 83](#). **MobileIdentificationNumber ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5))** Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

serving-Cell-ID

Specifies the ID of the serving cell site to be used in this transaction. **ServingCellID** ::= [PRIVATE 2] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded with the 16-bit cell identifier, most significant byte first. See ANSI 41-D section 6.5.2.117.

station-Class-Mark

StationClassMark ::= [PRIVATE 12] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.143.

target-Cell-ID

Specifies the ID of the target cell site to be used in this transaction. **TargetCellID** ::= [PRIVATE 3] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded with the 16-bit cell identifier, most significant byte first. See ANSI 41-D section 6.5.2.148.

confidentiality-Modes

(Desired) **ConfidentialityModes** ::= [PRIVATE 39] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.50.

handoff-Reason

An enumeration containing one of the following values:

unspecified ('MAP_T_HANDOFF_UNSPECIFIED' '1')

weak-signal ('MAP_T_WEAK_SIGNAL' '2')

off-loading ('MAP_T_OFF_LOADING' '3')

anticipatory
('MAP_T_ANTICIPATORY' '4')

handoff-State

HandoffState ::= [PRIVATE 164] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.71.

signaling-Message-Encryption-Key

SignalingMessageEncryptionKey ::= [PRIVATE 45] IMPLICIT OCTET STRING (SIZE (8)) Octets are encoded as specified in ANSI 41-D section 6.5.2.120.

tdma-Burst-Indicator

(Serving) **TDMABurstIndicator** ::= [PRIVATE 31] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.151.

tdma-Call-Mode

TDMACallMode ::= [PRIVATE 29] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.152.

tdma-Channel-Data

(Serving) **TDMACHannelData** ::= [PRIVATE 28] IMPLICIT OCTET STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.153.

voice-Privacy-Mask

VoicePrivacyMask ::= [PRIVATE 121] IMPLICIT OCTET STRING (SIZE (66)) Octets are encoded as specified in ANSI 41-D section 6.5.2.166.

5.6.1.20 Facilities-Directive-Res

An instance of OM class **Facilities-Directive-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.402](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
channel-Data	String(Octet)	0,3	1	—
confidentiality-Modes	String(Octet)	1	0-1	—
tdma-Burst-Indicator	String(Octet)	1	0-1	—
tdma-Channel-Data	String(Octet)	5	0-1	—

Table 5.402: OM Attributes of OM Class **Facilities-Directive-Res**

This OM class contains the following class-specific OM attributes:

channel-Data

(Target) **ChannelData** ::= OCTET STRING (SIZE (0|3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.47.

confidentiality-Modes

(Actual) **ConfidentialityModes** ::= [PRIVATE 39] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded a specified in ANSI 41-D section 6.5.2.50.

tdma-Burst-Indicator

(Target) **TDMABurstIndicator** ::= [PRIVATE 31] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded a specified in ANSI 41-D section 6.5.2.151.

tdma-Channel-Data

(Target) **TDMACHannelData** ::= [PRIVATE 28] IMPLICIT OCTET STRING (SIZE (5)) Octets are encoded a specified in ANSI 41-D section 6.5.2.153.

5.6.1.21 Facilities-Directive-2-Arg

An instance of OM class **Facilities-Directive-2-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.403](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
billing-ID	String(Octet)	7	1	—
electronic-Serial-Number	String(Octet)	4	1	—
inter-MSC-Circuit-ID	String(Octet)	2	1	—
inter-Switch-Count	Integer	0-255	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
serving-Cell-ID	String(Octet)	2	1	—
target-Cell-ID	String(Octet)	2	0-1	—
cdma-Call-Mode	String(Octet)	1	0-1	—
cdma-Channel-Data	String(Octet)	8	0-1	—
cdma-Mobile-Protocol-Revision	String(Octet)	1	0-1	—
cdma-Private-Long-Code-Mask	String(Octet)	8	0-1	—
cdma-Serving-One-Way-Delay	String(Octet)	2	0-1	—
cdma-Station-Class-Mark	String(Octet)	1	0-1	—
cdma-Target-MAHO-List	Object(CDMA-Target-MAHO-List)	—	0-1	—
cdma-Target-Measurement-List	Object(CDMA-Target-Measurement-List)	—	0-1	—
channel-Data	String(Octet)	0,3	0-1	—
confidentiality-Modes	String(Octet)	1	0-1	—
handoff-Reason	Enum(Handoff-Reason)	—	0-1	—
handoff-State	String(Octet)	1	0-1	—
ms-Location	String(Octet)	7-8	0-1	—
namps-Call-Mode	String(Octet)	1	0-1	—
namps-Channel-Data	String(Octet)	1	0-1	—
signaling-Message-Encryption-Key	String(Octet)	8	0-1	—
station-Class-Mark	String(Octet)	1	0-1	—
tdma-Burst-Indicator	String(Octet)	1	0-1	—
tdma-Call-Mode	String(Octet)	1	0-1	—
tdma-Channel-Data	String(Octet)	5	0-1	—
voice-Privacy-Mask	String(Octet)	66	0-1	—

Table 5.403: OM Attributes of OM Class **Facilities-Directive-2-Arg**

This OM class contains the following class-specific OM attributes:

billing-ID **BillingID** ::= OCTET STRING (SIZE (7)) Octets are encoded as specific in ANSI 41-D section 6.5.2.16.

electronic-Serial-Number
ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

inter-MSC-Circuit-ID
InterMSCCircuitID ::= [PRIVATE 6] IMPLICIT OCTET STRING (SIZE (2)) Octets consist of the trunk group number and trunk member number in that order. See ANSI 41-D section 6.5.2.72.

inter-Switch-Count
InterSwitchCount ::= [PRIVATE 7] IMPLICIT INTEGER (0..255)

mobile-Identification-Number

Specifies the 10-digit representaiton of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. `MobileIdentificationNumber ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5))` Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

serving-Cell-ID

Specifies the ID of the serving cell site to be used in this transaction. `ServingCellID ::= [PRIVATE 2] IMPLICIT OCTET STRING (SIZE (2))` Octets are encoded with the 16-bit cell identifier, most significant byte first. See ANSI 41-D section 6.5.2.117.

target-Cell-ID

Specifies the ID of the target cell site to be used in this transaction. `TargetCellID ::= [PRIVATE 3] IMPLICIT OCTET STRING (SIZE (2))` Octets are encoded with the 16-bit cell identifier, most significant byte first. See ANSI 41-D section 6.5.2.148.

cdma-Call-Mode

`CdmaCallMode ::= OCTET STRING (SIZE (1))` Octets are encoded as specified in ANSI 41-D section 6.5.2.29.

cdma-Channel-Data

(Serving) `CdmaChannelData ::= OCTET STRING (SIZE (8))` Octets are encoded as specified in ANSI 41-D section 6.5.2.30.

cdma-Mobile-Protocol-Revision

`CdmaMobileProtocolRevision ::= OCTET STRING (SIZE (1))` Octets are encoded as specified in ANSI 41-D section 6.5.2.34.

cdma-Private-Long-Code-Mask

`CdmaPrivateLongCodeMask ::= OCTET STRING (SIZE (8))` Octets are encoded as specified in ANSI 41-D section 6.5.2.36.

cdma-Serving-One-Way-Delay

`CdmaServingOneWayDelay ::= OCTET STRING (SIZE (2))` Octets are encoded as specified in ANSI 41-D section 6.5.2.38.

cdma-Station-Class-Mark

`CdmaStationClassMark ::= OCTET STRING (SIZE (1))` Octets are encoded as specified in ANSI 41-D section 6.5.2.41.

cdma-Target-MAHO-List

This optional attribute is an instance of OM class **CDMA-Target-MAHO-List**. See [Section 5.6.2.5 \[CDMA-Target-MAHO-List\]](#), page 582.

cdma-Target-Measurement-List

This optional attribute is an instance of OM class **CDMA-Target-Measurement-List**. See [Section 5.6.2.7 \[CDMA-Target-Measurement-List\]](#), page 583.

channel-Data

(Serving) `ChannelData ::= OCTET STRING (SIZE (0|3))` Octets are encoded as specified in ANSI 41-D section 6.5.2.47.

confidentiality-Modes

(Desired) `ConfidentialityModes ::= [PRIVATE 39] IMPLICIT OCTET STRING (SIZE (1))` Octets are encoded a specified in ANSI 41-D section 6.5.2.50.

handoff-Reason

An enumeration containing one of the following values:

unspecified ('MAP_T_HANDOFF_UNSPECIFIED' '1')

weak-signal ('MAP_T_WEAK_SIGNAL' '2')

off-loading ('MAP_T_OFF_LOADING' '3')

anticipatory
('MAP_T_ANTICIPATORY' '4')

handoff-State

HandoffState ::= [PRIVATE 164] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.71.

ms-Location

Provides the estimated location (latitude, longitude) of the mobile station with corresponding resolution. **MSLocation** ::= [PRIVATE 70] IMPLICIT OCTET STRING (SIZE (7..8)) Octets are coded as specified in ANSI 41-D section 6.5.2.84.

namps-Call-Mode

Identifies certain characteristics of a dual-mode AMPS and NAMPS mobile station. **NAMPSCallMode** ::= [PRIVATE 165] IMPLICIT OCTET STRING (SIZE (1)) Octets are coded as specified in ANSI 41-D section 6.5.2.84.

namps-Channel-Data

(Serving) **NAMPSCChannelData** ::= [PRIVATE 74] IMPLICIT OCTET STRING (SIZE (1)) Octets are coded as specified in ANSI 41-D section 6.5.2.86.

signaling-Message-Encryption-Key

SignalingMessageEncryptionKey ::= [PRIVATE 45] IMPLICIT OCTET STRING (SIZE (8)) Octets are encoded as specified in ANSI 41-D section 6.5.2.120.

station-Class-Mark

StationClassMark ::= [PRIVATE 12] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.143.

tdma-Burst-Indicator

(Serving) **TDMABurstIndicator** ::= [PRIVATE 31] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded a specified in ANSI 41-D section 6.5.2.151.

tdma-Call-Mode

TDMACallMode ::= [PRIVATE 29] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded a specified in ANSI 41-D section 6.5.2.152.

tdma-Channel-Data

(Serving) **TDMACHannelData** ::= [PRIVATE 28] IMPLICIT OCTET STRING (SIZE (5)) Octets are encoded a specified in ANSI 41-D section 6.5.2.153.

voice-Privacy-Mask

VoicePrivacyMask ::= [PRIVATE 121] IMPLICIT OCTET STRING (SIZE (66)) Octets are encoded as specified in ANSI 41-D section 6.5.2.166.

5.6.1.22 Facilities-Directive-2-Res

An instance of OM class **Facilities-Directive-2-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.404](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
cdma-Channel-Data	String(Octet)	8	0-1	—
cdma-Code-Channel-List	Object(CDMA-Code-Channel-List)	—	0-1	—
cdma-Search-Window	String(Octet)	1	0-1	—
channel-Data	String(Octet)	0,3	0-1	—
confidentiality-Modes	String(Octet)	1	0-1	—
namps-Channel-Data	String(Octet)	1	0-1	—
target-Cell-ID	String(Octet)	2	0-1	—
tdma-Burst-Indicator	String(Octet)	1	0-1	—
tdma-Channel-Data	String(Octet)	5	0-1	—

Table 5.404: OM Attributes of OM Class **Facilities-Directive-2-Res**

This OM class contains the following class-specific OM attributes:

cdma-Channel-Data

(Target) **CdmaChannelData** ::= OCTET STRING (SIZE (8)) Octets are encoded as specified in ANSI 41-D section 6.5.2.30.

cdma-Code-Channel-List

This optional attribute is an instance of OM class **CDMA-Code-Channel-List**. See [Section 5.6.2.3 \[CDMA-Code-Channel-List\], page 581](#).

cdma-Search-Window

CdmaSearchWindow ::= OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.37.

channel-Data

(Target) **ChannelData** ::= OCTET STRING (SIZE (0|3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.47.

confidentiality-Modes

(Actual) **ConfidentialityModes** ::= [PRIVATE 39] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.50.

namps-Channel-Data

(Target) **NAMPSChannelData** ::= [PRIVATE 74] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.86.

target-Cell-ID

Specifies the ID of the target cell site to be used in this transaction. **TargetCellID** ::= [PRIVATE 3] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded with the 16-bit cell identifier, most significant byte first. See ANSI 41-D section 6.5.2.148.

tdma-Burst-Indicator

(Target) **TDMABurstIndicator** ::= [PRIVATE 31] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.151.

tdma-Channel-Data

(Target) **TDMAChannelData** ::= [PRIVATE 28] IMPLICIT OCTET STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.153.

5.6.1.23 Facilities-Release-Arg

An instance of OM class **Facilities-Release-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.405](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
inter-MSC-Circuit-ID	String(Octet)	2	1	—
release-Reason	Enum(Release-Reason)	—	1	—
billing-ID	String(Octet)	7	0-1	—
mobile-Identification-Number	String(TBCD)	5	0-1	—

Table 5.405: OM Attributes of OM Class **Facilities-Release-Arg**

This OM class contains the following class-specific OM attributes:

inter-MSC-Circuit-ID

InterMSCCircuitID ::= [PRIVATE 6] IMPLICIT OCTET STRING (SIZE (2)) Octets consist of the trunk group number and trunk member number in that order. See ANSI 41-D section 6.5.2.72.

release-Reason

An enumeration containing one of the following values:

unspecified ('MAP_T_RELEASE_UNSPECIFIED' '0')

call-over-clear-forward

('MAP_T_CALL_OVER_CLEAR_FORWARD' '1')

call-over-clear-backward

('MAP_T_CALL_OVER_CLEAR_BACKWARD' '2')

handoff-successful

('MAP_T_HANDOFF_SUCCESSFUL' '3')

handoff-abort-call-over

('MAP_T_HANDOFF_ABORT_CALL_OVER' '4')

handoff-abort-not-received

('MAP_T_HANDOFF_ABORT_NOT_RECEIVED' '5')

abnormal-mobile-termination

('MAP_T_ABNORMAL_MOBILE_TERMINATION' '6')

abnormal-switch-termination

(‘MAP_T_ABNORMAL_SWITCH_TERMINATION’ ‘7’)

special-feature-release

(‘MAP_T_SPECIAL_FEATURE_RELEASE’ ‘8’)

billing-ID **BillingID** ::= OCTET STRING (SIZE (7)) Octets are encoded as specific in ANSI 41-D section 6.5.2.16.

mobile-Identification-Number

Specifies the 10-digit representaiton of the mobile station’s mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

5.6.1.24 Facilities-Release-Res

An instance of OM class **Facilities-Release-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.406](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
billing-ID	String(Octet)	7	0-1	—

Table 5.406: *OM Attributes of OM Class Facilities-Release-Res*

This OM class contains the following class-specific OM attributes:

billing-ID **BillingID** ::= OCTET STRING (SIZE (7)) Octets are encoded as specific in ANSI 41-D section 6.5.2.16.

5.6.1.25 Feature-Request-Arg

An instance of OM class **Feature-Request-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.407](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
digits	String(Digits)	4-12	1	—
electronic-Serial-Number	String(Octet)	4	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
billing-ID	String(Octet)	7	0-1	—
calling-Party-Number-Digits-1	String(Digits)	4-12	0-1	—
calling-Party-Number-Digits-2	String(Digits)	4-12	0-1	—
calling-Party-Subaddress	String(Subaddress)	1-21	0-1	—
conference-Calling-Indicator	String(Octet)	1	0-1	—
mobile-Directory-Number	String(Digits)	4-12	0-1	—
mscid	String(Octet)	3	0-1	—
msc-Identification-Number	String(Digits)	4-12	0-1	—
one-Time-Feature-Indicator	String(Octet)	2	0-1	—
pc-SSN	String(Octet)	5	0-1	—
sender-Identification-Number	String(Digits)	4-12	0-1	—
transaction-Capability	String(Octet)	2	0-1	—

Table 5.407: OM Attributes of OM Class **Feature-Request-Arg**

This OM class contains the following class-specific OM attributes:

digits (Dialed) **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

mobile-Identification-Number

Specifies the 10-digit representation of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

billing-ID (Originating) **BillingID** ::= OCTET STRING (SIZE (7)) Octets are encoded as specific in ANSI 41-D section 6.5.2.16.

calling-Party-Number-Digits-1

This attribute specifies the network-provided calling party number information. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Number-Digits-2

This attribute specifies the user-provided calling party number information. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), page 102.

conference-Calling-Indicator

ConferenceCallingIndicator ::= [PRIVATE 137] IMPLICIT OCTET STRING (SIZE (1)) Octets specify the maximum number of conferees between 1 and 254.

mobile-Directory-Number

Contains the mobile station's directory number, which may be different from its mobile identification number (MIN). **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

mscid

(Serving) **MSCID** ::= [PRIVATE 21] IMPLICIT OCTET STRING (SIZE (3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.82.

msc-Identification-Number

Indicates the identification number of an MSC sending a message. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

one-Time-Feature-Indicator

OneTimeFeatureIndicator ::= [PRIVATE 97] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.88.

pc-SSN

Specifies the ANSI SS7 Point Code (PC) and Subsystem Number (SSN) of a particular cellular functional entity. **PC_SSN** ::= [PRIVATE 32] IMPLICIT OCTET STRING (SIZE (5)) Octets are encoded as follows:

- Octet 1 Encodes the system type and has one of the following values:

serving-msc

(**'MAP_T_SERVING_MSC'** '1')

home-msc

(**'MAP_T_HOME_MSC'** '2')

gateway-msc

(**'MAP_T_GATEWAY_MSC'** '3')

hlr

(**'MAP_T_HLR'** '4')

vlr

(**'MAP_T_VLR'** '5')

eir

(**'MAP_T_EIR'** '6')

ac

(**'MAP_T_AC'** '7')

border-msc

(**'MAP_T_BORDER_MSC'** '8')

originating-msc

(**'MAP_T_ORIGINATING_MSC'** '9')

A value of zero indicates that the system type is unspecified.

- Octet 2 MTP Point Code member number.
- Octet 3 MTP Point Code cluster number.
- Octet 4 MTP Point Code network number.
- Octet 5 SCCP Subsystem Number (SSN).

sender-Identification-Number

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

transaction-Capability

TransactionCapability ::= [PRIVATE 123] IMPLICIT OCTET STRING (SIZE (2))

Octets are encoded as specified in ANSI 41-D section 6.5.2.160.

5.6.1.26 Feature-Request-Res

An instance of OM class **Feature-Request-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.408](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
feature-Result	Enum(FEATURE-RESULT)	—	1	—
access-Denied-Reason	Enum(ACCESS-DENIED-REASON)	—	0-1	—
action-Code	String(Octet)	1-more	0-1	—
announcement-List	Object(ANNOUNCEMENT-LIST)	—	0-1	—
calling-Party-Number-String-1	String(Digits)	4-20	0-1	—
calling-Party-Number-String-2	String(Digits)	4-20	0-1	—
calling-Party-Subaddress	String(Subaddress)	1-21	0-1	—
carrier-Digits	String(Digits)	4-12	0-1	—
conference-Calling-Indicator	String(Octet)	1	0-1	—
digits	String(Digits)	4-12	0-1	—
dmh-Account-Code-Digits	String(Digits)	4-12	0-1	—
dmh-Alternate-Billing-Digits	String(Digits)	4-12	0-1	—
dmh-Billing-Digits	String(Digits)	4-12	0-1	—
dmh-Redirection-Indicator	Enum(DMH-REDIRECTION-INDICATOR)	—	0-1	—
group-Information	String(Octet)	4	0-1	—
mobile-Directory-Number	String(Digits)	4-12	0-1	—
no-Answer-Time	String(Octet)	1	0-1	—
one-Time-Feature-Indicator	String(Octet)	2	0-1	—
paca-Indicator	String(Octet)	1	0-1	—
pilot-Number	String(Digits)	4-12	0-1	—
redirecting-Number-Digits	String(Digits)	4-12	0-1	—
redirecting-Number-String	String(Digits)	4-12	0-1	—
redirecting-Subaddress	String(Subaddress)	1-21	0-1	—
routing-Digits	String(Digits)	4-12	0-1	—
termination-List	Object(TERMINATION-LIST)	—	0-1	—
termination-Triggers	String(Octet)	2	0-1	—

Table 5.408: OM Attributes of OM Class **Feature-Request-Res**

This OM class contains the following class-specific OM attributes:

feature-Result

An enumeration containing one of the following values:

unsuccessful ('MAP_T_FEATURE_UNSUCCESSFUL' '1')

successful ('MAP_T_FEATURE_SUCCESSFUL' '2')

access-Denied-Reason

An enumeration containing one of the following values:

unassigned-directory-number ('MAP_T_UNASSIGNED_DIRECTORY_NUMBER' '1')

inactive ('MAP_T_INACTIVE' '2')

busy ('MAP_T_BUSY' '3')

termination-denied ('MAP_T_TERMINATION_DENIED' '4')

no-page-response ('MAP_T_NO_PAGE_RESPONSE' '5')

unavailable ('MAP_T_UNAVAILABLE' '6')

action-Code

An octet string containing the following values:

continue-processing ('MAP_T_CONTINUE_PROCESSING' '1')

disconnect-call ('MAP_T_DISCONNECT_CALL' '2')

disconnect-call-leg ('MAP_T_DISCONNECT_CALL_LEG' '3')

conference-calling-drop-last-party ('MAP_T_CONFERECE_CALLING_DROP_LAST_PARTY' '4')

bridge-call-legs-to-conference-call ('MAP_T_BRIDGE_CALL_LEGS_TO_CONFERECE_CALL' '5')

drop-call-leg-on-busy-or-routing-failure ('MAP_T_DROP_CALL_LEG_ON_BUSY_OR_ROUTING_FAILURE' '6')

disconnect-all-call-legs ('MAP_T_DISCONNECT_ALL_CALL_LEGS' '7')

announcement-List

This optional attribute is an instance of OM class **Announcement-List**. See [Section 5.6.2.1 \[Announcement-List\]](#), page 580.

calling-Party-Number-String-1

This attribute specifies the network-provided identification of the calling party. **NumberString** ::= OCTET STRING (SIZE (4..20)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Number-String-2

This attribute specifies the user-provided identification of the calling party. **NumberString** ::= OCTET STRING (SIZE (4..20)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), [page 102](#).

carrier-Digits

This attribute specifies the preferred interexchange carrier for the call. Only specified for national usage. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

conference-Calling-Indicator

ConferenceCallingIndicator ::= [PRIVATE 137] IMPLICIT OCTET STRING (SIZE (1)) Octets specify the maximum number of conferees between 1 and 254.

digits

(Dialed) **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Account-Code-Digits

Specifies the account code digits as dialed by a subscriber. The account code is defined between the subscriber and the home cellular service provider. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Alternate-Billing-Digits

Specifies a non-telephony billing number, such as a calling card number, credit card account number, debit card account code, etc. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Billing-Digits

Specifies the telephony billing number use for calls with special billing arrangements to identify the party to be billed, such as third party billing, calling card, etc. The billing number must be a valid telphony number for billing the call. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Redirection-Indicator

An enumeration containing one of the following values:

- unspecified** ('MAP_T_REDIRECTION_UNSPECIFIED' '1') The type of redirection is not defined in ANSI 41-D.
- cfu** ('MAP_T_CFU' '1') The call was redirected for call forwarding unconditional.
- cfb** ('MAP_T_CFB' '2') The call was redirected for call forwarding busy.
- cfna** ('MAP_T_CFNA' '3') The call was redirected for call forwarding no answer.
- cfo** ('MAP_T_CFO' '4') The call was redirected for call forwarding other.
- cd-unspecified** ('MAP_T_CD_UNSPECIFIED' '5') The call was redirected for call delivery via an unspecified network.
- cd-pstn** ('MAP_T_PSTN' '6') The call was redirected for call delivery via the PSTN.
- cd-private** ('MAP_T_CD_PRIVATE' '7') The call was redirected for call delivery via private facilities.

pstn-tandem	(‘MAP_T_PSTN_TANDEM’ ‘8’) The call was routed as a PSTN tandem call.
private-tandem	(‘MAP_T_PRIVATE_TANDEM’ ‘9’) The call was routed as a private facility tandem call.
busy	(‘MAP_T_BUSY’ ‘10’) The call was redirected because the addressed subscriber was busy.
inactive	(‘MAP_T_INACTIVE’ ‘11’) The call was redirected because the addressed subscriber was inactive.
unassigned	(‘MAP_T_UNASSIGNED’ ‘12’) The call was redirected because the addressed directory number was unassigned.
termination-denied	(‘MAP_T_TERMINATION_DENIED’ ‘13’) The call was redirected because termination was denied.
cd-failure	(‘MAP_T_CD_FAILURE’ ‘14’) The call was redirected because of call delivery failure.
ect	(‘MAP_T_ECT’ ‘15’) The call was redirected because of explicit call transfer.
mah	(‘MAP_T_MAH’ ‘16’) The call was redirected for mobile access hunting call delivery attempt.
fa	(‘MAP_T_FA’ ‘17’) The call was redirected for flexible alerting call delivery attempt.
abandoned-call-leg	(‘MAP_T_ABANDONED_CALL_LEG’ ‘18’) The call was redirected because a call leg was abandoned.
pca-call-refused	(‘MAP_T_PCA_CALL_REFUSED’ ‘19’) Password call acceptance call was refused.
sca-call-refused	(‘MAP_T_SCA_CALL_REFUSED’ ‘20’) Selective call acceptance call was refused.
dialogue	(‘MAP_T_DIALOGUE’ ‘21’)
cfld	(‘MAP_T_CFD’ ‘22’) The call was redirected for call forwarding default.
cd-local	(‘MAP_T_CD_LOCAL’ ‘23’) The call was redirected for call delivery locally.
voice-mail-retrieval	(‘MAP_T_VOICE_MAIL_RETRIEVAL’ ‘24’) The call was redirected for voice mail retrieval.

group-Information

GroupInformation ::= [PRIVATE 163] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.69.

mobile-Directory-Number

Contains the mobile station's directory number, which may be different from its mobile identification number (MIN). `NumberDigits ::= OCTET STRING (SIZE (4..12))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

no-Answer-Time

`NoAnswerTime ::= [PRIVATE 96] IMPLICIT OCTET STRING (SIZE (1))` Octets encode the interval, in seconds, to wait after alerting an MS or after seizing an outgoing trunk before no-answer treatment is supplied. See ANSI 41-D section 6.5.2.87.

one-Time-Feature-Indicator

`OneTimeFeatureIndicator ::= [PRIVATE 97] IMPLICIT OCTET STRING (SIZE (2))` Octets are encoded as specified in ANSI 41-D section 6.5.2.88.

paca-Indicator

Indicates the priority access and channel assignment (PACA) permanent activation status and priority level assigned to the subscriber. `PACAIndicator ::= [PRIVATE 146] IMPLICIT OCTET STRING (SIZE (1))` Octets are encoded as specified in ANSI 41-D section 6.5.2.91.

pilot-Number

Contains the pilot directory number for a multileg call. `NumberDigits ::= OCTET STRING (SIZE (4..12))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

redirecting-Number-Digits

`NumberDigits ::= OCTET STRING (SIZE (4..12))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

redirecting-Number-String

`NumberString ::= OCTET STRING (SIZE (4..20))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

redirecting-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), [page 102](#).

routing-Digits

`NumberDigits ::= OCTET STRING (SIZE (4..12))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

termination-List

This optional attribute is an instance of OM class **Termination-List**. See [Section 5.6.2.13 \[Termination-List\]](#), [page 589](#).

termination-Triggers

`TerminationTriggers ::= [PRIVATE 122] IMPLICIT OCTET STRING (SIZE (2))` Octets are encoded as specified in ANSI 41-D section 6.5.2.159.

5.6.1.27 Flash-Request-Arg

An instance of OM class **Flash-Request-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), [page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), [page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.409](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
digits	String(Digits)	4-12	1	—
inter-MSC-Circuit-ID	String(Octet)	2	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
confidentiality-Modes	String(Octet)	1	0-1	—
electronic-Serial-Number	String(Octet)	4	0-1	—

Table 5.409: OM Attributes of OM Class **Flash-Request-Arg**

This OM class contains the following class-specific OM attributes:

digits (Dialed) **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

inter-MSC-Circuit-ID

InterMSCCircuitID ::= [PRIVATE 6] IMPLICIT OCTET STRING (SIZE (2)) Octets consist of the trunk group number and trunk member number in that order. See ANSI 41-D section 6.5.2.72.

mobile-Identification-Number

Specifies the 10-digit representaiton of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

confidentiality-Modes

(Actual) **ConfidentialityModes** ::= [PRIVATE 39] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded a specified in ANSI 41-D section 6.5.2.50.

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

5.6.1.28 Flash-Request-Res

An instance of OM class **Flash-Request-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*; it provides no attributes of its own.

5.6.1.29 Handoff-Back-Arg

An instance of OM class **Handoff-Back-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.410](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
channel-Data	String(Octet)	0,3	1	—
inter-MS-Circuit-ID	String(Octet)	2	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
serving-Cell-ID	String(Octet)	2	1	—
target-Cell-ID	String(Octet)	2	1	—
billing-ID	String(Octet)	7	0-1	—
confidentiality-Modes	String(Octet)	1	0-1	—
handoff-Reason	Enum(Handoff-Reason)	—	0-1	—
handoff-State	String(Octet)	1	0-1	—
signaling-Message-Encryption-Key	String(Octet)	8	0-1	—
tdma-Burst-Indicator	String(Octet)	1	0-1	—
tdma-Call-Mode	String(Octet)	1	0-1	—
tdma-Channel-Data	String(Octet)	5	0-1	—
voice-Privacy-Mask	String(Octet)	66	0-1	—

Table 5.410: OM Attributes of OM Class **Handoff-Back-Arg**

This OM class contains the following class-specific OM attributes:

channel-Data

(Serving) **ChannelData** ::= OCTET STRING (SIZE (0|3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.47.

inter-MS-Circuit-ID

InterMSCCircuitID ::= [PRIVATE 6] IMPLICIT OCTET STRING (SIZE (2)) Octets consist of the trunk group number and trunk member number in that order. See ANSI 41-D section 6.5.2.72.

mobile-Identification-Number

Specifies the 10-digit representaiton of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

serving-Cell-ID

Specifies the ID of the serving cell site to be used in this transaction. **ServingCellID** ::= [PRIVATE 2] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded with the 16-bit cell identifier, most significant byte first. See ANSI 41-D section 6.5.2.117.

target-Cell-ID

Specifies the ID of the target cell site to be used in this transaction. **TargetCellID** ::= [PRIVATE 3] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded with the 16-bit cell identifier, most significant byte first. See ANSI 41-D section 6.5.2.148.

billing-ID **BillingID** ::= OCTET STRING (SIZE (7)) Octets are encoded as specific in ANSI 41-D section 6.5.2.16.

confidentiality-Modes

(Desired) **ConfidentialityModes** ::= [PRIVATE 39] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded a specified in ANSI 41-D section 6.5.2.50.

handoff-Reason

An enumeration containing one of the following values:

unspecified ('MAP_T_HANDOFF_UNSPECIFIED' '1')

weak-signal ('MAP_T_WEAK_SIGNAL' '2')

off-loading ('MAP_T_OFF_LOADING' '3')

anticipatory
('MAP_T_ANTICIPATORY' '4')

handoff-State

HandoffState ::= [PRIVATE 164] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.71.

signaling-Message-Encryption-Key

SignalingMessageEncryptionKey ::= [PRIVATE 45] IMPLICIT OCTET STRING (SIZE (8)) Octets are encoded as specified in ANSI 41-D section 6.5.2.120.

tdma-Burst-Indicator

(Serving) **TDMABurstIndicator** ::= [PRIVATE 31] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded a specified in ANSI 41-D section 6.5.2.151.

tdma-Call-Mode

TDMACallMode ::= [PRIVATE 29] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded a specified in ANSI 41-D section 6.5.2.152.

tdma-Channel-Data

(Serving) **TDMAChannelData** ::= [PRIVATE 28] IMPLICIT OCTET STRING (SIZE (5)) Octets are encoded a specified in ANSI 41-D section 6.5.2.153.

voice-Privacy-Mask

VoicePrivacyMask ::= [PRIVATE 121] IMPLICIT OCTET STRING (SIZE (66)) Octets are encoded as specified in ANSI 41-D section 6.5.2.166.

5.6.1.30 Handoff-Back-Res

An instance of OM class **Handoff-Back-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.411](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
channel-Data	String(Octet)	0,3	1	—
confidentiality-Modes	String(Octet)	1	0-1	—
tdma-Burst-Indicator	String(Octet)	1	0-1	—
tdma-Channel-Data	String(Octet)	5	0-1	—

Table 5.411: *OM Attributes of OM Class Handoff-Back-Res*

This OM class contains the following class-specific OM attributes:

channel-Data

(Target) **ChannelData** ::= OCTET STRING (SIZE (0|3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.47.

confidentiality-Modes

(Actual) **ConfidentialityModes** ::= [PRIVATE 39] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded a specified in ANSI 41-D section 6.5.2.50.

tdma-Burst-Indicator

(Target) **TDMABurstIndicator** ::= [PRIVATE 31] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded a specified in ANSI 41-D section 6.5.2.151.

tdma-Channel-Data

(Target) **TDMAChannelData** ::= [PRIVATE 28] IMPLICIT OCTET STRING (SIZE (5)) Octets are encoded a specified in ANSI 41-D section 6.5.2.153.

5.6.1.31 Handoff-Back-2-Arg

An instance of OM class **Handoff-Back-2-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), [page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), [page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.412](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
billing-ID	String(Octet)	7	1	—
inter-MSC-Circuit-ID	String(Octet)	2	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
serving-Cell-ID	String(Octet)	2	1	—
target-Cell-ID	String(Octet)	2	0-1	—
cdma-Call-Mode	String(Octet)	1	0-1	—
cdma-Channel-Data	String(Octet)	8	0-1	—
cdma-Mobile-Protocol-Revision	String(Octet)	1	0-1	—
cdma-Private-Long-Code-Mask	String(Octet)	8	0-1	—
cdma-Serving-One-Way-Delay	String(Octet)	2	0-1	—
cdma-Station-Class-Mark	String(Octet)	1	0-1	—
cdma-Target-MAHO-List	Object(CDMA-Target-MAHO-List)	—	0-1	—
cdma-Target-Measurement-List	Object(CDMA-Target-Measurement-List)	—	0-1	—
channel-Data	String(Octet)	0,3	0-1	—
confidentiality-Modes	String(Octet)	1	0-1	—
handoff-Reason	Enum(Handoff-Reason)	—	0-1	—
handoff-State	String(Octet)	1	0-1	—
ms-Location	String(Octet)	7-8	0-1	—
namps-Call-Mode	String(Octet)	1	0-1	—
namps-Channel-Data	String(Octet)	1	0-1	—
signaling-Message-Encryption-Key	String(Octet)	8	0-1	—
tdma-Burst-Indicator	String(Octet)	1	0-1	—
tdma-Call-Mode	String(Octet)	1	0-1	—
tdma-Channel-Data	String(Octet)	5	0-1	—
voice-Privacy-Mask	String(Octet)	66	0-1	—

Table 5.412: OM Attributes of OM Class **Handoff-Back-2-Arg**

This OM class contains the following class-specific OM attributes:

billing-ID `BillingID ::= OCTET STRING (SIZE (7))` Octets are encoded as specific in ANSI 41-D section 6.5.2.16.

inter-MSC-Circuit-ID

`InterMSCCircuitID ::= [PRIVATE 6] IMPLICIT OCTET STRING (SIZE (2))` Octets consist of the trunk group number and trunk member number in that order. See ANSI 41-D section 6.5.2.72.

mobile-Identification-Number

Specifies the 10-digit representaiton of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. `MobileIdentificationNumber ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5))` Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

serving-Cell-ID

Specifies the ID of the serving cell site to be used in this transaction. **ServingCellID** ::= [PRIVATE 2] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded with the 16-bit cell identifier, most significant byte first. See ANSI 41-D section 6.5.2.117.

target-Cell-ID

Specifies the ID of the target cell site to be used in this transaction. **TargetCellID** ::= [PRIVATE 3] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded with the 16-bit cell identifier, most significant byte first. See ANSI 41-D section 6.5.2.148.

cdma-Call-Mode

CdmaCallMode ::= OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.29.

cdma-Channel-Data

(Serving) **CdmaChannelData** ::= OCTET STRING (SIZE (8)) Octets are encoded as specified in ANSI 41-D section 6.5.2.30.

cdma-Mobile-Protocol-Revision

CdmaMobileProtocolRevision ::= OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.34.

cdma-Private-Long-Code-Mask

CdmaPrivateLongCodeMask ::= OCTET STRING (SIZE (8)) Octets are encoded as specified in ANSI 41-D section 6.5.2.36.

cdma-Serving-One-Way-Delay

CdmaServingOneWayDelay ::= OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.38.

cdma-Station-Class-Mark

CdmaStationClassMark ::= OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.41.

cdma-Target-MAHO-List

This optional attribute is an instance of OM class **CDMA-Target-MAHO-List**. See [Section 5.6.2.5 \[CDMA-Target-MAHO-List\]](#), page 582.

cdma-Target-Measurement-List

This optional attribute is an instance of OM class **CDMA-Target-Measurement-List**. See [Section 5.6.2.7 \[CDMA-Target-Measurement-List\]](#), page 583.

channel-Data

(Serving) **ChannelData** ::= OCTET STRING (SIZE (0|3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.47.

confidentiality-Modes

(Desired) **ConfidentialityModes** ::= [PRIVATE 39] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.50.

handoff-Reason

An enumeration containing one of the following values:

unspecified ('MAP_T_HANDOFF_UNSPECIFIED' '1')

weak-signal ('MAP_T_WEAK_SIGNAL' '2')

off-loading ('MAP_T_OFF_LOADING' '3')

anticipatory
('MAP_T_ANTICIPATORY' '4')

handoff-State

HandoffState ::= [PRIVATE 164] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.71.

ms-Location

Provides the estimated location (latitude, longitude) of the mobile station with corresponding resolution. **MSLocation** ::= [PRIVATE 70] IMPLICIT OCTET STRING (SIZE (7..8)) Octets are coded as specified in ANSI 41-D section 6.5.2.84.

namps-Call-Mode

Identifies certain characteristics of a dual-mode AMPS and NAMPS mobile station. **NAMPSCallMode** ::= [PRIVATE 165] IMPLICIT OCTET STRING (SIZE (1)) Octets are coded as specified in ANSI 41-D section 6.5.2.84.

namps-Channel-Data

(Serving) **NAMPSChannelData** ::= [PRIVATE 74] IMPLICIT OCTET STRING (SIZE (1)) Octets are coded as specified in ANSI 41-D section 6.5.2.86.

signaling-Message-Encryption-Key

SignalingMessageEncryptionKey ::= [PRIVATE 45] IMPLICIT OCTET STRING (SIZE (8)) Octets are encoded as specified in ANSI 41-D section 6.5.2.120.

tdma-Burst-Indicator

(Serving) **TDMABurstIndicator** ::= [PRIVATE 31] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded a specified in ANSI 41-D section 6.5.2.151.

tdma-Call-Mode

TDMACallMode ::= [PRIVATE 29] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded a specified in ANSI 41-D section 6.5.2.152.

tdma-Channel-Data

(Serving) **TDMAChannelData** ::= [PRIVATE 28] IMPLICIT OCTET STRING (SIZE (5)) Octets are encoded a specified in ANSI 41-D section 6.5.2.153.

voice-Privacy-Mask

VoicePrivacyMask ::= [PRIVATE 121] IMPLICIT OCTET STRING (SIZE (66)) Octets are encoded as specified in ANSI 41-D section 6.5.2.166.

5.6.1.32 Handoff-Back-2-Res

An instance of OM class **Handoff-Back-2-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.413](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
cdma-Channel-Data	String(Octet)	8	0-1	—
cdma-Code-Channel-List	Object(CDMA-Code-Channel-List)	—	0-1	—
cdma-Search-Window	String(Octet)	1	0-1	—
channel-Data	String(Octet)	0,3	0-1	—
confidentiality-Mode	String(Octet)	1	0-1	—
namps-Channel-Data	String(Octet)	1	0-1	—
target-Cell-ID	String(Octet)	2	0-1	—
tdma-Burst-Indicator	String(Octet)	1	0-1	—
tdma-Channel-Data	String(Octet)	5	0-1	—

Table 5.413: OM Attributes of OM Class **Handoff-Back-2-Res**

This OM class contains the following class-specific OM attributes:

cdma-Channel-Data

(Target) `CdmaChannelData ::= OCTET STRING (SIZE (8))` Octets are encoded as specified in ANSI 41-D section 6.5.2.30.

cdma-Code-Channel-List

This optional attribute is an instance of OM class **CDMA-Code-Channel-List**. See [Section 5.6.2.3 \[CDMA-Code-Channel-List\]](#), page 581.

cdma-Search-Window

`CdmaSearchWindow ::= OCTET STRING (SIZE (1))` Octets are encoded as specified in ANSI 41-D section 6.5.2.37.

channel-Data

(Target) `ChannelData ::= OCTET STRING (SIZE (0|3))` Octets are encoded as specified in ANSI 41-D section 6.5.2.47.

confidentiality-Mode

(Actual) `ConfidentialityModes ::= [PRIVATE 39] IMPLICIT OCTET STRING (SIZE (1))` Octets are encoded as specified in ANSI 41-D section 6.5.2.50.

namps-Channel-Data

(Target) `NAMPSChannelData ::= [PRIVATE 74] IMPLICIT OCTET STRING (SIZE (1))` Octets are coded as specified in ANSI 41-D section 6.5.2.86.

target-Cell-ID

Specifies the ID of the target cell site to be used in this transaction. `TargetCellID ::= [PRIVATE 3] IMPLICIT OCTET STRING (SIZE (2))` Octets are encoded with the 16-bit cell identifier, most significant byte first. See ANSI 41-D section 6.5.2.148.

tdma-Burst-Indicator

(Target) `TDMABurstIndicator ::= [PRIVATE 31] IMPLICIT OCTET STRING (SIZE (1))` Octets are encoded as specified in ANSI 41-D section 6.5.2.151.

tdma-Channel-Data

(Target) `TDMAChannelData ::= [PRIVATE 28] IMPLICIT OCTET STRING (SIZE (5))` Octets are encoded as specified in ANSI 41-D section 6.5.2.153.

5.6.1.33 Handoff-Measurement-Request-Arg

An instance of OM class **Handoff-Measurement-Request-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.414](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
channel-Data	String(Octet)	0,3	1	—
serving-Cell-ID	String(Octet)	2	1	—
station-Class-Mark	String(Octet)	1	1	—
tdma-Call-Mode	String(Octet)	1	0-1	—
tdma-Channel-Data	String(Octet)	5	0-1	—

Table 5.414: OM Attributes of OM Class **Handoff-Measurement-Request-Arg**

This OM class contains the following class-specific OM attributes:

channel-Data

(Serving) **ChannelData** ::= OCTET STRING (SIZE (0|3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.47.

serving-Cell-ID

Specifies the ID of the serving cell site to be used in this transaction. **ServingCellID** ::= [PRIVATE 2] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded with the 16-bit cell identifier, most significant byte first. See ANSI 41-D section 6.5.2.117.

station-Class-Mark

StationClassMark ::= [PRIVATE 12] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.143.

tdma-Call-Mode

TDMACallMode ::= [PRIVATE 29] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded a specified in ANSI 41-D section 6.5.2.152.

tdma-Channel-Data

(Serving) **TDMACHannelData** ::= [PRIVATE 28] IMPLICIT OCTET STRING (SIZE (5)) Octets are encoded a specified in ANSI 41-D section 6.5.2.153.

5.6.1.34 Handoff-Measurement-Request-Res

An instance of OM class **Handoff-Measurement-Request-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.415](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
signal-Quality	Integer	0-255	1	—
target-Cell-ID	String(Octet)	2	1	—

Table 5.415: *OM Attributes of OM Class Handoff-Measurement-Request-Res*

This OM class contains the following class-specific OM attributes:

signal-Quality

SignalQuality ::= [PRIVATE 11] IMPLICIT INTEGER (0..255) Values are interpreted as specified in ANSI 41-D section 6.5.2.121.

target-Cell-ID

Specifies the ID of the target cell site to be used in this transaction. **TargetCellID** ::= [PRIVATE 3] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded with the 16-bit cell identifier, most significant byte first. See ANSI 41-D section 6.5.2.148.

5.6.1.35 Handoff-Measurement-Request-2-Arg

An instance of OM class **Handoff-Measurement-Request-2-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see Section 4.20 [Service-req()], page 70) or is returned by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in Table 5.416.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
serving-Cell-ID	String(Octet)	2	1	—
cdma-Call-Mode	String(Octet)	1	0-1	—
cdma-Channel-Data	String(Octet)	8	0-1	—
cdma-Serving-One-Way-Delay	String(Octet)	2	0-1	—
cdma-Station-Class-Mark	String(Octet)	1	0-1	—
channel-Data	String(Octet)	0,3	0-1	—
ms-Location	String(Octet)	7-8	0-1	—
namps-Call-Mode	String(Octet)	1	0-1	—
namps-Channel-Data	String(Octet)	1	0-1	—
station-Class-Mark	String(Octet)	1	0-1	—
tdma-Call-Mode	String(Octet)	1	0-1	—
tdma-Channel-Data	String(Octet)	5	0-1	—

Table 5.416: *OM Attributes of OM Class Handoff-Measurement-Request-2-Arg*

This OM class contains the following class-specific OM attributes:

serving-Cell-ID

Specifies the ID of the serving cell site to be used in this transaction. **ServingCellID** ::= [PRIVATE 2] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded with the 16-bit cell identifier, most significant byte first. See ANSI 41-D section 6.5.2.117.

cdma-Call-Mode

CdmaCallMode ::= OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.29.

cdma-Channel-Data

(Serving) **CdmaChannelData** ::= OCTET STRING (SIZE (8)) Octets are encoded as specified in ANSI 41-D section 6.5.2.30.

cdma-Serving-One-Way-Delay

CdmaServingOneWayDelay ::= OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.38.

cdma-Station-Class-Mark

CdmaStationClassMark ::= OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.41.

channel-Data

(Serving) **ChannelData** ::= OCTET STRING (SIZE (0|3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.47.

ms-Location

Provides the estimated location (latitude, longitude) of the mobile station with corresponding resolution. **MSLocation** ::= [PRIVATE 70] IMPLICIT OCTET STRING (SIZE (7..8)) Octets are coded as specified in ANSI 41-D section 6.5.2.84.

namps-Call-Mode

Identifies certain characteristics of a dual-mode AMPS and NAMPS mobile station. **NAMPSCallMode** ::= [PRIVATE 165] IMPLICIT OCTET STRING (SIZE (1)) Octets are coded as specified in ANSI 41-D section 6.5.2.84.

namps-Channel-Data

(Serving) **NAMPSChannelData** ::= [PRIVATE 74] IMPLICIT OCTET STRING (SIZE (1)) Octets are coded as specified in ANSI 41-D section 6.5.2.86.

station-Class-Mark

StationClassMark ::= [PRIVATE 12] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.143.

tdma-Call-Mode

TDMACallMode ::= [PRIVATE 29] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.152.

tdma-Channel-Data

(Serving) **TDMAChannelData** ::= [PRIVATE 28] IMPLICIT OCTET STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.153.

5.6.1.36 Handoff-Measurement-Request-2-Res

An instance of OM class **Handoff-Measurement-Request-2-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.417](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
cdma-Target-Measurement-List	Object(CDMA-Target-Measurement-List)	—	0-1	—
target-Measurement-List	Object(Target-Measurement-List)	—	0-1	—

Table 5.417: OM Attributes of OM Class **Handoff-Measurement-Request-2-Res**

This OM class contains the following class-specific OM attributes:

cdma-Target-Measurement-List

This optional attribute is an instance of OM class **CDMA-Target-Measurement-List**. See Section 5.6.2.7 [CDMA-Target-Measurement-List], page 583.

target-Measurement-List

This attributes is an instance of OM class **Target-Measurement-List**. See Section 5.6.2.12 [Target-Measurement-List], page 589.

5.6.1.37 Handoff-To-Third-Arg

An instance of OM class **Handoff-To-Third-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see Section 4.20 [Service-req()], page 70) or is returned by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in Table 5.418.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
electronic-Serial-Number	String(Octet)	4	1	—
inter-MSC-Circuit-ID	String(Octet)	2	1	—
inter-Switch-Count	Integer	0-255	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
mscid	String(Octet)	3	1	—
serving-Cell-ID	String(Octet)	2	1	—
station-Class-Mark	String(Octet)	1	1	—
target-Cell-ID	String(Octet)	2	1	—
billing-ID	String(Octet)	7	1	—
channel-Data	String(Octet)	0,3	0-1	—
confidentiality-Modes	String(Octet)	1	0-1	—
handoff-Reason	Enum(Handoff-Reason)	—	0-1	—
signaling-Message-Encryption-Key	String(Octet)	8	0-1	—
tdma-Burst-Indicator	String(Octet)	1	0-1	—
tdma-Call-Mode	String(Octet)	1	0-1	—
tdma-Channel-Data	String(Octet)	5	0-1	—
voice-Privacy-Mask	String(Octet)	66	0-1	—

Table 5.418: OM Attributes of OM Class **Handoff-To-Third-Arg**

This OM class contains the following class-specific OM attributes:

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))

Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

inter-MSC-Circuit-ID

InterMSCCircuitID ::= [PRIVATE 6] IMPLICIT OCTET STRING (SIZE (2)) Octets consist of the trunk group number and trunk member number in that order. See ANSI 41-D section 6.5.2.72.

inter-Switch-Count

(Serving) **InterSwitchCount** ::= [PRIVATE 7] IMPLICIT INTEGER (0..255)

mobile-Identification-Number

Specifies the 10-digit representaiton of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

mscid

(Target) **MSCID** ::= [PRIVATE 21] IMPLICIT OCTET STRING (SIZE (3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.82.

serving-Cell-ID

Specifies the ID of the serving cell site to be used in this transaction. **ServingCellID** ::= [PRIVATE 2] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded with the 16-bit cell identifier, most significant byte first. See ANSI 41-D section 6.5.2.117.

station-Class-Mark

StationClassMark ::= [PRIVATE 12] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.143.

target-Cell-ID

Specifies the ID of the target cell site to be used in this transaction. **TargetCellID** ::= [PRIVATE 3] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded with the 16-bit cell identifier, most significant byte first. See ANSI 41-D section 6.5.2.148.

billing-ID

BillingID ::= OCTET STRING (SIZE (7)) Octets are encoded as specific in ANSI 41-D section 6.5.2.16.

channel-Data

(Serving) **ChannelData** ::= OCTET STRING (SIZE (0|3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.47.

confidentiality-Modes

(Desired) **ConfidentialityModes** ::= [PRIVATE 39] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded a specified in ANSI 41-D section 6.5.2.50.

handoff-Reason

An enumeration containing one of the following values:

unspecified ('MAP_T_HANDOFF_UNSPECIFIED' '1')

weak-signal ('MAP_T_WEAK_SIGNAL' '2')

off-loading ('MAP_T_OFF_LOADING' '3')

anticipatory
('MAP_T_ANTICIPATORY' '4')

signaling-Message-Encryption-Key

SignalingMessageEncryptionKey ::= [PRIVATE 45] IMPLICIT OCTET STRING (SIZE (8)) Octets are encoded as specified in ANSI 41-D section 6.5.2.120.

tdma-Burst-Indicator

(Serving) **TDMABurstIndicator** ::= [PRIVATE 31] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded a specified in ANSI 41-D section 6.5.2.151.

tdma-Call-Mode

TDMACallMode ::= [PRIVATE 29] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded a specified in ANSI 41-D section 6.5.2.152.

tdma-Channel-Data

(Serving) **TDMAChannelData** ::= [PRIVATE 28] IMPLICIT OCTET STRING (SIZE (5)) Octets are encoded a specified in ANSI 41-D section 6.5.2.153.

voice-Privacy-Mask

VoicePrivacyMask ::= [PRIVATE 121] IMPLICIT OCTET STRING (SIZE (66)) Octets are encoded as specified in ANSI 41-D section 6.5.2.166.

5.6.1.38 Handoff-To-Third-Res

An instance of OM class **Handoff-To-Third-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.419](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
channel-Data	String(Octet)	0,3	0-1	—
confidentiality-Modes	String(Octet)	1	0-1	—
tdma-Burst-Indicator	String(Octet)	1	0-1	—
tdma-Channel-Data	String(Octet)	5	0-1	—

Table 5.419: OM Attributes of OM Class **Handoff-To-Third-Res**

This OM class contains the following class-specific OM attributes:

channel-Data

(Target) **ChannelData** ::= OCTET STRING (SIZE (0|3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.47.

confidentiality-Modes

(Actual) **ConfidentialityModes** ::= [PRIVATE 39] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded a specified in ANSI 41-D section 6.5.2.50.

tdma-Burst-Indicator

(Target) **TDMABurstIndicator** ::= [PRIVATE 31] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded a specified in ANSI 41-D section 6.5.2.151.

tdma-Channel-Data

(Target) `TDMACHannelData ::= [PRIVATE 28] IMPLICIT OCTET STRING (SIZE (5))`
 Octets are encoded as specified in ANSI 41-D section 6.5.2.153.

5.6.1.39 Handoff-To-Third-2-Arg

An instance of OM class **Handoff-To-Third-2-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.420](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
billing-ID	String(Octet)	7	1	—
electronic-Serial-Number	String(Octet)	4	1	—
inter-MSC-Circuit-ID	String(Octet)	2	1	—
inter-Switch-Count	Integer	0-255	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
mscid	String(Octet)	3	1	—
serving-Cell-ID	String(Octet)	2	1	—
target-Cell-ID	String(Octet)	2	0-1	—
cdma-Call-Mode	String(Octet)	1	0-1	—
cdma-Channel-Data	String(Octet)	8	0-1	—
cdma-Mobile-Protocol-Revision	String(Octet)	1	0-1	—
cdma-Private-Long-Code-Mask	String(Octet)	8	0-1	—
cdma-Serving-One-Way-Delay	String(Octet)	2	0-1	—
cdma-Station-Class-Mark	String(Octet)	1	0-1	—
cdma-Target-MAHO-List	Object(CDMA-Target-MAHO-List)	—	0-1	—
cdma-Target-Measurement-List	Object(CDMA-Target-Measurement-List)	—	0-1	—
channel-Data	String(Octet)	0,3	0-1	—
confidentiality-Modes	String(Octet)	1	0-1	—
handoff-Reason	Enum(Handoff-Reason)	—	0-1	—
ms-Location	String(Octet)	7-8	0-1	—
namps-Call-Mode	String(Octet)	1	0-1	—
namps-Channel-Data	String(Octet)	1	0-1	—
signaling-Message-Encryption-Key	String(Octet)	8	0-1	—
station-Class-Mark	String(Octet)	1	0-1	—
tdma-Burst-Indicator	String(Octet)	1	0-1	—
tdma-Call-Mode	String(Octet)	1	0-1	—
tdma-Channel-Data	String(Octet)	5	0-1	—
voice-Privacy-Mask	String(Octet)	66	0-1	—

Table 5.420: OM Attributes of OM Class **Handoff-To-Third-2-Arg**

This OM class contains the following class-specific OM attributes:

billing-ID `BillingID ::= OCTET STRING (SIZE (7))` Octets are encoded as specific in ANSI 41-D section 6.5.2.16.

electronic-Serial-Number

`ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))`

Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

inter-MSC-Circuit-ID

`InterMSCCircuitID ::= [PRIVATE 6] IMPLICIT OCTET STRING (SIZE (2))` Octets consist of the trunk group number and trunk member number in that order. See ANSI 41-D section 6.5.2.72.

inter-Switch-Count

(Serving) `InterSwitchCount ::= [PRIVATE 7] IMPLICIT INTEGER (0..255)`

mobile-Identification-Number

Specifies the 10-digit representaiton of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. `MobileIdentificationNumber ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5))` Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

mscid

(Target) `MSCID ::= [PRIVATE 21] IMPLICIT OCTET STRING (SIZE (3))` Octets are encoded as specified in ANSI 41-D section 6.5.2.82.

serving-Cell-ID

Specifies the ID of the serving cell site to be used in this transaction. `ServingCellID ::= [PRIVATE 2] IMPLICIT OCTET STRING (SIZE (2))` Octets are encoded with the 16-bit cell identifier, most significant byte first. See ANSI 41-D section 6.5.2.117.

target-Cell-ID

Specifies the ID of the target cell site to be used in this transaction. `TargetCellID ::= [PRIVATE 3] IMPLICIT OCTET STRING (SIZE (2))` Octets are encoded with the 16-bit cell identifier, most significant byte first. See ANSI 41-D section 6.5.2.148.

cdma-Call-Mode

`CdmaCallMode ::= OCTET STRING (SIZE (1))` Octets are encoded as specified in ANSI 41-D section 6.5.2.29.

cdma-Channel-Data

(Serving) `CdmaChannelData ::= OCTET STRING (SIZE (8))` Octets are encoded as specified in ANSI 41-D section 6.5.2.30.

cdma-Mobile-Protocol-Revision

`CdmaMobileProtocolRevision ::= OCTET STRING (SIZE (1))` Octets are encoded as specified in ANSI 41-D section 6.5.2.34.

cdma-Private-Long-Code-Mask

`CdmaPrivateLongCodeMask ::= OCTET STRING (SIZE (8))` Octets are encoded as specified in ANSI 41-D section 6.5.2.36.

cdma-Serving-One-Way-Delay

`CdmaServingOneWayDelay ::= OCTET STRING (SIZE (2))` Octets are encoded as specified in ANSI 41-D section 6.5.2.38.

cdma-Station-Class-Mark

`CdmaStationClassMark ::= OCTET STRING (SIZE (1))` Octets are encoded as specified in ANSI 41-D section 6.5.2.41.

cdma-Target-MAHO-List

This optional attribute is an instance of OM class **CDMA-Target-MAHO-List**. See [Section 5.6.2.5 \[CDMA-Target-MAHO-List\]](#), page 582.

cdma-Target-Measurement-List

This optional attribute is an instance of OM class **CDMA-Target-Measurement-List**. See [Section 5.6.2.7 \[CDMA-Target-Measurement-List\]](#), page 583.

channel-Data

(Serving) **ChannelData** ::= OCTET STRING (SIZE (0|3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.47.

confidentiality-Modes

(Desired) **ConfidentialityModes** ::= [PRIVATE 39] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.50.

handoff-Reason

An enumeration containing one of the following values:

unspecified ('MAP_T_HANDOFF_UNSPECIFIED' '1')
weak-signal ('MAP_T_WEAK_SIGNAL' '2')
off-loading ('MAP_T_OFF_LOADING' '3')
anticipatory ('MAP_T_ANTICIPATORY' '4')

ms-Location

Provides the estimated location (latitude, longitude) of the mobile station with corresponding resolution. **MSLocation** ::= [PRIVATE 70] IMPLICIT OCTET STRING (SIZE (7..8)) Octets are coded as specified in ANSI 41-D section 6.5.2.84.

namps-Call-Mode

Identifies certain characteristics of a dual-mode AMPS and NAMPS mobile station. **NAMPSCallMode** ::= [PRIVATE 165] IMPLICIT OCTET STRING (SIZE (1)) Octets are coded as specified in ANSI 41-D section 6.5.2.84.

namps-Channel-Data

(Serving) **NAMPSChannelData** ::= [PRIVATE 74] IMPLICIT OCTET STRING (SIZE (1)) Octets are coded as specified in ANSI 41-D section 6.5.2.86.

signaling-Message-Encryption-Key

SignalingMessageEncryptionKey ::= [PRIVATE 45] IMPLICIT OCTET STRING (SIZE (8)) Octets are encoded as specified in ANSI 41-D section 6.5.2.120.

station-Class-Mark

StationClassMark ::= [PRIVATE 12] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.143.

tdma-Burst-Indicator

(Serving) **TDMABurstIndicator** ::= [PRIVATE 31] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.151.

tdma-Call-Mode

TDMACallMode ::= [PRIVATE 29] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.152.

tdma-Channel-Data

(Serving) `TDMACHannelData ::= [PRIVATE 28] IMPLICIT OCTET STRING (SIZE (5))`
 Octets are encoded as specified in ANSI 41-D section 6.5.2.153.

voice-Privacy-Mask

`VoicePrivacyMask ::= [PRIVATE 121] IMPLICIT OCTET STRING (SIZE (66))` Octets
 are encoded as specified in ANSI 41-D section 6.5.2.166.

5.6.1.40 Handoff-To-Third-2-Res

An instance of OM class **Handoff-To-Third-2-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.421](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
cdma-Channel-Data	String(Octet)	8	0-1	—
cdma-Code-Channel-List	Object(CDMA-Code-Channel-List)	—	0-1	—
cdma-Search-Window	String(Octet)	1	0-1	—
channel-Data	String(Octet)	0,3	0-1	—
confidentiality-Modes	String(Octet)	1	0-1	—
namps-Channel-Data	String(Octet)	1	0-1	—
target-Cell-ID	String(Octet)	2	0-1	—
tdma-Burst-Indicator	String(Octet)	1	0-1	—
tdma-Channel-Data	STring(Octet)	5	0-1	—

Table 5.421: OM Attributes of OM Class **Handoff-To-Third-2-Res**

This OM class contains the following class-specific OM attributes:

cdma-Channel-Data

(Target) `CdmaChannelData ::= OCTET STRING (SIZE (8))` Octets are encoded as specified in ANSI 41-D section 6.5.2.30.

cdma-Code-Channel-List

This optional attribute is an instance of OM class **CDMA-Code-Channel-List**. See [Section 5.6.2.3 \[CDMA-Code-Channel-List\], page 581](#).

cdma-Search-Window

`CdmaSearchWindow ::= OCTET STRING (SIZE (1))` Octets are encoded as specified in ANSI 41-D section 6.5.2.37.

channel-Data

(Target) `ChannelData ::= OCTET STRING (SIZE (0|3))` Octets are encoded as specified in ANSI 41-D section 6.5.2.47.

confidentiality-Modes

(Actual) `ConfidentialityModes ::= [PRIVATE 39] IMPLICIT OCTET STRING (SIZE (1))` Octets are encoded as specified in ANSI 41-D section 6.5.2.50.

namps-Channel-Data

(Target) `NAMPSCChannelData ::= [PRIVATE 74] IMPLICIT OCTET STRING (SIZE (1))`
 Octets are coded as specified in ANSI 41-D section 6.5.2.86.

target-Cell-ID

Specifies the ID of the target cell site to be used in this transaction. `TargetCellID ::= [PRIVATE 3] IMPLICIT OCTET STRING (SIZE (2))` Octets are encoded with the 16-bit cell identifier, most significant byte first. See ANSI 41-D section 6.5.2.148.

tdma-Burst-Indicator

(Target) `TDMABurstIndicator ::= [PRIVATE 31] IMPLICIT OCTET STRING (SIZE (1))` Octets are encoded a specified in ANSI 41-D section 6.5.2.151.

tdma-Channel-Data

(Target) `TDMACHannelData ::= [PRIVATE 28] IMPLICIT OCTET STRING (SIZE (5))`
 Octets are encoded a specified in ANSI 41-D section 6.5.2.153.

5.6.1.41 Information-Directive-Arg

An instance of OM class **Information-Directive-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.422](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
electronic-Serial-Number	String(Octet)	4	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
alert-Code	String(Octet)	2	0-1	—
announcement-List	Object(Announcement-List)	—	0-1	—
calling-Party-Number-String-1	String(Digits)	4-20	0-1	—
calling-Party-Number-String-2	String(Digits)	4-20	0-1	—
calling-Party-Subaddress	String(Subaddress)	1-21	0-1	—
redirecting-Number-String	String(Digits)	4-20	0-1	—
redirecting-Subaddress	String(Subaddress)	1-21	0-1	—
sender-Identification-Number	String(Digits)	4-12	0-1	—

Table 5.422: OM Attributes of OM Class **Information-Directive-Arg**

This OM class contains the following class-specific OM attributes:

electronic-Serial-Number

`ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))`
 Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

mobile-Identification-Number

Specifies the 10-digit representaiton of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\], page 83](#). `MobileIdentificationNumber ::= [PRIVATE 8] IMPLICIT`

TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

alert-Code **AlertCode** ::= OCTET STRING (SIZE(2)) Octets are coded as described in ANSI41-D.

announcement-List

This optional attribute is an instance of OM class **Announcement-List**. See [Section 5.6.2.1 \[Announcement-List\]](#), page 580.

calling-Party-Number-String-1

This attribute specifies the network-provided identification of the calling party.
NumberString ::= OCTET STRING (SIZE (4..20)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Number-String-2

This attribute specifies the user-provided identification of the calling party.
NumberString ::= OCTET STRING (SIZE (4..20)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), page 102.

redirecting-Number-String

NumberString ::= OCTET STRING (SIZE (4..20)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

redirecting-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), page 102.

sender-Identification-Number

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

5.6.1.42 Information-Directive-Res

An instance of OM class **Information-Directive-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.423](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
alert-Result	String(Octet)	1	0-1	—

Table 5.423: OM Attributes of OM Class **Information-Directive-Res**

This OM class contains the following class-specific OM attributes:

alert-Result

AlertResult ::= OCTET STRING (SIZE (1)) Octets are coded as described in ANSI41-D.

5.6.1.43 Information-Forward-Arg

An instance of OM class **Information-Forward-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.424](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
inter-MSC-Circuit-ID	String(Octet)	2	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
alert-Code	String(Octet)	2	0-1	—
announcement-List	Object(Announcement-List)	—	0-1	—
calling-Party-Number-String-1	String(Digits)	4-20	0-1	—
calling-Party-Number-String-2	String(Digits)	4-20	0-1	—
calling-Party-Subaddress	String(Subaddress)	1-21	0-1	—
electronic-Serial-Number	String(Octet)	4	0-1	—
message-Waiting-Notification-Count	String(Octet)	2,4,...	0-1	—
message-Waiting-Notification-Type	String(Octet)	1	0-1	—
redirecting-Number-String	String(Digits)	4-20	0-1	—
reidrecting-Subaddress	String(Subaddress)	1-21	0-1	—

Table 5.424: OM Attributes of OM Class **Information-Forward-Arg**

This OM class contains the following class-specific OM attributes:

inter-MSC-Circuit-ID

InterMSCCircuitID ::= [PRIVATE 6] IMPLICIT OCTET STRING (SIZE (2)) Octets consist of the trunk group number and trunk member number in that order. See ANSI 41-D section 6.5.2.72.

mobile-Identification-Number

Specifies the 10-digit representaiton of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\], page 83](#). **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

alert-Code **AlertCode** ::= OCTET STRING (SIZE(2)) Octets are coded as described in ANSI41-D.

announcement-List

This optional attribute is an instance of OM class **Announcement-List**. See [Section 5.6.2.1 \[Announcement-List\], page 580](#).

calling-Party-Number-String-1

This attribute specifies the network-provided identification of the calling party.
`NumberString ::= OCTET STRING (SIZE (4..20))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Number-String-2

This attribute specifies the user-provided identification of the calling party.
`NumberString ::= OCTET STRING (SIZE (4..20))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), page 102.

electronic-Serial-Number

`ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))`
 Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

message-Waiting-Notification-Count

`MessageWaitingNotificationCount ::= [PRIVATE 92] IMPLICIT OCTET STRING (SIZE (2|4|..))` Octets encode the type of messages in the first octet and the number of messages waiting in the second octets (possibly zero). Multiple pairs of octets can occur. The first octet can have values:

voice-messages

`('MAP_T_VOICE_MESSAGES' '0')`

short-message-service-messages

`('MAP_T_SHORT_MESSAGE_SERVICE_MESSAGES' '1')`

group-3-fax-messages

`('MAP_T_GROUP_3_FAX_MESSAGES' '2')`

message-Waiting-Notification-Type

Used to convey the subscriber's message waiting notification options to the serving system. `MessageWaitingNotificationType ::= [PRIVATE 145] IMPLICIT OCTET STRING (SIZE (1))` Octets are encoded as specified in ANSI 41-D section 6.5.3.79.

redirecting-Number-String

`NumberString ::= OCTET STRING (SIZE (4..20))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

reidrecting-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), page 102.

5.6.1.44 Information-Forward-Res

An instance of OM class **Information-Forward-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.425](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
alert-Result	String(Octet)	1	0-1	—

Table 5.425: OM Attributes of OM Class **Information-Forward-Res**

This OM class contains the following class-specific OM attributes:

alert-Result

AlertResult ::= OCTET STRING (SIZE (1)) Octets are coded as described in ANSI41-D.

5.6.1.45 Inter-System-Answer-Arg

An instance of OM class **Inter-System-Answer-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.426](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
inter-MSC-Circuit-ID	String(Octet)	2	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
electronic-Serial-Number	String(Octet)	4	0-1	—

Table 5.426: OM Attributes of OM Class **Inter-System-Answer-Arg**

This OM class contains the following class-specific OM attributes:

inter-MSC-Circuit-ID

InterMSCCircuitID ::= [PRIVATE 6] IMPLICIT OCTET STRING (SIZE (2)) Octets consist of the trunk group number and trunk member number in that order. See ANSI 41-D section 6.5.2.72.

mobile-Identification-Number

Specifies the 10-digit representation of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

5.6.1.46 Inter-System-Answer-Res

An instance of OM class **Inter-System-Answer-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function

(see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*; it provides no attributes of its own.

5.6.1.47 Inter-System-Page-Arg

An instance of OM class **Inter-System-Page-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.427](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
billing-ID	String(Octet)	7	1	—
electronic-Serial-Number	String(Octet)	4	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
dmh-Account-Code-Digits	String(Digits)	4-12	0-1	—
alert-Code	String(Octet)	2	0-1	—
calling-Party-Number-String-1	String(Digits)	4-20	0-1	—
calling-Party-Number-String-2	String(Digits)	4-20	0-1	—
calling-Party-Subaddress	String(Subaddress)	1-21	0-1	—
cdma-Slot-Cycle-Index	String(Octet)	1	0-1	—
cdma-Station-Class-Mark	String(Octet)	1	0-1	—
dmh-Alternate-Billing-Digits	String(Digits)	4-12	0-1	—
dmh-Billing-Digits	String(Digits)	4-12	0-1	—
extended-MS-CDMA-ID	String(Octet)	4	0-1	—
extended-System-My-Type-Code	String(Octet)	2	0-1	—
leg-Information	String(Octet)	4	0-1	—
location-Area-ID	String(Octet)	2	0-1	—
mobile-Directory-Number	String(Digits)	4-12	0-1	—
mscid	String(Octet)	3	0-1	—
msc-Identification-Number	String(Digits)	4-12	0-1	—
one-Time-Feature-Indicator	String(Octet)	2	0-1	—
page-Indicator	String(Octet)	1	0-1	—
pc-SSN	String(Octet)	5	0-1	—
pilot-Billing-ID	String(Octet)	7	0-1	—
pilot-Number	String(Digits)	4-12	0-1	—
redirecting-Number-String	String(Digits)	4-20	0-1	—
redirecting-Subaddress	String(Subaddress)	1-21	0-1	—
sender-Identification-Number	String(Digits)	4-12	0-1	—
system-My-Type-Code	Enum(System-My-Type-Code)	—	0-1	—
termination-Treatment	String(Octet)	1	0-1	—
termination-Triggers	String(Octet)	2	0-1	—

Table 5.427: OM Attributes of OM Class **Inter-System-Page-Arg**

This OM class contains the following class-specific OM attributes:

billing-ID (Originating) **BillingID** ::= OCTET STRING (SIZE (7)) Octets are encoded as specific in ANSI 41-D section 6.5.2.16.

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

mobile-Identification-Number

Specifies the 10-digit representaiton of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

dmh-Account-Code-Digits

Specifies the account code digits as dialed by a subscriber. The account code is defined between the subscriber and the home cellular service provider. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

alert-Code **AlertCode** ::= OCTET STRING (SIZE(2)) Octets are coded as described in ANSI41-D.

calling-Party-Number-String-1

This attribute specifies the network-provided identification of the calling party. **NumberString** ::= OCTET STRING (SIZE (4..20)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Number-String-2

This attribute specifies the user-provided identification of the calling party. **NumberString** ::= OCTET STRING (SIZE (4..20)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), page 102.

cdma-Slot-Cycle-Index

CdmaSlotCycleIndex ::= OCTET STRING (SIZE(1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.40.

cdma-Station-Class-Mark

CdmaStationClassMark ::= OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.41.

dmh-Alternate-Billing-Digits

Specifies a non-telephony billing number, such as a calling card number, credit card account number, debit card account code, etc. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Billing-Digits

Specifies the telephony billing number use for calls with special billing arrangements to identify the party to be billed, such as third party billing, calling card, etc. The

billing number must be a valid telephony number for billing the call. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

extended-MSID

(Serving MSC) **ExtendedMSID** ::= [PRIVATE 53] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.64.

extended-System-My-Type-Code

(Serving MSC) **ExtendedSystemMyTypeCode** ::= [PRIVATE 54] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.65.

leg-Information

LegInformation ::= [PRIVATE 144] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.75.

location-Area-ID

LocationAreaID ::= [PRIVATE 33] IMPLICIT OCTET STRING (SIZE (2)) Octets encode the location area id, most significant octet first, and least significant octet second. See ANSI 41-D section 6.5.2.77.

mobile-Directory-Number

Contains the mobile station's directory number, which may be different from its mobile identification number (MIN). **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

mscid

(Originating MSC) **MSCID** ::= [PRIVATE 21] IMPLICIT OCTET STRING (SIZE (3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.82.

msc-Identification-Number

Indicates the identification number of an MSC sending a message. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

one-Time-Feature-Indicator

OneTimeFeatureIndicator ::= [PRIVATE 97] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.88.

page-Indicator

Indicates if paging should occur or if the system should only listen for a page response. **PageIndicator** ::= [PRIVATE 71] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.92.

pc-SSN

(Originating MSC) Specifies the ANSI SS7 Point Code (PC) and Subsystem Number (SSN) of a particular cellular functional entity. **PC_SSN** ::= [PRIVATE 32] IMPLICIT OCTET STRING (SIZE (5)) Octets are encoded as follows:

- Octet 1 Encodes the system type and has one of the following values:

serving-msc

(‘MAP_T_SERVING_MSC’ ‘1’)

home-msc

(‘MAP_T_HOME_MSC’ ‘2’)

gateway-msc

(‘MAP_T_GATEWAY_MSC’ ‘3’)

hlr

(‘MAP_T_HLR’ ‘4’)

```

vlr          ('MAP_T_VLR' '5')
eir          ('MAP_T_EIR' '6')
ac           ('MAP_T_AC' '7')
border-msc   ('MAP_T_BORDER_MSC' '8')
originating-msc
               ('MAP_T_ORIGINATING_MSC' '9')

```

A value of zero indicates that the system type is unspecified.

- Octet 2 MTP Point Code member number.
- Octet 3 MTP Point Code cluster number.
- Octet 4 MTP Point Code network number.
- Octet 5 SCCP Subsystem Number (SSN).

pilot-Billing-ID

PilotBillingID ::= [PRIVATE 169] IMPLICIT OCTET STRING (SIZE (7)) Octets are encoded as described in ANSI 41-D section 6.5.2.94.

pilot-Number

Contains the pilot directory number for a multileg call. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

redirecting-Number-String

NumberString ::= OCTET STRING (SIZE (4..20)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

redirecting-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), [page 102](#).

sender-Identification-Number

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

system-My-Type-Code

(Originating MSC) **SystemMyTypeCode** ::= [PRIVATE 22] IMPLICIT OCTET STRING (SIZE (1)) An enumeration containing one of the following values:

```

eds          ('MAP_T_EDS' '1')
astronet     ('MAP_T_ASTRONET' '2')
lucent       ('MAP_T_LUCENT' '3')
ericsson     ('MAP_T_ERICSSON' '4')
gte          ('MAP_T_GTE' '5')
motorola     ('MAP_T_MOTOROLA' '6')
nec          ('MAP_T_NEC' '7')
nortel       ('MAP_T_NORTEL' '8')
novatel      ('MAP_T_NOVATEL' '9')

```


lexsys ('MAP_T_LEXSYS' '10')
digital ('MAP_T_DIGITAL' '11')
inet ('MAP_T_INET' '12')
bellcore ('MAP_T_BELLCORE' '13')
alcatel ('MAP_T_ALCATEL' '14')
tandem ('MAP_T_TANDEM' '15')
qualcomm ('MAP_T_QUALCOMM' '16')
aldiscon ('MAP_T_ALDISCON' '17')
celcore ('MAP_T_CELCORE' '18')
telos ('MAP_T_TELOS' '19')
stanilite ('MAP_T_STANILITE' '20')
coral ('MAP_T_CORAL' '21')
synacom ('MAP_T_SYNACOM' '22')
dsc ('MAP_T_DSC' '23')
mci ('MAP_T_MCI' '24')
newnet ('MAP_T_NEWNET' '25')
sema ('MAP_T_SEMA' '26')
lg ('MAP_T_LG' '27')
cbis ('MAP_T_CBIS' '28')
seimens ('MAP_T_SEIMENS' '29')

termination-Treatment

TerminationTreatment ::= [PRIVATE 121] IMPLICIT OCTET STRING (SIZE (1))
 Octets are encoded as specified in ANSI 41-D section 6.5.2.158. The octet can assume values:

ms-termination
 ('MAP_T_MS_TERMINATION' '1')

voice-mail-storage
 ('MAP_T_VOICE_MAIL_STORAGE' '2')

voice-mail-retrieval
 ('MAP_T_VOICE_MAIL_RETRIEVAL' '3')

dialogue-termination
 ('MAP_T_DIALOGUE_TERMINATION' '4')

termination-Triggers

TerminationTriggers ::= [PRIVATE 122] IMPLICIT OCTET STRING (SIZE (2))
 Octets are encoded as specified in ANSI 41-D section 6.5.2.159.

5.6.1.48 Inter-System-Page-Res

An instance of OM class **Inter-System-Page-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.428](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
access-Denied-Reason	Enum(Access-Denied-Reason)	—	0-1	—
billing-ID	String(Octet)	7	0-1	—
conditionally-Denied-Reason	Enum(Conditionally-Denied-Reason)	—	0-1	—
digits	String(Digits)	4-12	0-1	—
extended-MS-CD	String(Octet)	4	0-1	—
extended-System-My-Type-Code	String(Octet)	2	0-1	—
msc-Identification-Number	String(Digits)	4-23	0-1	—
pc-SSN	String(Octets)	5	0-1	—

Table 5.428: OM Attributes of OM Class **Inter-System-Page-Res**

This OM class contains the following class-specific OM attributes:

access-Denied-Reason

An enumeration containing one of the following values:

unassigned-directory-number

(‘MAP_T_UNASSIGNED_DIRECTORY_NUMBER’ ‘1’)

inactive (‘MAP_T_INACTIVE’ ‘2’)

busy (‘MAP_T_BUSY’ ‘3’)

termination-denied

(‘MAP_T_TERMINATION_DENIED’ ‘4’)

no-page-response

(‘MAP_T_NO_PAGE_RESPONSE’ ‘5’)

unavailable (‘MAP_T_UNAVAILABLE’ ‘6’)

billing-ID (Terminating) BillingID ::= OCTET STRING (SIZE (7)) Octets are encoded as specific in ANSI 41-D section 6.5.2.16.

conditionally-Denied-Reason

An enumeration containing one of the following values:

waitable (‘MAP_T_WAITABLE’ ‘1’)

digits (Destination) NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

extended-MS-CD

(Border MSC) ExtendedMSCID ::= [PRIVATE 53] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.64.

extended-System-My-Type-Code

(Border MSC) `ExtendedSystemMyTypeCode ::= [PRIVATE 54] IMPLICIT OCTET STRING (SIZE (2))` Octets are encoded as specified in ANSI 41-D section 6.5.2.65.

msc-Identification-Number

Indicates the identification number of an MSC sending a message. `NumberDigits ::= OCTET STRING (SIZE (4..12))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

pc-SSN

(Border MSC) Specifies the ANSI SS7 Point Code (PC) and Subsystem Number (SSN) of a particular cellular functional entity. `PC_SSN ::= [PRIVATE 32] IMPLICIT OCTET STRING (SIZE (5))` Octets are encoded as follows:

- Octet 1 Encodes the system type and has one of the following values:

serving-msc

(`'MAP_T_SERVING_MSC' '1'`)

home-msc

(`'MAP_T_HOME_MSC' '2'`)

gateway-msc

(`'MAP_T_GATEWAY_MSC' '3'`)

hlr

(`'MAP_T_HLR' '4'`)

vlr

(`'MAP_T_VLR' '5'`)

eir

(`'MAP_T_EIR' '6'`)

ac

(`'MAP_T_AC' '7'`)

border-msc (`'MAP_T_BORDER_MSC' '8'`)

originating-msc

(`'MAP_T_ORIGINATING_MSC' '9'`)

A value of zero indicates that the system type is unspecified.

- Octet 2 MTP Point Code member number.
- Octet 3 MTP Point Code cluster number.
- Octet 4 MTP Point Code network number.
- Octet 5 SCCP Subsystem Number (SSN).

5.6.1.49 Inter-System-Page-2-Arg

An instance of OM class **Inter-System-Page-2-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.429](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
billing-ID	String(Octet)	7	1	—
electronic-Serial-Number	String(Octet)	4	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
alert-Code	String(Octet)	2	0-1	—
calling-Party-Number-String-1	String(Digits)	4-20	0-1	—
calling-Party-Number-String-2	String(Digits)	4-20	0-1	—
calling-Party-Subaddress	String(Subaddress)	1-21	0-1	—
cdma-Slot-Cycle-Index	String(Octet)	1	0-1	—
cdma-Station-Class-Mark	String(Octet)	1	0-1	—
location-Area-ID	String(Octet)	2	0-1	—
mobile-Directory-Number	String(Digits)	4-12	0-1	—
page-Indicator	String(Octet)	1	0-1	—
redirecting-Number-String	String(Digits)	4-20	0-1	—
redirecting-Subaddress	String(Subaddress)	1-21	0-1	—

Table 5.429: OM Attributes of OM Class **Inter-System-Page-2-Arg**

This OM class contains the following class-specific OM attributes:

billing-ID (Originating) **BillingID ::= OCTET STRING (SIZE (7))** Octets are encoded as specific in ANSI 41-D section 6.5.2.16.

electronic-Serial-Number
ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
 Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

mobile-Identification-Number
 Specifies the 10-digit representaiton of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. **MobileIdentificationNumber ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5))** Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

alert-Code **AlertCode ::= OCTET STRING (SIZE(2))** Octets are coded as described in ANSI41-D.

calling-Party-Number-String-1
 This attribute specifies the network-provided identification of the calling party. **NumberString ::= OCTET STRING (SIZE (4..20))** Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Number-String-2
 This attribute specifies the user-provided identification of the calling party. **NumberString ::= OCTET STRING (SIZE (4..20))** Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Subaddress
 This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), page 102.

cdma-Slot-Cycle-Index

CdmaSlotCycleIndex ::= OCTET STRING (SIZE(1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.40.

cdma-Station-Class-Mark

CdmaStationClassMark ::= OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.41.

location-Area-ID

LocationAreaID ::= [PRIVATE 33] IMPLICIT OCTET STRING (SIZE (2)) Octets encode the location area id, most significant octet first, and least significant octet second. See ANSI 41-D section 6.5.2.77.

mobile-Directory-Number

Contains the mobile station's directory number, which may be different from its mobile identification number (MIN). **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

page-Indicator

Indicates if paging should occur or if the system should only listen for a page response. **PageIndicator** ::= [PRIVATE 71] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.92.

redirecting-Number-String

NumberString ::= OCTET STRING (SIZE (4..20)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

redirecting-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), [page 102](#).

5.6.1.50 Inter-System-Page-2-Res

An instance of OM class **Inter-System-Page-2-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), [page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), [page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.430](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
access-Denied-Reason	Enum(Access-Denied-Reason)	—	0-1	—
authentication-Response	String(Octet)	3	0-1	—
call-History-Count	Integer	0-63	0-1	—
randc	String(Octet)	1	0-1	—
random-Variable	String(Octet)	4	0-1	—
system-Access-Type	Enum(System-Access-Type)	—	0-1	—

Table 5.430: OM Attributes of OM Class **Inter-System-Page-2-Res**

This OM class contains the following class-specific OM attributes:

access-Denied-Reason

An enumeration containing one of the following values:

unassigned-directory-number
 ('MAP_T_UNASSIGNED_DIRECTORY_NUMBER' '1')
inactive ('MAP_T_INACTIVE' '2')
busy ('MAP_T_BUSY' '3')
termination-denied
 ('MAP_T_TERMINATION_DENIED' '4')
no-page-response
 ('MAP_T_NO_PAGE_RESPONSE' '5')
unavailable ('MAP_T_UNAVAILABLE' '6')

authentication-Response

AuthenticationResponseUniqueChallenge ::= OCTET STRING (SIZE (3)) Octets are coded as described in ANSI 41-D section 6.5.2.12.

call-History-Count

CallHistoryCount ::= INTEGER (0..63)

randc

Indicates which random variable was used by the mobile station to compute the authentication response. RANDC ::= [PRIVATE 99] IMPLICIT OCTET STRING (SIZE (1)) Octets contain the 8 most significant bits of the 32-bit random variable used to compute the authentication response. Octets are encoded as specified in ANSI 41-D section 6.5.2.100.

random-Variable

Contains a 32-bit random number that is used as input to the CAVE algorithm for mobile station authentication, signaling message encryption and digital channel voice privacy. The random number is chosen by the serving MSC. RandomVariable ::= [PRIVATE 40] IMPLICIT OCTET STRING (SIZE (4)) Octets are coded most significant byte first. See ANSI 41-D section 6.5.2.101.

system-Access-Type

An enumeration containing one of the following values:

unspecified ('MAP_T_UNSPECIFIED' '1')
flash-request
 ('MAP_T_FLASH_REQUEST' '1')
autonomous-registration
 ('MAP_T_AUTONOMOUS_REGISTRATION' '1')
call-origination
 ('MAP_T_CALL_ORIGINATION' '1')
page-response
 ('MAP_T_PAGE_RESPONSE' '1')
no-access ('MAP_T_NO_ACCESS' '1')
power-down-registration
 ('MAP_T_POWER_DOWN_REGISTRATION' '1')
sms-page-response
 ('MAP_T_SMS_PAGE_RESPONSE' '1')

5.6.1.51 Inter-System-Setup-Arg

An instance of OM class **Inter-System-Setup-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.431](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
billing-ID	String(Octet)	7	1	—
electronic-Serial-Number	String(Octet)	4	1	—
inter-MSC-Circuit-ID	String(Octet)	2	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
cdma-Private-Long-Code-Mask	String(Octet)	8	0-1	—
signaling-Message-Encryption-Key	String(Octet)	8	0-1	—
voice-Privacy-Mask	String(Octet)	66	0-1	—

Table 5.431: OM Attributes of OM Class **Inter-System-Setup-Arg**

This OM class contains the following class-specific OM attributes:

billing-ID **BillingID** ::= OCTET STRING (SIZE (7)) Octets are encoded as specific in ANSI 41-D section 6.5.2.16.

electronic-Serial-Number
ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
 Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

inter-MSC-Circuit-ID
InterMSCCircuitID ::= [PRIVATE 6] IMPLICIT OCTET STRING (SIZE (2)) Octets consist of the trunk group number and trunk member number in that order. See ANSI 41-D section 6.5.2.72.

mobile-Identification-Number
 Specifies the 10-digit representation of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

cdma-Private-Long-Code-Mask
CdmaPrivateLongCodeMask ::= OCTET STRING (SIZE (8)) Octets are encoded as specified in ANSI 41-D section 6.5.2.36.

signaling-Message-Encryption-Key
SignalingMessageEncryptionKey ::= [PRIVATE 45] IMPLICIT OCTET STRING (SIZE (8)) Octets are encoded as specified in ANSI 41-D section 6.5.2.120.

voice-Privacy-Mask
VoicePrivacyMask ::= [PRIVATE 121] IMPLICIT OCTET STRING (SIZE (66)) Octets are encoded as specified in ANSI 41-D section 6.5.2.166.

5.6.1.52 Inter-System-Setup-Res

An instance of OM class **Inter-System-Setup-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.432](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
setup-Result	String(Octet)	1	0-1	—

Table 5.432: OM Attributes of OM Class **Inter-System-Setup-Res**

This OM class contains the following class-specific OM attributes:

setup-Result

SetupResult ::= [PRIVATE 151] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.118. The octet may assume values:

unsuccessful ('MAP_T_SETUP_UNSUCCESSFUL' '1')

successful ('MAP_T_SETUP_SUCCESSFUL' '2')

5.6.1.53 Location-Request-Arg

An instance of OM class **Location-Request-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.433](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
billing-ID	String(Octet)	7	1	—
digits	String(Digits)	4-12	1	—
mscid	String(Octet)	3	1	—
system-My-Type-Code	Enum(System-My-Type-Code)	—	1	—
calling-Party-Number-Digits-1	String(Digits)	4-12	0-1	—
calling-Party-Number-Digits-2	String(Digits)	4-12	0-1	—
calling-Party-Subaddress	String(Subaddress)	1-21	0-1	—
msc-Identification-Number	String(Digits)	4-12	0-1	—
pc-SSN	String(Octet)	5	0-1	—
redirecting-Number-Digits	String(Digits)	4-12	0-1	—
redirecting-Subaddress	String(Subaddress)	1-21	0-1	—
termination-Access-Type	Enum(Termination-Access-Type)	—	0-1	—
transaction-Capability	String(Octets)	2	0-1	—

Table 5.433: OM Attributes of OM Class **Location-Request-Arg**

This OM class contains the following class-specific OM attributes:

billing-ID (Originating) **BillingID** ::= OCTET STRING (SIZE (7)) Octets are encoded as specific in ANSI 41-D section 6.5.2.16.

digits (Dialed) **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

mscid (Originating) **MSCID** ::= [PRIVATE 21] IMPLICIT OCTET STRING (SIZE (3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.82.

system-My-Type-Code

(Originating) **SystemMyTypeCode** ::= [PRIVATE 22] IMPLICIT OCTET STRING (SIZE (1)) An enumeration containing one of the following values:

eds ('MAP_T_EDS' '1')

astronet ('MAP_T_ASTRONET' '2')

lucent ('MAP_T_LUCENT' '3')

ericsson ('MAP_T_ERICSSON' '4')

gte ('MAP_T_GTE' '5')

motorola ('MAP_T_MOTOROLA' '6')

nec ('MAP_T_NEC' '7')

nortel ('MAP_T_NORTEL' '8')

novatel ('MAP_T_NOVATEL' '9')

lexsys ('MAP_T_LEXSYS' '10')

digital ('MAP_T_DIGITAL' '11')

inet ('MAP_T_INET' '12')

bellcore	(‘MAP_T_BELLCORE’ ‘13’)
alcatel	(‘MAP_T_ALCATEL’ ‘14’)
tandem	(‘MAP_T_TANDEM’ ‘15’)
qualcomm	(‘MAP_T_QUALCOMM’ ‘16’)
aldiscon	(‘MAP_T_ALDISCON’ ‘17’)
celcore	(‘MAP_T_CELCORE’ ‘18’)
telos	(‘MAP_T_TELOS’ ‘19’)
stanilite	(‘MAP_T_STANILITE’ ‘20’)
coral	(‘MAP_T_CORAL’ ‘21’)
synacom	(‘MAP_T_SYNACOM’ ‘22’)
dsc	(‘MAP_T_DSC’ ‘23’)
mci	(‘MAP_T_MCI’ ‘24’)
newnet	(‘MAP_T_NEWNET’ ‘25’)
sema	(‘MAP_T_SEMA’ ‘26’)
lg	(‘MAP_T_LG’ ‘27’)
cbis	(‘MAP_T_CBIS’ ‘28’)
seimens	(‘MAP_T_SEIMENS’ ‘29’)

calling-Party-Number-Digits-1

This attribute specifies the network-provided calling party number information. **NumberDigits ::= OCTET STRING (SIZE (4..12))** Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Number-Digits-2

This attribute specifies the user-provided calling party number information. **NumberDigits ::= OCTET STRING (SIZE (4..12))** Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), [page 102](#).

msc-Identification-Number

Indicates the identification number of an MSC sending a message. **NumberDigits ::= OCTET STRING (SIZE (4..12))** Octets are encoded as described in ANSI 41-D section 6.5.3.2.

pc-SSN

(Originating) Specifies the ANSI SS7 Point Code (PC) and Subsystem Number (SSN) of a particular cellular functional entity. **PC_SSN ::= [PRIVATE 32] IMPLICIT OCTET STRING (SIZE (5))** Octets are encoded as follows:

- Octet 1 Encodes the system type and has one of the following values:

serving-msc
(‘MAP_T_SERVING_MSC’ ‘1’)

```

home-msc    ('MAP_T_HOME_MSC' '2')

gateway-msc
              ('MAP_T_GATEWAY_MSC' '3')

hlr         ('MAP_T_HLR' '4')

vlr         ('MAP_T_VLR' '5')

eir         ('MAP_T_EIR' '6')

ac          ('MAP_T_AC' '7')

border-msc ('MAP_T_BORDER_MSC' '8')

originating-msc
              ('MAP_T_ORIGINATING_MSC' '9')

```

A value of zero indicates that the system type is unspecified.

- Octet 2 MTP Point Code member number.
- Octet 3 MTP Point Code cluster number.
- Octet 4 MTP Point Code network number.
- Octet 5 SCCP Subsystem Number (SSN).

redirecting-Number-Digits

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

redirecting-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), [page 102](#).

termination-Access-Type

TerminationAccessType ::= [PRIVATE 119] OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.155. The octet can assume values:

```

mobile-to-mobile-directory-number-access
              ('MAP_T_MOBILE_TO_MOBILE_DIRECTORY_NUMBER_ACCESS' '252')

land-to-mobile-directory-number-access
              ('MAP_T_LAND_TO_MOBILE_DIRECTORY_NUMBER_ACCESS' '253')

remote-feature-control-port-access
              ('MAP_T_REMOTE_FEATURE_CONTROL_PORT_ACCESS' '254')

roamer-port-access
              ('MAP_T_ROAMER_PORT_ACCESS' '255')

```

transaction-Capability

TransactionCapability ::= [PRIVATE 123] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.160.

5.6.1.54 Location-Request-Res

An instance of OM class **Location-Request-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see

Section 4.21 [Service-rsp()], page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in Table 5.434.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
electronic-Serial-Number	String(Octet)	4	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
mscid	String(Octet)	3	1	—
access-Denied-Reason	Enum(Access-Denied-Reason)	—	0-1	—
announcement-List	Object(Announcement-List)	—	0-1	—
calling-Party-Number-String-1	String(Digits)	4-20	0-1	—
calling-Party-Number-String-2	String(Digits)	4-20	0-1	—
digits	String(Digits)	4-12	0-1	—
digits	String(Digits)	4-12	0-1	—
dmh-Account-Code-Digits	String(Digits)	4-12	0-1	—
dmh-Alternate-Billing-Digits	String(Digits)	4-12	0-1	—
dmh-Billing-Digits	String(Digits)	4-12	0-1	—
dmh-Redirection-Indicator	Enum(DMH-Redirection-Indicator)	—	0-1	—
group-Information	String(Octet)	4	0-1	—
mobile-Directory-Number	String(Digits)	4-12	0-1	—
no-Answer-Time	String(Octet)	1	0-1	—
one-Time-Feature-Indicator	String(Octet)	2	0-1	—
pc-SSN	String(Octet)	5	0-1	—
redirecting-Number-Digits	String(Digits)	4-12	0-1	—
redirecting-Number-String	String(Digits)	4-20	0-1	—
redirecting-Subaddress	String(Subaddress)	1-21	0-1	—
routing-Digits	String(Digits)	4-12	0-1	—
termination-List	Object(Termination-List)	—	0-1	—
termination-Triggers	String(Octet)	2	0-1	—

Table 5.434: OM Attributes of OM Class **Location-Request-Res**

This OM class contains the following class-specific OM attributes:

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

mobile-Identification-Number

Specifies the 10-digit representation of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See Section 5.2.1 [String(TBCD)], page 83. **MobileIdentificationNumber ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5))** Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

mscid

(Serving MSC) **MSCID ::= [PRIVATE 21] IMPLICIT OCTET STRING (SIZE (3))** Octets are encoded as specified in ANSI 41-D section 6.5.2.82.

access-Denied-Reason

An enumeration containing one of the following values:

unassigned-directory-number
 ('MAP_T_UNASSIGNED_DIRECTORY_NUMBER' '1')

inactive ('MAP_T_INACTIVE' '2')

busy ('MAP_T_BUSY' '3')

termination-denied
 ('MAP_T_TERMINATION_DENIED' '4')

no-page-response
 ('MAP_T_NO_PAGE_RESPONSE' '5')

unavailable ('MAP_T_UNAVAILABLE' '6')

announcement-List

This optional attribute is an instance of OM class **Announcement-List**. See [Section 5.6.2.1 \[Announcement-List\], page 580](#).

calling-Party-Number-String-1

This attribute specifies the network-provided identification of the calling party. **NumberString ::= OCTET STRING (SIZE (4..20))** Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Number-String-2

This attribute specifies the user-provided identification of the calling party. **NumberString ::= OCTET STRING (SIZE (4..20))** Octets are encoded as described in ANSI 41-D section 6.5.3.2.

digits (Carrier) **NumberDigits ::= OCTET STRING (SIZE (4..12))** Octets are encoded as described in ANSI 41-D section 6.5.3.2.

digits (Destination) **NumberDigits ::= OCTET STRING (SIZE (4..12))** Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Account-Code-Digits

Specifies the account code digits as dialed by a subscriber. The account code is defined between the subscriber and the home cellular service provider. **NumberDigits ::= OCTET STRING (SIZE (4..12))** Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Alternate-Billing-Digits

Specifies a non-telephony billing number, such as a calling card number, credit card account number, debit card account code, etc. **NumberDigits ::= OCTET STRING (SIZE (4..12))** Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Billing-Digits

Specifies the telephony billing number use for calls with special billing arrangements to identify the party to be billed, such as third party billing, calling card, etc. The billing number must be a valid telephony number for billing the call. **NumberDigits ::= OCTET STRING (SIZE (4..12))** Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Redirection-Indicator

An enumeration containing one of the following values:

unspecified	('MAP_T_REDIRECTION_UNSPECIFIED' '1') The type of redirection is not defined in ANSI 41-D.
cfu	('MAP_T_CFU' '1') The call was redirected for call forwarding unconditional.
cfb	('MAP_T_CFB' '2') The call was redirected for call forwarding busy.
cfna	('MAP_T_CFNA' '3') The call was redirected for call forwarding no answer.
cfo	('MAP_T_CFO' '4') The call was redirected for call forwarding other.
cd-unspecified	('MAP_T_CD_UNSPECIFIED' '5') The call was redirected for call delivery via an unspecified network.
cd-pstn	('MAP_T_PSTN' '6') The call was redirected for call delivery via the PSTN.
cd-private	('MAP_T_CD_PRIVATE' '7') The call was redirected for call delivery via private facilities.
pstn-tandem	('MAP_T_PSTN_TANDEM' '8') The call was routed as a PSTN tandem call.
private-tandem	('MAP_T_PRIVATE_TANDEM' '9') The call was routed as a private facility tandem call.
busy	('MAP_T_BUSY' '10') The call was redirected because the addressed subscriber was busy.
inactive	('MAP_T_INACTIVE' '11') The call was redirected because the addressed subscriber was inactive.
unassigned	('MAP_T_UNASSIGNED' '12') The call was redirected because the addressed directory number was unassigned.
termination-denied	('MAP_T_TERMINATION_DENIED' '13') The call was redirected because termination was denied.
cd-failure	('MAP_T_CD_FAILURE' '14') The call was redirected because of call delivery failure.
ect	('MAP_T_ECT' '15') The call was redirected because of explicit call transfer.
mah	('MAP_T_MAH' '16') The call was redirected for mobile access hunting call delivery attempt.
fa	('MAP_T_FA' '17') The call was redirected for flexible alerting call delivery attempt.
abandoned-call-leg	('MAP_T_ABANDONED_CALL_LEG' '18') The call was redirected because a call leg was abandoned.
pca-call-refused	('MAP_T_PCA_CALL_REFUSED' '19') Password call acceptance call was refused.

sca-call-refused

(‘MAP_T_SCA_CALL_REFUSED’ ‘20’) Selective call acceptance call was refused.

dialogue (‘MAP_T_DIALOGUE’ ‘21’)

cfld (‘MAP_T_CFD’ ‘22’) The call was redirected for call forwarding default.

cd-local (‘MAP_T_CD_LOCAL’ ‘23’) The call was redirected for call delivery locally.

voice-mail-retrieval

(‘MAP_T_VOICE_MAIL_RETRIEVAL’ ‘24’) The call was redirected for voice mail retrieval.

group-Information

GroupInformation ::= [PRIVATE 163] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.69.

mobile-Directory-Number

Contains the mobile station’s directory number, which may be different from its mobile identification number (MIN). **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

no-Answer-Time

NoAnswerTime ::= [PRIVATE 96] IMPLICIT OCTET STRING (SIZE (1)) Octets encode the interval, in seconds, to wait after alerting an MS or after seizing an outgoing trunk before no-answer treatment is supplied. See ANSI 41-D section 6.5.2.87.

one-Time-Feature-Indicator

OneTimeFeatureIndicator ::= [PRIVATE 97] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.88.

pc-SSN

(Serving MSC or VLR) Specifies the ANSI SS7 Point Code (PC) and Subsystem Number (SSN) of a particular cellular functional entity. **PC_SSN** ::= [PRIVATE 32] IMPLICIT OCTET STRING (SIZE (5)) Octets are encoded as follows:

- Octet 1 Encodes the system type and has one of the following values:

serving-msc

(‘MAP_T_SERVING_MSC’ ‘1’)

home-msc (‘MAP_T_HOME_MSC’ ‘2’)

gateway-msc

(‘MAP_T_GATEWAY_MSC’ ‘3’)

hlr (‘MAP_T_HLR’ ‘4’)

vlr (‘MAP_T_VLR’ ‘5’)

eir (‘MAP_T_EIR’ ‘6’)

ac (‘MAP_T_AC’ ‘7’)

border-msc (‘MAP_T_BORDER_MSC’ ‘8’)

originating-msc

(‘MAP_T_ORIGINATING_MSC’ ‘9’)

A value of zero indicates that the system type is unspecified.

- Octet 2 MTP Point Code member number.
- Octet 3 MTP Point Code cluster number.
- Octet 4 MTP Point Code network number.
- Octet 5 SCCP Subsystem Number (SSN).

redirecting-Number-Digits

`NumberDigits ::= OCTET STRING (SIZE (4..12))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

redirecting-Number-String

`NumberString ::= OCTET STRING (SIZE (4..20))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

redirecting-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), [page 102](#).

routing-Digits

`NumberDigits ::= OCTET STRING (SIZE (4..12))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

termination-List

This optional attribute is an instance of OM class **Termination-List**. See [Section 5.6.2.13 \[Termination-List\]](#), [page 589](#).

termination-Triggers

`TerminationTriggers ::= [PRIVATE 122] IMPLICIT OCTET STRING (SIZE (2))`
Octets are encoded as specified in ANSI 41-D section 6.5.2.159.

5.6.1.55 Mobile-On-Channel-Arg

An instance of OM class **Mobile-On-Channel-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), [page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), [page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*; it provides no attributes of its own.

5.6.1.56 MS-Inactive-Arg

An instance of OM class **MS-Inactive-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), [page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), [page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.435](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
electronic-Serial-Number	String(Octet)	4	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
call-History-Count	Integer	0-63	0-1	—
deregistration-Type	Enum(Deregistration-Type)	—	0-1	—
location-Area-ID	String(Octet)	2	0-1	—
sender-Identification-Number	String(Digits)	4-12	0-1	—
sms-Message-Waiting-Indicator	NULL	—	0-1	—

Table 5.435: OM Attributes of OM Class **MS-Inactive-Arg**

This OM class contains the following class-specific OM attributes:

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

mobile-Identification-Number

Specifies the 10-digit representaiton of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

call-History-Count

CallHistoryCount ::= INTEGER (0..63)

deregistration-Type

An enumeration containing one of the following values:

deregister-for-an-unspecified-reason

('MAP_T_DEREGISTER_FOR_AN_UNSPECIFIED_REASON' '1')

deregister-for-an-administrative-reason

('MAP_T_DEREGISTER_FOR_AN_ADMINISTRATIVE_REASON' '2')

deregister-due-to-ms-power-down

('MAP_T_DEREGISTER_DUE_TO_MS_POWER_DOWN' '3')

location-Area-ID

LocationAreaID ::= [PRIVATE 33] IMPLICIT OCTET STRING (SIZE (2)) Octets encode the location area id, most significant octet first, and least significant octet second. See ANSI 41-D section 6.5.2.77.

sender-Identification-Number

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

sms-Message-Waiting-Indicator

SMS-MessageWaitingIndicator ::= [PRIVATE 118] IMPLICIT NULL

5.6.1.57 MS-Inactive-Res

An instance of OM class **MS-Inactive-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*; it provides no attributes of its own.

5.6.1.58 Origination-Request-Arg

An instance of OM class **Origination-Request-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.436](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
billing-ID	String(Octet)	7	1	—
digits	String(Digits)	4-12	1	—
electronic-Serial-Number	String(Octet)	4	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
mscid	String(Octet)	3	1	—
origination-Triggers	String(Octet)	4	1	—
transaction-Capability	String(Octet)	2	1	—
calling-Party-Number-Digits-1	String(Digits)	4-12	0-1	—
calling-Party-Number-Digits-2	String(Digits)	4-12	0-1	—
calling-Party-Subaddress	String(Subaddress)	1-21	0-1	—
mobile-Directory-Number	String(Digits)	4-12	0-1	—
msc-Identification-Number	String(Digits)	4-12	0-1	—
one-Time-Feature-Indicator	String(Octet)	2	0-1	—
pc-SSN	String(Octet)	5	0-1	—
sender-Identification-Number	String(Digits)	4-12	0-1	—

Table 5.436: OM Attributes of OM Class **Origination-Request-Arg**

This OM class contains the following class-specific OM attributes:

billing-ID (Originating) `BillingID ::= OCTET STRING (SIZE (7))` Octets are encoded as specific in ANSI 41-D section 6.5.2.16.

digits (Dialed) `NumberDigits ::= OCTET STRING (SIZE (4..12))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

electronic-Serial-Number
`ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))`
 Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

mobile-Identification-Number

Specifies the 10-digit representaiton of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. `MobileIdentificationNumber ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5))` Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

mscid (Originating MSC) `MSCID ::= [PRIVATE 21] IMPLICIT OCTET STRING (SIZE (3))` Octets are encoded as specified in ANSI 41-D section 6.5.2.82.

origination-Triggers

Defines the origination trigger points that are currently active for the subscriber. `OriginationTriggers ::= [PRIVATE 98] IMPLICIT OCTET STRING (SIZE(4))` Octets are encoded as specified in ANSI 41-D section 6.5.2.90.

transaction-Capability

`TransactionCapability ::= [PRIVATE 123] IMPLICIT OCTET STRING (SIZE (2))` Octets are encoded as specified in ANSI 41-D section 6.5.2.160.

calling-Party-Number-Digits-1

This attribute specifies the network-provided calling party number information. `NumberDigits ::= OCTET STRING (SIZE (4..12))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Number-Digits-2

This attribute specifies the user-provided calling party number information. `NumberDigits ::= OCTET STRING (SIZE (4..12))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), page 102.

mobile-Directory-Number

Contains the mobile station's directory number, which may be different from its mobile identification number (MIN). `NumberDigits ::= OCTET STRING (SIZE (4..12))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

msc-Identification-Number

Indicates the identification number of an MSC sending a message. `NumberDigits ::= OCTET STRING (SIZE (4..12))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

one-Time-Feature-Indicator

`OneTimeFeatureIndicator ::= [PRIVATE 97] IMPLICIT OCTET STRING (SIZE (2))` Octets are encoded as specified in ANSI 41-D section 6.5.2.88.

pc-SSN

(Originating MSC) Specifies the ANSI SS7 Point Code (PC) and Subsystem Number (SSN) of a particular cellular functional entity. `PC_SSN ::= [PRIVATE 32] IMPLICIT OCTET STRING (SIZE (5))` Octets are encoded as follows:

- Octet 1 Encodes the system type and has one of the following values:

serving-msc

(`'MAP_T_SERVING_MSC'` '1')

home-msc

(`'MAP_T_HOME_MSC'` '2')

```

gateway-msc
    ('MAP_T_GATEWAY_MSC' '3')

hlr
    ('MAP_T_HLR' '4')

vlr
    ('MAP_T_VLR' '5')

eir
    ('MAP_T_EIR' '6')

ac
    ('MAP_T_AC' '7')

border-msc ('MAP_T_BORDER_MSC' '8')

originating-msc
    ('MAP_T_ORIGINATING_MSC' '9')

```

A value of zero indicates that the system type is unspecified.

- Octet 2 MTP Point Code member number.
- Octet 3 MTP Point Code cluster number.
- Octet 4 MTP Point Code network number.
- Octet 5 SCCP Subsystem Number (SSN).

sender-Identification-Number

`NumberDigits ::= OCTET STRING (SIZE (4..12))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

5.6.1.59 Origination-Request-Res

An instance of OM class **Origination-Request-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.437](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
access-Denied-Reason	Enum(Access-Denied-Reason)	—	0-1	—
announcement-List	Object(Announcement-List)	—	0-1	—
calling-Party-Number-String-1	String(Digits)	4-20	0-1	—
calling-Party-Number-String-2	String(Digits)	4-20	0-1	—
calling-Party-Subaddress	String(Subaddress)	1-21	0-1	—
carrier-Digits	String(Digits)	4-12	0-1	—
digits	String(Digits)	4-12	0-1	—
dmh-Account-Code-Digits	String(Digits)	4-12	0-1	—
dmh-Alternate-Billing-Digits	String(Digits)	4-12	0-1	—
dmh-Billing-Digits	String(Digits)	4-12	0-1	—
dmh-Redirection-Indicator	Enum(DMH-Redirection-Indicator)	—	0-1	—
group-Information	String(Octet)	4	0-1	—
mobile-Directory-Number	String(Digits)	4-12	0-1	—
no-Answer-Time	String(Octet)	1	0-1	—
one-Time-Feature-Indicator	String(Octet)	2	0-1	—
pilot-Number	String(Digits)	4-12	0-1	—
redirecting-Number-Digits	String(Digits)	4-12	0-1	—
redirecting-Number-String	String(Digits)	4-20	0-1	—
redirecting-Subaddress	String(Subaddress)	1-21	0-1	—
routing-Digits	String(Digits)	4-12	0-1	—
termination-List	Object(Termination-List)	—	0-1	—
termination-Triggers	String(Octet)	2	0-1	—

Table 5.437: OM Attributes of OM Class **Origination-Request-Res**

This OM class contains the following class-specific OM attributes:

access-Denied-Reason

An enumeration containing one of the following values:

unassigned-directory-number

(‘MAP_T_UNASSIGNED_DIRECTORY_NUMBER’ ‘1’)

inactive (‘MAP_T_INACTIVE’ ‘2’)

busy (‘MAP_T_BUSY’ ‘3’)

termination-denied

(‘MAP_T_TERMINATION_DENIED’ ‘4’)

no-page-response

(‘MAP_T_NO_PAGE_RESPONSE’ ‘5’)

unavailable (‘MAP_T_UNAVAILABLE’ ‘6’)

action-Code

An octet string containing the following values:

continue-processing

(‘MAP_T_CONTINUE_PROCESSING’ ‘1’)

disconnect-call
 ('MAP_T_DISCONNECT_CALL' '2')

disconnect-call-leg
 ('MAP_T_DISCONNECT_CALL_LEG' '3')

conference-calling-drop-last-party
 ('MAP_T_CONFERERENCE_CALLING_DROP_LAST_PARTY' '4')

bridge-call-legs-to-conference-call
 ('MAP_T_BRIDGE_CALL_LEGS_TO_CONFERERENCE_CALL' '5')

drop-call-leg-on-busy-or-routing-failure
 ('MAP_T_DROP_CALL_LEG_ON_BUSY_OR_ROUTING_FAILURE' '6')

disconnect-all-call-legs
 ('MAP_T_DISCONNECT_ALL_CALL_LEGS' '7')

announcement-List

This optional attribute is an instance of OM class **Announcement-List**. See [Section 5.6.2.1 \[Announcement-List\]](#), page 580.

calling-Party-Number-String-1

This attribute specifies the network-provided identification of the calling party. **NumberString** ::= OCTET STRING (SIZE (4..20)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Number-String-2

This attribute specifies the user-provided identification of the calling party. **NumberString** ::= OCTET STRING (SIZE (4..20)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), page 102.

carrier-Digits

This attribute specifies the preferred interexchange carrier for the call. Only specified for national usage. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

digits

(Dialed) **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Account-Code-Digits

Specifies the account code digits as dialed by a subscriber. The account code is defined between the subscriber and the home cellular service provider. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Alternate-Billing-Digits

Specifies a non-telephony billing number, such as a calling card number, credit card account number, debit card account code, etc. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Billing-Digits

Specifies the telephony billing number use for calls with special billing arrangements to identify the party to be billed, such as third party billing, calling card, etc. The

billing number must be a valid telephony number for billing the call. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Redirection-Indicator

An enumeration containing one of the following values:

- unspecified** ('MAP_T_REDIRECTION_UNSPECIFIED' '1') The type of redirection is not defined in ANSI 41-D.
- cfu** ('MAP_T_CFU' '1') The call was redirected for call forwarding unconditional.
- cfb** ('MAP_T_CFB' '2') The call was redirected for call forwarding busy.
- cfna** ('MAP_T_CFNA' '3') The call was redirected for call forwarding no answer.
- cfo** ('MAP_T_CFO' '4') The call was redirected for call forwarding other.
- cd-unspecified** ('MAP_T_CD_UNSPECIFIED' '5') The call was redirected for call delivery via an unspecified network.
- cd-pstn** ('MAP_T_PSTN' '6') The call was redirected for call delivery via the PSTN.
- cd-private** ('MAP_T_CD_PRIVATE' '7') The call was redirected for call delivery via private facilities.
- pstn-tandem** ('MAP_T_PSTN_TANDEM' '8') The call was routed as a PSTN tandem call.
- private-tandem** ('MAP_T_PRIVATE_TANDEM' '9') The call was routed as a private facility tandem call.
- busy** ('MAP_T_BUSY' '10') The call was redirected because the addressed subscriber was busy.
- inactive** ('MAP_T_INACTIVE' '11') The call was redirected because the addressed subscriber was inactive.
- unassigned** ('MAP_T_UNASSIGNED' '12') The call was redirected because the addressed directory number was unassigned.
- termination-denied** ('MAP_T_TERMINATION_DENIED' '13') The call was redirected because termination was denied.
- cd-failure** ('MAP_T_CD_FAILURE' '14') The call was redirected because of call delivery failure.
- ect** ('MAP_T_ECT' '15') The call was redirected because of explicit call transfer.
- mah** ('MAP_T_MAH' '16') The call was redirected for mobile access hunting call delivery attempt.
- fa** ('MAP_T_FA' '17') The call was redirected for flexible alerting call delivery attempt.

abandoned-call-leg

(‘MAP_T_ABANDONED_CALL_LEG’ ‘18’) The call was redirected because a call leg was abandoned.

pca-call-refused

(‘MAP_T_PCA_CALL_REFUSED’ ‘19’) Password call acceptance call was refused.

sca-call-refused

(‘MAP_T_SCA_CALL_REFUSED’ ‘20’) Selective call acceptance call was refused.

dialogue (‘MAP_T_DIALOGUE’ ‘21’)

cfld (‘MAP_T_CFD’ ‘22’) The call was redirected for call forwarding default.

cd-local (‘MAP_T_CD_LOCAL’ ‘23’) The call was redirected for call delivery locally.

voice-mail-retrieval

(‘MAP_T_VOICE_MAIL_RETRIEVAL’ ‘24’) The call was redirected for voice mail retrieval.

group-Information

GroupInformation ::= [PRIVATE 163] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.69.

mobile-Directory-Number

Contains the mobile station’s directory number, which may be different from its mobile identification number (MIN). **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

no-Answer-Time

NoAnswerTime ::= [PRIVATE 96] IMPLICIT OCTET STRING (SIZE (1)) Octets encode the interval, in seconds, to wait after alerting an MS or after seizing an outgoing trunk before no-answer treatment is supplied. See ANSI 41-D section 6.5.2.87.

one-Time-Feature-Indicator

OneTimeFeatureIndicator ::= [PRIVATE 97] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.88.

pilot-Number

Contains the pilot directory number for a multileg call. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

redirecting-Number-Digits

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

redirecting-Number-String

NumberString ::= OCTET STRING (SIZE (4..20)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

redirecting-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), [page 102](#).

routing-Digits

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

termination-List

This optional attribute is an instance of OM class **Termination-List**. See [Section 5.6.2.13 \[Termination-List\]](#), page 589.

termination-Triggers

TerminationTriggers ::= [PRIVATE 122] IMPLICIT OCTET STRING (SIZE (2))
Octets are encoded as specified in ANSI 41-D section 6.5.2.159.

5.6.1.60 Qualitification-Directive-Arg

An instance of OM class **Qualitification-Directive-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.438](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
electronic-Serial-Number	String(Octet)	4	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
qualification-Information-Code	Enum(Qualification-Information-Code)	—	1	—
system-My-Type-Code	Enum(System-My-Type-Code)	—	1	—
authorization-Denied	Enum(Authorization-Denied)	—	0-1	—
authorization-Period	String(Octet)	2	0-1	—
denied-Authorization-Period	String(Octet)	2	0-1	—
digits	String(Digits)	4-12	0-1	—
digits	String(Digits)	4-12	0-1	—
location-Area-ID	String(Octet)	2	0-1	—
<i>Profile</i>				
authentication-Capability	String(Octet)	1	0-1	—
calling-Features-Indicator	String(Octet)	2-4	0-1	—
carrier-Digits	String(Digits)	4-12	0-1	—
dmh-Account-Code-Digits	String(Digits)	4-12	0-1	—
dmh-Alternate-Billing-Digits	String(Digits)	4-12	0-1	—
dmh-Billing-Digits	String(Digits)	4-12	0-1	—
geographic-Authorization	String(Octet)	1	0-1	—
message-Waiting-Notification-Count	String(Octet)	2,4,...	0-1	—
message-Waiting-Notification-Type	String(Octet)	1	0-1	—
redirecting-Number-String	String(Digits)	4-20	0-1	—
mobile-Directory-Number	String(Digits)	4-12	0-1	—
origination-Indicator	Enum(Origination-Indicator)	—	0-1	—
origination-Triggers	String(Octet)	4	0-1	—
paca-Indicator	String(Octet)	1	0-1	—
preferred-Language-Indicator	String(Octet)	1	0-1	—
restriction-Digits	String(Digits)	4-12	0-1	—
routing-Digits	String(Digits)	4-12	0-1	—
sms-Origination-Restrictions	String(Octet)	1	0-1	—
sms-Termination-Restrictions	String(Octet)	1	0-1	—
spini-PIN	String(Digits)	4-12	0-1	—
spini-Triggers	String(Octet)	4	0-1	—
termination-Restriction-Code	Enum(Termination-Restriction-Code)	—	0-1	—
termination-Triggers	String(Octet)	2	0-1	—
sender-Identification-Number	String(Digits)	4-12	0-1	—

Table 5.438: OM Attributes of OM Class **Qualitification-Directive-Arg**

This OM class contains the following class-specific OM attributes:

electronic-Serial-Number

```
ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
Octets are encoded as specified in ANSI 41-D section 6.5.2.63.
```

mobile-Identification-Number

Specifies the 10-digit representaiton of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. `MobileIdentificationNumber ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5))` Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

qualification-Information-Code

Indicates the type of qualification required. An enumeration containing one of the following values:

no-information

(`'MAP_T_NO_INFORMATION' '1'`)

validation-only

(`'MAP_T_VALIDATION_ONLY' '2'`)

validation-and-profile

(`'MAP_T_VALIDATION_AND_PROFILE' '3'`)

profile-only (`'MAP_T_PROFILE_ONLY' '4'`)*system-My-Type-Code*

(HLR or VLR) `SystemMyTypeCode ::= [PRIVATE 22] IMPLICIT OCTET STRING (SIZE (1))` An enumeration containing one of the following values:

eds (`'MAP_T_EDS' '1'`)

astronet (`'MAP_T_ASTRONET' '2'`)

lucent (`'MAP_T_LUCENT' '3'`)

ericsson (`'MAP_T_ERICSSON' '4'`)

gte (`'MAP_T_GTE' '5'`)

motorola (`'MAP_T_MOTOROLA' '6'`)

nec (`'MAP_T_NEC' '7'`)

nortel (`'MAP_T_NORTEL' '8'`)

novatel (`'MAP_T_NOVATEL' '9'`)

lexsys (`'MAP_T_LEXSYS' '10'`)

digital (`'MAP_T_DIGITAL' '11'`)

inet (`'MAP_T_INET' '12'`)

bellcore (`'MAP_T_BELLCORE' '13'`)

alcatel (`'MAP_T_ALCATEL' '14'`)

tandem (`'MAP_T_TANDEM' '15'`)

qualcomm (`'MAP_T_QUALCOMM' '16'`)

aldiscon (`'MAP_T_ALDISCON' '17'`)

celcore (`'MAP_T_CELCORE' '18'`)

```

telos          ('MAP_T_TELOS' '19')
stanilite     ('MAP_T_STANILITE' '20')
coral         ('MAP_T_CORAL' '21')
synacom      ('MAP_T_SYNACOM' '22')
dsc          ('MAP_T_DSC' '23')
mci          ('MAP_T_MCI' '24')
newnet       ('MAP_T_NEWNET' '25')
sema         ('MAP_T_SEMA' '26')
lg          ('MAP_T_LG' '27')
cbis        ('MAP_T_CBIS' '28')
seimens     ('MAP_T_SEIMENS' '29')

```

authorization-Denied

An enumeration containing one of the following values:

```

delinquent-account
    ('MAP_T_DELINQUENT_ACCOUNT' '1')

invalid-serial-number
    ('MAP_T_INVALID_SERIAL_NUMBER' '2')

stolen-unit ('MAP_T_STOLEN_UNIT' '3')

duplicate-unit
    ('MAP_T_DUPLICATE_UNIT' '4')

unassigned-directory-number
    ('MAP_T_UNASSIGNED_DIRECTORY_NUMBER' '5')

unspecified ('MAP_T_UNSPECIFIED' '6')

multiple-access
    ('MAP_T_MULTIPLE_ACCESS' '7')

not-authorized-for-the-msc
    ('MAP_T_NOT_AUTHORIZED_FOR_THE_MSC' '8')

missing-authentication-parameters
    ('MAP_T_MISSING_AUTHENTICATION_PARAMETERS' '9')

terminal-type-mismatch
    ('MAP_T_TERMINAL_TYPE_MISMATCH' '10')

```

authorization-Period

AuthorizationPeriod = OCTET STRING (SIZE (2)) Octets are coded as specified in ANSI 41-D section 6.5.2.14.

denied-Authorization-Period

DeniedAuthorizationPeriod ::= [PRIVATE 167] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.53.

digits (Carrier) **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

digits (Destination) **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

location-Area-ID

LocationAreaID ::= [PRIVATE 33] IMPLICIT OCTET STRING (SIZE (2)) Octets encode the location area id, most significant octet first, and least significant octet second. See ANSI 41-D section 6.5.2.77.

profile **Macro**

authentication-Capability

Indicates whether a mobile station shall or shall not be authenticated. **AuthenticationCapability** ::= [PRIVATE 78] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.3.8.

calling-Features-Indicator

Defines the authorization and activity states of the mobile stations' features. **CallingFeaturesIndicator** ::= [PRIVATE 25] IMPLICIT OCTET STRING (SIZE (2..4)) Octets are encoded as specified in ANSI 41-D section 6.5.3.20.

carrier-Digits

This attribute specifies the preferred interexchange carrier for the call. Only specified for national usage. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Account-Code-Digits

Specifies the account code digits as dialed by a subscriber. The account code is defined between the subscriber and the home cellular service provider. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Alternate-Billing-Digits

Specifies a non-telephony billing number, such as a calling card number, credit card account number, debit card account code, etc. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Billing-Digits

Specifies the telephony billing number use for calls with special billing arrangements to identify the party to be billed, such as third party billing, calling card, etc. The billing number must be a valid telephony number for billing the call. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

geographic-Authorization

Indicates the geographic authorization capability of a mobile station. **GeographicAuthorization** ::= [PRIVATE 143] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section

6.5.3.68. The octet can have one of the following (non-exhaustive) values:

authorized-for-all-market-ids-served-by-the-vlr

(‘MAP_T_AUTHORIZED_FOR_ALL_MARKET_IDS_SERVED_BY_THE_VLR’
‘1’)

authorized-for-this-market-id-only

(‘MAP_T_AUTHORIZED_FOR_THIS_MARKET_ID_ONLY’ ‘2’)

authorized-for-this-market-id-and-switch-number-only

(‘MAP_T_AUTHORIZED_FOR_THIS_MARKET_ID_AND_SWITCH_NUMBER_ONLY’
‘3’)

authorized-for-this-location-area-id-within-a-marked-id-only

(‘MAP_T_AUTHORIZED_FOR_THIS_LOCATION_AREA_ID_WITHIN_A_MARKED_ID_ONLY’
‘4’)

message-Waiting-Notification-Count

MessageWaitingNotificationCount ::= [PRIVATE 92] IMPLICIT
OCTET STRING (SIZE (2|4|..)) Octets encode the type of messages in
the first octet and the number of messages waiting in the second octets
(possibly zero). Multiple pairs of octets can occur. The first octet can
have values:

voice-messages

(‘MAP_T_VOICE_MESSAGES’ ‘0’)

short-message-service-messages

(‘MAP_T_SHORT_MESSAGE_SERVICE_MESSAGES’ ‘1’)

group-3-fax-messages

(‘MAP_T_GROUP_3_FAX_MESSAGES’ ‘2’)

message-Waiting-Notification-Type

Used to convey the subscriber’s message waiting notification options to the
serving system. **MessageWaitingNotificationType** ::= [PRIVATE 145]
IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in
ANSI 41-D section 6.5.3.79.

redirecting-Number-String

NumberString ::= OCTET STRING (SIZE (4..20)) Octets are encoded as
described in ANSI 41-D section 6.5.3.2.

mobile-Directory-Number

Contains the mobile station’s directory number, which may be different
from its mobile identification number (MIN). **NumberDigits** ::= OCTET
STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D
section 6.5.3.2.

origination-Indicator

Defines the type of calls the mobile station is allowed to originate. An
enumeration containing one of the following values:

prior-agreement

(‘MAP_T_PRIOR_AGREEMENT’ ‘1’)

origination-denied

('MAP_T_ORIGINATION_DENIED' '2')

local-calls-only

('MAP_T_LOCAL_CALLS_ONLY' '3')

selected-leading-digits-of-directory-number

('MAP_T_SELECTED_LEADING_DIGITS_OF_DIRECTORY_NUMBER' '4')

selected-leading-digits-of-directory-number-and-local-calls-only

('MAP_T_SELECTED_LEADING_DIGITS_OF_DIRECTORY_NUMBER_AND_LOCAL_CALLS' '5')

national-long-distance

('MAP_T_NATIONAL_LONG_DISTANCE' '6')

international-calls

('MAP_T_INTERNATIONAL_CALLS' '7')

single-directory-number

('MAP_T_SINGLE_DIRECTORY_NUMBER' '8')

origination-Triggers

Defines the origination trigger points that are currently active for the subscriber. **OriginationTriggers** ::= [PRIVATE 98] IMPLICIT OCTET STRING (SIZE(4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.90.

paca-Indicator

Indicates the priority access and channel assignment (PACA) permanent activation status and priority level assigned to the subscriber. **PACAIndicator** ::= [PRIVATE 146] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.91.

preferred-Language-Indicator

Indicates the preferred language feature activity status and language associated with the subscriber. **PreferredLanguageIndicator** ::= [PRIVATE 147] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.96. The octet may assume one of the following (non-exhaustive) values:

unspecified ('MAP_T_LANGUAGE_UNSPECIFIED' '0')**english** ('MAP_T_ENGLISH' '1')**french** ('MAP_T_FRENCH' '2')**spanish** ('MAP_T_SPANISH' '3')**german** ('MAP_T_GERMAN' '4')**portuguese** ('MAP_T_PORTUGUESE' '5')*restriction-Digits*

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

routing-Digits

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

sms-Origination-Restrictions

SMS-OriginationRestrictions ::= [PRIVATE 115] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.3.136.

sms-Termination-Restrictions

SMS-TerminationRestrictions ::= [PRIVATE 117] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.3.138.

spini-PIN

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

spini-Triggers

SPINITriggers ::= [PRIVATE 155] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.3.140.

termination-Restriction-Code

An enumeration containing one of the following values:

termination-denied

(‘MAP_T_TERMINATION_DENIED’ ‘1’)

unrestricted

(‘MAP_T_UNRESTRICTED’ ‘1’)

treatment-unspecified

(‘MAP_T_TREATMENT_UNSPECIFIED’ ‘1’)

termination-Triggers

TerminationTriggers ::= [PRIVATE 122] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.159.

sender-Identification-Number

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

5.6.1.61 Qualitification-Directive-Res

An instance of OM class **Qualitification-Directive-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*; it defines no attributes of its own.

5.6.1.62 Qualification-Request-Arg

An instance of OM class **Qualification-Request-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20](#)

[[Service-req\(\)](#)], [page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), [page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.439](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
electronic-Serial-Number	String(Octet)	4	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
qualification-Information-Code	Enum(Qualification-Information-Code)	—	1	—
system-My-Type-Code	Enum(System-My-Type-Code)	—	1	—
mscid	String(Octet)	3	0-1	—
sender-Identification-Number	String(Digits)	4-12	0-1	—
system-Access-Type	Enum(System-Access-Type)	—	0-1	—
transaction-Capability	String(Octet)	2	0-1	—

Table 5.439: OM Attributes of OM Class **Qualification-Request-Arg**

This OM class contains the following class-specific OM attributes:

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

mobile-Identification-Number

Specifies the 10-digit representation of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), [page 83](#). **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

qualification-Information-Code

Indicates the type of qualification required. An enumeration containing one of the following values:

no-information

(‘MAP_T_NO_INFORMATION’ ‘1’)

validation-only

(‘MAP_T_VALIDATION_ONLY’ ‘2’)

validation-and-profile

(‘MAP_T_VALIDATION_AND_PROFILE’ ‘3’)

profile-only

(‘MAP_T_PROFILE_ONLY’ ‘4’)

system-My-Type-Code

(MSC or VLR) **SystemMyTypeCode** ::= [PRIVATE 22] IMPLICIT OCTET STRING (SIZE (1)) An enumeration containing one of the following values:

eds (‘MAP_T_EDS’ ‘1’)

astronet (‘MAP_T_ASTRONET’ ‘2’)

lucent (‘MAP_T_LUCENT’ ‘3’)

ericsson ('MAP_T_ERICSSON' '4')
gte ('MAP_T_GTE' '5')
motorola ('MAP_T_MOTOROLA' '6')
nec ('MAP_T_NEC' '7')
nortel ('MAP_T_NORTEL' '8')
novatel ('MAP_T_NOVATEL' '9')
lexsys ('MAP_T_LEXSYS' '10')
digital ('MAP_T_DIGITAL' '11')
inet ('MAP_T_INET' '12')
bellcore ('MAP_T_BELLCORE' '13')
alcatel ('MAP_T_ALCATEL' '14')
tandem ('MAP_T_TANDEM' '15')
qualcomm ('MAP_T_QUALCOMM' '16')
aldiscon ('MAP_T_ALDISCON' '17')
celcore ('MAP_T_CELCORE' '18')
telos ('MAP_T_TELOS' '19')
stanilite ('MAP_T_STANILITE' '20')
coral ('MAP_T_CORAL' '21')
synacom ('MAP_T_SYNACOM' '22')
dsc ('MAP_T_DSC' '23')
mci ('MAP_T_MCI' '24')
newnet ('MAP_T_NEWNET' '25')
sema ('MAP_T_SEMA' '26')
lg ('MAP_T_LG' '27')
cbis ('MAP_T_CBIS' '28')
seimens ('MAP_T_SEIMENS' '29')

mscid (Serving MSC or Originating MSC) MSCID ::= [PRIVATE 21] IMPLICIT OCTET STRING (SIZE (3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.82.

sender-Identification-Number

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

system-Access-Type

An enumeration containing one of the following values:

unspecified ('MAP_T_UNSPECIFIED' '1')

flash-request
 ('MAP_T_FLASH_REQUEST' '1')

autonomous-registration
 ('MAP_T_AUTONOMOUS_REGISTRATION' '1')

call-origination
 ('MAP_T_CALL_ORIGINATION' '1')

page-response
 ('MAP_T_PAGE_RESPONSE' '1')

no-access ('MAP_T_NO_ACCESS' '1')

power-down-registration
 ('MAP_T_POWER_DOWN_REGISTRATION' '1')

sms-page-response
 ('MAP_T_SMS_PAGE_RESPONSE' '1')

transaction-Capability

TransactionCapability ::= [PRIVATE 123] IMPLICIT OCTET STRING (SIZE (2))
 Octets are encoded as specified in ANSI 41-D section 6.5.2.160.

5.6.1.63 Qualification-Request-Res

An instance of OM class **Qualification-Request-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.440](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
system-My-Type-Code	Enum(System-My-Type-Code)	—	1	—
authorization-Denied	Enum(Authorization-Denied)	—	0-1	—
authorization-Period	String(Octet)	2	0-1	—
denied-Authorization-Period	String(Octet)	2	0-1	—
digits	String(Digits)	4-12	0-1	—
digits	String(Digits)	4-12	0-1	—
mscid	String(Octet)	3	0-1	—
<i>Profile</i>				
authentication-Capability	String(Octet)	1	0-1	—
calling-Features-Indicator	String(Octet)	2-4	0-1	—
carrier-Digits	String(Digits)	4-12	0-1	—
dmh-Account-Code-Digits	String(Digits)	4-12	0-1	—
dmh-Alternate-Billing-Digits	String(Digits)	4-12	0-1	—
dmh-Billing-Digits	String(Digits)	4-12	0-1	—
geographic-Authorization	String(Octet)	1	0-1	—
message-Waiting-Notification-Count	String(Octet)	2,4,...	0-1	—
message-Waiting-Notification-Type	String(Octet)	1	0-1	—
redirecting-Number-String	String(Digits)	4-20	0-1	—
mobile-Directory-Number	String(Digits)	4-12	0-1	—
origination-Indicator	Enum(Origination-Indicator)	—	0-1	—
origination-Triggers	String(Octet)	4	0-1	—
paca-Indicator	String(Octet)	1	0-1	—
preferred-Language-Indicator	String(Octet)	1	0-1	—
restriction-Digits	String(Digits)	4-12	0-1	—
routing-Digits	String(Digits)	4-12	0-1	—
sms-Origination-Restrictions	String(Octet)	1	0-1	—
sms-Termination-Restrictions	String(Octet)	1	0-1	—
spini-PIN	String(Digits)	4-12	0-1	—
spini-Triggers	String(Octet)	4	0-1	—
termination-Restriction-Code	Enum(Termination-Restriction-Code)	—	0-1	—
termination-Triggers	String(Octet)	2	0-1	—

Table 5.440: OM Attributes of OM Class **Qualification-Request-Res**

This OM class contains the following class-specific OM attributes:

system-My-Type-Code

(VLR or HLR) **SystemMyTypeCode** ::= [PRIVATE 22] IMPLICIT OCTET STRING (SIZE (1)) An enumeration containing one of the following values:

eds ('MAP_T_EDS' '1')
astronet ('MAP_T_ASTRONET' '2')
lucent ('MAP_T_LUCENT' '3')
ericsson ('MAP_T_ERICSSON' '4')
gte ('MAP_T_GTE' '5')

motorola	(‘MAP_T_MOTOROLA’ ‘6’)
nec	(‘MAP_T_NEC’ ‘7’)
nortel	(‘MAP_T_NORTEL’ ‘8’)
novatel	(‘MAP_T_NOVATEL’ ‘9’)
lexsys	(‘MAP_T_LEXSYS’ ‘10’)
digital	(‘MAP_T_DIGITAL’ ‘11’)
inet	(‘MAP_T_INET’ ‘12’)
bellcore	(‘MAP_T_BELLCORE’ ‘13’)
alcatel	(‘MAP_T_ALCATEL’ ‘14’)
tandem	(‘MAP_T_TANDEM’ ‘15’)
qualcomm	(‘MAP_T_QUALCOMM’ ‘16’)
aldiscon	(‘MAP_T_ALDISCON’ ‘17’)
celcore	(‘MAP_T_CELCORE’ ‘18’)
telos	(‘MAP_T_TELOS’ ‘19’)
stanilite	(‘MAP_T_STANILITE’ ‘20’)
coral	(‘MAP_T_CORAL’ ‘21’)
synacom	(‘MAP_T_SYNACOM’ ‘22’)
dsc	(‘MAP_T_DSC’ ‘23’)
mci	(‘MAP_T_MCI’ ‘24’)
newnet	(‘MAP_T_NEWNET’ ‘25’)
sema	(‘MAP_T_SEMA’ ‘26’)
lg	(‘MAP_T_LG’ ‘27’)
cbis	(‘MAP_T_CBIS’ ‘28’)
seimens	(‘MAP_T_SEIMENS’ ‘29’)

authorization-Denied

An enumeration containing one of the following values:

delinquent-account	(‘MAP_T_DELINQUENT_ACCOUNT’ ‘1’)
invalid-serial-number	(‘MAP_T_INVALID_SERIAL_NUMBER’ ‘2’)
stolen-unit	(‘MAP_T_STOLEN_UNIT’ ‘3’)
duplicate-unit	(‘MAP_T_DUPLICATE_UNIT’ ‘4’)
unassigned-directory-number	(‘MAP_T_UNASSIGNED_DIRECTORY_NUMBER’ ‘5’)

unspecified ('MAP_T_UNSPECIFIED' '6')

multiple-access
('MAP_T_MULTIPLE_ACCESS' '7')

not-authorized-for-the-msc
('MAP_T_NOT_AUTHORIZED_FOR_THE_MSC' '8')

missing-authentication-parameters
('MAP_T_MISSING_AUTHENTICATION_PARAMETERS' '9')

terminal-type-mismatch
('MAP_T_TERMINAL_TYPE_MISMATCH' '10')

authorization-Period

AuthorizationPeriod = OCTET STRING (SIZE (2)) Octets are coded as specified in ANSI 41-D section 6.5.2.14.

denied-Authorization-Period

DeniedAuthorizationPeriod ::= [PRIVATE 167] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.53.

digits (Carrier) **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

digits (Destination) **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

mscid (HLR) **MSCID** ::= [PRIVATE 21] IMPLICIT OCTET STRING (SIZE (3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.82.

profile ****Macro****

authentication-Capability

Indicates whether a mobile station shall or shall not be authenticated.
AuthenticationCapability ::= [PRIVATE 78] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.3.8.

calling-Features-Indicator

Defines the authorization and activity states of the mobile stations' features. **CallingFeaturesIndicator** ::= [PRIVATE 25] IMPLICIT OCTET STRING (SIZE (2..4)) Octets are encoded as specified in ANSI 41-D section 6.5.3.20.

carrier-Digits

This attribute specifies the preferred interexchange carrier for the call. Only specified for national usage. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Account-Code-Digits

Specifies the account code digits as dialed by a subscriber. The account code is defined between the subscriber and the home cellular service provider. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Alternate-Billing-Digits

Specifies a non-telephony billing number, such as a calling card number, credit card account number, debit card account code, etc. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Billing-Digits

Specifies the telephony billing number use for calls with special billing arrangements to identify the party to be billed, such as third party billing, calling card, etc. The billing number must be a valid telephony number for billing the call. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

geographic-Authorization

Indicates the geographic authorization capability of a mobile station. **GeographicAuthorization** ::= [PRIVATE 143] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.3.68. The octet can have one of the following (non-exhaustive) values:

authorized-for-all-market-ids-served-by-the-vlr

(‘MAP_T_AUTHORIZED_FOR_ALL_MARKET_IDS_SERVED_BY_THE_VLR’ ‘1’)

authorized-for-this-market-id-only

(‘MAP_T_AUTHORIZED_FOR_THIS_MARKET_ID_ONLY’ ‘2’)

authorized-for-this-market-id-and-switch-number-only

(‘MAP_T_AUTHORIZED_FOR_THIS_MARKET_ID_AND_SWITCH_NUMBER_ONLY’ ‘3’)

authorized-for-this-location-area-id-within-a-marked-id-only

(‘MAP_T_AUTHORIZED_FOR_THIS_LOCATION_AREA_ID_WITHIN_A_MARKED_ID_ONLY’ ‘4’)

message-Waiting-Notification-Count

MessageWaitingNotificationCount ::= [PRIVATE 92] IMPLICIT OCTET STRING (SIZE (2|4|..)) Octets encode the type of messages in the first octet and the number of messages waiting in the second octets (possibly zero). Multiple pairs of octets can occur. The first octet can have values:

voice-messages

(‘MAP_T_VOICE_MESSAGES’ ‘0’)

short-message-service-messages

(‘MAP_T_SHORT_MESSAGE_SERVICE_MESSAGES’ ‘1’)

group-3-fax-messages

(‘MAP_T_GROUP_3_FAX_MESSAGES’ ‘2’)

message-Waiting-Notification-Type

Used to convey the subscriber’s message waiting notification options to the serving system. **MessageWaitingNotificationType** ::= [PRIVATE 145] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.3.79.

redirecting-Number-String

NumberString ::= OCTET STRING (SIZE (4..20)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

mobile-Directory-Number

Contains the mobile station's directory number, which may be different from its mobile identification number (MIN). **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

origination-Indicator

Defines the type of calls the mobile station is allowed to originate. An enumeration containing one of the following values:

prior-agreement

(**'MAP_T_PRIOR_AGREEMENT'** **'1'**)

origination-denied

(**'MAP_T_ORIGINATION_DENIED'** **'2'**)

local-calls-only

(**'MAP_T_LOCAL_CALLS_ONLY'** **'3'**)

selected-leading-digits-of-directory-number

(**'MAP_T_SELECTED_LEADING_DIGITS_OF_DIRECTORY_NUMBER'** **'4'**)

selected-leading-digits-of-directory-number-and-local-calls-only

(**'MAP_T_SELECTED_LEADING_DIGITS_OF_DIRECTORY_NUMBER_AND_LOCAL_CALLS'** **'5'**)

national-long-distance

(**'MAP_T_NATIONAL_LONG_DISTANCE'** **'6'**)

international-calls

(**'MAP_T_INTERNATIONAL_CALLS'** **'7'**)

single-directory-number

(**'MAP_T_SINGLE_DIRECTORY_NUMBER'** **'8'**)

origination-Triggers

Defines the origination trigger points that are currently active for the subscriber. **OriginationTriggers** ::= [PRIVATE 98] IMPLICIT OCTET STRING (SIZE(4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.90.

paca-Indicator

Indicates the priority access and channel assignment (PACA) permanent activation status and priority level assigned to the subscriber. **PACAIndicator** ::= [PRIVATE 146] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.91.

preferred-Language-Indicator

Indicates the preferred language feature activity status and language associated with the subscriber. **PreferredLanguageIndicator** ::= [PRIVATE 147] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded

as specified in ANSI 41-D section 6.5.2.96. The octet may assume one of the following (non-exhaustive) values:

unspecified ('MAP_T_LANGUAGE_UNSPECIFIED' '0')

english ('MAP_T_ENGLISH' '1')

french ('MAP_T_FRENCH' '2')

spanish ('MAP_T_SPANISH' '3')

german ('MAP_T_GERMAN' '4')

portuguese ('MAP_T_PORTUGUESE' '5')

restriction-Digits

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

routing-Digits

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

sms-Origination-Restrictions

SMS-OriginationRestrictions ::= [PRIVATE 115] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.3.136.

sms-Termination-Restrictions

SMS-TerminationRestrictions ::= [PRIVATE 117] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.3.138.

spini-PIN

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

spini-Triggers

SPINITriggers ::= [PRIVATE 155] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.3.140.

termination-Restriction-Code

An enumeration containing one of the following values:

termination-denied

('MAP_T_TERMINATION_DENIED' '1')

unrestricted

('MAP_T_UNRESTRICTED' '1')

treatment-unspecified

('MAP_T_TREATMENT_UNSPECIFIED' '1')

termination-Triggers

TerminationTriggers ::= [PRIVATE 122] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.159.

5.6.1.64 Random-Variable-Request-Arg

An instance of OM class **Random-Variable-Request-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.441](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
mscid	String(Octet)	3	1	—
randc	String(Octet)	1	1	—
serving-Cell-ID	String(Octet)	2	1	—

Table 5.441: OM Attributes of OM Class **Random-Variable-Request-Arg**

This OM class contains the following class-specific OM attributes:

mscid MSCID ::= [PRIVATE 21] IMPLICIT OCTET STRING (SIZE (3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.82.

randc Indicates which random variable was used by the mobile station to compute the authentication response. RANDC ::= [PRIVATE 99] IMPLICIT OCTET STRING (SIZE (1)) Octets contain the 8 most significant bits of the 32-bit random variable used to compute the authentication response. Octets are encoded as specified in ANSI 41-D section 6.5.2.100.

serving-Cell-ID Specifies the ID of the serving cell site to be used in this transaction. **ServingCellID** ::= [PRIVATE 2] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded with the 16-bit cell identifier, most significant byte first. See ANSI 41-D section 6.5.2.117.

5.6.1.65 Random-Variable-Request-Res

An instance of OM class **Random-Variable-Request-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.442](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
random-Variable	String(Octet)	4	0-1	—
rand-Valid-Time	String(Octet)	1	0-1	—

Table 5.442: OM Attributes of OM Class **Random-Variable-Request-Res**

This OM class contains the following class-specific OM attributes:

random-Variable

Contains a 32-bit random number that is used as input to the CAVE algorithm for mobile station authentication, signaling message encryption and digital channel voice privacy. The random number is chosen by the serving MSC. **RandomVariable** ::= [PRIVATE 40] IMPLICIT OCTET STRING (SIZE (4)) Octets are coded most significant byte first. See ANSI 41-D section 6.5.2.101.

rand-Valid-Time

RANDValidTime ::= [PRIVATE 148] IMPLICIT OCTET STRING (SIZE (1)) Octets contain the number of minutes for which the associated received RAND is to be used. An octet value of zero indicates that the RAND shall not be stored. See ANSI 41-D section 6.5.2.105.

5.6.1.66 Redirection-Directive-Arg

An instance of OM class **Redirection-Directive-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.443](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
billing-ID	String(Octet)	7	1	—
digits	String(Digits)	4-12	1	—
electronic-Serial-Number	String(Octet)	4	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
system-My-Type-Code	Enum(System-My-Type-Code)	—	1	—
digits	String(Digits)	4-12	0-1	—
dmh-Account-Code-Digits	String(Digits)	4-12	0-1	—
dmh-Alternate-Billing-Digits	String(Digits)	4-12	0-1	—
dmh-Billing-Digits	String(Digits)	4-12	0-1	—
msc-Identification-Number	String(Digits)	4-12	0-1	—
redirecting-Number-String	String(Digits)	4-20	0-1	—
redirecting-Subaddress	String(Subaddress)	1-21	0-1	—
sender-Identification-Number	String(Digits)	4-12	0-1	—

Table 5.443: OM Attributes of OM Class **Redirection-Directive-Arg**

This OM class contains the following class-specific OM attributes:

billing-ID **BillingID** ::= OCTET STRING (SIZE (7)) Octets are encoded as specified in ANSI 41-D section 6.5.2.16.

digits (Destination) **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

mobile-Identification-Number

Specifies the 10-digit representaiton of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. `MobileIdentificationNumber ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5))` Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

system-My-Type-Code

(MSC) `SystemMyTypeCode ::= [PRIVATE 22] IMPLICIT OCTET STRING (SIZE (1))`

An enumeration containing one of the following values:

eds	(<code>'MAP_T_EDS' '1'</code>)
astronet	(<code>'MAP_T_ASTRONET' '2'</code>)
lucent	(<code>'MAP_T_LUCENT' '3'</code>)
ericsson	(<code>'MAP_T_ERICSSON' '4'</code>)
gte	(<code>'MAP_T_GTE' '5'</code>)
motorola	(<code>'MAP_T_MOTOROLA' '6'</code>)
nec	(<code>'MAP_T_NEC' '7'</code>)
nortel	(<code>'MAP_T_NORTEL' '8'</code>)
novatel	(<code>'MAP_T_NOVATEL' '9'</code>)
lexsys	(<code>'MAP_T_LEXSYS' '10'</code>)
digital	(<code>'MAP_T_DIGITAL' '11'</code>)
inet	(<code>'MAP_T_INET' '12'</code>)
bellcore	(<code>'MAP_T_BELLCORE' '13'</code>)
alcatel	(<code>'MAP_T_ALCATEL' '14'</code>)
tandem	(<code>'MAP_T_TANDEM' '15'</code>)
qualcomm	(<code>'MAP_T_QUALCOMM' '16'</code>)
aldiscon	(<code>'MAP_T_ALDISCON' '17'</code>)
celcore	(<code>'MAP_T_CELCORE' '18'</code>)
telos	(<code>'MAP_T_TELOS' '19'</code>)
stanilite	(<code>'MAP_T_STANILITE' '20'</code>)
coral	(<code>'MAP_T_CORAL' '21'</code>)
synacom	(<code>'MAP_T_SYNACOM' '22'</code>)
dsc	(<code>'MAP_T_DSC' '23'</code>)
mci	(<code>'MAP_T_MCI' '24'</code>)
newnet	(<code>'MAP_T_NEWNET' '25'</code>)
sema	(<code>'MAP_T_SEMA' '26'</code>)
lg	(<code>'MAP_T_LG' '27'</code>)

cbis	(‘MAP_T_CBIS’ ‘28’)
seimens	(‘MAP_T_SEIMENS’ ‘29’)
<i>digits</i>	(Carrier) NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.
<i>dmh-Account-Code-Digits</i>	Specifies the account code digits as dialed by a subscriber. The account code is defined between the subscriber and the home cellular service provider. NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.
<i>dmh-Alternate-Billing-Digits</i>	Specifies a non-telephony billing number, such as a calling card number, credit card account number, debit card account code, etc. NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.
<i>dmh-Billing-Digits</i>	Specifies the telephony billing number use for calls with special billing arrangements to identify the party to be billed, such as third party billing, calling card, etc. The billing number must be a valid telphony number for billing the call. NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.
<i>msc-Identification-Number</i>	Indicates the identification number of an MSC sending a message. NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.
<i>redirecting-Number-String</i>	NumberString ::= OCTET STRING (SIZE (4..20)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.
<i>redirecting-Subaddress</i>	This attribute is of syntax <i>String(Subaddress)</i> . See Section 5.3.2 [String(Subaddress)] , page 102 .
<i>sender-Identification-Number</i>	NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

5.6.1.67 Redirection-Directive-Res

An instance of OM class **Redirection-Directive-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), [page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), [page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*; it defines no attributes of its own.

5.6.1.68 Redirection-Request-Arg

An instance of OM class **Redirection-Request-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20](#)

[Service-req()], page 70) or is returned by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in Table 5.444.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
billing-ID	String(Octet)	7	1	—
electronic-Serial-Number	String(Octet)	4	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
redirection-Reason	Enum(Redirection-Reason)	—	1	—
leg-Information	String(Octet)	4	0-1	—
msc-Identification-Number	String(Digits)	4-12	0-1	—

Table 5.444: OM Attributes of OM Class **Redirection-Request-Arg**

This OM class contains the following class-specific OM attributes:

billing-ID (Originating) BillingID ::= OCTET STRING (SIZE (7)) Octets are encoded as specific in ANSI 41-D section 6.5.2.16.

electronic-Serial-Number
ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

mobile-Identification-Number
Specifies the 10-digit representation of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See Section 5.2.1 [String(TBCD)], page 83. MobileIdentificationNumber ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

redirection-Reason

An enumeration containing one of the following values:

busy ('MAP_T_BUSY' '1')

no-answer ('MAP_T_NO_ANSWER' '2')

unconditional
('MAP_T_UNCONDITIONAL' '3')

no-page-response
('MAP_T_NO_PAGE_RESPONSE' '4')

unavailable ('MAP_T_UNAVAILABLE' '5')

unroutable ('MAP_T_UNROUTABLE' '6') A routing failure occurred while attempting to complete the call.

call-accepted
('MAP_T_CALL_ACCEPTED' '7')

call-refused ('MAP_T_CALL_REFUSED' '8')

leg-Information

LegInformation ::= [PRIVATE 144] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.75.

msc-Identification-Number

Indicates the identification number of an MSC sending a message. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

5.6.1.69 Redirection-Request-Res

An instance of OM class **Redirection-Request-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see Section 4.21 [Service-rsp()], page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*; it defines no attributes of its own.

5.6.1.70 Registration-Cancellation-Arg

An instance of OM class **Registration-Cancellation-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see Section 4.20 [Service-req()], page 70) or is returned by the *Receive()* function (see Section 4.16 [Receive()], page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in Table 5.445.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
electronic-Serial-Number	String(Octet)	4	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
cancellation-Type	String(Octet)	1	0-1	—
control-Channel-Data	String(Octet)	4	0-1	—
received-Signal-Quality	String(Octet)	1	0-1	—
sender-Identification-Number	String(Digits)	4-12	0-1	—
system-Access-Data	String(Octet)	5	0-1	—

Table 5.445: OM Attributes of OM Class **Registration-Cancellation-Arg**

This OM class contains the following class-specific OM attributes:

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

mobile-Identification-Number

Specifies the 10-digit representation of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See Section 5.2.1 [String(TBCD)], page 83. **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

cancellation-Type

CancellationType ::= OCTET STRING (SIZE (1)) The octet can contain the following values:

serving-system-option

(‘MAP_T_SERVING_SYSTEM_OPTION’ ‘1’) The serving system may discontinue a call or service in progress at its option.

report-in-call

(‘MAP_T_REPORT_IN_CALL’ ‘2’) The serving system shall continue to provide service when a call or service is in progress and just report its incidence.

discontinue

(‘MAP_T_DISCONTINUE’ ‘3’) The serving system shall discontinue any call or service in progress, regardless of the mobile station’s qualification, profile, or authentication.

control-Channel-Data

ControlChannelData ::= [PRIVATE 55] IMPLICIT OCTET STRING (SIZE(4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.51.

received-Signal-Quality

ReceiveSignalQuality ::= [PRIVATE 72] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.106.

sender-Identification-Number

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

system-Access-Data

SystemAccessData ::= OCTET STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.3.144.

5.6.1.71 Registration-Cancellation-Res

An instance of OM class **Registration-Cancellation-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.446](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
call-History-Count	Integer	0-63	0-1	—
cancellation-Denied	Enum(Cancellation-Denied)	—	0-1	—
control-Channel-Data	String(Octet)	4	0-1	—
received-Signal-Quality	String(Octet)	1	0-1	—
sms-Message-Waiting-Indicator	Null	—	0-1	—
system-Access-Data	String(Octet)	5	0-1	—

Table 5.446: OM Attributes of OM Class **Registration-Cancellation-Res**

This OM class contains the following class-specific OM attributes:

call-History-Count

CallHistoryCount ::= INTEGER (0..63)

cancellation-Denied

An enumeration containing one of the following values:

multiple-access

(‘MAP_T_MULTIPLE_ACCESS’ ‘1’) Example: the VLR has detected a multiple access situation and considers itself to be the serving system.

busy

(‘MAP_T_BUSY’ ‘2’) Example: the addressed MS is currently involved in a call or service request.

control-Channel-Data

ControlChannelData ::= [PRIVATE 55] IMPLICIT OCTET STRING (SIZE(4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.51.

received-Signal-Quality

ReceiveSignalQuality ::= [PRIVATE 72] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.106.

sms-Message-Waiting-Indicator

SMS-MessageWaitingIndicator ::= [PRIVATE 118] IMPLICIT NULL

system-Access-Data

SystemAccessData ::= OCTET STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.3.144.

5.6.1.72 Registration-Notification-Arg

An instance of OM class **Registration-Notification-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.447](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
electronic-Serial-Number	String(Octet)	4	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
mscid	String(Octet)	3	1	—
qualification-Information-Code	Enum(Qualification-Information-Code)	—	1	—
system-My-Type-Code	Enum(System-My-Type-Code)	—	1	—
availability-Type	String(Octet)	1	0-1	—
border-Cell-Access	String(Octet)	1	0-1	—
control-Channel-Data	String(Octet)	4	0-1	—
extended-MS-CD	String(Octet)	4	0-1	—
location-Area-ID	String(Octet)	2	0-1	—
pc-SSN	String(Octet)	5	0-1	—
received-Signal-Quality	String(Octet)	1	0-1	—
report-Type	Enum(Report-Type)	—	0-1	—
sender-Identification-Number	String(Digits)	4-12	0-1	—
sms-Address	String(Digits)	4-12	0-1	—
sms-Message-Waiting-Indicator	Null	—	0-1	—
system-Access-Data	String(Octet)	5	0-1	—
system-Access-Type	Enum(System-Access-Type)	—	0-1	—
system-Capabilities	String(Octet)	1	0-1	—
terminal-Type	Enum(Terminal-Type)	—	0-1	—
transaction-Capability	String(Octet)	2	0-1	—

Table 5.447: OM Attributes of OM Class **Registration-Notification-Arg**

This OM class contains the following class-specific OM attributes:

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

mobile-Identification-Number

Specifies the 10-digit representation of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

mscid

(Serving MSC) **MSCID** ::= [PRIVATE 21] IMPLICIT OCTET STRING (SIZE (3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.82.

qualification-Information-Code

Indicates the type of qualification required. An enumeration containing one of the following values:

no-information

(‘MAP_T_NO_INFORMATION’ ‘1’)

validation-only

(‘MAP_T_VALIDATION_ONLY’ ‘2’)

validation-and-profile

('MAP_T_VALIDATION_AND_PROFILE' '3')

profile-only

('MAP_T_PROFILE_ONLY' '4')

system-My-Type-Code

(Serving MSC or VLR) SystemMyTypeCode ::= [PRIVATE 22] IMPLICIT OCTET STRING (SIZE (1)) An enumeration containing one of the following values:

eds ('MAP_T_EDS' '1')**astronet** ('MAP_T_ASTRONET' '2')**lucent** ('MAP_T_LUCENT' '3')**ericsson** ('MAP_T_ERICSSON' '4')**gte** ('MAP_T_GTE' '5')**motorola** ('MAP_T_MOTOROLA' '6')**nec** ('MAP_T_NEC' '7')**nortel** ('MAP_T_NORTEL' '8')**novatel** ('MAP_T_NOVATEL' '9')**lexsys** ('MAP_T_LEXSYS' '10')**digital** ('MAP_T_DIGITAL' '11')**inet** ('MAP_T_INET' '12')**bellcore** ('MAP_T_BELLCORE' '13')**alcatel** ('MAP_T_ALCATEL' '14')**tandem** ('MAP_T_TANDEM' '15')**qualcomm** ('MAP_T_QUALCOMM' '16')**aldiscon** ('MAP_T_ALDISCON' '17')**celcore** ('MAP_T_CELCORE' '18')**telos** ('MAP_T_TELOS' '19')**stanilite** ('MAP_T_STANILITE' '20')**coral** ('MAP_T_CORAL' '21')**synacom** ('MAP_T_SYNACOM' '22')**dsc** ('MAP_T_DSC' '23')**mci** ('MAP_T_MCI' '24')**newnet** ('MAP_T_NEWNET' '25')**sema** ('MAP_T_SEMA' '26')**lg** ('MAP_T_LG' '27')**cbis** ('MAP_T_CBIS' '28')

seimens ('MAP_T_SEIMENS' '29')

availability-Type

AvailabilityType ::= OCTET STRING (SIZE (1)) Octets are coded as specified in ANSI 41-D section 6.5.2.15.

unspecified-ms-inactivity-type

('MAP_T_UNSPECIFIED_MS_INACTIVITY_TYPE' '1')

border-Cell-Access

BorderCellAccess ::= OCTET STRING (SIZE (1)) Octets can assume one of the following values:

border-cell-access

('MAP_T_BORDER_CELL_ACCESS' '1')

control-Channel-Data

ControlChannelData ::= [PRIVATE 55] IMPLICIT OCTET STRING (SIZE(4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.51.

extended-MS-ID

(VLR) **ExtendedMSCID** ::= [PRIVATE 53] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.64.

location-Area-ID

LocationAreaID ::= [PRIVATE 33] IMPLICIT OCTET STRING (SIZE (2)) Octets encode the location area id, most significant octet first, and least significant octet second. See ANSI 41-D section 6.5.2.77.

pc-SSN

(Serving MSC or VLR) Specifies the ANSI SS7 Point Code (PC) and Subsystem Number (SSN) of a particular cellular functional entity. **PC_SSN** ::= [PRIVATE 32] IMPLICIT OCTET STRING (SIZE (5)) Octets are encoded as follows:

- Octet 1 Encodes the system type and has one of the following values:

serving-msc

('MAP_T_SERVING_MSC' '1')

home-msc

('MAP_T_HOME_MSC' '2')

gateway-msc

('MAP_T_GATEWAY_MSC' '3')

hlr

('MAP_T_HLR' '4')

vlr

('MAP_T_VLR' '5')

eir

('MAP_T_EIR' '6')

ac

('MAP_T_AC' '7')

border-msc

('MAP_T_BORDER_MSC' '8')

originating-msc

('MAP_T_ORIGINATING_MSC' '9')

A value of zero indicates that the system type is unspecified.

- Octet 2 MTP Point Code member number.
- Octet 3 MTP Point Code cluster number.

- Octet 4 MTP Point Code network number.
- Octet 5 SCCP Subsystem Number (SSN).

received-Signal-Quality

ReceiveSignalQuality ::= [PRIVATE 72] IMPLICIT OCTET STRING (SIZE (1))
 Octets are encoded as specified in ANSI 41-D section 6.5.2.106.

report-Type

An enumeration containing one of the following values:

unspecified-security-violation

(‘MAP_T_UNSPECIFIED_SECURITY_VIOLATION’ ‘1’)

min-esn-mismatch

(‘MAP_T_MIN_ESN_MISMATCH’ ‘2’)

randc-mismatch

(‘MAP_T_RANDC_MISMATCH’ ‘3’)

ssd-update-failed

(‘MAP_T_SSD_UPDATE_FAILED’ ‘5’)

count-mismatch

(‘MAP_T_COUNT_MISMATCH’ ‘7’)

unique-challenge-failed

(‘MAP_T_UNIQUE_CHALLENGE_FAILED’ ‘9’)

unsolicited-base-station-challenge

(‘MAP_T_UNSOLICITED_BASE_STATION_CHALLENGE’ ‘10’)

ssd-update-no-response

(‘MAP_T_SSD_UPDATE_NO_RESPONSE’ ‘11’)

count-update-no-response

(‘MAP_T_COUNT_UPDATE_NO_RESPONSE’ ‘12’)

unique-challenge-no-response

(‘MAP_T_UNIQUE_CHALLENGE_NO_RESPONSE’ ‘13’)

authr-mismatch

(‘MAP_T_AUTHR_MISMATCH’ ‘14’)

terminal-type-mismatch

(‘MAP_T_TERMINAL_TYPE_MISMATCH’ ‘15’)

missing-authentication-parameters

(‘MAP_T_MISSING_AUTHENTICATION_PARAMETERS’ ‘16’)

sender-Identification-Number

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

sms-Address

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2. Digits are encoded as specified in ANSI 41-D section 6.5.2.124.

sms-Message-Waiting-Indicator

SMS-MessageWaitingIndicator ::= [PRIVATE 118] IMPLICIT NULL

system-Access-Data

SystemAccessData ::= OCTET STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.3.144.

system-Access-Type

An enumeration containing one of the following values:

unspecified ('MAP_T_UNSPECIFIED' '1')

flash-request
('MAP_T_FLASH_REQUEST' '1')

autonomous-registration
('MAP_T_AUTONOMOUS_REGISTRATION' '1')

call-origination
('MAP_T_CALL_ORIGINATION' '1')

page-response
('MAP_T_PAGE_RESPONSE' '1')

no-access ('MAP_T_NO_ACCESS' '1')

power-down-registration
('MAP_T_POWER_DOWN_REGISTRATION' '1')

sms-page-response
('MAP_T_SMS_PAGE_RESPONSE' '1')

system-Capabilities

SystemCapabilities ::= [PRIVATE 49] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.146.

terminal-Type

An enumeration containing one of the following values:

not-distinguished
('MAP_T_NOT_DISTINGUISHED' '1')

is-54-b ('MAP_T_IS_54_B' '2')

is-136 ('MAP_T_IS_136' '3')

is-95 ('MAP_T_IS_95' '32')

is-95-a ('MAP_T_IS_95_A' '33')

is-88 ('MAP_T_IS_88' '64')

is-94 ('MAP_T_IS_94' '65')

is-91 ('MAP_T_IS_91' '66')

transaction-Capability

TransactionCapability ::= [PRIVATE 123] IMPLICIT OCTET STRING (SIZE (2))
Octets are encoded as specified in ANSI 41-D section 6.5.2.160.

5.6.1.73 Registration-Notification-Res

An instance of OM class **Registration-Notification-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.448](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
system-My-Type-Code	Enum(System-My-Type-Code)	—	1	—
authorization-Denied	Enum(Authorization-Denied)	—	0-1	—
authorization-Period	String(Octet)	2	0-1	—
control-Channel-Data	String(Octet)	4	0-1	—
denied-Authorization-Period	String(Octet)	2	0-1	—
digits	String(Digits)	4-12	0-1	—
digits	String(Digits)	4-12	0-1	—
mscid	String(Octet)	3	0-1	—
<i>Profile</i>				
authentication-Capability	String(Octet)	1	0-1	—
calling-Features-Indicator	String(Octet)	2-4	0-1	—
carrier-Digits	String(Digits)	4-12	0-1	—
dmh-Account-Code-Digits	String(Digits)	4-12	0-1	—
dmh-Alternate-Billing-Digits	String(Digits)	4-12	0-1	—
dmh-Billing-Digits	String(Digits)	4-12	0-1	—
geographic-Authorization	String(Octet)	1	0-1	—
message-Waiting-Notification-Count	String(Octet)	2,4,...	0-1	—
message-Waiting-Notification-Type	String(Octet)	1	0-1	—
redirecting-Number-String	String(Digits)	4-20	0-1	—
mobile-Directory-Number	String(Digits)	4-12	0-1	—
origination-Indicator	Enum(Origination-Indicator)	—	0-1	—
origination-Triggers	String(Octet)	4	0-1	—
paca-Indicator	String(Octet)	1	0-1	—
preferred-Language-Indicator	String(Octet)	1	0-1	—
restriction-Digits	String(Digits)	4-12	0-1	—
routing-Digits	String(Digits)	4-12	0-1	—
sms-Origination-Restrictions	String(Octet)	1	0-1	—
sms-Termination-Restrictions	String(Octet)	1	0-1	—
spini-PIN	String(Digits)	4-12	0-1	—
spini-Triggers	String(Octet)	4	0-1	—
termination-Restriction-Code	Enum(Termination-Restriction-Code)	—	0-1	—
termination-Triggers	String(Octet)	2	0-1	—
received-Signal-Quality	String(Octet)	1	0-1	—
sender-Identification-Number	String(Digits)	4-12	0-1	—
sms-Message-Waiting-Indicator	Null	—	0-1	—
system-Access-Data	String(Octet)	5	0-1	—

Table 5.448: OM Attributes of OM Class **Registration-Notification-Res**

This OM class contains the following class-specific OM attributes:

system-My-Type-Code

(VLR or HLR) **SystemMyTypeCode** ::= [PRIVATE 22] IMPLICIT OCTET STRING (SIZE (1)) An enumeration containing one of the following values:

eds ('MAP_T_EDS' '1')

astronet	(‘MAP_T_ASTRONET’ ‘2’)
lucent	(‘MAP_T_LUCENT’ ‘3’)
ericsson	(‘MAP_T_ERICSSON’ ‘4’)
gte	(‘MAP_T_GTE’ ‘5’)
motorola	(‘MAP_T_MOTOROLA’ ‘6’)
nec	(‘MAP_T_NEC’ ‘7’)
nortel	(‘MAP_T_NORTEL’ ‘8’)
novatel	(‘MAP_T_NOVATEL’ ‘9’)
lexsys	(‘MAP_T_LEXSYS’ ‘10’)
digital	(‘MAP_T_DIGITAL’ ‘11’)
inet	(‘MAP_T_INET’ ‘12’)
bellcore	(‘MAP_T_BELLCORE’ ‘13’)
alcatel	(‘MAP_T_ALCATEL’ ‘14’)
tandem	(‘MAP_T_TANDEM’ ‘15’)
qualcomm	(‘MAP_T_QUALCOMM’ ‘16’)
aldiscon	(‘MAP_T_ALDISCON’ ‘17’)
celcore	(‘MAP_T_CELCORE’ ‘18’)
telos	(‘MAP_T_TELOS’ ‘19’)
stanilite	(‘MAP_T_STANILITE’ ‘20’)
coral	(‘MAP_T_CORAL’ ‘21’)
synacom	(‘MAP_T_SYNACOM’ ‘22’)
dsc	(‘MAP_T_DSC’ ‘23’)
mci	(‘MAP_T_MCI’ ‘24’)
newnet	(‘MAP_T_NEWNET’ ‘25’)
sema	(‘MAP_T_SEMA’ ‘26’)
lg	(‘MAP_T_LG’ ‘27’)
cbis	(‘MAP_T_CBIS’ ‘28’)
seimens	(‘MAP_T_SEIMENS’ ‘29’)

authorization-Denied

An enumeration containing one of the following values:

delinquent-account	(‘MAP_T_DELINQUENT_ACCOUNT’ ‘1’)
invalid-serial-number	(‘MAP_T_INVALID_SERIAL_NUMBER’ ‘2’)

stolen-unit ('MAP_T_STOLEN_UNIT' '3')

duplicate-unit
('MAP_T_DUPLICATE_UNIT' '4')

unassigned-directory-number
('MAP_T_UNASSIGNED_DIRECTORY_NUMBER' '5')

unspecified ('MAP_T_UNSPECIFIED' '6')

multiple-access
('MAP_T_MULTIPLE_ACCESS' '7')

not-authorized-for-the-msc
('MAP_T_NOT_AUTHORIZED_FOR_THE_MSC' '8')

missing-authentication-parameters
('MAP_T_MISSING_AUTHENTICATION_PARAMETERS' '9')

terminal-type-mismatch
('MAP_T_TERMINAL_TYPE_MISMATCH' '10')

authorization-Period

AuthorizationPeriod = OCTET STRING (SIZE (2)) Octets are coded as specified in ANSI 41-D section 6.5.2.14.

control-Channel-Data

ControlChannelData ::= [PRIVATE 55] IMPLICIT OCTET STRING (SIZE(4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.51.

denied-Authorization-Period

DeniedAuthorizationPeriod ::= [PRIVATE 167] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.53.

digits (Carrier) NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

digits (Destination) NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

mscid (HLR) MSCID ::= [PRIVATE 21] IMPLICIT OCTET STRING (SIZE (3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.82.

profile **Macro**

authentication-Capability

Indicates whether a mobile station shall or shall not be authenticated.
AuthenticationCapability ::= [PRIVATE 78] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.3.8.

calling-Features-Indicator

Defines the authorization and activity states of the mobile stations' features. CallingFeaturesIndicator ::= [PRIVATE 25] IMPLICIT OCTET STRING (SIZE (2..4)) Octets are encoded as specified in ANSI 41-D section 6.5.3.20.

carrier-Digits

This attribute specifies the preferred interexchange carrier for the call. Only specified for national usage. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Account-Code-Digits

Specifies the account code digits as dialed by a subscriber. The account code is defined between the subscriber and the home cellular service provider. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Alternate-Billing-Digits

Specifies a non-telephony billing number, such as a calling card number, credit card account number, debit card account code, etc. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Billing-Digits

Specifies the telephony billing number use for calls with special billing arrangements to identify the party to be billed, such as third party billing, calling card, etc. The billing number must be a valid telphony number for billing the call. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

geographic-Authorization

Indicates the geographic authorization capability of a mobile station. **GeographicAuthorization** ::= [PRIVATE 143] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.3.68. The octet can have one of the following (non-exhaustive) values:

authorized-for-all-market-ids-served-by-the-vlr

(‘MAP_T_AUTHORIZED_FOR_ALL_MARKET_IDS_SERVED_BY_THE_VLR’
‘1’)

authorized-for-this-market-id-only

(‘MAP_T_AUTHORIZED_FOR_THIS_MARKET_ID_ONLY’ ‘2’)

authorized-for-this-market-id-and-switch-number-only

(‘MAP_T_AUTHORIZED_FOR_THIS_MARKET_ID_AND_SWITCH_NUMBER_ONLY’
‘3’)

authorized-for-this-location-area-id-within-a-marked-id-only

(‘MAP_T_AUTHORIZED_FOR_THIS_LOCATION_AREA_ID_WITHIN_A_MARKED_ID_ONLY’
‘4’)

message-Waiting-Notification-Count

MessageWaitingNotificationCount ::= [PRIVATE 92] IMPLICIT OCTET STRING (SIZE (2|4|..)) Octets encode the type of messages in the first octet and the number of messages waiting in the second octets (possibly zero). Multiple pairs of octets can occur. The first octet can have values:

voice-messages
 ('MAP_T_VOICE_MESSAGES' '0')

short-message-service-messages
 ('MAP_T_SHORT_MESSAGE_SERVICE_MESSAGES' '1')

group-3-fax-messages
 ('MAP_T_GROUP_3_FAX_MESSAGES' '2')

message-Waiting-Notification-Type

Used to convey the subscriber's message waiting notification options to the serving system. **MessageWaitingNotificationType** ::= [PRIVATE 145] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.3.79.

redirecting-Number-String

NumberString ::= OCTET STRING (SIZE (4..20)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

mobile-Directory-Number

Contains the mobile station's directory number, which may be different from its mobile identification number (MIN). **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

origination-Indicator

Defines the type of calls the mobile station is allowed to originate. An enumeration containing one of the following values:

prior-agreement
 ('MAP_T_PRIOR_AGREEMENT' '1')

origination-denied
 ('MAP_T_ORIGINATION_DENIED' '2')

local-calls-only
 ('MAP_T_LOCAL_CALLS_ONLY' '3')

selected-leading-digits-of-directory-number
 ('MAP_T_SELECTED_LEADING_DIGITS_OF_DIRECTORY_NUMBER' '4')

selected-leading-digits-of-directory-number-and-local-calls-only
 ('MAP_T_SELECTED_LEADING_DIGITS_OF_DIRECTORY_NUMBER_AND_LOCAL_CALLS' '5')

national-long-distance
 ('MAP_T_NATIONAL_LONG_DISTANCE' '6')

international-calls
 ('MAP_T_INTERNATIONAL_CALLS' '7')

single-directory-number
 ('MAP_T_SINGLE_DIRECTORY_NUMBER' '8')

origination-Triggers

Defines the origination trigger points that are currently active for the subscriber. **OriginationTriggers** ::= [PRIVATE 98] IMPLICIT OCTET

STRING (SIZE(4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.90.

paca-Indicator

Indicates the priority access and channel assignment (PACA) permanent activation status and priority level assigned to the subscriber.
PACAIndicator ::= [PRIVATE 146] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.91.

preferred-Language-Indicator

Indicates the preferred language feature activity status and language associated with the subscriber. **PreferredLanguageIndicator** ::= [PRIVATE 147] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.96. The octet may assume one of the following (non-exhaustive) values:

unspecified ('MAP_T_LANGUAGE_UNSPECIFIED' '0')
english ('MAP_T_ENGLISH' '1')
french ('MAP_T_FRENCH' '2')
spanish ('MAP_T_SPANISH' '3')
german ('MAP_T_GERMAN' '4')
portuguese ('MAP_T_PORTUGUESE' '5')

restriction-Digits

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

routing-Digits

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

sms-Origination-Restrictions

SMS-OriginationRestrictions ::= [PRIVATE 115] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.3.136.

sms-Termination-Restrictions

SMS-TerminationRestrictions ::= [PRIVATE 117] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.3.138.

spini-PIN

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

spini-Triggers

SPINITriggers ::= [PRIVATE 155] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.3.140.

termination-Restriction-Code

An enumeration containing one of the following values:

termination-denied
('MAP_T_TERMINATION_DENIED' '1')

unrestricted
(‘MAP_T_UNRESTRICTED’ ‘1’)

treatment-unspecified
(‘MAP_T_TREATMENT_UNSPECIFIED’ ‘1’)

termination-Triggers

TerminationTriggers ::= [PRIVATE 122] IMPLICIT OCTET STRING
(SIZE (2)) Octets are encoded as specified in ANSI 41-D section
6.5.2.159.

received-Signal-Quality

ReceiveSignalQuality ::= [PRIVATE 72] IMPLICIT OCTET STRING (SIZE (1))
Octets are encoded as specified in ANSI 41-D section 6.5.2.106.

sender-Identification-Number

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in
ANSI 41-D section 6.5.3.2.

sms-Message-Waiting-Indicator

SMS-MessageWaitingIndicator ::= [PRIVATE 118] IMPLICIT NULL

system-Access-Data

SystemAccessData ::= OCTET STRING (SIZE (5)) Octets are encoded as specified in
ANSI 41-D section 6.5.3.144.

5.6.1.74 Remote-User-Interaction-Directive-Arg

An instance of OM class **Remote-User-Interaction-Directive-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.449](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
announcement-List	Object(Announcement-List)	—	1	—
digit-Collection-Control	String(Octet)	16	1	—

Table 5.449: OM Attributes of OM Class **Remote-User-Interaction-Directive-Arg**

This OM class contains the following class-specific OM attributes:

announcement-List

This optional attribute is an instance of OM class **Announcement-List**. See [Section 5.6.2.1 \[Announcement-List\], page 580](#).

digit-Collection-Control

DigitCollectionControl ::= [PRIVATE 139] IMPLICIT OCTET STRING (SIZE (16))
Octets are encoded as specified in ANSI 41-D section 6.5.2.57.

5.6.1.75 Remote-User-Interaction-Directive-Res

An instance of OM class **Remote-User-Interaction-Directive-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.450](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
digits	String(Digits)	4-12	0-1	—

Table 5.450: OM Attributes of OM Class **Remote-User-Interaction-Directive-Res**

This OM class contains the following class-specific OM attributes:

digits (Dialed) **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

5.6.1.76 Reset-Circuit-Arg

An instance of OM class **Reset-Circuit-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.451](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
inter-MS-Circuit-ID	String(Octet)	2	1	—

Table 5.451: OM Attributes of OM Class **Reset-Circuit-Arg**

This OM class contains the following class-specific OM attributes:

inter-MS-Circuit-ID

InterMSCCircuitID ::= [PRIVATE 6] IMPLICIT OCTET STRING (SIZE (2)) Octets consist of the trunk group number and trunk member number in that order. See ANSI 41-D section 6.5.2.72.

5.6.1.77 Reset-Circuit-Res

An instance of OM class **Reset-Circuit-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.452](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
trunk-Status	Enum(Trunk-Status)	—	1	—

Table 5.452: OM Attributes of OM Class **Reset-Circuit-Res**

This OM class contains the following class-specific OM attributes:

trunk-Status

An enumeration containing one of the following values:

idle ('MAP_T_IDLE' '0')

blocked ('MAP_T_BLOCKED' '1')

5.6.1.78 Routing-Request-Arg

An instance of OM class **Routing-Request-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.453](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
billing-ID	String(Octet)	7	1	—
electronic-Serial-Number	String(Octet)	4	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
mscid	String(Octet)	3	1	—
system-My-Type-Code	Enum(System-My-Type-Code)	—	1	—
alert-Code	String(Octet)	2	0-1	—
calling-Party-Number-String-1	String(Digits)	4-20	0-1	—
calling-Party-Number-String-2	String(Digits)	4-20	0-1	—
calling-Party-Subaddress	String(Subaddress)	1-21	0-1	—
destination-Digits	String(Digits)	4-12	0-1	—
dmh-Account-Code-Digits	String(Digits)	4-12	0-1	—
dmh-Alternate-Billing-Digits	String(Digits)	4-12	0-1	—
dmh-Billing-Digits	String(Digits)	4-12	0-1	—
leg-Information	String(Octet)	4	0-1	—
location-Area-ID	String(Octet)	2	0-1	—
mobile-Directory-Number	String(Digits)	4-12	0-1	—
msc-Identification-Number	String(Digits)	4-12	0-1	—
no-Answer-Time	String(Octet)	1	0-1	—
one-Time-Feature-Indicator	String(Octet)	2	0-1	—
pc-SSN	String(Octet)	5	0-1	—
pilot-Billing-ID	String(Octet)	7	0-1	—
redirecting-Number-String	String(Digits)	4-12	0-1	—
redirecting-Subaddress	String(Subaddress)	1-21	0-1	—
sender-Identification-Number	String(Digits)	4-12	0-1	—
termination-Treatment	String(Octet)	1	0-1	—
termination-Triggers	String(Octet)	2	0-1	—
voice-Mailbox-Number	String(Digits)	4-12	0-1	—
voice-Mailbox-PIN	String(Digits)	4-12	0-1	—

Table 5.453: OM Attributes of OM Class **Routing-Request-Arg**

This OM class contains the following class-specific OM attributes:

billing-ID (Originating) **BillingID ::= OCTET STRING (SIZE (7))** Octets are encoded as specific in ANSI 41-D section 6.5.2.16.

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

mobile-Identification-Number

Specifies the 10-digit representaiton of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. **MobileIdentificationNumber ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5))** Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

mscid (Originating MSC) `MSCID ::= [PRIVATE 21] IMPLICIT OCTET STRING (SIZE (3))`
Octets are encoded as specified in ANSI 41-D section 6.5.2.82.

system-My-Type-Code

(Originating MSC) `SystemMyTypeCode ::= [PRIVATE 22] IMPLICIT OCTET STRING (SIZE (1))` An enumeration containing one of the following values:

eds	(<code>'MAP_T_EDS' '1'</code>)
astronet	(<code>'MAP_T_ASTRONET' '2'</code>)
lucent	(<code>'MAP_T_LUCENT' '3'</code>)
ericsson	(<code>'MAP_T_ERICSSON' '4'</code>)
gte	(<code>'MAP_T_GTE' '5'</code>)
motorola	(<code>'MAP_T_MOTOROLA' '6'</code>)
nec	(<code>'MAP_T_NEC' '7'</code>)
nortel	(<code>'MAP_T_NORTEL' '8'</code>)
novatel	(<code>'MAP_T_NOVATEL' '9'</code>)
lexsys	(<code>'MAP_T_LEXSYS' '10'</code>)
digital	(<code>'MAP_T_DIGITAL' '11'</code>)
inet	(<code>'MAP_T_INET' '12'</code>)
bellcore	(<code>'MAP_T_BELLCORE' '13'</code>)
alcatel	(<code>'MAP_T_ALCATEL' '14'</code>)
tandem	(<code>'MAP_T_TANDEM' '15'</code>)
qualcomm	(<code>'MAP_T_QUALCOMM' '16'</code>)
aldiscon	(<code>'MAP_T_ALDISCON' '17'</code>)
celcore	(<code>'MAP_T_CELCORE' '18'</code>)
telos	(<code>'MAP_T_TELOS' '19'</code>)
stanilite	(<code>'MAP_T_STANILITE' '20'</code>)
coral	(<code>'MAP_T_CORAL' '21'</code>)
synacom	(<code>'MAP_T_SYNACOM' '22'</code>)
dsc	(<code>'MAP_T_DSC' '23'</code>)
mci	(<code>'MAP_T_MCI' '24'</code>)
newnet	(<code>'MAP_T_NEWNET' '25'</code>)
sema	(<code>'MAP_T_SEMA' '26'</code>)
lg	(<code>'MAP_T_LG' '27'</code>)
cbis	(<code>'MAP_T_CBIS' '28'</code>)
seimens	(<code>'MAP_T_SEIMENS' '29'</code>)

alert-Code **AlertCode** ::= OCTET STRING (SIZE(2)) Octets are coded as described in ANSI41-D.

calling-Party-Number-String-1

This attribute specifies the network-provided identification of the calling party. **NumberString** ::= OCTET STRING (SIZE (4..20)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Number-String-2

This attribute specifies the user-provided identification of the calling party. **NumberString** ::= OCTET STRING (SIZE (4..20)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), [page 102](#).

destination-Digits

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Account-Code-Digits

Specifies the account code digits as dialed by a subscriber. The account code is defined between the subscriber and the home cellular service provider. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Alternate-Billing-Digits

Specifies a non-telephony billing number, such as a calling card number, credit card account number, debit card account code, etc. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Billing-Digits

Specifies the telephony billing number use for calls with special billing arrangements to identify the party to be billed, such as third party billing, calling card, etc. The billing number must be a valid telephony number for billing the call. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

leg-Information

LegInformation ::= [PRIVATE 144] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.75.

location-Area-ID

LocationAreaID ::= [PRIVATE 33] IMPLICIT OCTET STRING (SIZE (2)) Octets encode the location area id, most significant octet first, and least significant octet second. See ANSI 41-D section 6.5.2.77.

mobile-Directory-Number

Contains the mobile station's directory number, which may be different from its mobile identification number (MIN). **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

msc-Identification-Number

Indicates the identification number of an MSC sending a message. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

no-Answer-Time

NoAnswerTime ::= [PRIVATE 96] IMPLICIT OCTET STRING (SIZE (1)) Octets encode the interval, in seconds, to wait after alerting an MS or after seizing an outgoing trunk before no-answer treatment is supplited. See ANSI 41-D section 6.5.2.87.

one-Time-Feature-Indicator

OneTimeFeatureIndicator ::= [PRIVATE 97] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.88.

pc-SSN

(Originating MSC) Specifies the ANSI SS7 Point Code (PC) and Subsystem Number (SSN) of a particular cellular functional entity. **PC_SSN** ::= [PRIVATE 32] IMPLICIT OCTET STRING (SIZE (5)) Octets are encoded as follows:

- Octet 1 Encodes the system type and has one of the following values:

serving-msc

(‘MAP_T_SERVING_MSC’ ‘1’)

home-msc

(‘MAP_T_HOME_MSC’ ‘2’)

gateway-msc

(‘MAP_T_GATEWAY_MSC’ ‘3’)

hlr

(‘MAP_T_HLR’ ‘4’)

vlr

(‘MAP_T_VLR’ ‘5’)

eir

(‘MAP_T_EIR’ ‘6’)

ac

(‘MAP_T_AC’ ‘7’)

border-msc

(‘MAP_T_BORDER_MSC’ ‘8’)

originating-msc

(‘MAP_T_ORIGINATING_MSC’ ‘9’)

A value of zero indicates that the system type is unspecified.

- Octet 2 MTP Point Code member number.
- Octet 3 MTP Point Code cluster number.
- Octet 4 MTP Point Code network number.
- Octet 5 SCCP Subsystem Number (SSN).

pilot-Billing-ID

PilotBillingID ::= [PRIVATE 169] IMPLICIT OCTET STRING (SIZE (7)) Octets are encoded as described in ANSI 41-D section 6.5.2.94.

redirecting-Number-String

NumberString ::= OCTET STRING (SIZE (4..20)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

redirecting-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), [page 102](#).

sender-Identification-Number

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

termination-Treatment

TerminationTreatment ::= [PRIVATE 121] IMPLICIT OCTET STRING (SIZE (1))
 Octets are encoded as specified in ANSI 41-D section 6.5.2.158. The octet can assume values:

ms-termination

('MAP_T_MS_TERMINATION' '1')

voice-mail-storage

('MAP_T_VOICE_MAIL_STORAGE' '2')

voice-mail-retrieval

('MAP_T_VOICE_MAIL_RETRIEVAL' '3')

dialogue-termination

('MAP_T_DIALOGUE_TERMINATION' '4')

termination-Triggers

TerminationTriggers ::= [PRIVATE 122] IMPLICIT OCTET STRING (SIZE (2))
 Octets are encoded as specified in ANSI 41-D section 6.5.2.159.

voice-Mailbox-Number

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

voice-Mailbox-PIN

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

5.6.1.79 Routing-Request-Res

An instance of OM class **Routing-Request-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.454](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
mscid	String(Octet)	1	1	—
access-Denied-Reason	Enum(Access-Denied-Reason)	—	0-1	—
billing-ID	String(Octet)	7	0-1	—
conditionally-Denied-Reason	Enum(Conditionally-Denied-Reason)	—	0-1	—
digits	String(Digits)	4-12	0-1	—
msc-Identification-Number	String(Digits)	4-12	0-1	—
pc-SSN	String(Octet)	5	0-1	—

Table 5.454: OM Attributes of OM Class **Routing-Request-Res**

This OM class contains the following class-specific OM attributes:

mscid (Serving) **MSCID** ::= [PRIVATE 21] IMPLICIT OCTET STRING (SIZE (3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.82.

access-Denied-Reason

An enumeration containing one of the following values:

unassigned-directory-number
 ('MAP_T_UNASSIGNED_DIRECTORY_NUMBER' '1')

inactive ('MAP_T_INACTIVE' '2')

busy ('MAP_T_BUSY' '3')

termination-denied
 ('MAP_T_TERMINATION_DENIED' '4')

no-page-response
 ('MAP_T_NO_PAGE_RESPONSE' '5')

unavailable ('MAP_T_UNAVAILABLE' '6')

billing-ID (Anchor) **BillingID** ::= OCTET STRING (SIZE (7)) Octets are encoded as specific in ANSI 41-D section 6.5.2.16.

conditionally-Denied-Reason

An enumeration containing one of the following values:

waitable ('MAP_T_WAITABLE' '1')

digits (Destination)

msc-Identification-Number

Indicates the identification number of an MSC sending a message. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

pc-SSN (Serving MSC) Specifies the ANSI SS7 Point Code (PC) and Subsystem Number (SSN) of a particular cellular functional entity. **PC_SSN** ::= [PRIVATE 32] IMPLICIT OCTET STRING (SIZE (5)) Octets are encoded as follows:

- Octet 1 Encodes the system type and has one of the following values:

serving-msc
 ('MAP_T_SERVING_MSC' '1')

home-msc ('MAP_T_HOME_MSC' '2')

gateway-msc
 ('MAP_T_GATEWAY_MSC' '3')

hlr ('MAP_T_HLR' '4')

vlr ('MAP_T_VLR' '5')

eir ('MAP_T_EIR' '6')

ac ('MAP_T_AC' '7')

border-msc ('MAP_T_BORDER_MSC' '8')

originating-msc
 ('MAP_T_ORIGINATING_MSC' '9')

A value of zero indicates that the system type is unspecified.

- Octet 2 MTP Point Code member number.
- Octet 3 MTP Point Code cluster number.
- Octet 4 MTP Point Code network number.
- Octet 5 SCCP Subsystem Number (SSN).

5.6.1.80 SMS-Delivery-Backward-Arg

An instance of OM class **SMS-Delivery-Backward-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.455](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
inter-MS-Circuit-ID	String(Octet)	2	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
sms-Bearer-Data	String(Octet)	—	1	—
sms-Teleservice-Identifier	String(Octet)	2	1	—
electronic-Serial-Number	String(Octet)	4	0-1	—
sms-Charge-Indicator	String(Octet)	1	0-1	—
sms-Destination-Address	String(Digits)	4-12	0-1	—
sms-Original-Destination-Address	String(Digits)	4-12	0-1	—
sms-Original-Destination-Subaddress	String(Subaddress)	1-21	0-1	—
sms-Original-Originating-Address	String(Digits)	4-12	0-1	—
sms-Original-Originating-Subaddress	String(Subaddress)	1-21	0-1	—
sms-Originating-Address	String(Digits)	4-12	0-1	—

Table 5.455: OM Attributes of OM Class **SMS-Delivery-Backward-Arg**

This OM class contains the following class-specific OM attributes:

inter-MS-Circuit-ID

InterMSCCircuitID ::= [PRIVATE 6] IMPLICIT OCTET STRING (SIZE (2)) Octets consist of the trunk group number and trunk member number in that order. See ANSI 41-D section 6.5.2.72.

mobile-Identification-Number

Specifies the 10-digit representation of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\], page 83](#). **MobileIdentificationNumber ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5))** Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

sms-Bearer-Data

SMS-BearerData ::= [PRIVATE 105] IMPLICIT OCTET STRING

sms-Teleservice-Identifier

SMS-TeleserviceIdentifier ::= [PRIVATE 116] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.137.

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

sms-Charge-Indicator

SMS-ChargeIndicator ::= [PRIVATE 106] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.126. The octet may contain the following values:

no-charge ('MAP_T_NO_CHARGE' '1')

charge-original-originator
('MAP_T_CHARGE_ORIGINAL_ORIGINATOR' '2')

charge-original-destination
('MAP_T_CHARGE_ORIGINAL_DESTINATION' '3')

sms-Destination-Address

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2. For the format of the digits, see ANSI 41-D section 6.5.2.127.

sms-Original-Destination-Address

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2. For the format of the digits, see ANSI 41-D section 6.5.2.131.

sms-Original-Destination-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), [page 102](#).

sms-Original-Originating-Address

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2. For the format of the digits, see ANSI 41-D section 6.5.2.133.

sms-Original-Originating-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), [page 102](#).

sms-Originating-Address

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2. For the format of the digits, see ANSI 41-D section 6.5.2.135.

5.6.1.81 SMS-Delivery-Backward-Res

An instance of OM class **SMS-Delivery-Backward-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), [page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), [page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.456](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
sms-Bearer-Data	String(Octet)	—	0-1	—
sms-Cause-Code	String(Octet)	1	0-1	—

Table 5.456: *OM Attributes of OM Class SMS-Delivery-Backward-Res*

This OM class contains the following class-specific OM attributes:

sms-Bearer-Data

SMS-BearerData ::= [PRIVATE 105] IMPLICIT OCTET STRING

sms-Cause-Code

SMS-CauseCode ::= [PRIVATE 153] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.125. The octet may assume the following values:

address-vacant

(‘MAP_T_ADDRESS_VACANT’ ‘0’)

address-translation-failure

(‘MAP_T_ADDRESS_TRANSLATION_FAILURE’ ‘1’)

network-resource-shortage

(‘MAP_T_NETWORK_RESOURCE_SHORTAGE’ ‘2’)

network-failure

(‘MAP_T_NETWORK_FAILURE’ ‘3’)

invalid-teleservice-id

(‘MAP_T_INVALID_TELESERVICE_ID’ ‘4’)

other-network-problem

(‘MAP_T_OTHER_NETWORK_PROBLEM’ ‘5’)

no-page-response

(‘MAP_T_NO_PAGE_RESPONSE’ ‘32’)

destination-busy

(‘MAP_T_DESTINATION_BUSY’ ‘33’)

no-acknowledgement

(‘MAP_T_NO_ACKNOWLEDGEMENT’ ‘34’)

destination-resource-shortage

(‘MAP_T_DESTINATION_RESOURCE_SHORTAGE’ ‘35’)

sms-delivery-postponed

(‘MAP_T_SMS_DELIVERY_POSTPONED’ ‘36’)

destination-out-of-service

(‘MAP_T_DESTINATION_OUT_OF_SERVICE’ ‘37’)

destination-no-longer-at-this-address

(‘MAP_T_DESTINATION_NO_LONGER_AT_THIS_ADDRESS’ ‘38’)

```

other-terminal-problem
    ('MAP_T_OTHER_TERMINAL_PROBLEM' '39')

radio-interface-resource-shortage
    ('MAP_T_RADIO_INTERFACE_RESOURCE_SHORTAGE' '64')

radio-interface-incompatibility
    ('MAP_T_RADIO_INTERFACE_INCOMPATIBILITY' '65')

other-radio-interface-problem
    ('MAP_T_OTHER_RADIO_INTERFACE_PROBLEM' '66')

encoding-problem
    ('MAP_T_ENCODING_PROBLEM' '96')

sms-origination-denied
    ('MAP_T_SMS_ORIGINATION_DENIED' '97')

sms-termination-denied
    ('MAP_T_SMS_TERMINATION_DENIED' '98')

supplementary-service-not-supported
    ('MAP_T_SUPPLEMENTARY_SERVICE_NOT_SUPPORTED' '99')

sms-not-supported
    ('MAP_T_SMS_NOT_SUPPORTED' '100')

missing-expected-parameter
    ('MAP_T_MISSING_EXPECTED_PARAMETER' '102')

missing-mandatory-parameter
    ('MAP_T_MISSING_MANDATORY_PARAMETER' '103')

unrecognized-parameter-value
    ('MAP_T_UNRECOGNIZED_PARAMETER_VALUE' '104')

unexpected-parameter-value
    ('MAP_T_UNEXPECTED_PARAMETER_VALUE' '105')

user-data-size-error
    ('MAP_T_USER_DATA_SIZE_ERROR' '106')

other-general-problem
    ('MAP_T_OTHER_GENERAL_PROBLEM' '107')

```

5.6.1.82 SMS-Delivery-Forward-Arg

An instance of OM class **SMS-Delivery-Forward-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.457](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
inter-MSC-Circuit-ID	String(Octet)	2	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
sms-Bearer-Data	String(Octet)	—	1	—
sms-Teleservice-Identifier	String(Octet)	1	1	—
electronic-Serial-Number	String(Octet)	4	0-1	—
sms-Charge-Indicator	String(Octet)	1	0-1	—
sms-Destination-Address	String(Digits)	4-12	0-1	—
sms-Original-Destination-Address	String(Digits)	4-12	0-1	—
sms-Original-Destination-Subaddress	String(Subaddress)	1-21	0-1	—
sms-Original-Originating-Address	String(Digits)	4-12	0-1	—
sms-Original-Originating-Subaddress	String(Subaddress)	1-21	0-1	—
sms-Originating-Address	String(Digits)	4-12	0-1	—

Table 5.457: OM Attributes of OM Class SMS-Delivery-Forward-Arg

This OM class contains the following class-specific OM attributes:

inter-MSC-Circuit-ID

InterMSCCircuitID ::= [PRIVATE 6] IMPLICIT OCTET STRING (SIZE (2)) Octets consist of the trunk group number and trunk member number in that order. See ANSI 41-D section 6.5.2.72.

mobile-Identification-Number

Specifies the 10-digit representaiton of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. MobileIdentificationNumber ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

sms-Bearer-Data

SMS-BearerData ::= [PRIVATE 105] IMPLICIT OCTET STRING

sms-Teleservice-Identifier

SMS-TeleserviceIdentifier ::= [PRIVATE 116] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.137.

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

sms-Charge-Indicator

SMS-ChargeIndicator ::= [PRIVATE 106] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.126. The octet may contain the following values:

no-charge ('MAP_T_NO_CHARGE' '1')

charge-original-originator
('MAP_T_CHARGE_ORIGINAL_ORIGINATOR' '2')

charge-original-destination

('MAP_T_CHARGE_ORIGINAL_DESTINATION' '3')

sms-Destination-Address

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2. For the format of the digits, see ANSI 41-D section 6.5.2.127.

sms-Original-Destination-Address

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2. For the format of the digits, see ANSI 41-D section 6.5.2.131.

sms-Original-Destination-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), page 102.

sms-Original-Originating-Address

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2. For the format of the digits, see ANSI 41-D section 6.5.2.133.

sms-Original-Originating-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), page 102.

sms-Originating-Address

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2. For the format of the digits, see ANSI 41-D section 6.5.2.135.

5.6.1.83 SMS-Delivery-Forward-Res

An instance of OM class **SMS-Delivery-Forward-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), page 72) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.458](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
sms-Bearer-Data	String(Octet)	—	0-1	—
sms-Cause-Code	String(Octet)	1	0-1	—

Table 5.458: OM Attributes of OM Class **SMS-Delivery-Forward-Res**

This OM class contains the following class-specific OM attributes:

sms-Bearer-Data

SMS-BearerData ::= [PRIVATE 105] IMPLICIT OCTET STRING

sms-Cause-Code

SMS-CauseCode ::= [PRIVATE 153] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.125. The octet may assume the following values:

address-vacant
(‘MAP_T_ADDRESS_VACANT’ ‘0’)

address-translation-failure
(‘MAP_T_ADDRESS_TRANSLATION_FAILURE’ ‘1’)

network-resource-shortage
(‘MAP_T_NETWORK_RESOURCE_SHORTAGE’ ‘2’)

network-failure
(‘MAP_T_NETWORK_FAILURE’ ‘3’)

invalid-teleservice-id
(‘MAP_T_INVALID_TELESERVICE_ID’ ‘4’)

other-network-problem
(‘MAP_T_OTHER_NETWORK_PROBLEM’ ‘5’)

no-page-response
(‘MAP_T_NO_PAGE_RESPONSE’ ‘32’)

destination-busy
(‘MAP_T_DESTINATION_BUSY’ ‘33’)

no-acknowledgement
(‘MAP_T_NO_ACKNOWLEDGEMENT’ ‘34’)

destination-resource-shortage
(‘MAP_T_DESTINATION_RESOURCE_SHORTAGE’ ‘35’)

sms-delivery-postponed
(‘MAP_T_SMS_DELIVERY_POSTPONED’ ‘36’)

destination-out-of-service
(‘MAP_T_DESTINATION_OUT_OF_SERVICE’ ‘37’)

destination-no-longer-at-this-address
(‘MAP_T_DESTINATION_NO_LONGER_AT_THIS_ADDRESS’ ‘38’)

other-terminal-problem
(‘MAP_T_OTHER_TERMINAL_PROBLEM’ ‘39’)

radio-interface-resource-shortage
(‘MAP_T_RADIO_INTERFACE_RESOURCE_SHORTAGE’ ‘64’)

radio-interface-incompatibility
(‘MAP_T_RADIO_INTERFACE_INCOMPATIBILITY’ ‘65’)

other-radio-interface-problem
(‘MAP_T_OTHER_RADIO_INTERFACE_PROBLEM’ ‘66’)

encoding-problem
(‘MAP_T_ENCODING_PROBLEM’ ‘96’)

sms-origination-denied
(‘MAP_T_SMS_ORIGINATION_DENIED’ ‘97’)

sms-termination-denied
(‘MAP_T_SMS_TERMINATION_DENIED’ ‘98’)

supplementary-service-not-supported
 ('MAP_T_SUPPLEMENTARY_SERVICE_NOT_SUPPORTED' '99')

sms-not-supported
 ('MAP_T_SMS_NOT_SUPPORTED' '100')

missing-expected-parameter
 ('MAP_T_MISSING_EXPECTED_PARAMETER' '102')

missing-mandatory-parameter
 ('MAP_T_MISSING_MANDATORY_PARAMETER' '103')

unrecognized-parameter-value
 ('MAP_T_UNRECOGNIZED_PARAMETER_VALUE' '104')

unexpected-parameter-value
 ('MAP_T_UNEXPECTED_PARAMETER_VALUE' '105')

user-data-size-error
 ('MAP_T_USER_DATA_SIZE_ERROR' '106')

other-general-problem
 ('MAP_T_OTHER_GENERAL_PROBLEM' '107')

5.6.1.84 SMS-Delivery-Point-To-Point-Arg

An instance of OM class **SMS-Delivery-Point-To-Point-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.459](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
sms-Bearer-Data	String(Octet)	—	1	—
sms-Teleservice-Identifier	String(Octet)	2	1	—
electronic-Serial-Number	String(Octet)	4	0-1	—
mobile-Identification-Number	String(TBCD)	5	0-1	—
sms-Charge-Indicator	String(Octet)	1	0-1	—
sms-Destination-Address	String(Digits)	4-12	0-1	—
sms-Message-Count	String(Octet)	1	0-1	—
sms-Notification-Indicator	String(Octet)	1	0-1	—
sms-Original-Destination-Address	String(Digits)	4-12	0-1	—
sms-Original-Destination-Subaddress	String(Subaddress)	1-21	0-1	—
sms-Original-Originating-Address	String(Digits)	4-12	0-1	—
sms-Original-Originating-Subaddress	String(Subaddress)	1-21	0-1	—
sms-Originating-Address	String(Digits)	4-12	0-1	—

Table 5.459: OM Attributes of OM Class **SMS-Delivery-Point-To-Point-Arg**

This OM class contains the following class-specific OM attributes:

sms-Bearer-Data

SMS-BearerData ::= [PRIVATE 105] IMPLICIT OCTET STRING

sms-Teleservice-Identifier

SMS-TeleserviceIdentifier ::= [PRIVATE 116] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.137.

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

mobile-Identification-Number

Specifies the 10-digit representaiton of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. MobileIdentificationNumber ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

sms-Charge-Indicator

SMS-ChargeIndicator ::= [PRIVATE 106] IMPLICIT OCTET STRING (SIZE (1))
Octets are encoded as specified in ANSI 41-D section 6.5.2.126. The octet may contain the following values:

no-charge ('MAP_T_NO_CHARGE' '1')

charge-original-originator
('MAP_T_CHARGE_ORIGINAL_ORIGINATOR' '2')

charge-original-destination
('MAP_T_CHARGE_ORIGINAL_DESTINATION' '3')

sms-Destination-Address

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2. For the format of the digits, see ANSI 41-D section 6.5.2.127.

sms-Message-Count

SMS-MessageCount ::= [PRIVATE 108] IMPLICIT OCTET STRING (SIZE (1)) Octets contain the count of the messages and are encoded as specified in ANSI 41-D section 6.5.2.128.

sms-Notification-Indicator

SMS-NotificationIndicator ::= [PRIVATE 109] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as described in ANSI 41-D section 6.5.2.130. The octet may assume the following values:

notify-when-available
('MAP_T_NOTIFY_WHEN_AVAILABLE' '1')

do-not-notify-when-available
('MAP_T_DO_NOT_NOTIFY_WHEN_AVAILABLE' '1')

sms-Original-Destination-Address

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2. For the format of the digits, see ANSI 41-D section 6.5.2.131.

sms-Original-Destination-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), page 102.

sms-Original-Originating-Address

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2. For the format of the digits, see ANSI 41-D section 6.5.2.133.

sms-Original-Originating-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), [page 102](#).

sms-Originating-Address

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2. For the format of the digits, see ANSI 41-D section 6.5.2.135.

5.6.1.85 SMS-Delivery-Point-To-Point-Res

An instance of OM class **SMS-Delivery-Point-To-Point-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\]](#), [page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), [page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.460](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
sms-Bearer-Data	String(Octet)	—	0-1	—
sms-Cause-Code	String(Octet)	1	0-1	—

Table 5.460: OM Attributes of OM Class **SMS-Delivery-Point-To-Point-Res**

This OM class contains the following class-specific OM attributes:

sms-Bearer-Data

SMS-BearerData ::= [PRIVATE 105] IMPLICIT OCTET STRING

sms-Cause-Code

SMS-CauseCode ::= [PRIVATE 153] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.125. The octet may assume the following values:

address-vacant

(‘MAP_T_ADDRESS_VACANT’ ‘0’)

address-translation-failure

(‘MAP_T_ADDRESS_TRANSLATION_FAILURE’ ‘1’)

network-resource-shortage

(‘MAP_T_NETWORK_RESOURCE_SHORTAGE’ ‘2’)

network-failure

(‘MAP_T_NETWORK_FAILURE’ ‘3’)

invalid-teleservice-id

(‘MAP_T_INVALID_TELESERVICE_ID’ ‘4’)

other-network-problem
(‘MAP_T_OTHER_NETWORK_PROBLEM’ ‘5’)

no-page-response
(‘MAP_T_NO_PAGE_RESPONSE’ ‘32’)

destination-busy
(‘MAP_T_DESTINATION_BUSY’ ‘33’)

no-acknowledgement
(‘MAP_T_NO_ACKNOWLEDGEMENT’ ‘34’)

destination-resource-shortage
(‘MAP_T_DESTINATION_RESOURCE_SHORTAGE’ ‘35’)

sms-delivery-postponed
(‘MAP_T_SMS_DELIVERY_POSTPONED’ ‘36’)

destination-out-of-service
(‘MAP_T_DESTINATION_OUT_OF_SERVICE’ ‘37’)

destination-no-longer-at-this-address
(‘MAP_T_DESTINATION_NO_LONGER_AT_THIS_ADDRESS’ ‘38’)

other-terminal-problem
(‘MAP_T_OTHER_TERMINAL_PROBLEM’ ‘39’)

radio-interface-resource-shortage
(‘MAP_T_RADIO_INTERFACE_RESOURCE_SHORTAGE’ ‘64’)

radio-interface-incompatibility
(‘MAP_T_RADIO_INTERFACE_INCOMPATIBILITY’ ‘65’)

other-radio-interface-problem
(‘MAP_T_OTHER_RADIO_INTERFACE_PROBLEM’ ‘66’)

encoding-problem
(‘MAP_T_ENCODING_PROBLEM’ ‘96’)

sms-origination-denied
(‘MAP_T_SMS_ORIGINATION_DENIED’ ‘97’)

sms-termination-denied
(‘MAP_T_SMS_TERMINATION_DENIED’ ‘98’)

supplementary-service-not-supported
(‘MAP_T_SUPPLEMENTARY_SERVICE_NOT_SUPPORTED’ ‘99’)

sms-not-supported
(‘MAP_T_SMS_NOT_SUPPORTED’ ‘100’)

missing-expected-parameter
(‘MAP_T_MISSING_EXPECTED_PARAMETER’ ‘102’)

missing-mandatory-parameter
(‘MAP_T_MISSING_MANDATORY_PARAMETER’ ‘103’)

unrecognized-parameter-value
(‘MAP_T_UNRECOGNIZED_PARAMETER_VALUE’ ‘104’)

unexpected-parameter-value
 ('MAP_T_UNEXPECTED_PARAMETER_VALUE' '105')

user-data-size-error
 ('MAP_T_USER_DATA_SIZE_ERROR' '106')

other-general-problem
 ('MAP_T_OTHER_GENERAL_PROBLEM' '107')

5.6.1.86 SMS-Notification-Arg

An instance of OM class **SMS-Notification-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), page 70) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), page 63) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.461](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
electronic-Serial-Number	String(Octet)	4	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
sms-Access-Denied-Reason	String(Octet)	1	0-1	—
sms-Address	String(Digits)	4-12	0-1	—

Table 5.461: OM Attributes of OM Class **SMS-Notification-Arg**

This OM class contains the following class-specific OM attributes:

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
 Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

mobile-Identification-Number

Specifies the 10-digit representation of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

sms-Access-Denied-Reason

SMS-AccessDeniedReason ::= [PRIVATE 152] IMPLICIT OCTET STRING (SIZE (1))
 Octets are encoded as specified in ANSI 41-D section 6.5.2.122. The octet may assume the following values:

denied ('MAP_T_DENIED' '1')

postponed ('MAP_T_POSTPONED' '2')

unavailable ('MAP_T_UNAVAILABLE' '3')

invalid ('MAP_T_INVALID' '4')

sms-Address

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2. Digits are encoded as specified in ANSI 41-D section 6.5.2.124.

5.6.1.87 SMS-Notification-Res

An instance of OM class **SMS-Notification-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*; it defines no attributes of its own.

5.6.1.88 SMS-Request-Arg

An instance of OM class **SMS-Request-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.462](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
mobile-Identification-Number	String(TBCD)	5	1	—
electronic-Serial-Number	String(Octet)	4	0-1	—
sms-Notification-Indicator	String(Octet)	1	0-1	—
sms-Teleservice-Identifier	String(Octet)	2	0-1	—

Table 5.462: *OM Attributes of OM Class SMS-Request-Arg*

This OM class contains the following class-specific OM attributes:

mobile-Identification-Number

Specifies the 10-digit representaiton of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\], page 83](#). **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

sms-Notification-Indicator

SMS-NotificationIndicator ::= [PRIVATE 109] IMPLICIT OCTET STRING (SIZE (1)) Octets are encoded as described in ANSI 41-D section 6.5.2.130. The octet may assume the following values:

notify-when-available

(‘MAP_T_NOTIFY_WHEN_AVAILABLE’ ‘1’)

do-not-notify-when-available

(‘MAP_T_DO_NOT_NOTIFY_WHEN_AVAILABLE’ ‘1’)

sms-Teleservice-Identifier

SMS-TeleserviceIdentifier ::= [PRIVATE 116] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.137.

5.6.1.89 SMS-Request-Res

An instance of OM class **SMS-Request-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.463](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
electronic-Serial-Number	String(Octet)	4	0-1	—
sms-Access-Denied-Reason	String(Octet)	1	0-1	—
sms-Address	String(Digits)	4-12	0-1	—

Table 5.463: OM Attributes of OM Class **SMS-Request-Res**

This OM class contains the following class-specific OM attributes:

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

sms-Access-Denied-Reason

SMS-AccessDeniedReason ::= [PRIVATE 152] IMPLICIT OCTET STRING (SIZE (1))
Octets are encoded as specified in ANSI 41-D section 6.5.2.122. The octet may assume the following values:

denied (‘MAP_T_DENIED’ ‘1’)

postponed (‘MAP_T_POSTPONED’ ‘2’)

unavailable (‘MAP_T_UNAVAILABLE’ ‘3’)

invalid (‘MAP_T_INVALID’ ‘4’)

sms-Address

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2. Digits are encoded as specified in ANSI 41-D section 6.5.2.124.

5.6.1.90 Transfer-To-Number-Request-Arg

An instance of OM class **Transfer-To-Number-Request-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.464](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
electronic-Serial-Number	String(Octet)	4	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
redirection-Reason	Enum(Redirection-Reason)	—	1	—
system-My-Type-Code	Enum(System-My-Type-Code)	—	1	—
billing-ID	String(Octet)	7	0-1	—
group-Information	String(Octet)	4	0-1	—
leg-Information	String(Octet)	4	0-1	—
mscid	String(Octet)	3	0-1	—
msc-Identification-Number	String(Digits)	4-12	0-1	—
pilot-Billing-ID	String(Octet)	7	0-1	—
pilot-Number	String(Digits)	4-12	0-1	—
transaction-Capability	String(Octet)	2	0-1	—

Table 5.464: OM Attributes of OM Class **Transfer-To-Number-Request-Arg**

This OM class contains the following class-specific OM attributes:

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

mobile-Identification-Number

Specifies the 10-digit representation of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

redirection-Reason

An enumeration containing one of the following values:

busy ('MAP_T_BUSY' '1')

no-answer ('MAP_T_NO_ANSWER' '2')

unconditional
('MAP_T_UNCONDITIONAL' '3')

no-page-response
('MAP_T_NO_PAGE_RESPONSE' '4')

unavailable ('MAP_T_UNAVAILABLE' '5')

unroutable ('MAP_T_UNROUTABLE' '6') A routing failure occurred while attempting to complete the call.

call-accepted
('MAP_T_CALL_ACCEPTED' '7')

call-refused ('MAP_T_CALL_REFUSED' '8')

system-My-Type-Code

(MSC) **SystemMyTypeCode** ::= [PRIVATE 22] IMPLICIT OCTET STRING (SIZE (1))

An enumeration containing one of the following values:

eds	(‘MAP_T_EDS’ ‘1’)
astronet	(‘MAP_T_ASTRONET’ ‘2’)
lucent	(‘MAP_T_LUCENT’ ‘3’)
ericsson	(‘MAP_T_ERICSSON’ ‘4’)
gte	(‘MAP_T_GTE’ ‘5’)
motorola	(‘MAP_T_MOTOROLA’ ‘6’)
nec	(‘MAP_T_NEC’ ‘7’)
nortel	(‘MAP_T_NORTEL’ ‘8’)
novatel	(‘MAP_T_NOVATEL’ ‘9’)
lexsys	(‘MAP_T_LEXSYS’ ‘10’)
digital	(‘MAP_T_DIGITAL’ ‘11’)
inet	(‘MAP_T_INET’ ‘12’)
bellcore	(‘MAP_T_BELLCORE’ ‘13’)
alcatel	(‘MAP_T_ALCATEL’ ‘14’)
tandem	(‘MAP_T_TANDEM’ ‘15’)
qualcomm	(‘MAP_T_QUALCOMM’ ‘16’)
aldiscon	(‘MAP_T_ALDISCON’ ‘17’)
celcore	(‘MAP_T_CELCORE’ ‘18’)
telos	(‘MAP_T_TELOS’ ‘19’)
stanilite	(‘MAP_T_STANILITE’ ‘20’)
coral	(‘MAP_T_CORAL’ ‘21’)
synacom	(‘MAP_T_SYNACOM’ ‘22’)
dsc	(‘MAP_T_DSC’ ‘23’)
mci	(‘MAP_T_MCI’ ‘24’)
newnet	(‘MAP_T_NEWNET’ ‘25’)
sema	(‘MAP_T_SEMA’ ‘26’)
lg	(‘MAP_T_LG’ ‘27’)
cbis	(‘MAP_T_CBIS’ ‘28’)
seimens	(‘MAP_T_SEIMENS’ ‘29’)

billing-ID (Originating) **BillingID** ::= OCTET STRING (SIZE (7)) Octets are encoded as specific in ANSI 41-D section 6.5.2.16.

group-Information

GroupInformation ::= [PRIVATE 163] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.69.

leg-Information

LegInformation ::= [PRIVATE 144] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.75.

mscid

(Originating) **MSCID** ::= [PRIVATE 21] IMPLICIT OCTET STRING (SIZE (3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.82.

msc-Identification-Number

Indicates the identification number of an MSC sending a message. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

pilot-Billing-ID

PilotBillingID ::= [PRIVATE 169] IMPLICIT OCTET STRING (SIZE (7)) Octets are encoded as described in ANSI 41-D section 6.5.2.94.

pilot-Number

Contains the pilot directory number for a multileg call. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

transaction-Capability

TransactionCapability ::= [PRIVATE 123] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.160.

5.6.1.91 Transfer-To-Number-Request-Res

An instance of OM class **Transfer-To-Number-Request-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.465](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
digits	String(Digits)	4-12	1	—
access-Denied-Reason	Enum(Access-Denied-Reason)	—	0-1	—
action-Code	String(Octet)	1	0-1	—
announcement-List	Object(Announcement-List)	—	0-1	—
calling-Party-Number-String-1	String(Digits)	4-20	0-1	—
calling-Party-Number-String-2	String(Digits)	4-20	0-1	—
calling-Party-Subaddress	String(Subaddress)	1-21	0-1	—
digits	String(Digits)	4-21	0-1	—
dmh-Account-Code-Digits	String(Digits)	4-21	0-1	—
dmh-Alternate-Billing-Digits	String(Digits)	4-21	0-1	—
dmh-Billing-Digits	String(Digits)	4-21	0-1	—
group-Information	String(Octet)	4	0-1	—
mobile-Directory-Number	String(Octet)	4-12	0-1	—
no-Answer-Time	String(Octet)	1	0-1	—
redirecting-Number-Digits	String(Digits)	4-12	0-1	—
redirecting-Number-String	String(Digits)	4-20	0-1	—
redirecting-Subaddress	String(Subaddress)	1-21	0-1	—
termination-List	Object(Termination-List)	—	0-1	—
termination-Triggers	String(Octet)	2	0-1	—

Table 5.465: OM Attributes of OM Class **Transfer-To-Number-Request-Res**

This OM class contains the following class-specific OM attributes:

digits (Destination) **NumberDigits ::= OCTET STRING (SIZE (4..12))** Octets are encoded as described in ANSI 41-D section 6.5.3.2.

access-Denied-Reason

An enumeration containing one of the following values:

unassigned-directory-number

(‘MAP_T_UNASSIGNED_DIRECTORY_NUMBER’ ‘1’)

inactive (‘MAP_T_INACTIVE’ ‘2’)

busy (‘MAP_T_BUSY’ ‘3’)

termination-denied

(‘MAP_T_TERMINATION_DENIED’ ‘4’)

no-page-response

(‘MAP_T_NO_PAGE_RESPONSE’ ‘5’)

unavailable (‘MAP_T_UNAVAILABLE’ ‘6’)

action-Code

An octet string containing the following values:

continue-processing

(‘MAP_T_CONTINUE_PROCESSING’ ‘1’)

disconnect-call
 ('MAP_T_DISCONNECT_CALL' '2')

disconnect-call-leg
 ('MAP_T_DISCONNECT_CALL_LEG' '3')

conference-calling-drop-last-party
 ('MAP_T_CONFERERENCE_CALLING_DROP_LAST_PARTY' '4')

bridge-call-legs-to-conference-call
 ('MAP_T_BRIDGE_CALL_LEGS_TO_CONFERERENCE_CALL' '5')

drop-call-leg-on-busy-or-routing-failure
 ('MAP_T_DROP_CALL_LEG_ON_BUSY_OR_ROUTING_FAILURE' '6')

disconnect-all-call-legs
 ('MAP_T_DISCONNECT_ALL_CALL_LEGS' '7')

announcement-List

This optional attribute is an instance of OM class **Announcement-List**. See [Section 5.6.2.1 \[Announcement-List\]](#), page 580.

calling-Party-Number-String-1

This attribute specifies the network-provided identification of the calling party. **NumberString** ::= OCTET STRING (SIZE (4..20)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Number-String-2

This attribute specifies the user-provided identification of the calling party. **NumberString** ::= OCTET STRING (SIZE (4..20)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), page 102.

digits

(Carrier) **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Account-Code-Digits

Specifies the account code digits as dialed by a subscriber. The account code is defined between the subscriber and the home cellular service provider. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Alternate-Billing-Digits

Specifies a non-telephony billing number, such as a calling card number, credit card account number, debit card account code, etc. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Billing-Digits

Specifies the telephony billing number use for calls with special billing arrangements to identify the party to be billed, such as third party billing, calling card, etc. The billing number must be a valid telphony number for billing the call. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

group-Information

GroupInformation ::= [PRIVATE 163] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.69.

mobile-Directory-Number

Contains the mobile station's directory number, which may be different from its mobile identification number (MIN). **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

no-Answer-Time

NoAnswerTime ::= [PRIVATE 96] IMPLICIT OCTET STRING (SIZE (1)) Octets encode the interval, in seconds, to wait after alerting an MS or after seizing an outgoing trunk before no-answer treatment is supplied. See ANSI 41-D section 6.5.2.87.

redirecting-Number-Digits

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

redirecting-Number-String

NumberString ::= OCTET STRING (SIZE (4..20)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

redirecting-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), [page 102](#).

termination-List

This optional attribute is an instance of OM class **Termination-List**. See [Section 5.6.2.13 \[Termination-List\]](#), [page 589](#).

termination-Triggers

TerminationTriggers ::= [PRIVATE 122] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.159.

5.6.1.92 Trunk-Test-Arg

An instance of OM class **Trunk-Test-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\]](#), [page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\]](#), [page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.466](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
inter-MSC-Circuit-ID	String(Octet)	2	1	—
seizure-Type	Enum(Seizure-Type)	—	1	—

Table 5.466: OM Attributes of OM Class **Trunk-Test-Arg**

This OM class contains the following class-specific OM attributes:

inter-MS-Circuit-ID

InterMSCCircuitID ::= [PRIVATE 6] IMPLICIT OCTET STRING (SIZE (2)) Octets consist of the trunk group number and trunk member number in that order. See ANSI 41-D section 6.5.2.72.

seizure-Type

An enumeration containing one of the following values:

unspecified ('MAP_T_SEIZURE_UNSPECIFIED' '0')

loop-back ('MAP_T_LOOP_BACK' '1') The destination switch is to set up a loop around connection back to the source switch.

5.6.1.93 Trunk-Test-Res

An instance of OM class **Trunk-Test-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*; it defines not attributes of its own.

5.6.1.94 Trunk-Test-Disconnect-Arg

An instance of OM class **Trunk-Test-Disconnect-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.467](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
inter-MS-Circuit-ID	String(Octet)	2	1	—

Table 5.467: OM Attributes of OM Class **Trunk-Test-Disconnect-Arg**

This OM class contains the following class-specific OM attributes:

inter-MS-Circuit-ID

InterMSCCircuitID ::= [PRIVATE 6] IMPLICIT OCTET STRING (SIZE (2)) Octets consist of the trunk group number and trunk member number in that order. See ANSI 41-D section 6.5.2.72.

5.6.1.95 Trunk-Test-Disconnect-Res

An instance of OM class **Trunk-Test-Disconnect-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of it superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*; it does not define any attributes of its own.

5.6.1.96 Unblocking-Arg

An instance of OM class **Unblocking-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.468](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
inter-MSC-Circuit-ID	String(Octet)	2	1	—

Table 5.468: OM Attributes of OM Class **Unblocking-Arg**

This OM class contains the following class-specific OM attributes:

inter-MSC-Circuit-ID

InterMSCCircuitID ::= [PRIVATE 6] IMPLICIT OCTET STRING (SIZE (2)) Octets consist of the trunk group number and trunk member number in that order. See ANSI 41-D section 6.5.2.72.

5.6.1.97 Unblocking-Res

An instance of OM class **Unblocking-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*; it does not define any attributes of its own.

5.6.1.98 Unreliable-Roamer-Data-Directive-Arg

An instance of OM class **Unreliable-Roamer-Data-Directive-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.469](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
mscid	String(Octet)	3	0-1	—
sender-Identification-Number	String(Digits)	4-12	0-1—	

Table 5.469: OM Attributes of OM Class **Unreliable-Roamer-Data-Directive-Arg**

This OM class contains the following class-specific OM attributes:

mscid (HLR) MSCID ::= [PRIVATE 21] IMPLICIT OCTET STRING (SIZE (3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.82.

sender-Identification-Number

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

5.6.1.99 Unreliable-Roamer-Data-Directive-Res

An instance of OM class **Unreliable-Roamer-Data-Directive-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*; it does not define any attributes of its own.

5.6.1.100 Unsolicited-Response-Arg

An instance of OM class **Unsolicited-Response-Arg** represents the information of a mobile application service operation request supplied as an argument to the *Service-req()* function (see [Section 4.20 \[Service-req\(\)\], page 70](#)) or is returned by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation indication.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Argument*, *ANSI-Service-Argument*, and additionally the OM attributes listed in [Table 5.470](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
billing-ID	String(Octet)	7	1	—
electronic-Serial-Number	String(Octet)	4	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
digits	String(Digits)	4-12	0-1	—
extended-MS-CD	String(Octet)	4	0-1	—
extended-System-My-Type-Code	String(Octet)	2	0-1	—
pc-SSN	String(Octet)	5	0-1	—
system-Access-Type	Enum(System-Access-Type)	—	0-1	—

Table 5.470: OM Attributes of OM Class **Unsolicited-Response-Arg**

This OM class contains the following class-specific OM attributes:

billing-ID (Anchor) **BillingID** ::= OCTET STRING (SIZE (7)) Octets are encoded as specific in ANSI 41-D section 6.5.2.16.

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

mobile-Identification-Number

Specifies the 10-digit representaiton of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\], page 83](#). **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

digits (Destination) **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

extended-MSID

(Border MSC) **ExtendedMSID** ::= [PRIVATE 53] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.64.

extended-System-My-Type-Code

(Border MSC) **ExtendedSystemMyTypeCode** ::= [PRIVATE 54] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.65.

pc-SSN

(Border MSC) Specifies the ANSI SS7 Point Code (PC) and Subsystem Number (SSN) of a particular cellular functional entity. **PC-SSN** ::= [PRIVATE 32] IMPLICIT OCTET STRING (SIZE (5)) Octets are encoded as follows:

- Octet 1 Encodes the system type and has one of the following values:

serving-msc

(‘MAP_T_SERVING_MSC’ ‘1’)

home-msc

(‘MAP_T_HOME_MSC’ ‘2’)

gateway-msc

(‘MAP_T_GATEWAY_MSC’ ‘3’)

hlr

(‘MAP_T_HLR’ ‘4’)

vlr

(‘MAP_T_VLR’ ‘5’)

eir

(‘MAP_T_EIR’ ‘6’)

ac

(‘MAP_T_AC’ ‘7’)

border-msc

(‘MAP_T_BORDER_MSC’ ‘8’)

originating-msc

(‘MAP_T_ORIGINATING_MSC’ ‘9’)

A value of zero indicates that the system type is unspecified.

- Octet 2 MTP Point Code member number.
- Octet 3 MTP Point Code cluster number.
- Octet 4 MTP Point Code network number.
- Octet 5 SCCP Subsystem Number (SSN).

system-Access-Type

An enumeration containing one of the following values:

unspecified (‘MAP_T_UNSPECIFIED’ ‘1’)

flash-request

(‘MAP_T_FLASH_REQUEST’ ‘1’)

autonomous-registration

(‘MAP_T_AUTONOMOUS_REGISTRATION’ ‘1’)

call-origination

(‘MAP_T_CALL_ORIGINATION’ ‘1’)

page-response

(‘MAP_T_PAGE_RESPONSE’ ‘1’)

```

no-access      ('MAP_T_NO_ACCESS' '1')

power-down-registration
                ('MAP_T_POWER_DOWN_REGISTRATION' '1')

sms-page-response
                ('MAP_T_SMS_PAGE_RESPONSE' '1')

```

5.6.1.101 Unsolicited-Response-Res

An instance of OM class **Unsolicited-Response-Res** represents the information of a mobile application service operation response supplied as the *Response* argument to the *Service-rsp()* function (see [Section 4.21 \[Service-rsp\(\)\], page 72](#)) or is returned in the *Result-Or-Argument* result by the *Receive()* function (see [Section 4.16 \[Receive\(\)\], page 63](#)) for a mobile application service operation confirmation.

An instance of this OM class has the OM attributes of its superclasses, *Object*, *Service-Result*, *ANSI-Service-Result*, and additionally the OM attributes listed in [Table 5.471](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
alert-Code	String(Octet)	2	0-1	—
billing-ID	String(Octet)	7	0-1	—
calling-Party-Number-String-1	String(Digit)	4-20	0-1	—
calling-Party-Number-String-2	String(Digit)	4-20	0-1	—
calling-Party-Subaddress	String(Subaddress)	1-21	0-1	—
dmh-Account-Code-Digits	String(Digits)	4-12	0-1	—
dmh-Alternate-Billing-Digits	String(Digits)	4-12	0-1	—
dmh-Billing-Digits	String(Digits)	4-12	0-1	—
extended-MS-Code	String(Octet)	4	0-1	—
extended-System-My-Type-Code	String(Octet)	2	0-1	—
leg-Information	String(Octet)	4	0-1	—
mobile-Directory-Number	String(Digits)	4-12	0-1	—
msc-Identification-Number	String(Digits)	4-12	0-1	—
one-Time-Feature-Indicator	String(Octet)	2	0-1	—
pc-SSN	String(Octet)	5	0-1	—
pilot-Billing-ID	String(Octet)	7	0-1	—
pilot-Number	String(Digits)	4-12	0-1	—
redirecting-Number-String	String(Digits)	4-20	0-1	—
redirecting-Subaddress	String(Subaddress)	1-21	0-1	—
termination-Treatment	String(Octet)	1	0-1	—
termination-Triggers	String(Octet)	2	0-1	—

Table 5.471: OM Attributes of OM Class **Unsolicited-Response-Res**

This OM class contains the following class-specific OM attributes:

```

alert-Code    AlertCode ::= OCTET STRING (SIZE(2)) Octets are coded as described in ANSI41-D.

billing-ID    (Originating) BillingID ::= OCTET STRING (SIZE (7)) Octets are encoded as specific
                in ANSI 41-D section 6.5.2.16.

```

calling-Party-Number-String-1

This attribute specifies the network-provided identification of the calling party. `NumberString ::= OCTET STRING (SIZE (4..20))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Number-String-2

This attribute specifies the user-provided identification of the calling party. `NumberString ::= OCTET STRING (SIZE (4..20))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

calling-Party-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), [page 102](#).

dmh-Account-Code-Digits

Specifies the account code digits as dialed by a subscriber. The account code is defined between the subscriber and the home cellular service provider. `NumberDigits ::= OCTET STRING (SIZE (4..12))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Alternate-Billing-Digits

Specifies a non-telephony billing number, such as a calling card number, credit card account number, debit card account code, etc. `NumberDigits ::= OCTET STRING (SIZE (4..12))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

dmh-Billing-Digits

Specifies the telephony billing number use for calls with special billing arrangements to identify the party to be billed, such as third party billing, calling card, etc. The billing number must be a valid telphony number for billing the call. `NumberDigits ::= OCTET STRING (SIZE (4..12))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

extended-MSCID

(Originating MSC) `ExtendedMSCID ::= [PRIVATE 53] IMPLICIT OCTET STRING (SIZE (4))` Octets are encoded as specified in ANSI 41-D section 6.5.2.64.

extended-System-My-Type-Code

(Originating MSC) `ExtendedSystemMyTypeCode ::= [PRIVATE 54] IMPLICIT OCTET STRING (SIZE (2))` Octets are encoded as specified in ANSI 41-D section 6.5.2.65.

leg-Information

`LegInformation ::= [PRIVATE 144] IMPLICIT OCTET STRING (SIZE (4))` Octets are encoded as specified in ANSI 41-D section 6.5.2.75.

mobile-Directory-Number

Contains the mobile station's directory number, which may be different from its mobile identification number (MIN). `NumberDigits ::= OCTET STRING (SIZE (4..12))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

msc-Identification-Number

(Originating-MS) Indicates the identification number of an MSC sending a message. `NumberDigits ::= OCTET STRING (SIZE (4..12))` Octets are encoded as described in ANSI 41-D section 6.5.3.2.

one-Time-Feature-Indicator

OneTimeFeatureIndicator ::= [PRIVATE 97] IMPLICIT OCTET STRING (SIZE (2))

Octets are encoded as specified in ANSI 41-D section 6.5.2.88.

pc-SSN

(Originating MSC) Specifies the ANSI SS7 Point Code (PC) and Subsystem Number (SSN) of a particular cellular functional entity. **PC_SSN** ::= [PRIVATE 32] IMPLICIT OCTET STRING (SIZE (5)) Octets are encoded as follows:

- Octet 1 Encodes the system type and has one of the following values:

serving-msc

(‘MAP_T_SERVING_MSC’ ‘1’)

home-msc

(‘MAP_T_HOME_MSC’ ‘2’)

gateway-msc

(‘MAP_T_GATEWAY_MSC’ ‘3’)

hlr

(‘MAP_T_HLR’ ‘4’)

vlr

(‘MAP_T_VLR’ ‘5’)

eir

(‘MAP_T_EIR’ ‘6’)

ac

(‘MAP_T_AC’ ‘7’)

border-msc

(‘MAP_T_BORDER_MSC’ ‘8’)

originating-msc

(‘MAP_T_ORIGINATING_MSC’ ‘9’)

A value of zero indicates that the system type is unspecified.

- Octet 2 MTP Point Code member number.
- Octet 3 MTP Point Code cluster number.
- Octet 4 MTP Point Code network number.
- Octet 5 SCCP Subsystem Number (SSN).

pilot-Billing-ID

PilotBillingID ::= [PRIVATE 169] IMPLICIT OCTET STRING (SIZE (7)) Octets are encoded as described in ANSI 41-D section 6.5.2.94.

pilot-Number

Contains the pilot directory number for a multileg call. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

redirecting-Number-String

NumberString ::= OCTET STRING (SIZE (4..20)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

redirecting-Subaddress

This attribute is of syntax *String(Subaddress)*. See [Section 5.3.2 \[String\(Subaddress\)\]](#), [page 102](#).

termination-Treatment

TerminationTreatment ::= [PRIVATE 121] IMPLICIT OCTET STRING (SIZE (1))

Octets are encoded as specified in ANSI 41-D section 6.5.2.158. The octet can assume values:

ms-termination

('MAP_T_MS_TERMINATION' '1')

voice-mail-storage

('MAP_T_VOICE_MAIL_STORAGE' '2')

voice-mail-retrieval

('MAP_T_VOICE_MAIL_RETRIEVAL' '3')

dialogue-termination

('MAP_T_DIALOGUE_TERMINATION' '4')

termination-Triggers

TerminationTriggers ::= [PRIVATE 122] IMPLICIT OCTET STRING (SIZE (2))

Octets are encoded as specified in ANSI 41-D section 6.5.2.159.

5.6.2 ANSI MAP Parameters**5.6.2.1 Announcement-List**An instance of OM class **Announcement-List** represent the corresponding ANSI MAP parameter.An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.472](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
announcement-Code	String(Octet)	4	1-more	—

Table 5.472: *OM Attributes of OM Class Announcement-List*

This OM class contains the following class-specific OM attributes:

*announcement-Code*One or more instances of an announcement code, where: `AnnouncementCode ::= OCTET STRING (SIZE (4))` Octets are coded according to ANSI41-D.**5.6.2.2 CDMA-Code-Channel-Information**An instance of **CDMA-Code-Channel-Information** specifies the CDMA code channel information that is used in the handoff process.An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.473](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
cdma-Code-Channel-Information	Object(CDMA-Code-Channel-Information)	—	1-more	—
extension	Object(Extension)	—	0-1	—

Table 5.473: *OM Attributes of OM Class CDMA-Code-Channel-Information*

This OM class contains the following class-specific OM attributes;

target-Cell-ID

Specifies the ID of the target cell site to be used in this transaction. **TargetCellID** ::= [PRIVATE 3] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded with the 16-bit cell identifier, most significant byte first. See ANSI 41-D section 6.5.2.148.

cdma-Code-Channel

CdmaCodeChannel ::= OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.31.

5.6.2.3 CDMA-Code-Channel-List

An instance of **CDMA-Code-Channel-List** specifies CDMA code channel information that is used in the handoff process.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.474](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
target-Cell-ID			1	—
cdma-Code-Channel	String(Octet)	1-more	1	—
extension	Object(Extension)	—	0-1	—

Table 5.474: OM Attributes of OM Class **CDMA-Code-Channel-List**

This OM class contains the following class-specific OM attributes;

cdma-Code-Channel-Information

One or more instances of OM class **CDMA-Code-Channel-Information**. See [Section 5.6.2.2 \[CDMA-Code-Channel-Information\]](#), page 580.

5.6.2.4 CDMA-Target-MAHO-Information

An instance of **CDMA-Target-MAHO-Information** specifies CDMA target cell information that is used in the handoff process.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.475](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
target-Cell-ID			1	—
cdma-Pilot-Strength	String(Octet)	1	1	—
cdma-Target-One-Way-Delay	String(Octet)	2	1	—
extension	Object(Extension)	—	0-1	—

Table 5.475: OM Attributes of OM Class **CDMA-Target-MAHO-Information**

This OM class contains the following class-specific OM attributes;

target-Cell-ID

Specifies the ID of the target cell site to be used in this transaction. **TargetCellID** ::= [PRIVATE 3] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded with the 16-bit cell identifier, most significant byte first. See ANSI 41-D section 6.5.2.148.

cdma-Pilot-Strength

CdmaPilotStrength ::= OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.35.

cdma-Target-One-Way-Delay

CdmaTargetOneWayDelay ::= OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.46.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.6.2.5 CDMA-Target-MAHO-List

An instance of **CDMA-Target-MAHO-List** specifies CDMA target cell information that is used in the handoff process.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.476](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
cdma-Target-MAHO-Information	Object(CDMA-Target-MAHO-Information)	—	1-more	—
extension	Object(Extension)	—	0-1	—

Table 5.476: *OM Attributes of OM Class CDMA-Target-MAHO-List*

This OM class contains the following class-specific OM attributes;

cdma-Target-MAHO-Information

One or more instances of OM class **CDMA-Target-MAHO-Information**. See [Section 5.6.2.4 \[CDMA-Target-MAHO-Information\]](#), page 581.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.6.2.6 CDMA-Target-Measurement-Information

An instance of OM class **CDMA-Target-Measurement-Information** specifies CDMA target cell information used in the handoff process.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.477](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
target-Cell-ID			1	—
cdma-Signal-Quality	String(Octet)	1	1	—
cdma-Target-One-Way-Delay	String(Octet)	2	1	—
extension	Object(Extension)	—	0-1	—

Table 5.477: OM Attributes of OM Class **CDMA-Target-Measurement-Information**

This OM class contains the following class-specific OM attributes;

target-Cell-ID

Specifies the ID of the target cell site to be used in this transaction. **TargetCellID** ::= [PRIVATE 3] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded with the 16-bit cell identifier, most significant byte first. See ANSI 41-D section 6.5.2.148.

cdma-Signal-Quality

CdmaSignalQuality ::= OCTET STRING (SIZE (1)) Octets are encoded as specified in ANSI 41-D section 6.5.2.39.

cdma-Target-One-Way-Delay

CdmaTargetOneWayDelay ::= OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.46.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.6.2.7 CDMA-Target-Measurement-List

An instance of OM class **CDMA-Target-Measurement-List** specifies CDMA target cell information used in the handoff process.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.478](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
cdma-Target-Measurement-Information	Object(CDMA-Target-Measurement-Information)	—	1-more	—
extension	Object(Extension)	—	0-1	—

Table 5.478: OM Attributes of OM Class **CDMA-Target-Measurement-List**

This OM class contains the following class-specific OM attributes;

cdma-Target-Measurement-Information

One or more instances of OM class **CDMA-Target-Measurement-Information**. See [Section 5.6.2.6 \[CDMA-Target-Measurement-Information\]](#), page 582.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.6.2.8 Intersystem-Termination

An instance of OM class **Intersystem-Termination** specifies routing information for an MSC for call terminated on another MSC.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 5.479.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
destination-Digits	String(Digits)	4-12	1	—
mscid	String(Octet)	3	1	—
access-Denied-Reason	Enum(Access-Denied-Reason)	—	0-1	—
billing-ID	String(Octet)	7	0-1	—
carrier-Digits	String(Digits)	4-12	0-1	—
electronic-Serial-Number	String(Octet)	4	0-1	—
leg-Information	String(Octet)	4	0-1	—
mobile-Directory-Number	String(TBCD)	5	0-1	—
msc-Identification-Number	String(Digits)	4-12	0-1	—
routing-Digits	String(Digits)	4-12	0-1	—
termination-Triggers	String(Octet)	2	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.479: OM Attributes of OM Class **Intersystem-Termination**

This OM class contains the following class-specific OM attributes;

destination-Digits

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

mscid

(Serving) **MSCID** ::= [PRIVATE 21] IMPLICIT OCTET STRING (SIZE (3)) Octets are encoded as specified in ANSI 41-D section 6.5.2.82.

access-Denied-Reason

An enumeration containing one of the following values:

unassigned-directory-number

(‘MAP_T_UNASSIGNED_DIRECTORY_NUMBER’ ‘1’)

inactive (‘MAP_T_INACTIVE’ ‘2’)

busy (‘MAP_T_BUSY’ ‘3’)

termination-denied

(‘MAP_T_TERMINATION_DENIED’ ‘4’)

no-page-response

(‘MAP_T_NO_PAGE_RESPONSE’ ‘5’)

unavailable (‘MAP_T_UNAVAILABLE’ ‘6’)

billing-ID

(Terminating) **BillingID** ::= OCTET STRING (SIZE (7)) Octets are encoded as specific in ANSI 41-D section 6.5.2.16.

carrier-Digits

This attribute specifies the preferred interexchange carrier for the call. Only specified for national usage. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

leg-Information

LegInformation ::= [PRIVATE 144] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.75.

mobile-Directory-Number

Contains the mobile station's directory number, which may be different from its mobile identification number (MIN). **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

mobile-Identification-Number

Specifies the 10-digit representation of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

msc-Identification-Number

Indicates the identification number of an MSC sending a message. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

routing-Digits

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

termination-Triggers

TerminationTriggers ::= [PRIVATE 122] IMPLICIT OCTET STRING (SIZE (2))
Octets are encoded as specified in ANSI 41-D section 6.5.2.159.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.6.2.9 Local-Termination

An instance of OM class **Local-Termination** specifies routing information for an MSC for calls terminated on the same MSC.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.480](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
electronic-Serial-Number	String(Octet)	4	1	—
mobile-Identification-Number	String(TBCD)	5	1	—
termination-Treatment	String(Octet)	1	1	—
alert-Code	String(Octet)	2	0-1	—
carrier-Digits	String(Digits)	4-12	0-1	—
destination-Digits	String(Digits)	4-12	0-1	—
leg-Information	String(Octet)	4	0-1	—
mobile-Directory-Number	String(Digits)	4-12	0-1	—
one-Time-Feature-Indicator	String(Octet)	2	0-1	—
routing-Digits	String(Digits)	4-12	0-1	—
termination-Triggers	String(Octet)	2	0-1	—
voice-Mailbox-PIN	String(Digits)	4-12	0-1	—
voice-Mailbox-Number	String(Digits)	4-12	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.480: OM Attributes of OM Class **Local-Termination**

This OM class contains the following class-specific OM attributes;

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4))
Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

mobile-Identification-Number

Specifies the 10-digit representaiton of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

termination-Treatment

TerminationTreatment ::= [PRIVATE 121] IMPLICIT OCTET STRING (SIZE (1))
Octets are encoded as specified in ANSI 41-D section 6.5.2.158. The octet can assume values:

ms-termination

('MAP_T_MS_TERMINATION' '1')

voice-mail-storage

('MAP_T_VOICE_MAIL_STORAGE' '2')

voice-mail-retrieval

('MAP_T_VOICE_MAIL_RETRIEVAL' '3')

dialogue-termination

('MAP_T_DIALOGUE_TERMINATION' '4')

alert-Code **AlertCode** ::= OCTET STRING (SIZE(2)) Octets are coded as described in ANSI41-D.

carrier-Digits

This attribute specifies the preferred interexchange carrier for the call. Only specified for national usage. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

destination-Digits

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

leg-Information

LegInformation ::= [PRIVATE 144] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.75.

mobile-Directory-Number

Contains the mobile station's directory number, which may be different from its mobile identification number (MIN). **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

one-Time-Feature-Indicator

OneTimeFeatureIndicator ::= [PRIVATE 97] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.88.

routing-Digits

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

termination-Triggers

TerminationTriggers ::= [PRIVATE 122] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.159.

voice-Mailbox-PIN

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

voice-Mailbox-Number

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.6.2.10 PSTN-Termination

An instance of OM class **PSTN-Termination** specifies routing information for an MSC for calls terminated on the PSTN.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.481](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
destination-Digits	String(Digits)	4-12	1	—
carrier-Digits	String(Digits)	4-12	0-1	—
electronic-Serial-Number	String(Octet)	4	0-1	—
leg-Information	String(Octet)	4	0-1	—
mobile-Identification-Number	String(TBCD)	5	0-1	—
routing-Digits	String(Digits)	4-12	0-1	—
termination-Triggers	String(Octet)	2	0-1	—
extension	Object(Extension)	—	0-1	—

Table 5.481: OM Attributes of OM Class **PSTN-Termination**

This OM class contains the following class-specific OM attributes;

destination-Digits

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

carrier-Digits

This attribute specifies the preferred interexchange carrier for the call. Only specified for national usage. **NumberDigits** ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

electronic-Serial-Number

ElectronicSerialNumber ::= [PRIVATE 9] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.63.

leg-Information

LegInformation ::= [PRIVATE 144] IMPLICIT OCTET STRING (SIZE (4)) Octets are encoded as specified in ANSI 41-D section 6.5.2.75.

mobile-Identification-Number

Specifies the 10-digit representaiton of the mobile station's mobile identification number in BCD form. This attribute uses syntax *String(TBCD)*. See [Section 5.2.1 \[String\(TBCD\)\]](#), page 83. **MobileIdentificationNumber** ::= [PRIVATE 8] IMPLICIT TBCD-STRING (SIZE (5)) Octets are encoded as specified in ANSI 41-D section 6.5.2.81.

routing-Digits

NumberDigits ::= OCTET STRING (SIZE (4..12)) Octets are encoded as described in ANSI 41-D section 6.5.3.2.

termination-Triggers

TerminationTriggers ::= [PRIVATE 122] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded as specified in ANSI 41-D section 6.5.2.159.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.6.2.11 Target-Measurement-Information

An instance of OM class **Target-Measurement-Information** specifies target cell information used in the handoff process.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.482](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
target-Cell-ID	String(Octet)	2	1	—
signal-Quality	Integer	0-255	1	—
extension	Object(Extension)	—	0-1	—

Table 5.482: OM Attributes of OM Class **Target-Measurement-Information**

This OM class contains the following class-specific OM attributes;

target-Cell-ID

Specifies the ID of the target cell site to be used in this transaction. **TargetCellID** ::= [PRIVATE 3] IMPLICIT OCTET STRING (SIZE (2)) Octets are encoded with the 16-bit cell identifier, most significant byte first. See ANSI 41-D section 6.5.2.148.

signal-Quality

SignalQuality ::= [PRIVATE 11] IMPLICIT INTEGER (0..255) Values are interpreted as specified in ANSI 41-D section 6.5.2.121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.6.2.12 Target-Measurement-List

An instance of OM class **Target-Measurement-List** specifies target cell information used in the handoff process.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.483](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
target-Measurement-Information	Object(Target-Measurement-Information)	—	1-more	—
extension	Object(Extension)	—	0-1	—

Table 5.483: OM Attributes of OM Class **Target-Measurement-List**

This OM class contains the following class-specific OM attributes;

target-Measurement-Information

One or more instances of OM class **Target-Measurement-Information**. See [Section 5.6.2.11 \[Target-Measurement-Information\]](#), page 588.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

5.6.2.13 Termination-List

An instance of OM class **Termination-List** provides an MSC with routing information, in the form of one or more terminations.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 5.484](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
intersystem-Termination	Object(Intersystem-Termination)	—	0-1	—
local-Termination	Object(Local-Termination)	—	0-1	—
pstn-Termination	Object(PTSN-Termination)	—	0-1	—

Table 5.484: *OM Attributes of OM Class* **Termination-List**

This OM class represents a choice and exactly one instance of one attribute shall be present in an instance of this OM clas.

This OM class contains the following class-specific OM attributes;

intersystem-Termination

This choice attribute is an instance of OM class **Intersystem-Termination**. See [Section 5.6.2.8 \[Intersystem-Termination\]](#), page 584.

local-Termination

This choice attribute is an instance of OM class **Local-Termination**. See [Section 5.6.2.9 \[Local-Termination\]](#), page 585.

pstn-Termination

This choice attribute is an instance of OM class **PSTN-Termination**. See [Section 5.6.2.10 \[PSTN-Termination\]](#), page 587.

6 Errors

This chapter defines the errors that can arise in the use of the interface and described the methods used to report them. There are basically two types of errors:

- Mobile Application Protocol Standards Errors
- API Function Call Errors

Mobile Application Protocol Standards Errors are defined within a mobile application protocol specification such as ANSI-41D and 3GPP TS 29.002. This type of error is referred to as a *Service-Error*. Service-Errors may be created by applications programs as arguments on response function calls and appear as results on request function calls with a status of success `[[MAP_SUCCESS]]`. Service-Errors also appear as results of *Receive()* with a status of success `[[MAP_SUCCESS]]`. A Service-Error is a private object containing details of the problem that occurred and including other relative information.

Service-Errors are reported using two OM classes that subclasses of the OM class *Error*:

Service-Error defined as part of the Common MAP Package as discussed in [Section 5.2 \[Common MAP Package\]](#), page 83.

Service-Reject defined as part of the Common MAP Package as discussed in [Section 5.2 \[Common MAP Package\]](#), page 83.

API function call errors are defined by this specification. This type of error is referred to as a *Function-Call-Error*, and it has sub-categories of *Communications-Error*, *Library-Error* and *System-Error*.

Function-Call-Errors are reported to the application program by means of a **Status** that is a result of every function (it is the function result in the C language binding). A function that completes successfully returns the value **success** (`'((MP_status)0)' [[MAP_SUCCESS]]`), while one that is not successful returns an error. The error is an integer. In a few cases, additional function calls can be used to gain additional error information as discussed below.

The error constants `[[MAP_NO_WORKSPACE]]`, `[[MAP_INVALID_SESSION]]` and `[[MAP_INSUFFICIENT_RESOURCES]]` can be returned by all functions except *Error-Message()* and *Initialize()*:

- `[[MAP_NO_WORKSPACE]]` should be returned if *Initialize()* is not invoked before calling any other function.
- `[[MAP_INVALID_SESSION]]` should be returned if an invalid session object is passed into the function.
- `[[MAP_INSUFFICIENT_RESOURCES]]` should be returned if the function is unable to complete due to resource problems, for example, lack of memory.

The function call *Get-Last-Error()* may be used to report an additional integer value when the error constant is `[[MAP_E_COMMUNICATIONS_PROBLEM]]`, `[[MAP_E_BROKEN_SESSION]]` or `[[MAP_E_SYSTEM]]`.

The function call *Validate-object()* (see [Section 4.25 \[Validate-object\(\)\]](#), page 77) may be used to report an additional private object containing details related to an error constant of `[[MAP_E_BAD_ARGUMENT]]`.

The situation is more complicated for asynchronous operations, because these can fail at two stages: either before the remote operation is started, or during it. The first type is reported immediately in the status of the invoking function, while the second is returned as the **Operation-Status** result of a later call to *Receive()* (see [Section 4.16 \[Receive\(\)\]](#), page 63).

Errors are classified into several OM subclasses of the OM class *Error*.

This specification defines the subclasses **Service-Error** and **Service-Reject** in the Common MAP package to represent errors of Common MAP service.

The Standards specify different kinds of service errors:

- MAP Service User Errors
- MAP Service Provider Errors
- TC User Errors
- TC Provider Errors
- NS Provider Errors
 - MAP user service errors:
 - MAP provider service errors:
 - duplicate-invoke-id**
 - not-supported-service**
 - mistyped-parameter**
 - resource-limitation**
 - initiating-release**
 - TC provider service errors:
 - Network Service errors:

The OM classes defined in this chapter are part of the GSM MAP package introduced in [Section 5.3 \[GSM MAP Package\]](#), page 100.

To allow automatic association management and automatic dialog handling (that is, transparent association and dialog establishment and release), the interface may not communicate with a program when *Bind()* is called, but may defer it until a mobile application service operation is requested. Because of this flexibility, all functions can return the same errors as *Bind()*. For example, a *Service-req()* operation may return a version incompatibility error because the association was deferred until access was actually needed.

6.1 OM Class Hierarchy

6.1.1 Bad-Argument

An instance of OM class **Bad-Argument** reports additional information for locating the first detected bad OM sub-object and bad OM attribute.

An instance of this OM class has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.1](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
<i>GSM Service Controls</i>				
OM-Subobject	Object(*)	—	1	—
OM-Class	String(Object-Identifier)	—	1	—
OM-Attribute	Integer	—	1	—
OM-Index	Integer	—	1	—
OM-Bad-Argument	Enum(Bad-Argument)	—	1	—

Table 6.1: *OM Attributes of OM class Bad-Argument*

The OM attributes of a **Bad-Argument** are:

OM-Subobject

The handle to the first detected bad OM-Subobject in the tree.

OM-Class The Object-Identifier of the OM-Subobject. This information is redundant but convenient.

OM-Attribute

The attribute name of the first OM-attribute of the OM-Subobject, or of the first missing mandatory OM-attribute.

OM-Index The index of the first bad occurrence of this OM-attribute (starting from zero). Takes the value zero in the case of a missing mandatory OM attribute.

OM-Bad-Argument

The additional error. Its value is one of:

missing-attribute

The attribute is required, but is missing.

invalid-attribute

The attribute is invalid.

exclusive-attribute

This attribute is exclusive with a previous one.

not-multi-valued

This attribute is not multi-valued, but more than one value was found.

bad-syntax This attribute has a bad syntax.

bad-value This attribute has a bad value.

6.1.2 Communications-Error

Communications errors report an error occurring in the underlying communications service supporting the Mobile Application Services. Communications errors include those arising from TCAP component handling, dialogue handling, transaction handling, and network services part communications. The following error constants are considered **Communications-Error** values:

communications-problem

A communications problem with the peer entity involved in the current operation occurred. No more results will be returned for the outstanding operation. This problem may be temporary.

If a synchronous call has returned a communications problem, additional information may be received by issuing a *Receive()* on the related session. For example, synchronous calls may fail because a dialog session has been aborted by the remote peer. The abort indication would be received via *Receive()*.

The OM attribute *parameter* may be present with additional information.

broken-session

A fatal access problem to the Mobile Application Service provider has occurred. The invoked session is abruptly terminated (no longer usable). No more results will be returned for the outstanding operation. Further usage of this session would return the *Library-Error session-terminated*.

The OM attribute *parameter* may be present with additional information.

An additional integer value may be returned if the application issues the *Get-Last-Error()* call. The value of the integer is MAS provider specific. It is not possible to stanardize the values since there is no standard for the MAS provider. However, most MAS providers provide some error value when a communications error occurs.

An applications program might use this to check whether the MAS provider has had a fatal error, some temporary problem, or whether a request as made for something that this MAS provider does not support. Most MAS providers offer a range of error codes that define specific error conditions of this nature.

6.1.3 Error

The OM class **Error** comprises the parameters common to all errors.

It is an abstract OM class that has the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.2](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
<i>GSM Service Controls</i>				
<i>problem</i>	Integer	—	1	—
<i>parameter</i>	any	—	0-1	—

Table 6.2: OM Attributes of OM class **Error**

Details of errors are returned in an instance of a subclass of this OM class. Each subclass represents a particular kind of error, and is one of:

- **Service-Error**
- **Service-Reject**

The Om attributes of *Error* are:

<i>problem</i>	Give the details of the error. A number of possible values are defined, but implementations may define additional values. Implementations will not return other values for error conditions described in this chapter. Each of the standard values is listed and is described under the relative error OM class.
<i>parameter</i>	This OM attribute supplies additional information accompanying the service rror notification. Its OM value syntax, denoted by <i>any</i>, that is allowed for this OM attribute is determined by the paritcular value of the OM attribute value <i>problem</i>. Some error notifications do not define additional information. In this case, the OM attribute <i>parameter</i> may be absent.

6.1.4 Library Error

Library errors report an error detected by the interface function library.

Each function has several possible errors that can be detected by the library itself, and which are returned directly by the subroutine. These errors occur when the library itself is incapable of performing an action, submitting a service request, or parsing a response from the system management service.

The following error constants are considered Library-Error values that identify the particular library error that has occurred. The **ERRORS** section of each function description lists just those which that function can return.

The possible cause of the failure and their associated information are:

bad-address (MAP_E_BAD_ADDRESS)

An invalid address was supplied.

bad-argument (MAP_E_BAD_ARGUMENT)

A bad argument was supplied. The application program may use the *Validate-object()* function call to receive more detailed information.

bad-class (MAP_E_BAD_CLASS)

The OM class of an argument or a result or a linked reply or an error is not supported for this operation.

bad-context (MAP_E_BAD_CONTEXT)

An invalid context argument was supplied.

bad-error (MAP_E_BAD_ERROR)

A bad service-error-was supplied.

bad-linked-reply (MAP_E_BAD_LINKED_REPLY)

A bad linked-reply was supplied.

bad-procedural-user (MAP_E_BAD_PROCEDURAL_USER)

The procedural use of linked-reply is not compliant with the standards, or the permitted service primitive chaining is violated.

bad-result (MAP_E_BAD_RESULT)

A bad result was supplied.

bad-session (MAP_E_BAD_SESSION)

An invalid session was supplied.

bad-title (MAP_E_BAD_TITLE)

An invalid title was supplied.

bad-workspace (MAP_E_BAD_WORKSPACE)

An invalid workspace argument was supplied.

miscellaneous (MAP_E_MISCELLANEOUS)

A miscellaneous error occurred in interacting with the system management service. This error will be returned if the interface cannot clear a transient system error by retrying the affected system call.

no-such-operation (MAP_E_NO_SUCH_OPERATION)

The library has no knowledge of the designated operation or notification in progress or that the response mismatches the invoked operation.

not-supported (MAP_E_NOT_SUPPORTED)

An attempt was made to use optional functionality that is not available in this implementation or that was not agreed for use on that session.

reply-limit-exceeded (MAP_E_REPLY_LIMIT_EXCEEDED)

The maximum number of linked replies about which the requested service should return information is reached.

session-terminated (MAP_E_SESSION_TERMINATED)

The session is terminated and thus results of outstanding operations are no longer available.

time-limit-exceeded (MAP_E_TIME_LIMIT_EXCEEDED)

The maximum elapsed time within which the requested service should be provided is reached.

too-many-operations (MAP_E_TOO_MANY_OPERATIONS)

No more management operations can be performed until at least one asynchronous operation has completed.

too-many-sessions (MAP_E_TOO_MANY_SESSIONS)

No more mobile application sessions can be started.

6.1.5 Service Error

The OM classes **Service-Error** and **Service-Reject** report management errors related to the provision of service.

This specification defines OM classes for reporting GSM service errors, each of which has the OM attributes of its superclasses, *Object*, *Error*, and no other attributes.

Service-Error

Corresponding errors of the MAP service.

Service-Reject

Corresponding errors of the TCAP service.

These OM classes are used to report errors in compliance with the respective standard.

6.1.6 System Error

System errors report an error occurring in the underlying operating system.

The error constant `[[MAP_E_SYSTEM_ERROR]]` is the only value in this Function-Call-Error category. An additional integer value may be returned if the application issues the *Get-Last-Error()* function call. Its value is the same as that of `errno(3)` defined in the C language. The standard names of system errors are defined in the X/Open Portability Guide (see reference **XPG**), and additional names may be implementation-defined.

If a transient error occurs (`[[EINTR]]` or `[[EAGAIN]]`), implementations will retry the affected operation and will not report these errors. If such an error persists they may report the Library error (miscellaneous) or an implementation-defined library error.

6.2 GSM MAP Errors

6.2.1 Reject Errors

The GSM MAP package defines the following reject *GSM-Service-Error* problem values and parameter syntaxes:

initiating-release

(`'MAP_E_INITIATING_RELEASE'`) The receiving entity has started the release procedure. There is no error *parameter* associated with this error.

6.2.2 Generic Errors

The GSM MAP package defines the following generic *GSM-Service-Error* problem values and parameter syntaxes:

system-failure(34)

(‘MAP_E_SYSTEM_FAILURE’) A task cannot be performed because of a problem in another entity. The type of entity or network resource may be indicated by use of the network resource parameter or additional network resource parameter. The error *parameter* associated with this error is an instance of OM class **System-Failure-Param** or an instance of OM class **Extensible-System-Failure-Param** depending on the protocol version.

data-missing(35)

(‘MAP_E_DATA_MISSING’) An optional parameter required by the context is missing. The error *parameter* associated with this error is an instance of OM class **Data-Missing-Param**.

unexpected-data-value(36)

(‘MAP_E_UNEXPECTED_DATA_VALUE’) The data type is formally correct but its value or presence is unexpected in the current context. The error *parameter* associated with this error is an instance of OM class **Unexpected-Data-Param**.

facility-not-supported(21)

(‘MAP_E_FACILITY_NOT_SUPPORTED’) The requested facility is not supported by the PLMN with detailed reasons as follows:

- Shape of location estimate not supported;
- Needed LCS capability not supported in serving node.

The error *parameter* associated with this error is an instance of OM class **Facility-Not-Sup-Param**.

incompatible-terminal(28)

(‘MAP_E_INCOMPATIBLE_TERMINAL’) The requested facility is not supported by the terminal. The error *parameter* associated with this error is an instance of OM class **Incompatible-Terminal-Param**.

resource-limitation(51)

(‘MAP_E_RESOURCE_LIMITATION’) The error *parameter* associated with this error is an instance of OM class **Resource-Limitation-Param**.

6.2.2.1 Data-Missing-Param

An instance of the OM class **Data-Missing-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **data-missing**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 6.3.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.3: OM Attributes of OM class **Data-Missing-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.2.2 Extensible-System-Failure-Param

An instance of the OM class **Extensible-System-Failure-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **system-failure**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.4](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
network-Resource	Enum(Network-Resource)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
additional-Network-Resource	Enum(Additional-Network-Resource)	—	0-1	—

Table 6.4: OM Attributes of OM class **Extensible-System-Failure-Param**

This OM class contains the following class-specific OM attributes:

network-Resource

An enumeration identifying the failed network resource. The enumeration can assume the following values:

plmn ('MAP_T_PLMN' '0')

hlr ('MAP_T_HLR' '1')

vlr ('MAP_T_VLR' '2')

pvlr ('MAP_T_PVLR' '3')

controlling-msc
('MAP_T_CONTROLLING_MSC' '4')

vmsc ('MAP_T_VMSC' '5')

eir ('MAP_T_EIR' '6')

rss ('MAP_T_RSS' '7')

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

additional-Network-Resource

An enumeration identifying the additional failed network resource. The enumeration can assume the following values:

sgsn	(‘MAP_T_SGSN’ ‘0’)
ggsn	(‘MAP_T_GGSN’ ‘1’)
gmlc	(‘MAP_T_GMLC’ ‘2’)
gsm-scf	(‘MAP_T_GSM_SCF’ ‘3’)
nplr	(‘MAP_T_NPLR’ ‘4’)
auc	(‘MAP_T_AUC’ ‘5’)

6.2.2.3 Facility-Not-Sup-Param

An instance of the OM class **Facility-Not-Sup-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **facility-not-supported**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.5](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
shape-Of-Location-Estimated-Not-Supported	Null	—	0-1	—
needed-Lcs-Capability-Not-Supported-In-Serving-Node	Null	—	0-1	—

Table 6.5: OM Attributes of OM class **Facility-Not-Sup-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

*shape-Of-Location-Estimated-Not-Supported**needed-Lcs-Capability-Not-Supported-In-Serving-Node***6.2.2.4 Incompatible-Terminal-Param**

An instance of the OM class **Incompatible-Terminal-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **incompatible-terminal**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.6](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.6: OM Attributes of OM class **Incompatible-Terminal-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.2.5 Resource-Limitation-Param

An instance of the OM class **Resource-Limitation-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **resource-limitation**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.7](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.7: OM Attributes of OM class **Resource-Limitation-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.2.6 System-Failure-Param

An instance of the OM class **System-Failure-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **system-failure**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.8](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
network-Resource	Enum(Network-Resource)	—	0-1	—
extensible-System-Failure-Param	Object(Extensible-System-Failure-Param)	—	0-1	—

Table 6.8: OM Attributes of OM class **System-Failure-Param**

This OM class represents a choice and exactly one attribute must appear in an instance.

This OM class contains the following class-specific OM attributes:

network-Resource

An enumeration identifying the failed network resource. The enumeration can assume the following values:

plmn ('MAP_T_PLMN' '0')

hlr ('MAP_T_HLR' '1')

vlr ('MAP_T_VLR' '2')

pvlr ('MAP_T_PVLR' '3')

controlling-msc

('MAP_T_CONTROLLING_MSC' '4')

vmsc ('MAP_T_VMSC' '5')

eir ('MAP_T_EIR' '6')

rss ('MAP_T_RSS' '7')

extensible-System-Failure-Param

An object of class **Extensible-System-Failure-Param**.

6.2.2.7 Unexpected-Data-Param

An instance of the OM class **Unexpected-Data-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **unexpected-data**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.9](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.9: OM Attributes of OM class **Unexpected-Data-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.3 Identification and Numbering Errors

A future GSM MAP services package defines the following Identification and Numbering *GSM-Service-Error* problem values and parameter syntaxes:

unknown-subscriber(1)

(‘MAP_E_UNKNOWN_SUBSCRIBER’) The error *parameter* associated with this error is an instance of OM class **Unknown-Subscriber-Param**.

number-changed(44)

(‘MAP_E_NUMBER_CHANGED’) The error *parameter* associated with this error is an instance of OM class **Number-Change-Param**.

unknown-msc(3)

(‘MAP_E_UNKNOWN_MSC’) There is no error *parameter* associated with this error.

unidentified-subscriber(5)

(‘MAP_E_UNIDENTIFIED_SUBSCRIBER’) **Unidentified-Sub-Param**

unknown-equipment(7)

(‘MAP_E_UNKNOWN_EQUIPMENT’) There is no error *parameter* associated with this error.

6.2.3.1 Unknown-Subscriber-Param

An instance of the OM class **Unknown-Subscriber-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **unknown-subscriber**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.10](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
unknown-Subscriber-Diagnostic	Enum(Unknown-Subscriber-Diagnostic)	—	0-1	—

Table 6.10: *OM Attributes of OM class Unknown-Subscriber-Param*

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

unknown-Subscriber-Diagnostic

imsi-unknown

(‘MAP_T_IMSI_UNKNOWN’ ‘0’)

gprs-subscription-unknown

(‘MAP_T_GPRS_SUBSCRIPTION_UNKNOWN’ ‘1’)

npdb-mismatch

('MAP_T_NPDB_MISMATCH' '2')

6.2.3.2 Number-Change-Param

An instance of the OM class **Number-Change-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **number-change**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.11](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.11: OM Attributes of OM class **Number-Change-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.3.3 Unidentified-Sub-Param

An instance of the OM class **Unidentified-Sub-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **unidentified-subscriber**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.12](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.12: OM Attributes of OM class **Unidentified-Sub-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.4 Subscription Errors

A future GSM MAP services package defines the following Subscription *GSM-Service-Error* problem values and parameter syntaxes:

roaming-not-allowed(8)

(‘MAP_E_ROAMING_NOT_ALLOWED’) The error *parameter* associated with this error is an instance of OM class **Roaming-Not-Allowed-Param**.

illegal-subscriber(9)

(‘MAP_E_ILLEGAL_SUBSCRIBER’) The error *parameter* associated with this error is an instance of OM class **Illegal-Subscriber-Param**.

illegal-equipment(12)

(‘MAP_E_ILLEGAL_EQUIPMENT’) The error *parameter* associated with this error is an instance of OM class **Illegal-Equipment-Param**.

bearer-service-not-provisioned(10)

(‘MAP_E_BEARER_SERVICE_NOT_PROVISIONED’) The error *parameter* associated with this error is an instance of OM class **Bearer-Serv-Not-Prov-Param**.

teleservice-not-provisioned(11)

(‘MAP_E_TELESERVICE_NOT_PROVISIONED’) The error *parameter* associated with this error is an instance of OM class **Teleserv-Not-Prov-Param**.

6.2.4.1 Roaming-Not-Allowed-Param

An instance of the OM class **Roaming-Not-Allowed-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **roaming-not-allowed**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.13](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
roaming-Not-Allowed-Cause	Enum(Roaming-Not-Allowed-Cause)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.13: OM Attributes of OM class **Roaming-Not-Allowed-Param**

This OM class contains the following class-specific OM attributes:

roaming-Not-Allowed-Cause

plmn-roaming-not-allowed

(‘MAP_T_PLMN_ROAMING_NOT_ALLOWED’ ‘0’)

operator-determined-barring

(‘MAP_T_OPERATOR_DETERMINED_BARRING’ ‘3’)

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.4.2 Illegal-Subscriber-Param

An instance of the OM class **Illegal-Subscriber-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **illegal-subscriber**. An

instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.14](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.14: OM Attributes of OM class **Illegal-Subscriber-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.4.3 Illegal-Equipment-Param

An instance of the OM class **Illegal-Equipment-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **illegal-equipment**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.15](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.15: OM Attributes of OM class **Illegal-Equipment-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.4.4 Bearer-Serv-Not-Prov-Param

An instance of the OM class **Bearer-Serv-Not-Prov-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **bearer-service-not-provisioned**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.16](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.16: OM Attributes of OM class **Bearer-Serv-Not-Prov-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.4.5 Teleserv-Not-Prov-Param

An instance of the OM class **Teleserv-Not-Prov-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **teleservice-not-provisioned**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.17](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.17: OM Attributes of OM class **Teleserv-Not-Prov-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.5 Handover Errors

A future GSM MAP services package defines the following Handover *GSM-Service-Error* problem values and parameter syntaxes:

no-handover-number-available(25)

(‘MAP_E_NO_HANDOVER_NUMBER_AVAILABLE’) There is no error *parameter* associated with this error.

subsequent-handover-failure(26)

(‘MAP_E_SUBSEQUENT_HANDOVER_FAILURE’) There is no error *parameter* associated with this error.

target-cell-outside-group-call-area(42)

(‘MAP_E_TARGET_CELL_OUTSIDE_GROUP_CALL_AREA’) The error *parameter* associated with this error is an instance of OM class **Target-Cell-Outside-GCA-Param**.

6.2.5.1 Target-Cell-Outside-GCA-Param

An instance of the OM class **Target-Cell-Outside-GCA-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **target-cell-outside-group-call-area**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 6.18.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.18: OM Attributes of OM class **Target-Cell-Outside-GCA-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See Section 5.3.19.6 [Extension-Container], page 121.

extension

This optional attribute is an instance of OM class **Extension**. See Section 5.2.13 [Extension], page 91.

6.2.6 Operation and Maintenance Errors

A future GSM MAP services package defines the following Operation and Maintenance *GSM-Service-Error* problem values and parameter syntaxes:

tracing-buffer-full(40)

(‘MAP_E_TRACING_BUFFER_FULL’) The error *parameter* associated with this error is an instance of OM class **Tracing-Buffer-Full-Param**.

6.2.6.1 Tracing-Buffer-Full-Param

An instance of the OM class **Tracing-Buffer-Full-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **tracing-buffer-full**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 6.19.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.19: OM Attributes of OM class **Tracing-Buffer-Full-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.7 Call Handling Errors

A future GSM MAP services package defines the following Call Handling *GSM-Service-Error* problem values and parameter syntaxes:

no-roaming-number-available(39)

(‘MAP_E_NO_ROAMING_NUMBER_AVAILABLE’) The error *parameter* associated with this error is an instance of OM class **No-Roaming-Nb-Param**.

absent-subscriber(27)

(‘MAP_E_ABSENT_SUBSCRIBER’) The error *parameter* associated with this error is an instance of OM class **Absent-Subscriber-Param**.

busy-subscriber(45)

(‘MAP_E_BUSY_SUBSCRIBER’) The error *parameter* associated with this error is an instance of OM class **Busy-Subscriber-Param**.

no-subscriber-reply(46)

(‘MAP_E_NO_SUBSCRIBER_REPLY’) The error *parameter* associated with this error is an instance of OM class **No-Subscriber-Reply-Param**.

call-barred(13)

(‘MAP_E_CALL_BARRED’) The error *parameter* associated with this error is an instance of OM class **Call-Barred-Param** or **Extensible-Call-Barred-Param** depending on the protocol version.

forwarding-violation(14)

(‘MAP_E_FORWARDING_VIOLATION’) The error *parameter* associated with this error is an instance of OM class **Forwarding-Violation-Param**.

forwarding-failed(47)

(‘MAP_E_FORWARDING_FAILED’) The error *parameter* associated with this error is an instance of OM class **Forwarding-Failed-Param**.

cug-reject(15)

(‘MAP_E_CUG_REJECT’) The error *parameter* associated with this error is an instance of OM class **CUG-Reject-Param**.

or-nor-allowed(48)

(‘MAP_E_OR_NOT_ALLOWED’) The error *parameter* associated with this error is an instance of OM class **OR-Not-Allowed-Param**.

6.2.7.1 No-Roaming-Nb-Param

An instance of the OM class **No-Roaming-Nb-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **no-roaming-number-available**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.20](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.20: OM Attributes of OM class **No-Roaming-Nb-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.7.2 Absent-Subscriber-Param

An instance of the OM class **Absent-Subscriber-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **absent-subscriber**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.21](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
absent-Subscriber-Reason	Enum(Absent-Subscriber-Reason)	—	0-1	—

Table 6.21: OM Attributes of OM class **Absent-Subscriber-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

absent-Subscriber-Reason

imsi-detach ('MAP_T_IMSI_DETACH' '0')

restricted-area
('MAP_T_RESTRICTED_AREA' '1')

no-page-response
('MAP_T_NO_PAGE_RESPONSE' '2')

purged-ms ('MAP_T_PURGED_MS' '3')

6.2.7.3 Busy-Subscriber-Param

An instance of the OM class **Busy-Subscriber-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **busy-subscriber**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 6.22.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
ccbs-Possible	Null	—	0-1	—
ccbs-Busy	Null	—	0-1	—

Table 6.22: OM Attributes of OM class **Busy-Subscriber-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See Section 5.3.19.6 [Extension-Container], page 121.

extension

This optional attribute is an instance of OM class **Extension**. See Section 5.2.13 [Extension], page 91.

ccbs-Possible

ccbs-Busy

6.2.7.4 No-Subscriber-Reply-Param

An instance of the OM class **No-Subscriber-Reply-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **no-subscriber-reply**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 6.23.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.23: OM Attributes of OM class **No-Subscriber-Reply-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See Section 5.3.19.6 [Extension-Container], page 121.

extension

This optional attribute is an instance of OM class **Extension**. See Section 5.2.13 [Extension], page 91.

6.2.7.5 Call-Barred-Param

An instance of the OM class **Call-Barred-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **call-barred**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 6.24.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
call-Barring-Cause	Enum(Call-Barring-Cause)	—	0-1	—
extensible-Call-Barred-Param	Object(Extensible-Call-Barred-Param)	—	0-1	—

Table 6.24: OM Attributes of OM class **Call-Barred-Param**

This OM class represents a choice and exactly one attribute must appear in an instance.

This OM class contains the following class-specific OM attributes:

call-Barring-Cause

barring-service-active
 ('MAP_T_BARRING_SERVICE_ACTIVE' '0')

operator-barring
 ('MAP_T_OPERATOR_BARRING' '1')

extensible-Call-Barred-Param

An object of class **Extensible-Call-Barred-Param**.

6.2.7.6 Extensible-Call-Barred-Param

An instance of the OM class **Extensible-Call-Barred-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **call-barred**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 6.25.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
call-Barring-Cause	Enum(Call-Barring-Cause)	—	1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
unauthorized-Message-Originator	Null	—	0-1	—

Table 6.25: OM Attributes of OM class **Extensible-Call-Barred-Param**

This OM class contains the following class-specific OM attributes:

call-Barring-Cause

barring-service-active
 ('MAP_T_BARRING_SERVICE_ACTIVE' '0')

operator-barring
 ('MAP_T_OPERATOR_BARRING' '1')

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

*unauthorized-Message-Originator***6.2.7.7 Forwarding-Violation-Param**

An instance of the OM class **Forwarding-Violation-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **forwarding-violation**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.26](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.26: OM Attributes of OM class **Forwarding-Violation-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.7.8 Forwarding-Failed-Param

An instance of the OM class **Forwarding-Failed-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **forwarding-failed**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.27](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.27: OM Attributes of OM class **Forwarding-Failed-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.7.9 CUG-Reject-Param

An instance of the OM class **CUG-Reject-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **cug-reject**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.28](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
cug-Reject-Cause	Enum(CUG-Reject-Cause)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.28: OM Attributes of OM class **CUG-Reject-Param**

This OM class contains the following class-specific OM attributes:

cug-Reject-Cause

incoming-calls-barred-withing-cug

(‘MAP_T_INCOMING_CALLS_BARRED_WITHING_CUG’ ‘0’)

subscriber-not-member-of-cug

(‘MAP_T_SUBSCRIBER_NOT_MEMBER_OF_CUG’ ‘1’)

requested-basic-service-violates-cug-constraints

(‘MAP_T_REQUESTED_BASIC_SERVICE_VIOLATES_CUG_CONSTRAINTS’ ‘5’)

called-party-ss-interaction-violation

(‘MAP_T_CALLED_PARTY_SS_INTERACTION_VIOLATION’ ‘7’)

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.7.10 OR-Not-Allowed-Param

An instance of the OM class **OR-Not-Allowed-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **or-not-allowed**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.29](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.29: OM Attributes of OM class **OR-Not-Allowed-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.8 Any Time Interrogation Errors

A future GSM MAP services package defines the following Any Time Interrogation *GSM-Service-Error* problem values and parameter syntaxes:

ati-not-allowed(49)

(‘MAP_E_ATI_NOT_ALLOWED’) The error *parameter* associated with this error is an instance of OM class **ATI-Not-Allowed-Param**.

6.2.8.1 ATI-Not-Allowed-Param

An instance of the OM class **ATI-Not-Allowed-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **ati-not-allowed**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.30](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.30: *OM Attributes of OM class ATI-Not-Allowed-Param*

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.9 Any Time Information Handling Errors

A future GSM MAP services package defines the following Any Time Information Handling *GSM-Service-Error* problem values and parameter syntaxes:

atsi-not-allowed(60)

(‘MAP_E_ATSI_NOT_ALLOWED’) The error *parameter* associated with this error is an instance of OM class **ATSI-Not-Allowed-Param**.

atm-not-allowed(61)

(‘MAP_E_ATM_NOT_ALLOWED’) The error *parameter* associated with this error is an instance of OM class **ATM-Not-Allowed-Param**.

information-not-available(62)

(‘MAP_E_INFORMATION_NOT_AVAILABLE’) The error *parameter* associated with this error is an instance of OM class **Information-Not-Available-Param**.

6.2.9.1 ATSI-Not-Allowed-Param

An instance of the OM class **ATSI-Not-Allowed-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **atsi-not-allowed**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.31](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.31: OM Attributes of OM class **ATSI-Not-Allowed-Param**

This OM class contains the following class-specific OM attributes:

6.2.9.2 ATM-Not-Allowed-Param

An instance of the OM class **ATM-Not-Allowed-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **atm-not-allowed**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.32](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.32: OM Attributes of OM class **ATM-Not-Allowed-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.9.3 Information-Not-Available-Param

An instance of the OM class **Information-Not-Available-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **information-not-available**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.33](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.33: OM Attributes of OM class **Information-Not-Available-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.10 Supplementary Service Errors

A future GSM MAP services package defines the following Supplementary Service *GSM-Service-Error* problem values and parameter syntaxes:

illegal-ss-operation(16)

(‘MAP_E_ILLEGAL_SS_OPERATION’) The error *parameter* associated with this error is an instance of OM class **Illegal-SS-Operation-Param**.

ss-error-status(17)

(‘MAP_E_SS_ERROR_STATUS’) The error *parameter* associated with this error is an instance of OM class **SS-Status**.

ss-not-available(18)

(‘MAP_E_SS_NOT_AVAILABLE’) The error *parameter* associated with this error is an instance of OM class **SS-Not-Available-Param**.

ss-subscription-violation(19)

(‘MAP_E_SS_SUBSCRIPTION_VIOLATION’) The error *parameter* associated with this error is an instance of OM class **SS-Subscription-Violation-Param**.

ss-incompatibility(20)

(‘MAP_E_SS_INCOMPATIBILITY’) The error *parameter* associated with this error is an instance of OM class **SS-Incompatibility-Param**.

unknown-alphabet(71)

(‘MAP_E_UNKNOWN_ALPHABET’) There is no error *parameter* associated with this error.

ussd-busy(72)

(‘MAP_E_USSD_BUSY’) There is no error *parameter* associated with this error.

pw-registration-failure(37)

(‘MAP_E_PW_REGISTRATION_FAILURE’) The error *parameter* associated with this error is an instance of OM class **PW-Registration-Failure-Cause**.

negative-pw-check(38)

(‘MAP_E_NEGATIVE_PW_CHECK’) There is no error *parameter* associated with this error.

number-of-pw-attempts-violation(43)

(‘MAP_E_NUMBER_OF_PW_ATTEMPTS_VIOLATION’) There is no error *parameter* associated with this error.

short-term-denial(29)

(‘MAP_E_SHORT_TERM_DENIAL’) The error *parameter* associated with this error is an instance of OM class **Short-Term-Denial-Param**.

long-term-denial(30)

(‘MAP_E_LONG_TERM_DENIAL’) The error *parameter* associated with this error is an instance of OM class **Long-Term-Denial-Param**.

6.2.10.1 Illegal-SS-Operation-Param

An instance of the OM class **Illegal-SS-Operation-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **illegal-ss-operation**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 6.34.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.34: OM Attributes of OM class **Illegal-SS-Operation-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See Section 5.3.19.6 [Extension-Container], page 121.

extension

This optional attribute is an instance of OM class **Extension**. See Section 5.2.13 [Extension], page 91.

6.2.10.2 SS-Not-Available-Param

An instance of the OM class **SS-Not-Available-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **ss-not-available**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in Table 6.35.

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.35: OM Attributes of OM class **SS-Not-Available-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.10.3 SS-Subscription-Violation-Param

An instance of the OM class **SS-Subscription-Violation-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **ss-subscription-violation**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.36](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.36: OM Attributes of OM class **SS-Subscription-Violation-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.10.4 SS-Incompatibility-Param

An instance of the OM class **SS-Incompatibility-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **ss-incompatibility**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.37](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
ss-Code	String(Octet)	1	0-1	—
basic-Service	Object(Basic-Service-Code)	—	0-1	—
ss-Status	String(Octet)	1	0-1	—

Table 6.37: OM Attributes of OM class **SS-Incompatibility-Param**

This OM class contains the following class-specific OM attributes:

ss-Code (*SS-Code* = *String(Octet)* (*SIZE(1)*))

basic-Service

ss-Status (*SS-Status* = *String(Octet)* (*SIZE(1)*))

6.2.10.5 PW-Registration-Failure-Cause

Enum(PW-Registration-Failure-Cause)

undetermined
(‘MAP_T_UNDETERMINED’ ‘0’)

invalid-format
(‘MAP_T_INVALID_FORMAT’ ‘1’)

new-passwords-mismatch
(‘MAP_T_NEW_PASSWORDS_MISMATCH’ ‘2’)

6.2.10.6 Short-Term-Denial-Param

An instance of the OM class **Short-Term-Denial-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **short-term-denial**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.38](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension	Object(Extension)	—	0-1	—

Table 6.38: *OM Attributes of OM class Short-Term-Denial-Param*

This OM class contains the following class-specific OM attributes:

extension

6.2.10.7 Long-Term-Denial-Param

An instance of the OM class **Long-Term-Denial-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **long-term-denial**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.39](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension	Object(Extension)	—	0-1	—

Table 6.39: *OM Attributes of OM class Long-Term-Denial-Param*

This OM class contains the following class-specific OM attributes:

extension

6.2.11 Short Message Service Errors

The GSM MAP Short Message service package defines the following Short Message Service *GSM-Service-Error* problem values and parameter syntaxes:

subscriber-busy-for-mt-sms(31)

(‘MAP_E_SUBSCRIBER_BUSY_FOR_MT_SMS’) The error *parameter* associated with this error is an instance of OM class **Sub-Busy-For-MT-SMS-Param**, defined below.

sm-delivery-failure(32)

(‘MAP_E_SM_DELIVERY_FAILURE’) The error *parameter* associated with this error is an instance of OM class **SM-Delivery-Failure-Cause**, defined below.

message-waiting-list-full(33)

(‘MAP_E_MESSAGE_WAITING_LIST_FULL’) The error *parameter* associated with this error is an instance of OM class **Message-Wait-List-Full-Param**, defined below.

absent-subscriber-sm(6)

(‘MAP_E_ABSENT_SUBSCRIBER_SM’) The error *parameter* associated with this error is an instance of OM class **Absent-Subscriber-SM-Param**, defined below.

The GSM MAP Short Message service package also makes use of the following *GSM-Service-Error* problem values and parameters:

- **data-missing(35)** (‘MAP_E_DATA_MISSING’) from Generic Errors.
- **facility-not-supported(21)** (‘MAP_E_FACILITY_NOT_SUPPORTED’) from Generic Errors.
- **system-failure(34)** (‘MAP_E_SYSTEM_FAILURE’) from Generic Errors.
- **unexpected-data-value(36)** (‘MAP_E_UNEXPECTED_DATA_VALUE’) from Generic Errors.
- **call-barred(13)** (‘MAP_E_CALL_BARRED’) from Call Handling Errors.
- **illegal-subscriber(9)** (‘MAP_E_ILLEGAL_SUBSCRIBER’) from Subscription Errors.
- **illegal-equipment(12)** (‘MAP_E_ILLEGAL_EQUIPMENT’) from Subscription Errors.
- **teleservice-not-provisioned(12)** (‘MAP_E_TELESERVICE_NOT_PROVISIONED’) from Subscription Errors.
- **unidentified-subscriber(5)** (‘MAP_E_UNIDENTIFIED_SUBSCRIBER’) from Identification and Numbering Errors.
- **unknown-subscriber(1)** (‘MAP_E_UNKNOWN_SUBSCRIBER’) from Identification and Numbering Errors.

6.2.11.1 Absent-Subscriber-SM-Param

An instance of the OM class **Absent-Subscriber-SM-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **absent-subscriber-sm**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.40](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
absent-Subscriber-Diagnostic-SM	Integer	0-255	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
additional-Absent-Subscriber-Diagnostic-SM	Integer	0-255	0-1	—

Table 6.40: OM Attributes of OM class **Absent-Subscriber-SM-Param**

This OM class contains the following class-specific OM attributes:

absent-Subscriber-Diagnostic-SM

Values are defined in 3GPP TS 23.040. Can be either for non-GPRS or non-GRPS.

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

additional-Absent-Subscriber-Diagnostic-SM

Values are defined in 3GPP TS 23.040. When present, absent-Subscriber-Diagnostic-SM is for non-GRPS and this attribute is for GPRS.

6.2.11.2 Message-Wait-List-Full-Param

An instance of the OM class **Message-Wait-List-Full-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **message-wait-list-full**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.41](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.41: OM Attributes of OM class **Message-Wait-List-Full-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.11.3 SM-Delivery-Failure-Cause

An instance of the OM class **SM-Delivery-Failure-Cause** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **sm-delivery-failure**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.42](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
sm-Enumerated-Delivery-Failure-CauseEnum	Enum(SM-Enumerated-Delivery-Failure-Cause)	—	1	—
diagnostic-Info	String(Octet)	1-200	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.42: OM Attributes of OM class **SM-Delivery-Failure-Cause**

This OM class contains the following class-specific OM attributes:

sm-Enumerated-Delivery-Failure-Cause

memory-capacity-exceeded	(‘MAP_T_MEMORY_CAPACITY_EXCEEDED’ ‘0’)
equipment-protocol-error	(‘MAP_T_EQUIPMENT_PROTOCOL_ERROR’ ‘1’)
equipment-not-sm-equipped	(‘MAP_T_EQUIPMENT_NOT_SM_EQUIPPED’ ‘2’)
unknown-service-centre	(‘MAP_T_UNKNOWN_SERVICE-CENTRE’ ‘3’)
sc-congestion	(‘MAP_T_SC_CONGESTION’ ‘4’)
invalid-sme-address	(‘MAP_T_INVALID_SME_ADDRESS’ ‘5’)
subscriber-not-sc-subscriber	(‘MAP_T_SUBSCRIBER_NOT_SC_SUBSCRIBER’ ‘6’)

*diagnostic-Info**extension-Container*

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.11.4 Sub-Busy-For-MT-SMS-Param

An instance of the OM class **Sub-Busy-For-MT-SMS-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **subscriber-busy-for-mt-sms**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.43](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—
grps-Connection-Suspended	Null	—	0-1	—

Table 6.43: OM Attributes of OM class **Sub-Busy-For-MT-SMS-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

grps-Connection-Suspended

6.2.12 Group Call Errors

A future GSM MAP services package defines the following Group Call *GSM-Service-Error* problem values and parameter syntaxes:

no-group-call-number-available(50)

(‘MAP_E_NO_GROUP_CALL_NUMBER_AVAILABLE’) The error *parameter* associated with this error is an instance of OM class **No-Group-Call-Nb-Param**.

6.2.12.1 No-Group-Call-Nb-Param

An instance of the OM class **No-Group-Call-Nb-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **no-groupcall-number-available**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.44](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.44: OM Attributes of OM class **No-Group-Call-Nb-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.13 Location Service Errors

A future GSM MAP services package defines the following Location Service *GSM-Service-Error* problem values and parameter syntaxes:

unauthorized-requesting-network(52)

(‘MAP_E_UNAUTHORIZED_REQUESTING_NETWORK’) The error *parameter* associated with this error is an instance of OM class **Unauthorized-Requesting-Network-Param**.

unauthorized-lcs-client(53)

(‘MAP_E_UNAUTHORIZED_LCS_CLIENT’) The error *parameter* associated with this error is an instance of OM class **Unauthorized-LCS-Client-Param**.

position-method-failure(54)

(‘MAP_E_POSITION_METHOD_FAILURE’) The error *parameter* associated with this error is an instance of OM class **Position-Method-Failure-Param**.

unknown-or-unreachable-lcs-client(58)

(‘MAP_E_UNKNOWN_OR_UNREACHABLE_LCS_CLIENT’) The error *parameter* associated with this error is an instance of OM class **Unknown-Or-Unreachable-LCS-Client-Param**.

6.2.13.1 Position-Method-Failure-Param

An instance of the OM class **Position-Method-Failure-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **position-method-failure**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.45](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
position-Method-Failure-Diagnostic	Enum(Position-Method-Failure-Diagnostic)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.45: OM Attributes of OM class **Position-Method-Failure-Param**

This OM class contains the following class-specific OM attributes:

position-Method-Failure-Diagnostic

- congestion** ('MAP_T_CONGESTION' '0')
- insufficient-resources**
('MAP_T_INSUFFICIENT_RESOURCES' '1')
- insufficient-measurement-data**
('MAP_T_INSUFFICIENT_MEASUREMENT_DATA' '2')
- inconsistent-measurement-data**
('MAP_T_INCONSISTENT_MEASUREMENT_DATA' '3')
- location-procedure-not-completed**
('MAP_T_LOCATION_PROCEDURE_NOT_COMPLETED' '4')
- location-procedure-not-supported-by-target-ms**
('MAP_T_LOCATION_PROCEDURE_NOT_SUPPORTED_BY_TARGET_MS' '5')
- qos-not-attainable**
('MAP_T_QOS_NOT_ATTAINABLE' '6')
- position-method-not-available-in-network**
('MAP_T_POSITION_METHOD_NOT_AVAILABLE_IN_NETWORK' '7')
- position-method-not-available-in-location-area**
('MAP_T_POSITION_METHOD_NOT_AVAILABLE_IN_LOCATION_AREA' '8')

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.13.2 Unauthorized-LCS-Client-Param

An instance of the OM class **Unauthorized-LCS-Client-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **unauthorized-lcs-client**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.46](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
unauthorized-LCS-Client-DiagnosticEnum	Enum(Unauthorized-LCS-Client-Diagnostic)	—	0-1	—
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.46: OM Attributes of OM class **Unauthorized-LCS-Client-Param**

This OM class contains the following class-specific OM attributes:

unauthorized-LCS-Client-Diagnostic

no-additional-information

(‘MAP_T_NO_ADDITIONAL_INFORMATION’ ‘0’)

client-not-in-ms-privacy-exception-list

(‘MAP_T_CLIENT_NOT_IN_MS_PRIVACY_EXCEPTION_LIST’ ‘1’)

call-to-client-not-setup

(‘MAP_T_CALL_TO_CLIENT_NOT_SETUP’ ‘2’)

privacy-override-not-applicable

(‘MAP_T_PRIVACY_OVERRIDE_NOT_APPLICABLE’ ‘3’)

disallowed-by-local-regulatory-requirements

(‘MAP_T_DISALLOWED_BY_LOCAL_REGULATORY_REQUIREMENTS’ ‘4’)

unauthorized-privacy-class

(‘MAP_T_UNAUTHORIZED_PRIVACY_CLASS’ ‘5’)

unauthorized-call-session-unrelated-external-client

(‘MAP_T_UNAUTHORIZED_CALL_SESSION_UNRELATED_EXTERNAL_CLIENT’
‘6’)

unauthorized-call-session-related-external-client

(‘MAP_T_UNAUTHORIZED_CALL_SESSION_RELATED_EXTERNAL_CLIENT’ ‘7’)

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.13.3 Unauthorized-Requesting-Network-Param

An instance of the OM class **Unauthorized-Requesting-Network-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **unauthorized-requesting-network**. An instance of this class has all of the OM attributes of its super-classes, *Object*, and additionally the OM attributes listed in [Table 6.47](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.47: OM Attributes of OM class **Unauthorized-Requesting-Network-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.13.4 Unknown-Or-Unreachable-LCS-Client-Param

An instance of the OM class **Unknown-Or-Unreachable-LCS-Client-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **unknown-or-unreachable-lcs-client**. An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.48](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.48: OM Attributes of OM class **Unknown-Or-Unreachable-LCS-Client-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.14 Mobility Management Errors

A future GSM MAP services package defines the following Mobility Management *GSM-Service-Error* problem values and parameter syntaxes:

mm-event-not-supported(59)

(‘MAP_E_MM_EVENT_NOT_SUPPORTED’) The error *parameter* associated with this error is an instance of OM class **MM-Event-Not-Supported-Param**.

6.2.14.1 MM-Event-Not-Supported-Param

An instance of the OM class **MM-Event-Not-Supported-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **mm-event-**

not-supported An instance of this class has all of the OM attributes of its superclasses, *Object*, and additionally the OM attributes listed in [Table 6.49](#).

OM Attribute	Value Syntax	Value Length	Value Number	Value Initially
extension-Container	Object(Extension-Container)	—	0-1	—
extension	Object(Extension)	—	0-1	—

Table 6.49: OM Attributes of OM class **MM-Event-Not-Supported-Param**

This OM class contains the following class-specific OM attributes:

extension-Container

This optional attribute is an instance of OM class **Extension-Container**. See [Section 5.3.19.6 \[Extension-Container\]](#), page 121.

extension

This optional attribute is an instance of OM class **Extension**. See [Section 5.2.13 \[Extension\]](#), page 91.

6.2.15 Secure Transport Errors

A future GSM MAP services package defines the following Secure Transport *GSM-Service-Error* problem values and parameter syntaxes:

secure-transport-error(4)

(‘MAP_E_SECURE_TRANSPORT_ERROR’) The error *parameter* associated with this error is an instance of OM class **Secure-Transport-Error-Param**.

6.2.15.1 Secure-Transport-Error-Param

An instance of the OM class **Secure-Transport-Error-Param** provides an object for use in the *parameter* attribute of an *GSM-Service-Error* object when the *problem* value is set to **secure-transport-error**. An instance of this class has all of the OM attributes of its superclasses, *Object*.

security-header

protected-Payload

Appendix A C Headers

A.1 xmap.h

```

#ifndef __XMAP_H__
#define __XMAP_H__

/*
 * The <xmap.h> header declares the interface functions, the structures passed to
 * and from those functions, and the defined constants used by the functions and
 * structure.
 *
 * All application programs which include this header must first include the
 * OSI-Abstract-DATA Manipulation header <xom.h>.
 *
 * All Object Identifiers are represented by constants defined in the headers.
 * These constants are used with the macros defined in the XOM API (see
 * reference XOM). A constant is defined to represent the Object Identifier of
 * the Mobile Application Part package:
 *
 * { iso(1) org(3) dod(6) internet(1) private(4) enterprises(1) openss7(29591)
 *   xom-packages(1) xmap(1) common(1) }
 */
#define OMP_O_MAP_COMMON_PKG \
    "\x2b\x06\x01\x04\x01\xe7\x17\x01\x01\x01" /* 1.3.6.1.4.1.29591.1.1.1 */

#define OMP_O_MAP_GSM_NETWORK \
    "\x04\x00\x00\x01\x00" /* 0.4.0.0.1 */
    /* { itu-t(0) identified-organization(4) etsi(0) mobile-domain(0) gsm-Network(1) } */

#define mapP_gsmNetwork(X) (OMP_O_MAP_GSM_NETWORK# X)

#define OMP_O_MAP_GSM_AC \
    mapP_gsmNetwork(\x00) /* 0.4.0.0.1.0 */
    /* { itu-t(0) identified-organization(4) etsi(0) mobile-domain(0) gsm-Network(1) ac(0) } */

#define mapP_acId(X) (OMP_O_MAP_GSM_AC# X)

#define OMP_O_MAP_GSM_AS \
    mapP_gsmNetwork(\x01) /* 0.4.0.0.1.1 */

#define mapP_asId(X) (OMP_O_MAP_GSM_AS# X)

/* Defined constants */

/* Intermediate object identifier macro */
#define mapP_comn(X) (OMP_O_MAP_COMMON_PKG# X)

/* OM class names (prefixed MAP_C_) */

/*
 * Every application program that makes use of a class or other Object
 * Identifier must explicitly import it into every compilation unit (C source
 * program) which uses it. Each such class or Object Identifier name must be

```

Appendix A: C Headers

```
* explicitly exported from just one compilation unit.
*
* In the header file, OM class constants are prefixed with the OMP_O_ prefix
* to denote that they are OM classes, However, when using the OM_IMPORT and
* OM_EXPORT macros, the base names (without the OMP_O_ prefix) should be used.
* For example:
*
* OM_IMPORT(MAP_C_RESULT)
*/
#define OMP_O_MAP_C_ABORT_ARGUMENT      mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_ABORT_RESULT        mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_ACCEPT_RESULT       mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_ACSE_ARGS           mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_ADDRESS             mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_APPLICATION_CONTEXT_LIST mapP_comn(\x87\x69) /* 1001 */
#define OMP_O_MAP_C_ASSOC_ARGUMENT      mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_ASSOC_RESULT        mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_CLOSE_ARGUMENT      mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_CONTEXT             mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_EXTENSION           mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_GENERIC_SERVICE_ARGUMENT mapP_comn(\x87\x69) /* 1001 */
#define OMP_O_MAP_C_GENERIC_SERVICE_RESULT mapP_comn(\x87\x69) /* 1001 */
#define OMP_O_MAP_C_MAP_ASSOC_ARGS      mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_NOTICE_RESULT       mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_OPEN_ARGUMENT       mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_OPERATION_ARGUMENT  mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_OPERATION_ERROR     mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_OPERATION_REJECT    mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_OPERATION_RESULT    mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_P_ABORT_RESULT      mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_PRESENTATION_CONTEXT mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_PRESENTATION_LAYER_ARGS mapP_comn(\x87\x69) /* 1001 */
#define OMP_O_MAP_C_REFUSE_RESULT       mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_RELEASE_ARGUMENT    mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_RELEASE_RESULT      mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_SERVICE_ARGUMENT    mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_SERVICE_ERROR       mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_SERVICE_REJECT     mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_SERVICE_RESULT      mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_SESSION             mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_TITLE               mapP_comn(\x87\x69)    /* 1001 */

#define OMP_O_MAP_C_PROPRIETARY_ARGS    mapP_comn(\x87\x69)    /* 1001 */

/* Error classes: */
#define OMP_O_MAP_C_BAD_ARGUMENT        mapP_comn(\x87\x69)    /* 1001 */
#define OMP_O_MAP_C_ERROR               mapP_comn(\x87\x69)    /* 1001 */

/* Error attributes: */
#define MAP_A_OM_ATTRIBUTE               ((OM_type)10021)
#define MAP_A_OM_BAD_ARGUMENT           ((OM_type)10022)
#define MAP_A_OM_CLASS                  ((OM_type)10023)
#define MAP_A_OM_INDEX                  ((OM_type)10024)
#define MAP_A_OM_SUBOBJECT              ((OM_type)10025)
#define MAP_A_OM_PARAMETER              ((OM_type)10026)
#define MAP_A_OM_PROBLEM                ((OM_type)10028)
```

```

/* The OM syntax names that are defined are listed below. */
#define MAP_S_TBCD_STRING ((OM_syntax) 32)
#define MAP_S_SCCP_ADDRESS_STRING ((OM_syntax) 33)

/* The OM attribute names that are defined are listed below. */

#define MAP_APPLICATION_CONTEXT_NAME ((OM_type)11001)
#define MAP_DESTINATION_ADDRESS ((OM_type)11002)
#define MAP_DESTINATION_REFERENCE ((OM_type)11003)
#define MAP_ORIGINATING_ADDRESS ((OM_type)11004)
#define MAP_ORIGINATING_REFERENCE ((OM_type)11005)
#define MAP_SPECIFIC_INFORMATION ((OM_type)11006)
#define MAP_ASSOCIATION_ID ((OM_type)11007)
#define MAP_RESPONDING_ADDRESS ((OM_type)11008)
#define MAP_REFUSE_REASON ((OM_type)11009)
#define MAP_PROVIDER_ERROR ((OM_type)11010)
#define MAP_RELEASE_METHOD ((OM_type)11011)
#define MAP_USER_REASON ((OM_type)11012)
#define MAP_DIAGNOSTIC_INFORMATION ((OM_type)11013)
#define MAP_PROVIDER_REASON ((OM_type)11014)
#define MAP_SOURCE ((OM_type)11015)
#define MAP_PROBLEM_DIAGNOSTIC ((OM_type)11016)

/* common parameters */
#define MAP_INVOKE_ID ((OM_type)11017)
#define MAP_LINKED_ID ((OM_type)11018)
#define MAP_SERVICE_PROVIDER_ERROR ((OM_type)11019)
#define MAP_SERVICE_USER_ERROR ((OM_type)11020)
#define MAP_ALL_INFORMATION_SENT ((OM_type)11021)

/* numbering and identification parameters */
#define MAP_ADDITIONAL_NUMBER ((OM_type)11067) /* XXX */
#define MAP_ADDITIONAL_V_GMLC_ADDRESS ((OM_type)11074)
#define MAP_APN ((OM_type)11063)
#define MAP_B_SUBSCRIBER_NUMBER ((OM_type)11069)
#define MAP_B_SUBSCRIBER_SUBADDRESS ((OM_type)11060)
#define MAP_CALLED_NUMBER ((OM_type)11048)
#define MAP_CALLING_NUMBER ((OM_type)11049)
#define MAP_CURRENT_LOCATION_AREA_ID ((OM_type)11028)
#define MAP_FORWARDED_TO_NUMBER ((OM_type)11044)
#define MAP_FORWARDED_TO_SUBADDRESS ((OM_type)11047)
#define MAP_GGSN_ADDRESS ((OM_type)11062)
#define MAP_GMSC_ADDRESS ((OM_type)11055)
#define MAP_GROUP_ID ((OM_type)11057)
#define MAP_GSMSCF_ADDRESS ((OM_type)11069)
#define MAP_HANDOVER_NUMBER ((OM_type)11043)
#define MAP_H_GMLC_ADDRESS ((OM_type)11071)
#define MAP_HLR_ID ((OM_type)11037)
#define MAP_HLR_NUMBER ((OM_type)11035)
#define MAP_IMEI ((OM_type)11024)
#define MAP_IMEISV ((OM_type)11025)
#define MAP_IMSI ((OM_type)11022) /* XXX */
#define MAP_LMSI ((OM_type)11038) /* XXX */
#define MAP_LMU_NUMBER ((OM_type)11061)
#define MAP_LOCATION_INFORMATION_FOR_GPRC ((OM_type)11054)

```

Appendix A: C Headers

```
#define MAP_LOCATION_INFORMATION ((OM_type)11053)
#define MAP_LONG_FORWARDED_TO_NUMBER ((OM_type)11045)
#define MAP_LONG_FTN_SUPPORTED ((OM_type)11046)
#define MAP_MLC_NUMBER ((OM_type)11062)
#define MAP_MSC_NUMBER ((OM_type)11033) /* XXX */
#define MAP_MSISDN_ALERT ((OM_type)11052)
#define MAP_MS_ISDN ((OM_type)11039)
#define MAP_MULTICALL_BEARER_INFORMATION ((OM_type)11063)
#define MAP_MULTIPLE_BEARER_NOT_SUPPORTED ((OM_type)11065)
#define MAP_MULTIPLE_BEARER_REQUESTED ((OM_type)11064)
#define MAP_NETWORK_NODE_NUMBER ((OM_type)11064) /* XXX */
#define MAP_NORTH_AMERICAN_EQUAL_ACCESS_PIC ((OM_type)11058)
#define MAP_OMC_ID ((OM_type)11040)
#define MAP_ORIGINAL_DIALED_NUMBER ((OM_type)11050)
#define MAP_ORIGINATING_ENTITY_NUMBER ((OM_type)11032)
#define MAP_PDP_ADDRESS ((OM_type)11066)
#define MAP_PDP_CHARGING_CHARACTERISTICS ((OM_type)11066)
#define MAP_PDP_TYPE ((OM_type)11065)
#define MAP_PPR_ADDRESS ((OM_type)11072)
#define MAP_PREVIOUS_LOCATION_AREA_ID ((OM_type)11026)
#define MAP_P_TMSI ((OM_type)11068)
#define MAP_RAB_ID ((OM_type)11068)
#define MAP_RELOCATION_NUMBER_LIST ((OM_type)11042)
#define MAP_ROAMING_NUMBER ((OM_type)11041)
#define MAP_ROUTEING_NUMBER ((OM_type)11073)
#define MAP_SELECTED_RAB_ID ((OM_type)11067)
#define MAP_SERVICE_CENTRE_ADDRESS ((OM_type)11051) /* XXX */
#define MAP_SERVING_CELL_ID ((OM_type)11059)
#define MAP_SGSN_ADDRESS ((OM_type)11061)
#define MAP_SGSN_NUMBER ((OM_type)11060) /* XXX */
#define MAP_STORED_LOCATION_AREA_ID ((OM_type)11027)
#define MAP_TARGET_CELL_ID ((OM_type)11030)
#define MAP_TARGET_LOCATION_AREA_ID ((OM_type)11029)
#define MAP_TARGET_MSC_NUMBER ((OM_type)11034)
#define MAP_TARGET_RNC_ID ((OM_type)11031)
#define MAP_TMSI ((OM_type)11023)
#define MAP_V_GMLC_ADDRESS ((OM_type)11070)
#define MAP_VLR_NUMBER ((OM_type)11036)
#define MAP_VMSC_ADDRESS ((OM_type)11056)

/*
 * The following enumerations tags and enumeration constants are defined for use
 * as values of the corresponding OM attributes:
 */

/* MAP_T_Refuse_reason: */

#define MAP_T_NO_REASON_GIVEN 0
#define MAP_T_INVALID_DESTINATION_REFERENCE 1
#define MAP_T_INVALID_ORIGINATING_REFERENCE 2
#define MAP_T_APPLICATION_CONTEXT_NOT_SUPPORTED 3
#define MAP_T_TRANSPORT_PROTECTION_NOT_ADEQUATE 4

#define MAP_T_REMOTE_NOT_REACHABLE 5
#define MAP_T_POTENTIAL_VERSION_INCOMPATIBILITY 6
#define MAP_T_SECURED_TRANSPORT_NOT_POSSIBLE 7
```

```

/* MAP_T_Release_method: */
#define MAP_T_NORMAL_RELEASE 1
#define MAP_T_PREARRANGED_END 2

/* map-UserAbortChoice CHOICE { */

/* MAP_T_User_reason: */
/* userSpecificReason [0] IMPLICIT NULL */
#define MAP_T_USER_SPECIFIC_REASON 0
/* userResourceLimitation [1] IMPLICIT NULL */
#define MAP_T_RESOURCE_LIMITATION_CONGESTION 1
/* resourceUnavailable [2] IMPLICIT ENUMERATED */
#define MAP_T_RESOURCE_UNAVAILABLE 2
/* applicationProcedureCancellation [3] IMPLICIT ENUMERATED */
#define MAP_T_APPLICATION_PROCEDURE_CANCELLATION 3
#define MAP_T_PROCEDURE_ERROR 4

/* MAP_T_Diagnostic_information: */
/* resourceUnavailable [2] IMPLICIT ENUMERATED */
#define MAP_T_SHORT_TERM_PROBLEM 0
#define MAP_T_LONG_TERM_PROBLEM 1
/* applicationProcedureCancellation [3] IMPLICIT ENUMERATED */
#define MAP_T_HANDOVER_CANCELLATION 0
#define MAP_T_RADIO_CHANNEL_RELEASED 1
#define MAP_T_NETWORK_PATH_RELEASE 2
#define MAP_T_CALL_RELEASE 3
#define MAP_T_ASSOCIATED_PROCEDURE_FAILURE 4
#define MAP_T_TANDEM_DIALOGUE_RELEASED 5
#define MAP_T_REMOTE_OPERATIONS_FAILURE 6

/* MAP_T_Provider_reason: */
#define MAP_T_PROVIDER_MALFUNCTION 1
#define MAP_T_SUPPORTING_DIALOGUE_TRANSACTION_RELEASED 2
#define MAP_T_RESOURCE_LIMITATION 3
#define MAP_T_MAINTENANCE_ACTIVITY 4
#define MAP_T_VERSION_INCOMPATIBILITY 5
#define MAP_T_ABNORMAL_MAP_DIALOGUE 6

/* MAP_T_Source: */
#define MAP_T_MAP_PROBLEM 1
#define MAP_T_TC_PROBLEM 2
#define MAP_T_NETWORK_SERVICE_PROBLEM 3

/* MAP_T_Problem_diagnostic: */
#define MAP_T_ABNORMAL_EVENT_DETECTED_BY_PEER 1
#define MAP_T_RESPONSE_REJECTED_BY_THE_PEER 2
#define MAP_T_ABNORMAL_EVENT_RECEIVED_FROM_THE_PEER 3
#define MAP_T_MESSAGE_CANNOT_BE_DELIVERED_TO_THE_PEER 4

/* MAP_T_Abort_Source: */
#define MAP_T_ABORT_SOURCE_ACSE_SERVICE_USER 1
#define MAP_T_ABORT_SOURCE_ACSE_SERVICE_PROVIDER 2

/* MAP_T_Abort_Diagnostic: */
#define MAP_T_ABORT_DIAGNOSTIC_NO_REASON_GIVEN 1

```

Appendix A: C Headers

```
#define MAP_T_ABORT_DIAGNOSTIC_PROTOCOL_ERROR 2
#define MAP_T_ABORT_DIAGNOSTIC_AUTHENTICATION_MECHANISM_NAME_NOT_RECOGNIZED 3
#define MAP_T_ABORT_DIAGNOSTIC_AUTHENTICATION_MECHANISM_NAME_REQUIRED 4
#define MAP_T_ABORT_DIAGNOSTIC_AUTHENTICATION_FAILURE 5
#define MAP_T_ABORT_DIAGNOSTIC_AUTHENTICATION_REQUIRED 6

/* MAP_T_MAP_Abort_Souce: */

/* MAP_T_ACSE_Service_User: */
#define MAP_T_ACSE_SERVICE_USER_NULL 1
#define MAP_T_ACSE_SERVICE_USER_NO_REASON_GIVEN 2
#define MAP_T_ACSE_SERVICE_USER_APPLICATION_CONTEXT_NAME_NOT_SUPPORTED 3
#define MAP_T_ACSE_SERVICE_USER_CALLING_AP_TITLE_NOT_RECOGNIZED 4
#define MAP_T_ACSE_SERVICE_USER_CALLING_AP_INVOCATION_IDENTIFIER_NOT_RECOGNIZED 5
#define MAP_T_ACSE_SERVICE_USER_CALLING_AE_QUALIFIER_NOT_RECOGNIZED 6
#define MAP_T_ACSE_SERVICE_USER_CALLING_AE_INVOCATION_IDENTIFIER_NOT_RECOGNIZED 7
#define MAP_T_ACSE_SERVICE_USER_CALLED_AP_TITLE_NOT_RECOGNIZED 8
#define MAP_T_ACSE_SERVICE_USER_CALLED_AP_INVOCATION_IDENTIFIER_NOT_RECOGNIZED 9
#define MAP_T_ACSE_SERVICE_USER_CALLED_AE_QUALIFIER_NOT_RECOGNIZED 10
#define MAP_T_ACSE_SERVICE_USER_CALLED_AE_INVOCATION_IDENTIFIER_NOT_RECOGNIZED 11
#define MAP_T_ACSE_SERVICE_USER_AUTHENTICATION_MECHANISM_NAME_NOT_RECOGNIZED 12
#define MAP_T_ACSE_SERVICE_USER_AUTHENTICATION_MECHANISM_NAME_REQUIRED 13
#define MAP_T_ACSE_SERVICE_USER_AUTHENTICATION_FAILURE 14
#define MAP_T_ACSE_SERVICE_USER_AUTHENTICATION_REQUIRED 15

/* MAP_T_ACSE_Service_Provider: */
#define MAP_T_ACSE_SERVICE_PROVIDER_NULL 1
#define MAP_T_ACSE_SERVICE_PROVIDER_NO_REASON_GIVEN 2
#define MAP_T_ACSE_SERVICE_PROVIDER_NO_COMMON_ACSE_VERSION 3

/* MAP_T_Assoc_Result: */
#define MAP_T_ACCEPT 1
#define MAP_T_REJECT_PERMANENT 2
#define MAP_T_REJECT_TRANSIENT 3

/* MAP_T_Asynchronous: */
#define MAP_T_FALSE 1
#define MAP_T_TRUE 2

/* MAP_E_Problem: */
#define MAP_E_BAD_ADDRESS 1001
#define MAP_E_BAD_ARGUMENT 1002
#define MAP_E_BAD_CLASS 1003
#define MAP_E_BAD_CONTEXT 1004
#define MAP_E_BAD_ERROR 1005
#define MAP_E_BAD_LINKED_REPLY 1006
#define MAP_E_BAD_PROCEDURAL_USE 1007
#define MAP_E_BAD_RESULT 1008
#define MAP_E_BAD_SESSION 1009
#define MAP_E_BAD_SYNTAX 1010
#define MAP_E_BAD_TITLE 1011
#define MAP_E_BAD_VALUE 1012
#define MAP_E_BAD_WORKSPACE 1013
#define MAP_E_BROKEN_SESSION 1014
#define MAP_E_COMMUNICATIONS_PROBLEM 1015
#define MAP_E_EXCLUSIVE_ATTRIBUTE 1016
```



```

#define MAP_E_INVALID_CONNECTION_ID          1017
#define MAP_E_INVALID_ATTRIBUTE_ID          1018
#define MAP_E_MISCELLANEOUS                 1019
#define MAP_E_MISSING_ATTRIBUTE             1020
#define MAP_E_NOT_MULTI_VALUED              1021
#define MAP_E_NOT_SUPPORTED                 1022
#define MAP_E_NO_SUCH_OPERATION              1023
#define MAP_E_REPLY_LIMIT_EXCEEDED          1024
#define MAP_E_SESSION_TERMINATED            1025
#define MAP_E_SYSTEM_ERROR                  1026
#define MAP_E_TIME_LIMIT_EXCEEDED           1027
#define MAP_E_TOO_MANY_OPERATIONS           1028
#define MAP_E_TOO_MANY_SESSIONS             1029

/* MAP_T_Modify_Operator: */
#define MAP_T_REPLACE                        0
#define MAP_T_ADD_VALUES                     1
#define MAP_T_REMOVE_VALUES                  2
#define MAP_T_SET_TO_DEFAULT                 3

/* The typedef name MAP_status is defined as: */
typedef int MAP_status;

/* The following constants are defined: */
#define MAP_SUCCESS                         ((MAP_status)0)
#define MAP_NO_WORKSPACE                    ((MAP_status)1)
#define MAP_INVALID_SESSION                 ((MAP_status)2)
#define MAP_INVALID_ASSOCIATION             ((MAP_status)3)
#define MAP_INVALID_INVOKE_ID               ((MAP_status)4)
#define MAP_INSUFFICIENT_RESOURCES          ((MAP_status)5)

/* The following constants are defined: */
#define MAP_ACTIVATE                        0
#define MAP_DEACTIVATE                      1
#define MAP_QUERY_STATE                     2
#define MAP_QUERY_SUPPORTED                  3

/* The following structures are defined: */
typedef struct {
    OM_object_identifier feature;
    OM_sint request;
    OM_boolean response;
} MAP_feature;

typedef struct {
    OM_private_object bound_session;
    OM_boolean activated;
} MAP_waiting_sessions;

/* The following constants, of type OM_Object, are defined: */
#define MAP_ABSENT_OBJECT                   ((OM_object)0)
#define MAP_DEFAULT_CONTEXT                 ((OM_object)0)
#define MAP_DEFAULT_SESSION                 ((OM_object)0)
#define MAP_DEFAULT_ASSOCIATION             ((OM_object)0)

/* The following integer constants are defined: */

```

Appendix A: C Headers

```
#define MAP_OPEN_IND          15
#define MAP_OPEN_CON          16
#define MAP_REFUSE_IND        17
#define MAP_SERV_IND          18
#define MAP_SERV_CON          19
#define MAP_DELIM_IND         20
#define MAP_CLOSE_IND         21
#define MAP_ABORT_IND         22
#define MAP_NOTICE_IND        23
#define MAP_STC1_IND          28
#define MAP_STC2_IND          29
#define MAP_STC3_IND          30
#define MAP_STC4_IND          31

#define MAP_COMPLETED         1
#define MAP_INCOMING           2
#define MAP_NOTHING            3
#define MAP_OUTSTANDING        4
#define MAP_PARTIAL            5
#define MAP_NO_VALID_FILE_DESCRIPTOR -1

#define MAP_MAX_OUTSTANDING_OPERATIONS 1024

#ifdef __BEGIN_DECLS
/* *INDENT-OFF* */
__BEGIN_DECLS
/* *INDENT-ON* */
#endif

extern OM_workspace map_initialize(void);

extern void mp_shutdown(OM_workspace workspace);

extern MAP_status mp_validate_object(OM_workspace workspace,
                                     OM_object test_object,
                                     OM_private_object * bad_argument_return);

extern MAP_status map_get_last_error(OM_workspace workspace,
                                     OM_uint32 * additional_error_return);

extern MAP_status map_negotiate(MAP_feature feature_list[],
                                OM_workspace workspace);

extern MAP_status map_wait(MAP_waiting_sessions bound_session_list[],
                           OM_workspace workspace, OM_uint32 timeout);

extern MAP_status map_receive(OM_private_object session,
                              OM_private_object context,
                              OM_sint * primitive_return,
                              OM_sint * completion_flag_return,
                              MAP_status * operation_notification_status_return,
                              OM_private_object * result_or_argument_return,
                              OM_uint32 * dialog_id_return);

/** @brief create a new MAP application entity invocation (TC User)
 * @param session features of the new session
```

```

    * @param workspace OM workspace for the MAP OM package
    * @param open_session_return
    *
    * The map_bind() function accepts a session specification and a MAP OM package
    * workspace and, when successful, returns a private OM object that represents
    * the session. This session may be used to identify the MAP application
    * entity invocation (TC User) in the further functions.
    */
extern MAP_status map_bind(OM_object session, OM_workspace workspace,
                           OM_private_object * open_session_return);

/** @brief destroy and existing MAP application entity invocation (TC User)
    * @param session the session to destroy
    *
    * The map_unbind() function accepts an existing session object (one returned
    * from a call to map_bind()) and removes the session from the workspace. The
    * session may no longer be used to identify the MAP application entity
    * invocation (TC User).
    */
extern MAP_status map_unbind(OM_private_object session);

/** @brief establish a MAP AP Invocation with a remote MAP AE
    * @param session session representing the local MAP AEI
    * @param context information on the context of the MAP AP
    * @param argument arguments of the MAP AP Invocation
    * @param result_return result of a synchronous operation
    * @param dialog_id_return an identifier for the dialog
    */
extern MAP_status map_open_req(OM_private_object session,
                               OM_private_object context, OM_object argument,
                               OM_private_object * result_return,
                               OM_uint32 * dialog_id_return);

extern MAP_status map_open_rsp(OM_private_object session,
                               OM_private_object context, OM_object response,
                               OM_uint32 dialog_id);

extern MAP_status map_refuse(OM_private_object session,
                             OM_private_object context, OM_object refusal,
                             OM_uint32 dialog_id);

extern MAP_status map_close(OM_private_object session, OM_uint32 dialog_id);

extern MAP_status map_abort(OM_private_object session, OM_uint32 dialog_id);

extern MAP_status map_delim_req(OM_private_object session, OM_uint32 dialog_id);

extern MAP_status map_service_req(OM_private_object session,
                                  OM_private_object context, OM_object argument,
                                  OM_private_object * result_return,
                                  OM_uint32 * invoke_id_return);

extern MAP_status map_service_rsp(OM_private_object session,
                                  OM_private_object context, OM_object response,
                                  OM_uint32 invoke_id);

#ifdef __END_DECLS

```

Appendix A: C Headers

```
/* *INDENT-OFF* */
__END_DECLS
/* *INDENT-ON* */
#endif
#endif
/* __XMAP_H__ */
// vim: com=sr0\:**,mb\:* ,ex\:* /,sr0\:**,mb\:* ,ex\:* /,b\*:TRANS
```

A.2 xmap_gsm.h

```

#ifndef __XMAP_GSM_H__
#define __XMAP_GSM_H__

/*
 * The <xmap.h> and <xmap_gsm.h> headers declare the interface functions, the
 * structures passed to and from those functions, and the defined constants used
 * by the functions and structure.
 *
 * All application programs which include this header must first include the
 * OSI-Abstract-DATA Manipulation header <xom.h>.
 *
 * All Object Identifiers are represented by constants defined in the headers.
 * These constants are used with the macros defined in the XOM API (see
 * reference XOM). A constant is defined to represent the Object Identifier of
 * the Mobile Application Part package:
 *
 * { iso(1) org(3) dod(6) internet(1) private(4) enterprises(1) openss7(29591)
 *   xom-packages(1) xmap(1) gsm(2) }
 */
#define OMP_O_MAP_GSM_PKG \
    "\x2b\x06\x01\x04\x01\x81\xe7\x17\x01\x01\x02" /* 1.3.6.1.4.1.29591.1.1.2 */

#define OMP_O_MAP_GSM_NETWORK \
    "\x04\x00\x00\x01\x00" /* 0.4.0.0.1 */
    /* { itu-t(0) identified-organization(4) etsi(0) mobile-domain(0) gsm-Network(1) } */

#define mapP_gsmNetwork(X) (OMP_O_MAP_GSM_NETWORK# #X)

#define OMP_O_MAP_GSM_AC \
    mapP_gsmNetwork(\x00) /* 0.4.0.0.1.0 */
    /* { itu-t(0) identified-organization(4) etsi(0) mobile-domain(0) gsm-Network(1) ac(0) } */

#define mapP_acId(X) (OMP_O_MAP_GSM_AC# #X)

#define OMP_O_MAP_GSM_AS \
    mapP_gsmNetwork(\x01) /* 0.4.0.0.1.1 */

#define mapP_asId(X) (OMP_O_MAP_GSM_AS# #X)

#define OMP_O_MAP_GSM_DIALOGUE_AS \
    mapP_asId(\x01\x01)
    /* { gsm-NetworkId as-Id map-DialoguePDU(1) version1(1) } */

#define OMP_O_MAP_GSM_PROTECTED_DIALOGUE_AS \
    mapP_asID(\x03\x01)
    /* { gsm-NetworkId as-Id map-ProtectedDialoguePDU(3) version1(1) } */

/* Defined constants */

/* Intermediate object identifier macro */
#define mapP_gsm(X) (OMP_O_MAP_GSM_PKG# #X)

/* The OM syntax names that are defined are listed below. */

```

Appendix A: C Headers

```
#define MAP_S_ADDRESS_STRING ((OM_syntax) 34)
#define MAP_S_SUBADDRESS_STRING ((OM_syntax) 35)

/* OM class names (prefixed MAP_C_) */

/*
 * Every application program that makes use of a class or other Object
 * Identifier must explicitly import it into every compilation unit (C source
 * program) which uses it. Each such class or Object Identifier name must be
 * explicitly exported from just one compilation unit.
 *
 * In the header file, OM class constants are prefixed with the OMP_O_ prefix
 * to denote that they are OM classes, However, when using the OM_IMPORT and
 * OM_EXPORT macros, the base names (without the OMP_O_ prefix) should be used.
 * For example:
 *
 * OM_IMPORT(MAP_C_RESULT)
 */

#define OMP_O_MAP_C_ABSENT_SUBSCRIBER_PARAM mapP_gsm(\x87\x69) /* 1001 */ /* GSM
#define OMP_O_MAP_C_ABSENT_SUBSCRIBER_SM_PARAM mapP_gsm(\x87\x69) /* 1001 */ /* GSM
#define OMP_O_MAP_C_ACCESS_NETWORK_SIGNAL_INFO mapP_gsm(\x8F\x51) /* 2001 */ /* GSM
#define OMP_O_MAP_C_ATI_NOT_ALLOWED_PARAM mapP_gsm(\x87\x69) /* 1001 */ /* GSM
#define OMP_O_MAP_C_ATM_NOT_ALLOWED_PARAM mapP_gsm(\x87\x69) /* 1001 */ /* GSM
#define OMP_O_MAP_C_ATSI_NOT_ALLOWED_PARAM mapP_gsm(\x87\x69) /* 1001 */ /* GSM
#define OMP_O_MAP_C_BASIC_SERVICE_CODE mapP_gsm(\x8F\x51) /* 2001 */ /* GSM
#define OMP_O_MAP_C_BEARER_SERV_NOT_PROV_PARAM mapP_gsm(\x87\x69) /* 1001 */ /* GSM
#define OMP_O_MAP_C_BUSY_SUBSCRIBER_PARAM mapP_gsm(\x87\x69) /* 1001 */ /* GSM
#define OMP_O_MAP_C_CALL_BARRED_PARAM mapP_gsm(\x87\x69) /* 1001 */ /* GSM
#define OMP_O_MAP_C_CELL_GLOBAL_ID_OR_SERVICE_AREA_ID_OR_LAI mapP_gsm(\x8F\x52) /* 2002 */ /* GSM
#define OMP_O_MAP_C_CUG_REJECT_PARAM mapP_gsm(\x87\x69) /* 1001 */ /* GSM
#define OMP_O_MAP_C_DATA_MISSING_PARAM mapP_gsm(\x87\x69) /* 1001 */ /* GSM
#define OMP_O_MAP_C_EMLPP_INFO mapP_gsm(\x8F\x53) /* 2003 */ /* GSM
#define OMP_O_MAP_C_EXT_BASIC_SERVICE_CODE mapP_gsm(\x8F\x51) /* 2001 */ /* GSM
#define OMP_O_MAP_C_EXTENSIBLE_CALL_BARRED_PARAM mapP_gsm(\x87\x69) /* 1001 */ /* GSM
#define OMP_O_MAP_C_EXTENSIBLE_SYSTEM_FAILURE_PARAM mapP_gsm(\x87\x69) /* 1001 */ /* GSM
#define OMP_O_MAP_C_EXTENSION_CONTAINER mapP_gsm(\x8F\x54) /* 2004 */ /* GSM
#define OMP_O_MAP_C_EXTERNAL_SIGNAL_INFO mapP_gsm(\x8F\x55) /* 2005 */ /* GSM
#define OMP_O_MAP_C_EXT_EXTERNAL_SIGNAL_INFO mapP_gsm(\x8F\x56) /* 2006 */ /* GSM
#define OMP_O_MAP_C_FACILITY_NOT_SUP_PARAM mapP_gsm(\x87\x69) /* 1001 */ /* GSM
#define OMP_O_MAP_C_FORWARDING_FAILED_PARAM mapP_gsm(\x87\x69) /* 1001 */ /* GSM
#define OMP_O_MAP_C_FORWARDING_VIOLATION_PARAM mapP_gsm(\x87\x69) /* 1001 */ /* GSM
#define OMP_O_MAP_C_GSM_ABORT_ARGUMENT mapP_gsm(\x8F\x57) /* 2007 */ /* GSM
#define OMP_O_MAP_C_GSM_ABORT_RESULT mapP_gsm(\x8F\x58) /* 2008 */ /* GSM
#define OMP_O_MAP_C_GSM_ACCEPT_RESULT mapP_gsm(\x8F\x59) /* 2009 */ /* GSM
#define OMP_O_MAP_C_GSM_CLOSE_ARGUMENT mapP_gsm(\x8F\x5A) /* 2010 */ /* GSM
#define OMP_O_MAP_C_GSM_CONTEXT mapP_gsm(\x8F\x5B) /* 2011 */ /* GSM
#define OMP_O_MAP_C_GSM_MAP_ASSOC_ARGS mapP_gsm(\x8F\x5C) /* 2012 */ /* GSM
#define OMP_O_MAP_C_GSM_NOTICE_RESULT mapP_gsm(\x8F\x5D) /* 2013 */ /* GSM
#define OMP_O_MAP_C_GSM_OPEN_ARGUMENT mapP_gsm(\x8F\x5E) /* 2014 */ /* GSM
#define OMP_O_MAP_C_GSM_P_ABORT_RESULT mapP_gsm(\x8F\x5F) /* 2015 */ /* GSM
#define OMP_O_MAP_C_GSM_REFUSE_RESULT mapP_gsm(\x8F\x60) /* 2016 */ /* GSM
#define OMP_O_MAP_C_GSM_RELEASE_ARGUMENT mapP_gsm(\x8F\x61) /* 2017 */ /* GSM
#define OMP_O_MAP_C_GSM_RELEASE_RESULT mapP_gsm(\x8F\x62) /* 2018 */ /* GSM
#define OMP_O_MAP_C_GSM_SERVICE_ARGUMENT mapP_gsm(\x8F\x63) /* 2019 */ /* GSM
#define OMP_O_MAP_C_GSM_SERVICE_ERROR mapP_gsm(\x8F\x64) /* 2020 */ /* GSM
```

```

#define OMP_O_MAP_C_GSM_SERVICE_REJECT      mapP_gsm(\x8F\x55)    /* 2021 */    /* GSM
#define OMP_O_MAP_C_GSM_SERVICE_RESULT      mapP_gsm(\x8F\x66)    /* 2022 */    /* GSM
#define OMP_O_MAP_C_HLR_LIST                 mapP_gsm(\x8F\x67)    /* 2023 */    /* GSM
#define OMP_O_MAP_C_IDENTITY                 mapP_gsm(\x8F\x51)    /* 2001 */    /* GSM
#define OMP_O_MAP_C_ILLEGAL_EQUIPMENT_PARAM mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_ILLEGAL_SS_OPERATION_PARAM mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_ILLEGAL_SUBSCRIBER_PARAM mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_IMSI_WITH_LMSI          mapP_gsm(\x8F\x51)    /* 2001 */    /* GSM
#define OMP_O_MAP_C_INCOMPATIBLE_TERMINAL_PARAM mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_INFORMATION_NOT_AVAILABLE_PARAM mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_LCS_CLIENT_EXTERNAL_ID  mapP_gsm(\x8F\x68)    /* 2024 */    /* GSM
#define OMP_O_MAP_C_LONG_TERM_DENIAL_PARAM  mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_MC_SS_INFO               mapP_gsm(\x8F\x69)    /* 2025 */    /* GSM
#define OMP_O_MAP_C_MESSAGE_WAIT_LIST_FULL_PARAM mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_MM_EVENT_NOT_SUPPORTED_PARAM mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_NAEA_PREFERRED_CI        mapP_gsm(\x8F\x6A)    /* 2026 */    /* GSM
#define OMP_O_MAP_C_NO_GROUP_CALL_NB_PARAM   mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_NO_ROAMING_NB_PARAM      mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_NO_SUBSCRIBER_REPLY_PARAM mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_NUMBER_CHANGE_PARAM      mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_OR_NOT_ALLOWED_PARAM     mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_PCS_EXTENSIONS           mapP_gsm(\x8F\x6B)    /* 2027 */    /* GSM
#define OMP_O_MAP_C_POSITION_METHOD_FAILURE_PARAM mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_PRIVATE_EXTENSION_LIST   mapP_gsm(\x8F\x6C)    /* 2028 */    /* GSM
#define OMP_O_MAP_C_PRIVATE_EXTENSION        mapP_gsm(\x8F\x6D)    /* 2029 */    /* GSM
#define OMP_O_MAP_C_PW_REGISTRATION_FAILURE_CAUSE mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_RESOURCE_LIMITATION_PARAM mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_ROAMING_NOT_ALLOWED_PARAM mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_SECURE_TRANSPORT_ERROR_PARAM mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_SHORT_TERM_DENIAL_PARAM  mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_SLR_ARG_EXTENSION_CONTAINER mapP_gsm(\x8F\x6E)    /* 2030 */    /* GSM
#define OMP_O_MAP_C_SLR_ARG_PCS_EXTENSIONS   mapP_gsm(\x8F\x6F)    /* 2031 */    /* GSM
#define OMP_O_MAP_C_SM_DELIVERY_FAILURE_CAUSE mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_SPECIFIC_INFORMATION     mapP_gsm(\x8F\x70)    /* 2032 */    /* GSM
#define OMP_O_MAP_C_SS_INCOMPATIBILITY_PARAM mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_SS_NOT_AVAILABLE_PARAM   mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_SS_SUBSCRIPTION_VIOLATION_PARAM mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_SUB_BUSY_FOR_MT_SMS_PARAM mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_SUBSCRIBER_IDENTITY      mapP_gsm(\x8F\x51)    /* 2001 */    /* GSM
#define OMP_O_MAP_C_SYSTEM_FAILURE_PARAM     mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_TARGET_CELL_OUTSIDE_GCA_PARAM mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_TELESERV_NOT_PROV_PARAM  mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_TRACING_BUFFER_FULL_PARAM mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_UNAUTHORIZED_LCS_CLIENT_PARAM mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_UNAUTHORIZED_REQUESTING_NETWORK_PARAM mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_UNEXPECTED_DATA_PARAM    mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_UNIDENTIFIED_SUB_PARAM   mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_UNKNOWN_OR_UNREACHABLE_LCS_CLIENT_PARAM mapP_gsm(\x87\x69)    /* 1001 */    /* GSM
#define OMP_O_MAP_C_UNKNOWN_SUBSCRIBER_PARAM mapP_gsm(\x87\x69)    /* 1001 */    /* GSM

/* The OM attribute names that are defined are listed below. */

#define MAP_A_ABSENT_SUBSCRIBER_DIAGNOSTIC_SM ((OM_type)10001)    /* GSM ERR */
#define MAP_A_ABSENT_SUBSCRIBER_REASON       ((OM_type)10002)    /* GSM ERR */
#define MAP_A_ACCESS_NETWORK_PROTOCOL_ID     ((OM_type)12001)    /* GSM */
#define MAP_A_ADDITIONAL_ABSENT_SUBSCRIBER_DIAGNOSTIC_SM ((OM_type)10003)    /* GSM ERR */

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Appendix A: C Headers

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#define MAP_A_ADDITIONAL_INFO ((OM_type)20001) /* GSM Common *
#define MAP_A_ADDITIONAL_NETWORK_RESOURCE ((OM_type)10004) /* GSM ERR */
#define MAP_A_ADDITIONAL_NUMBER ((OM_type)20002) /* GSM common *
#define MAP_A_ADDITIONAL_SUBSCRIPTIONS ((OM_type)20003) /* GSM common *
#define MAP_A_AGE_OF_LOCATION_INFORMATION ((OM_type)12002) /* GSM */
#define MAP_A_ALERTING_PATTERN ((OM_type)12003) /* GSM */
#define MAP_A_ALL_INFORMATION_SENT ((OM_type)20004) /* GSM common *
#define MAP_A_AN_APDU ((OM_type)20005) /* GSM common *
#define MAP_A_APPLICATION_CONTEXT ((OM_type)12004) /* GSM */
#define MAP_A_ASCII_CALL_REFERENCE ((OM_type)12005) /* GSM */
#define MAP_A_BASIC_SERVICE_GROUP_LIST ((OM_type)20006) /* GSM common *
#define MAP_A_BASIC_SERVICE_GROUP ((OM_type)20007) /* GSM common *
#define MAP_A_BASIC_SERVICE ((OM_type)20008) /* GSM common *
#define MAP_A_BEARER_SERVICE ((OM_type)10006) /* GSM ERR */
#define MAP_A_CALL_BARRING_CAUSE ((OM_type)10008) /* GSM ERR */
#define MAP_A_CALL_BARRING_FEATURE_LIST ((OM_type)20009) /* GSM common *
#define MAP_A_CALL_BARRING_INFO ((OM_type)20010) /* GSM common *
#define MAP_A_CALL_INFO ((OM_type)20011) /* GSM common *
#define MAP_A_CALL_PRIORITY ((OM_type)20012) /* GSM common *
#define MAP_A_CCBS_BUSY ((OM_type)10009) /* GSM ERR */
#define MAP_A_CCBS_FEATURE ((OM_type)20013) /* GSM common *
#define MAP_A_CCBS_POSSIBLE ((OM_type)10010) /* GSM ERR */
#define MAP_A_CELL_GLOBAL_ID_OR_SERVICE_AREA_ID_FIXED_LENGTH ((OM_type)12006) /* GSM */
#define MAP_A_CKSN ((OM_type)20014) /* GSM common *
#define MAP_A_CUG_INTERLOCK ((OM_type)20015) /* GSM common *
#define MAP_A_CUG_REJECT_CAUSE ((OM_type)10011) /* GSM ERR */
#define MAP_A_D_CSI ((OM_type)20016) /* GSM common *
#define MAP_A_DEFAULT_PRIORITY ((OM_type)12007) /* GSM */
#define MAP_A_DESTINATION_REFERENCE ((OM_type)12008) /* GSM */
#define MAP_A_DIAGNOSTIC_INFO ((OM_type)10007) /* GSM ERR */
#define MAP_A_EMLPP_PRIORITY ((OM_type)12009) /* GSM */
#define MAP_A_EXT_BEARER_SERVICE ((OM_type)10012) /* GSM ERR */
#define MAP_A_EXTENSIBLE_CALL_BARRED_PARAM ((OM_type)10013) /* GSM ERR */
#define MAP_A_EXTENSIBLE_SYSTEM_FAILURE_PARAM ((OM_type)10014) /* GSM ERR */
#define MAP_A_EXTENSION_CONTAINER ((OM_type)12000) /* GSM */
#define MAP_A_EXTENSION ((OM_type)12001) /* GSM */
#define MAP_A_EXTENSIONS ((OM_type)12002) /* GSM */
#define MAP_A_EXTERNAL_ADDRESS ((OM_type)12003) /* GSM */
#define MAP_A_EXT_ID ((OM_type)12004) /* GSM */
#define MAP_A_EXT_PROTOCOL_ID ((OM_type)12005) /* GSM */
#define MAP_A_EXT_SS_STATUS ((OM_type)12006) /* GSM */
#define MAP_A_EXT_TELESERVICE ((OM_type)10017) /* GSM ERR */
#define MAP_A_EXT_TYPE ((OM_type)12007) /* GSM */
#define MAP_A_FORWARDED_TO_NUMBER ((OM_type)20017) /* GSM common *
#define MAP_A_FORWARDED_TO_SUBADDRESS ((OM_type)20018) /* GSM common *
#define MAP_A_FORWARDING_FEATURE_LIST ((OM_type)20019) /* GSM common *
#define MAP_A_FORWARDING_INFO ((OM_type)20020) /* GSM common *
#define MAP_A_FORWARDING_OPTIONS ((OM_type)20021) /* GSM common *
#define MAP_A_GLOBAL_CELL_ID ((OM_type)12001) /* GSM */
#define MAP_A_GPRS_CONNECTION_SUSPENDED ((OM_type)10018) /* GSM ERR */
#define MAP_A_GPRS_NODE_INDICATOR ((OM_type)20022) /* GSM common *
#define MAP_A_GROUP_ID ((OM_type)20023) /* GSM common *
#define MAP_A_HLR_ID ((OM_type)12001) /* GSM */
#define MAP_A_IMEI ((OM_type)12001) /* GSM */
#define MAP_A_IMSI ((OM_type)12001) /* GSM */
#define MAP_A_IST_ALERT_TIMER ((OM_type)20024) /* GSM common *

```



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#define MAP_A_IST_INFORMATION_WITHDRAW ((OM_type)20025) /* GSM common *
#define MAP_A_IST_SUPPORT_INDICATOR ((OM_type)20026) /* GSM common *
#define MAP_A_KC ((OM_type)20027) /* GSM common *
#define MAP_A_LAI_FIXED_LENGTH ((OM_type)12001) /* GSM */
#define MAP_A_LCS_CLIENT_INTERNAL_ID ((OM_type)12001) /* GSM */
#define MAP_A_LCS_SERVICE_TYPE_ID ((OM_type)12001) /* GSM */
#define MAP_A_LMSI ((OM_type)12001) /* GSM */
#define MAP_A_LONG_FORWARDED_TO_NUMBER ((OM_type)20028) /* GSM common *
#define MAP_A_LONG_FTN_SUPPORTED ((OM_type)20029) /* GSM common *
#define MAP_A_MAXIMUM_ENTITLED_PRIORITY ((OM_type)12001) /* GSM */
#define MAP_A_MAX_MC_BEARERS ((OM_type)12001) /* GSM */
#define MAP_A_MC_BEARERS ((OM_type)12001) /* GSM */
#define MAP_A_MSC_NUMBER ((OM_type)20030) /* GSM common *
#define MAP_A_MSISDN ((OM_type)20031) /* GSM common *
#define MAP_A_NAEA_CIC ((OM_type)12001) /* GSM */
#define MAP_A_NAEA_PREFERRED_CIC ((OM_type)12001) /* GSM */
#define MAP_A_NAEA_PREFERRED_CI ((OM_type)20032) /* GSM common *
#define MAP_A_NA_ESRK_REQUEST ((OM_type)12001) /* GSM */
#define MAP_A_NBR_SB ((OM_type)12001) /* GSM */
#define MAP_A_NBR_USER ((OM_type)12001) /* GSM */
#define MAP_A_NEEDED_LCS_CAPABILITY_NOT_SUPPORTED_IN_SERVING_NODE ((OM_type)10019) /* GSM ERR */
#define MAP_A_NETWORK_NODE_NUMBER ((OM_type)20033) /* GSM common *
#define MAP_A_NETWORK_RESOURCE ((OM_type)10020) /* GSM ERR */
#define MAP_A_NETWORK_SIGNAL_INFO ((OM_type)20034) /* GSM common *
#define MAP_A_NO_REPLY_CONDITION_TIME ((OM_type)20035) /* GSM common *
#define MAP_A_NUMBER_PORTABILITY_STATUS ((OM_type)20036) /* GSM common *
#define MAP_A_O_BCSM_CAMEL_TDP_CRITERIA_LIST ((OM_type)20037) /* GSM common *
#define MAP_A_O_CSI ((OM_type)20038) /* GSM common *
#define MAP_A_OFFERED_CAMEL4_CSIS ((OM_type)20039) /* GSM common *
#define MAP_A_ORIGINATING_REFERENCE ((OM_type)12001) /* GSM */
#define MAP_A_P_ABORT_CAUSE ((OM_type)12001) /* GSM */
#define MAP_A_P_ABORT_REASON ((OM_type)12001) /* GSM */
#define MAP_A_PAGING_AREA ((OM_type)20040) /* GSM common *
#define MAP_A_PASSWORD ((OM_type)20041) /* GSM common *
#define MAP_A_PCS_EXTENSION ((OM_type)12001) /* GSM */
#define MAP_A_PCS_EXTENSIONS ((OM_type)12001) /* GSM */
#define MAP_A_POSITION_METHOD_FAILURE_DIAGNOSTIC ((OM_type)10021) /* GSM ERR */
#define MAP_A_PRIVATE_EXTENSION_LIST ((OM_type)12001) /* GSM */
#define MAP_A_PRIVATE_EXTENSION ((OM_type)12001) /* GSM */
#define MAP_A_PROBLEM_DIAGNOSTIC ((OM_type)12001) /* GSM */
#define MAP_A_PROTECTED_PAYLOAD ((OM_type)10022) /* GSM ERR */
#define MAP_A_PROTOCOL_ID ((OM_type)12001) /* GSM */
#define MAP_A_PROVIDER_REASON ((OM_type)12001) /* GSM */
#define MAP_A_PW_REGISTRATION_FAILURE_CAUSE ((OM_type)10033) /* GSM ERR */
#define MAP_A_REFUSE_REASON ((OM_type)12001) /* GSM */
#define MAP_A_RELEASE_METHOD ((OM_type)12001) /* GSM */
#define MAP_A_REPORT_CAUSE ((OM_type)12001) /* GSM */
#define MAP_A_REQUESTED_INFO ((OM_type)20042) /* GSM common *
#define MAP_A_ROAMING_NOT_ALLOWED_CAUSE ((OM_type)10023) /* GSM ERR */
#define MAP_A_SAI_PRESENT ((OM_type)20043) /* GSM common *
#define MAP_A_SECURITY_HEADER ((OM_type)10024) /* GSM ERR */
#define MAP_A_SGSN_NUMBER ((OM_type)20044) /* GSM common *
#define MAP_A_SHAPE_OF_LOCATION_ESTIMATED_NOT_SUPPORTED ((OM_type)10025) /* GSM ERR */
#define MAP_A_SIGNAL_INFO ((OM_type)12001) /* GSM */
#define MAP_A_SLR_ARG_PCS_EXTENSIONS ((OM_type)12001) /* GSM */
#define MAP_A_SM_ENUMERATED_DELIVERY_FAILURE_CAUSE ((OM_type)10026) /* GSM ERR */

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Appendix A: C Headers

```
#define MAP_A_SOURCE ((OM_type)12001) /* GSM */
#define MAP_A_SPECIFIC_INFORMATION ((OM_type)12001) /* GSM */
#define MAP_A_SS_CODE ((OM_type)12001) /* GSM */
#define MAP_A_SS_DATA ((OM_type)20045) /* GSM common */
#define MAP_A_SS_LIST ((OM_type)20046) /* GSM common */
#define MAP_A_SS_STATUS ((OM_type)12001) /* GSM */
#define MAP_A_SS_SUBSCRIPTION_OPTION ((OM_type)20047) /* GSM common */
#define MAP_A_SUBSCRIBER_INFO ((OM_type)20048) /* GSM common */
#define MAP_A_SUPPORTED_CAMEL_PHASES ((OM_type)20049) /* GSM common */
#define MAP_A_SUPPORTED_LCS_CAPABILITY_SETS ((OM_type)20050) /* GSM common */
#define MAP_A_T_BCSM_CAMEL_TDP_CRITERIA_LIST ((OM_type)20051) /* GSM common */
#define MAP_A_T_CSI ((OM_type)20052) /* GSM common */
#define MAP_A_TELESERVICE ((OM_type)10029) /* GSM ERR */
#define MAP_A_TMSI ((OM_type)12001) /* GSM */
#define MAP_A_TRANSLATED_B_NUMBER ((OM_type)20053) /* GSM common */
#define MAP_A_UNAUTHORIZED_LCS_CLIENT_DIAGNOSTIC ((OM_type)10030) /* GSM ERR */
#define MAP_A_UNAUTHORIZED_MESSAGE_ORIGINATOR ((OM_type)10031) /* GSM ERR */
#define MAP_A_UNKNOWN_SUBSCRIBER_DIAGNOSTIC ((OM_type)10032) /* GSM ERR */
#define MAP_A_V_GMLC_ADDRESS ((OM_type)20054) /* GSM common */

#define MAP_VL_DESTINATION_REFERENCE 20
#define MAP_VL_ORIGINATING_REFERENCE 20

#define MAP_VN_PRIVATE_EXTENSION 10

/*
 * The following enumerations tags and enumeration constants are defined for use
 * as values of the corresponding OM attributes:
 */

/* MAP_T_Release_Method: */
typedef enum {
    MAP_T_NORMAL_RELEASE = 0,
    MAP_T_PREARRANGED_END = 1,
} MAP_T_Release_Method;

/* MAP_T_Problem_Diagnostic: */
typedef enum {
    MAP_T_ABNORMAL_EVENT_DETECTED_BY_PEER = 0,
    MAP_T_RESPONSE_REJECTED_BY_THE_PEER = 1,
    MAP_T_ABNORMAL_EVENT_RECEIVED_FROM_THE_PEER = 2,
    MAP_T_MESSAGE_CANNOT_BE_DELIVERED_TO_THE_PEER = 3,
} MAP_T_Problem_Diagnostic;

/* MAP_T_Provider_Reason: */
typedef enum {
    MAP_T_PROVIDER_MALFUNCTION = 0,
    MAP_T_SUPPORTING_DIALOGUE_TRANSACTION_RELEASED = 1,
    MAP_T_RESOURCE_LIMITATION = 2,
    MAP_T_MAINTENANCE_ACTIVITY = 3,
    MAP_T_VERSION_INCOMPATIBILITY = 4,
    MAP_T_ABNORMAL_MAP_DIALOGUE = 5,
} MAP_T_Provider_Reason;

/* MAP_T_Source: */
typedef enum {
```

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        MAP_T_MAP_PROBLEM = 0,
        MAP_T_TC_PROBLEM = 1,
        MAP_T_NETWORK_SERVICE_PROBLEM = 2,
    } MAP_T_Source;

/* MAP_T_P_Abort_Reason: */
typedef enum {
    MAP_T_ABNORMAL_DIALOGUE = 0,
    MAP_T_INVALID_PDU = 1,
} MAP_T_P_Abort_Reason;

/* MAP_T_P_Abort_Cause: */
typedef enum {
    MAP_T_UNRECOGNIZED_MESSAGE_TYPE = 0,
    MAP_T_UNRECOGNIZED_TRANSACTION_ID = 1,
    MAP_T_BADLY_FORMATTED_TRANSACTION_PORTION = 2,
    MAP_T_INCORRECT_TRANSACTION_PORTION = 3,
    MAP_T_RESOURCE_LIMITATION = 4,
    MAP_T_ABNORMAL_DIALOGUE = 5,
    MAP_T_NO_COMMON_DIALOGUE_PORTION = 6,
} MAP_T_P_Abort_Cause;

/* MAP_T_Report_Cause: */
typedef enum {
    MAP_T_NO_TRANSLATIONS_FOR_ADDRESS_OF_SUCH_NATURE = 0,
    MAP_T_NO_TRANSLATION_FOR_THIS_SPECIFIC_ADDRESS = 1,
    MAP_T_SUBSYSTEM_CONGESTION = 2,
    MAP_T_SUBSYSTEM_FAILURE = 3,
    MAP_T_UNEQUIPPED_USER = 4,
    MAP_T_MTP_FAILURE = 5,
    MAP_T_NETWORK_CONGESTION = 6,
    MAP_T_SCCP_UNQUALIFIED = 7,
    MAP_T_ERROR_IN_MESSAGE_TRANSPORT = 8,
    MAP_T_ERROR_IN_LOCAL_PROCESSING = 9,
    MAP_T_DESTINATION_CANNOT_PERFORM_REASSEMBLY = 10,
    MAP_T_SCCP_FAILURE = 11,
    MAP_T_HOP_COUNTER_VIOLATION = 12,
    MAP_T_SEGMENTATION_NOT_SUPPORTED = 13,
    MAP_T_SEGMENTATION_FAILURE = 14,
    /* ANSI SCCP only */
    MAP_T_MESSAGE_CHANGE_FAILURE = 247,
    MAP_T_INVALID_INS_ROUTING_REQUEST = 248,
    MAP_T_INVALID_ISNI_ROUTING_REQUEST = 249,
    MAP_T_UNAUTHORIZED_MESSAGE = 250,
    MAP_T_MESSAGE_INCOMPATIBILITY = 251,
    MAP_T_CANNOT_PERFORM_ISNI_CONSTRAINED_ROUTING = 252,
    MAP_T_REDUNDANT_ISNI_CONSTRAINED_ROUTING_INFORMATION = 253,
    MAP_T_UNABLE_TO_PERFORM_ISNI_IDENTIFICATION = 254,
} MAP_T_Report_Cause;

/* MAP_T_Refuse_Reason: */
typedef enum {
    MAP_T_NO_REASON_GIVEN = 0,
    MAP_T_INVALID_DESTINATION_REFERENCE = 1,
    MAP_T_INVALID_ORIGINATING_REFERENCE = 2,
    MAP_T_ENCAPSULATED_AC_NOT_SUPPORTED = 3,

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    MAP_T_TRANSPORT_PROTECTION_NOT_ADEQUATE = 4,
    /* not on wire */
    MAP_T_REMOTE_NODE_NOT_REACHABLE = -1,
    MAP_T_APPLICATION_CONTEXT_NOT_SUPPORTED = -2,
    MAP_T_POTENTIAL_VERSION_INCOMPATIBILITY = -3,
    MAP_T_SECURED_TRANSPORT_NOT_POSSIBLE = -4,
} MAP_T_Refuse_Reason;

/* MAP_T_User_Error: */
typedef enum {
    MAP_E_INITIATING_RELEASE = 0,
    MAP_E_UNKNOWN_SUBSCRIBER = 1,
    MAP_E_UNKNOWN_MSC = 3,
    MAP_E_SECURE_TRANSPORT_ERROR = 4,
    MAP_E_UNIDENTIFIED_SUBSCRIBER = 5,
    MAP_E_ABSENT_SUBSCRIBER_SM = 6,
    MAP_E_UNKNOWN_EQUIPMENT = 7,
    MAP_E_ROAMING_NOT_ALLOWED = 8,
    MAP_E_ILLEGAL_SUBSCRIBER = 9,
    MAP_E_BEARER_SERVICE_NOT_PROVISIONED = 10,
    MAP_E_TELESERVICE_NOT_PROVISIONED = 11,
    MAP_E_ILLEGAL_EQUIPMENT = 12,
    MAP_E_CALL_BARRED = 13,
    MAP_E_FORWARDING_VIOLATION = 14,
    MAP_E_CUG_REJECT = 15,
    MAP_E_ILLEGAL_SS_OPERATION = 16,
    MAP_E_SS_ERROR_STATUS = 17,
    MAP_E_SS_NOT_AVAILABLE = 18,
    MAP_E_SS_SUBSCRIPTION_VIOLATION = 19,
    MAP_E_SS_INCOMPATIBILITY = 20,
    MAP_E_FACILITY_NOT_SUPPORTED = 21,
    MAP_E_NO_HANDOVER_NUMBER_AVAILABLE = 25,
    MAP_E_SUBSEQUENT_HANDOVER_FAILURE = 26,
    MAP_E_ABSENT_SUBSCRIBER = 27,
    MAP_E_INCOMPATIBLE_TERMINAL = 28,
    MAP_E_SHORT_TERM_DENIAL = 29,
    MAP_E_LONG_TERM_DENIAL = 30,
    MAP_E_SUBSCRIBER_BUSY_FOR_MT_SMS = 31,
    MAP_E_SM_DELIVERY_FAILURE = 32,
    MAP_E_MESSAGE_WAITING_LIST_FULL = 33,
    MAP_E_SYSTEM_FAILURE = 34,
    MAP_E_DATA_MISSING = 35,
    MAP_E_UNEXPECTED_DATA_VALUE = 36,
    MAP_E_PW_REGISTRATION_FAILURE = 37,
    MAP_E_NEGATIVE_PW_CHECK = 38,
    MAP_E_NO_ROAMING_NUMBER_AVAILABLE = 39,
    MAP_E_TRACING_BUFFER_FULL = 40,
    MAP_E_TARGET_CELL_OUTSIDE_GROUP_CALL_AREA = 42,
    MAP_E_NUMBER_OF_PW_ATTEMPTS_VIOLATION = 43,
    MAP_E_NUMBER_CHANGED = 44,
    MAP_E_BUSY_SUBSCRIBER = 45,
    MAP_E_NO_SUBSCRIBER_REPLY = 46,
    MAP_E_FORWARDING_FAILED = 47,
    MAP_E_OR_NOT_ALLOWED = 48,
    MAP_E_ATI_NOT_ALLOWED = 49,
    MAP_E_NO_GROUP_CALL_NUMBER_AVAILABLE = 50,

```

```

    MAP_E_RESOURCE_LIMITATION = 51,
    MAP_E_UNAUTHORIZED_REQUESTING_NETWORK = 52,
    MAP_E_UNAUTHORIZED_LCS_CLIENT = 53,
    MAP_E_POSITION_METHOD_FAILURE = 54,
    MAP_E_UNKNOWN_OR_UNREACHABLE_LCS_CLIENT = 58,
    MAP_E_MM_EVENT_NOT_SUPPORTED = 59,
    MAP_E_ATSI_NOT_ALLOWED = 60,
    MAP_E_ATM_NOT_ALLOWED = 61,
    MAP_E_INFORMATION_NOT_AVAILABLE = 62,
    MAP_E_UNKNOWN_ALPHABET = 71,
    MAP_E_USSD_BUSY = 72,
} MAP_T_User_Error;

/* MAP_T_Provider_Error: */
typedef enum {
    MAP_T_DUPLICATED_INVOKE_ID = 0,
    MAP_T_NOT_SUPPORTED_SERVICE = 1,
    MAP_T_MISTYPED_PARAMETER = 2,
    MAP_T_RESOURCE_LIMITATION = 3,
    MAP_T_INITIATING_RELEASE = 4,
    MAP_T_UNEXPECTED_RESPONSE_FROM_THE_PEER = 5,
    MAP_T_SERVICE_COMPLETION_FAILURE = 6,
    MAP_T_NO_RESPONSE_FROM_THE_PEER = 7,
    MAP_T_INVALID_RESPONSE_RECEIVED = 8,
} MAP_T_Provider_Error;

/* MAP_T_Resource_Unavailable_Reason: */
typedef enum {
    MAP_T_SHORT_TERM_RESOURCE_LIMITATION = 0,
    MAP_T_LONG_TERM_RESOURCE_LIMITATION = 1,
} MAP_T_Resource_Unavailable_Reason = 2;

/* MAP_T_Procedure_Cancellation_Reason: */
typedef enum {
    MAP_T_HANDOVER_CANCELLATION = 0,
    MAP_T_RADIO_CHANNEL_RELEASE = 1,
    MAP_T_NETWORK_PATH_RELEASE = 2,
    MAP_T_CALL_RELEASE = 3,
    MAP_T_ASSOCIATED_PROCEDURE_FAILURE = 4,
    MAP_T_TANDEM_DIALOGUE_RELEASE = 5,
    MAP_T_REMOTE_OPERATIONS_FAILURE = 6,
} MAP_T_Procedure_Cancellation_Reason;

/* MAP_T_IST_Support_Indicator: */
typedef enum {
    MAP_T_BASIC_IST_SUPPORT = 0,
    MAP_T_IST_COMMAND_SUPPORTED = 1,
} MAP_T_IST_Support_Indicator;

/* MAP_T_Additional_Subscriptions: (bits) */
typedef enum {
    MAP_T_PRIVILEGED_UP_LINK_REQUEST = 0,
    MAP_T_EMERGENCY_UP_LINK_REQUEST = 1,
    MAP_T_EMERGENCY_RESET = 2,
} MAP_T_Additional_Subscriptions;

```

Appendix A: C Headers

```
#if 0
/* Service-Error problem values: */
#define MAP_E_INITIATING_RELEASE                                mapP_problem(xx)

#define MAP_E_SYSTEM_FAILURE                                    mapP_problem(34)
#define MAP_E_DATA_MISSING                                    mapP_problem(35)
#define MAP_E_UNEXPECTED_DATA_VALUE                          mapP_problem(36)
#define MAP_E_FACILITY_NOT_SUPPORTED                         mapP_problem(21)
#define MAP_E_INCOMPATIBLE_TERMINAL                         mapP_problem(28)
#define MAP_E_RESOURCE_LIMITATION                           mapP_problem(51)

/* Service-Error parameter classes: */

/* Service-Error attributes: */
#endif

/* MAP_T_Network_Resource: */
typedef enum {
    MAP_T_PLMN = 0,
    MAP_T_HLR = 1,
    MAP_T_VLR = 2,
    MAP_T_PVLR = 3,
    MAP_T_CONTROLLING_MSC = 4,
    MAP_T_VMSC = 5,
    MAP_T_EIR = 6,
    MAP_T_RSS = 7,
} MAP_T_Network_Resource;

/* MAP_T_Additional_Network_Resource: */
typedef enum {
    MAP_T_SGSN = 0,
    MAP_T_GGSN = 1,
    MAP_T_GMLC = 2,
    MAP_T_GSM_SCF = 3,
    MAP_T_NPLR = 4,
    MAP_T_AUC = 5,
} MAP_T_Additional_Network_Resource;

/* MAP_T_Unknown_Subscriber_Diagnostic: */
typedef enum {
    MAP_T_IMSI_UNKNOWN = 0,
    MAP_T_GPRS_SUBSCRIPTION_UNKNOWN = 1,
    MAP_T_NPDB_MISMATCH = 2,
} MAP_T_Unknown_Subscriber_Diagnostic;

/* MAP_T_Supported_CAMEL_Phases: */
typedef enum {
    MAP_T_PHASE_1 = 0,
    MAP_T_PHASE_2 = 1,
    MAP_T_PHASE_3 = 2,
    MAP_T_PHASE_4 = 3,
} MAP_T_Supported_CAMEL_Phases;

/* MAP_T_Roaming_Not_Allowed_Cause: */
typedef enum {
    MAP_T_PLMN_ROAMING_NOT_ALLOWED = 0,
```

```

        MAP_T_OPERATOR_DETERMINED_BARRING = 1,
    } MAP_T_Roaming_Not_Allowed_Cause;

/* MAP_T_Absent_Subscriber_Reason: */
typedef enum {
    MAP_T_IMSI_DETACH = 0,
    MAP_T_RESTRICTED_AREA = 1,
    MAP_T_NO_PAGE_RESPONSE = 2,
    MAP_T_PURGED_MS = 3,
} MAP_T_Absent_Subscriber_Reason;

/* MAP_T_Call_Barring_Cause: */
typedef enum {
    MAP_T_BARRING_SERVICE_ACTIVE = 0,
    MAP_T_OPERATOR_BARRING = 1,
} MAP_T_Call_Barring_Cause;

/* MAP_T_CUG_Reject_Cause: */
typedef enum {
    MAP_T_INCOMING_CALLS_BARRED_WITHIN_CUG = 0,
    MAP_T_SUBSCRIBER_NOT_MEMBER_OF_CUG = 1,
    MAP_T_REQUESTED_BASIC_SERVICE_VIOLATES_CUG_CONSTRAINTS = 5,
    MAP_T_CALLED_PARTY_SS_INTERACTION_VIOLATION = 7,
} MAP_T_CUG_Reject_Cause;

/* MAP_T_SM_Enumerated_Delivery_Failure_Cause: */
typedef enum {
    MAP_T_MEMORY_CAPACITY_EXCEEDED = 0,
    MAP_T_EQUIPMENT_PROTOCOL_ERROR = 1,
    MAP_T_EQUIPMENT_NOT_SM_EQIPPED = 2,
    MAP_T_UNKNOWN_SERVICE_CENTER = 3,
    MAP_T_SC_CONGESTION = 4,
    MAP_T_INVALID_SME_ADDRESS = 5,
    MAP_T_SUBSCRIBER_NOT_SC_SUBSCRIBER = 6,
} MAP_T_SM_Enumerated_Delivery_Failure_Cause;

/* MAP_T_Unauthorized_LCS_Client_Diagnostic: */
typedef enum {
    MAP_T_NO_ADDITIONAL_INFORMATION = 0,
    MAP_T_CLIENT_NOT_IN_MS_PRIVACY_EXCEPTION_LIST = 1,
    MAP_T_CALL_TO_CLIENT_NOT_SETUP = 2,
    MAP_T_PRIVACY_OVERRIDE_NOT_APPLICABLE = 3,
    MAP_T_DISALLOWED_BY_LOCAL_REGULATORY_REQUIREMENTS = 4,
    MAP_T_UNAUTHORIZED_PRIVACY_CLASS = 5,
    MAP_T_UNAUTHORIZED_CALL_SESSION_UNRELATED_EXTERNAL_CLIENT = 6,
    MAP_T_UNAUTHORIZED_CALL_SESSION_RELATED_EXTERNAL_CLIENT = 7,
} MAP_T_Unauthorized_LCS_Client_Diagnostic;

/* MAP_T_Position_Method_Failure_Diagnostic: */
typedef enum {
    MAP_T_CONGESTION = 0,
    MAP_T_INSUFFICIENT_RESOURCES = 1,
    MAP_T_INSUFFICIENT_MEASUREMENT_DATA = 2,
    MAP_T_INCONSISTENT_MEASUREMENT_DATA = 3,
    MAP_T_LOCATION_PROCEDURE_NOT_COMPLETED = 4,
    MAP_T_LOCATION_PROCEDURE_NOT_SUPPORTED_BY_TARGET_MS = 5,

```

Appendix A: C Headers

```
        MAP_T_QOS_NOT_ATTAINABLE = 6,
        MAP_T_POSITION_METHOD_NOT_AVAILABLE_IN_NETWORK = 7,
        MAP_T_POSITION_METHOD_NOT_AVAILABLE_IN_LOCATION_AREA = 8,
    } MAP_T_Position_Method_Failure_Diagnostic;

/* Common Data Types: */

/* MAP_T_Protocol_Id: */
typedef enum {
    MAP_T_GSM_0408 = 1,
    MAP_T_GSM_0806 = 2,
    MAP_T_BSSMAP = 3,          /* reserved */
    MAP_T_ETS_300102_1 = 4,
} MAP_T_Protocol_Id;

/* MAP_T_Ext_Protocol_Id: */
typedef enum {
    MAP_T_ETS_300356 = 1,
} MAP_T_Ext_Protocol_Id;

/* MAP_T_Access_Network_Protocol_Id: */
typedef enum {
    MAP_T_TS3G_48006 = 1,
    MAP_T_TS3G_25413 = 2,
} MAP_T_Access_Network_Protocol_Id;

/* MAP_T_LCS_Client_Internal_ID: */
typedef enum {
    MAP_T_BROADCAST_SERVICE = 0,
    MAP_T_O_AND_M_HPLMN = 1,
    MAP_T_O_AND_M_VPLMN = 2,
    MAP_T_ANONYMOUS_LOCATION = 3,
    MAP_T_TARGET_MS_SUBSCRIBED_SERVICE = 4,
} MAP_T_LCS_Client_Internal_ID;

/* MAP_T_LCS_Service_Type_Id: */
typedef enum {
    /* The values of LCSServiceTypeID are defined according to 3GPP TS 22.071. */
    MAP_T_EMERGENCY_SERVICES = 0,
    MAP_T_EMERGENCY_ALERT_SERVICES = 1,
    MAP_T_PERSON_TRACKING = 2,
    MAP_T_FLEET_MANAGEMENT = 3,
    MAP_T_ASSET_MANAGEMENT = 4,
    MAP_T_TRAFFIC_CONGESTION_REPORTING = 5,
    MAP_T_ROADSIDE_ASSISTANCE = 6,
    MAP_T_ROUTING_TO_NEAREST_COMMERCIAL_ENTERPRISE = 7,
    MAP_T_NAVIGATION = 8,
    MAP_T_CITY_SIGHTSEEING = 9,
    MAP_T_LOCALIZED_ADVERTISING = 10,
    MAP_T_MOBILE_YELLOW_PAGES = 11,
    MAP_T_TRAFFIC_AND_PUBLIC_TRANSPORTATION_INFO = 12,
    MAP_T_WEATHER = 13,
    MAP_T_ASSET_AND_SERVICE_FINDING = 14,
    MAP_T_GAMING = 15,
    MAP_T_FIND_YOUR_FRIEND = 16,
    MAP_T_DATING = 17,
```



```

        MAP_T_CHATTING = 18,
        MAP_T_ROUTE_FINDING = 19,
        MAP_T_WHERE_AM_I = 20,
    } MAP_T_LCS_Service_Type_Id;

/* MAP_T_Number_Portability_Status: */
typedef enum {
    MAP_T_NOT_KNOWN_TO_BE_PORTED = 0,
    MAP_T_OWN_NUMBER_PORTED_OUT = 1,
    MAP_T_FOREIGN_NUMBER_PORTED_TO_FOREIGN_NETWORK = 2,
    MAP_T_OWN_NUMBER_NOT_PORTED_OUT = 4,
    MAP_T_FOREIGN_NUMBER_PORTED_IN = 5,
} MAP_T_Number_Portability_Status;

/* MAP_T_Offered_CAMEL4_CSIs: */
typedef enum {
    MAP_T_O_CSI = 0,
    MAP_T_D_CSI = 1,
    MAP_T_VT_CSI = 2,
    MAP_T_T_CSI = 3,
    MAP_T_MT_SMS_CSI = 4,
    MAP_T_MG_CSI = 5,
    MAP_T_PSI_ENHANCEMENTS = 6,
} MAP_T_Offered_CAMEL4_CSIs;

/* MAP_T_PW_Registration_Failure_Cause: */
typedef enum {
    MAP_T_UNDETERMINED = 0,
    MAP_T_INVALID_FORMAT,
    MAP_T_NEW_PASSWORDS_MISMATCH,
} MAP_T_PW_Registration_Failure_Cause;

/* MAP_T_Operation_Code: */
typedef enum {
    MAP_T_UPDATE_LOCATION = 2,
    MAP_T_CANCEL_LOCATION = 3,
    MAP_T_PROVIDE_ROAMING_NUMBER = 4,
    MAP_T_NOTE_SUBSCRIBER_DATA_MODIFIED = 5,
    MAP_T_RESUME_CALL_HANDLING = 6,
    MAP_T_INSERT_SUBSCRIBER_DATA = 7,
    MAP_T_DELETE_SUBSCRIBER_DATA = 8,
    MAP_T_REGISTER_SS = 10,
    MAP_T_ERASE_SS = 11,
    MAP_T_ACTIVATE_SS = 12,
    MAP_T_DEACTIVATE_SS = 13,
    MAP_T_INTERROGATE_SS = 14,
    MAP_T_AUTHENTICATION_FAILURE_REPORT = 15,
    MAP_T_REGISTER_PASSWORD = 17,
    MAP_T_GET_PASSWORD = 18,
    MAP_T_RELEASE_RESOURCES = 20,
    MAP_T_MT_FORWARD_SM_VGCS = 21,
    MAP_T_SEND_ROUTING_INFO = 22,
    MAP_T_UPDATE_GPRS_LOCATION = 23,
    MAP_T_SEND_ROUTING_INFO_FOR_GPRS = 24,
    MAP_T_FAILURE_REPORT = 25,
    MAP_T_NOTE_MS_PRESENT_FOR_GPRS = 26,

```

```

MAP_T_SEND_END_SIGNAL = 29,
MAP_T_PROCESS_ACCESS_SIGNALLING = 33,
MAP_T_FORWARD_ACCESS_SIGNALLING = 34,
MAP_T_RESET = 37,
MAP_T_FORWARD_CHECK_SS_INDICATION = 38,
MAP_T_PREPARE_GROUP_CALL = 39,
MAP_T_SEND_GROUP_CALL_END_SIGNAL = 40,
MAP_T_PROCESS_GROUP_CALL_SIGNALLING = 41,
MAP_T_FORWARD_GROUP_CALL_SIGNALLING = 42,
MAP_T_CHECK_IMEI = 43,
MAP_T_MT_FORWARD_SM = 44,
MAP_T_SEND_ROUTING_INFO_FOR_SM = 45,
MAP_T_MO_FORWARD_SM = 46,
MAP_T_REPORT_SM_DELIVERY_STATUS = 47,
MAP_T_ACTIVATE_TRACE_MODE = 50,
MAP_T_DEACTIVATE_TRACE_MODE = 51,
MAP_T_SEND_IDENTIFICATION = 55,
MAP_T_SEND_AUTHENTICATION_INFO = 56,
MAP_T_RESTORE_DATA = 57,
MAP_T_SEND_IMSI = 58,
MAP_T_PROCESS_UNSTRUCTURED_SS_REQUEST = 59,
MAP_T_UNSTRUCTURED_SS_REQUEST = 60,
MAP_T_UNSTRUCTURED_SS_NOTIFY = 61,
MAP_T_ANY_TIME_SUBSCRIPTION_INTERROGATION = 62,
MAP_T_INFORM_SERVICE_CENTRE = 63,
MAP_T_ALERT_SERVICE_CENTRE = 64,
MAP_T_ANY_TIME_MODIFICATION = 65,
MAP_T_READY_FOR_SM = 66,
MAP_T_PURGE_MS = 67,
MAP_T_PREPARE_HANOVER = 68,
MAP_T_PREPARE_SUBSEQUENT_HANOVER = 69,
MAP_T_PROVIDE_SUBSCRIBER_INFO = 70,
MAP_T_ANY_TIME_INTERROGATION = 71,
MAP_T_SS_INVOCATION_NOTIFICATION = 72,
MAP_T_SET_REPORTING_STATE = 73,
MAP_T_STATUS_REPORT = 74,
MAP_T_REMOTE_USER_FREE = 75,
MAP_T_REGISTER_CC_ENTRY = 76,
MAP_T_ERASE_CC_ENTRY = 77,
MAP_T_PROVIDE_SUBSCRIBER_LOCATION = 83,
MAP_T_SEND_GROUP_CALL_INFO = 84,
MAP_T_SEND_ROUTING_INFO_FOR_LCS = 85,
MAP_T_SUBSCRIBER_LOCATION_REPORT = 86,
MAP_T_IST_ALERT = 87,
MAP_T_IST_COMMAND = 88,
MAP_T_NOTE_MM_EVENT = 89,
} MAP_T_Operation_Code;

#endif                                     /* __XMAP_GSM_H__ */

```

A.3 `xmap_ansi.h`

Appendix A: C Headers

A.4 `xmap_gsm_sm.h`

Appendix B Examples

```

#include <xom.h>           /* XOM object functions and macros */
#include <xmap.h>           /* XMAP interface */
#include <xmap_gsm.h>       /* GSM MAP */
#include <xmap_gsm_sm.h>    /* short message services */
#include <xmap_gsm_ls.h>    /* location services for common service error definitions */
#include <xmap_gsm_in.h>    /* identification and numbering services for common service error definitions */
#include <xmap_gsm_ch.h>    /* call handling services for common service error definitions */

OM_EXPORT(MAP_COMMON_PKG);
OM_EXPORT(MAP_GSM_PKG);
OM_EXPORT(MAP_GSM_SM_PKG);
OM_EXPORT(MAP_GSM_LS_PKG);
OM_EXPORT(MAP_GSM_IN_PKG);
OM_EXPORT(MAP_GSM_CH_PKG);

MAP_feature feature_list[] = {
    {MAP_COMMON_PKG, MAP_ACTIVATE, 0}
    , {MAP_GSM_PKG, MAP_ACTIVATE, 0}
    , {MAP_GSM_SM_PKG, MAP_ACTIVATE, 0}
    , {MAP_GSM_LS_PKG, MAP_ACTIVATE, 0}
    , {MAP_GSM_IN_PKG, MAP_ACTIVATE, 0}
    , {MAP_GSM_CH_PKG, MAP_ACTIVATE, 0}
    , {NULL, 0, 0}
};

OM_workspace workspace;
OM_private_object session;

MAP_status status;

workspace = map_initialize();

if (workspace == NULL) {
    perror();
    exit(1);
}

status = map_negotiate(feature_list, workspace);

if (status != MAP_SUCCESS)
    exit(1);

OM_object requestorAddress = {
    OM_OID_DESC(OM_CLASS, MAP_C_ADDRESS)
    , {MAP_SCCP_ADDRESS, MAP_S_SCCP_ADDRESS_STRING, OM_STRING("\x03\x00\x00\x05")}
    , OM_NULL_DESCRIPTOR
};

OM_object my_session = {
    OM_OID_DESC(OM_CLASS, MAP_C_SESSION)
    , {MAP_REQUESTOR_ADDRESS, OM_S_OBJECT, requestorAddress}
    , {MAP_ROLE, OM_S_INTEGER, (OM_integer) (MAP_T_INVOKER_ROLE)}
    , OM_NULL_DESCRIPTOR
};

```

```

status = map_bind(my_session, workspace, &session);

if (status != MAP_SUCCESS)
    exit(1);

OM_return_code rc;

OM_private_object context;

rc = om_create(MAP_C_GSM_CONTEXT, OM_FALSE, workspace, &context);

if (rc != OM_SUCCESS)
    exit(1);

OM_object responderAddress = {
    OM_OID_DESC(OM_CLASS, MAP_C_ADDRESS)
    , {MAP_SCCP_ADDRESS, MAP_S_SCCP_ADDRESS_STRING, OM_STRING("\x03\x01\x00\x06")} /* 0-0-1 [6] no GTT */
    , OM_NULL_DESCRIPTOR
};

OM_object my_context = {
    OM_OID_DESC(OM_CLASS, MAP_C_GSM_CONTEXT)
    , {MAP_RESPONDER_ADDRESS, OM_S_OBJECT, responderAddress}
    , {MAP_ASYNCHRONOUS, OM_S_BOOLEAN, OM_TRUE}
    , OM_NULL_DESCRIPTOR
};

rc = om_put(context, OM_REPLACE_ALL, my_context, NULL, OM_ALL_VALUES, OM_ALL_VALUES);

if (rc != OM_SUCCESS)
    exit(1);

OM_object argument = {
    OM_OID_DESC(OM_CLASS, MAP_C_MO_FORWARD_SM_ARG)
    , {MAP_SM_RP_DA, OM_S_OBJECT,
        {OM_OID_DESC(OM_CLASS, MAP_C_SM_RP_DA)
        , {MAP_IMSI, MAP_S_TBCD_STRING, OM_STRING("\x21\x43\x65\x87")}
        , OM_NULL_DESCRIPTOR}
    }
    , {MAP_SM_RP_OA, OM_S_OBJECT,
        {OM_OID_DESC(OM_CLASS, MAP_C_SM_RP_OA)
        , {MAP_NO_SM_RP_OA, OM_S_NULL, NULL}
        , OM_NULL_DESCRIPTOR}
    }
    , {MAP_SM_RP_UI, OM_S_OCTET_STRING, (OM_string) {data_length, data_pointer}
    }
    , {MAP_IMSI, MAP_S_TBCD_STRING, OM_STRING("\x21\x43\x65\x87")}
    , OM_NULL_DESCRIPTOR
};

OM_private_object result;
OM_sint32 invoke_id = 0;

status = map_service_req(session, context, argument, &result, &invoke_id);

```

```

if (status != MAP_SUCCESS)
    exit(1);

MAP_waiting_sessions bound_session_list[] = { {session, OM_FALSE}
, {NULL,}
};

for (;;) {
    status = map_wait(bound_session_list, workspace, 0);

    if (status != MAP_SUCCESS)
        exit(1);

    if (bound_session_list[0].activated) {
        OM_sint mode;
        OM_sint primitive;
        OM_sint completion_flag;
        MAP_status operation_status;
        OM_private_object result;
        OM_sint32 received_invoke_id;

        status = map_receive(session, &mode, &primitive, &operation_status, &result, &received_invoke_id);
        if (status != MAP_SUCCESS)
            exit(1);

        if (received_invoke_id == invoke_id) {
            OM_boolean instance;

            instance = OM_FALSE;
            om_instance(result, MAP_C_SERVICE_RESULT, &instance);
            if (instance) {
                instance = OM_FALSE;
                om_instance(result, MAP_C_MO_FORWARD_SM_RES, &instance);
                if (instance) {
                }
            }
            om_instance(result, MAP_C_SERVICE_ERROR, &instance);
            if (instance) {
                OM_object error;
                OM_value_position count;

                rc = om_get(result, OM_NO_EXCLUSIONS, NULL, OM_FALSE, OM_ALL_VALUES, OM_ALL_VALUES, &error, &count);
                if (rc != OM_SUCCESS)
                    break;
                switch (error[1].value.integer) {
                case MAP_E_SYSTEM_FAILURE:
                    /* MAP_C_SYSTEM_FAILURE_PARAM in error[2].value.object */
                    break;
                case MAP_E_UNEXPECTED_DATA_VALUE:
                    /* MAP_C_UNEXPECTED_DATA_PARAM in error[2].value.object */
                    break;
                case MAP_E_FACILITY_NOT_SUPPORTED:
                    /* MAP_C_FACILITY_NOT_SUP_PARAM in error[2].value.object */
                    break;
                case MAP_E_SM_DELIVERY_FAILURE:
                    /* MAP_C_SM_DELIVERY_FAILURE in error[2].value.object */

```


Glossary

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Index

- [
- [EAGAIN] 596
- [EINTR] 596
- [ERRORS] 21
- [MAP_ABSENT_OBJECT] 53
- [MAP_E_BAD_ARGUMENT] 77, 591
- [MAP_E_BROKEN_SESSION] 54, 591
- [MAP_E_COMMUNICATIONS_PROBLEM] 54, 591
- [MAP_E_INVALID_CONNECTION_ID] 54
- [MAP_E_SYSTEM] 54, 77, 591
- [MAP_E_SYSTEM_ERROR] 596
- [MAP_INSUFFICIENT_RESOURCE] 38, 60, 80
- [MAP_INSUFFICIENT_RESOURCES] ... 39, 43, 45, 49, 50, 53, 57, 62, 65, 67, 71, 73, 75, 76, 77, 591
- [MAP_INVALID_SESSION] 38, 39, 43, 45, 49, 50, 53, 54, 57, 60, 62, 65, 67, 71, 73, 76, 80, 591
- [MAP_NO_WORKSPACE] 38, 39, 43, 45, 49, 50, 53, 54, 57, 60, 62, 65, 67, 71, 73, 75, 76, 77, 80, 591
- [MAP_SUCCESS] 79, 591
- [MP_INSUFFICIENT_RESOURCES] 41
- [MP_INVALID_SESSION] 41
- [MP_NO_WORKSPACE] 41
- A**
- Abort-Argument 86
- Abort-Result 86
- absent-Subscriber-Diagnostic-SM 367, 375, 620
- Absent-Subscriber-Param 609
- Absent-Subscriber-SM-Param 620
- Accept-Result 86
- access-Denied-Reason ... 452, 484, 488, 495, 503, 552, 570, 584
- access-Network-Protocol-Id 118
- Access-Network-Signal-Info 118
- access-Restriction-Data 193
- access-Type 142
- accuracy-Fulfilment-Indicator 409, 415
- ack (Boolean) ::= TRUE 351
- acse-Args 89, 90, 99
- Acse-Args 87
- action-Code 452, 503, 570
- Activate-SS-Arg 335
- Activate-SS-Res 336
- Activate-Trace-Mode-Arg 292
- Activate-Trace-Mode-Res 294
- add-Capability 283, 285
- add-Info 282, 285
- Add-Info 131
- add-Lcs-Privacy-Exception-List 198
- add-Location-Estimate 408, 415
- additional-Absent-Subscriber-Diagnostic-SM 367, 376, 621
- additional-Info 291, 384, 387, 388, 390, 391
- additional-LCS-Capability-Sets 400
- additional-Network-Resource 599
- additional-Number 368, 399
- Additional-Number 365
- additional-Requested-Camel-Subscription-Info 212
- additional-Requested-CAMEL-Subscription-Info 252
- additional-Signal-Info 316, 326
- additional-SM-Delivery-Outcome 376
- additional-Subscriptions 291, 391
- additional-v-Gmlc-Address 413
- additional-Vectors-Are-For-EPS 257
- Address 88
- age-Of-Location-Estimate 408, 414
- age-Of-Location-Information 202
- alert-Code 475, 476, 480, 486, 549, 577, 586
- alert-Reason 373
- alert-Reason-Indicator 374
- alert-Result 476, 478
- Alert-Service-Centre-Arg 365
- Alert-Service-Centre-Res 366
- alerting-Pattern 315, 319, 325, 350, 352, 363
- all-EPS-Data 171
- all-GPRS-Data 189
- all-Information-Sent 222, 322
- all-LSA-Data 206
- allowed-GSM-Algorithms 184, 238
- allowed-Services 330
- allowed-UMTS-Algorithms 184, 238
- Allowed-UMTS-Algorithms 132
- alternative-Channel-Type 185, 239
- ambr 141, 170
- AMBR 132
- an-APDU 183, 237, 240, 242, 243, 258, 384, 387
- anchor-MSC-Address 391
- announcement-Code 580
- announcement-List .. 452, 475, 476, 495, 504, 544, 571
- Announcement-List 580
- Any-Time-Interrogation-Arg 133
- Any-Time-Interrogation-Res 134
- Any-Time-Modification-Arg 134
- Any-Time-Modification-Res 136
- Any-Time-Subscription-Interrogation-Arg 136
- Any-Time-Subscription-Interrogation-Res 137
- apn 141, 231, 235

- apn-Configuration 169
 - APN-Configuration 140
 - apn-Configuration-Profile 171
 - APN-Configuration-Profile 139
 - apn-In-Use 232
 - apn-oi-Replacement 170
 - apn-oi-replacement-Withdraw 164
 - apn-Subscribed 232
 - application-Context 88, 91, 109, 113, 114
 - application-Context-List 93
 - Application-Context-List 88
 - application-Context-Name 89
 - Area 393
 - area-Definition 394
 - Area-Definition 394
 - area-Event-Info 407
 - Area-Event-Info 394
 - area-Identification 393
 - area-List 394
 - area-Type 393
 - arguments 92
 - arp 170
 - ascii-Call-Reference 239, 372, 385, 391
 - Assoc-Argument 89
 - Assoc-Result 90
 - assumed-Idle 273
 - asynchronous 91
 - ATI-Not-Allowed-Param 614
 - ATM-Not-Allowed-Param 615
 - ATSI-Not-Allowed-Param 615
 - authentication-Algorithm-Version 419, 426, 431, 434
 - authentication-Capability 511, 520, 540
 - authentication-Data 429
 - Authentication-Directive-Arg 418
 - Authentication-Directive-Forward-Arg 421
 - Authentication-Directive-Forward-Res 422
 - Authentication-Directive-Res 421
 - Authentication-Failure-Report-Arg ... 141, 422
 - Authentication-Failure-Report-Res ... 143, 425
 - authentication-Quintuplet 248
 - Authentication-Quintuplet 144
 - Authentication-Request-Arg 427
 - Authentication-Request-Res 430
 - authentication-Response 429, 488
 - authentication-Response-Base-Station 437
 - authentication-Response-Unique-Challenge
..... 419, 422, 426, 431, 434
 - authentication-Set-List 257, 260
 - Authentication-Set-List 144
 - Authentication-Status-Report-Arg 432
 - Authentication-Status-Report-Res 434
 - authentication-Triplet 279
 - Authentication-Triplet 145
 - authorization-Denied 510, 519, 539
 - authorization-Period 510, 520, 540
 - autn 144, 168
 - auts 255
 - availability-Type 534
- ## B
- b-Subscriber-Number 340, 360
 - b-Subscriber-Subaddress 340
 - Bad-Argument 592
 - Base-Station-Challenge-Arg 436
 - Base-Station-Challenge-Res 436
 - basic-Service .. 158, 173, 177, 209, 210, 329, 336, 337, 341, 343, 345, 349, 356, 359
 - basic-Service-2 330
 - basic-Service-Code 337
 - Basic-Service-Code 118
 - basic-Service-Criteria 223, 275
 - Basic-Service-Criteria 145
 - basic-Service-Group 321, 325, 340
 - basic-Service-Group-2 322, 327
 - basic-Service-Group-List 160, 179, 350, 358
 - Basic-Service-Group-List 337
 - basic-Service-List 162, 215
 - Basic-Service-List 146
 - Bearer-Serv-Not-Prov-Param 605
 - bearer-Service-List 192, 195, 271
 - Bearer-Service-List 146
 - billing-ID 440, 443, 448, 449, 457, 460, 468, 470, 480, 484, 486, 489, 491, 500, 525, 528, 547, 552, 568, 575, 577, 584
 - Blocking-Arg 437
 - Blocking-Res 437
 - bmsc-List 299, 301
 - bmsc-Trace-Depth 298
 - bmuef 154
 - border-Cell-Access 534
 - broadcast-Init-Entitlement 290
 - bssmap-Service-Handover 147, 184, 238
 - bssmap-Service-Handover-Info 147
 - BSSMAP-Service-Handover-Info 146
 - bssmap-Service-Handover-List 184, 239
 - BSSMAP-Service-Handover-List 147
 - Bulk-Deregistration-Arg 437
 - Bulk-Deregistration-Res 438
 - Busy-Subscriber-Param 610
- ## C
- Call-Barred-Param 611
 - call-Barring-Cause 611
 - call-Barring-Data 138
 - Call-Barring-Data 147
 - call-Barring-Feature 338
 - Call-Barring-Feature 337
 - call-Barring-Feature-List ... 148, 172, 174, 338
 - Call-Barring-Feature-List 338

- call-Barring-Info... 181, 337, 342, 344, 357, 359
- Call-Barring-Info 338
- call-Barring-Info-For-CSE 180, 221
- call-Diversion-Treatment-Indicator 326
- call-Forwarding-Data 138
- Call-Forwarding-Data 148
- call-History-Count..... 419, 421, 424, 426, 429, 431, 434, 439, 488, 499, 531
- call-History-Count-Expected..... 424
- call-Info 319, 339
- call-Originator 392
- call-Outcome 304
- call-Priority 244, 317, 327
- call-Reference-Number 315, 321, 325
- call-Report-Data 333
- Call-Report-Data 304
- call-Session-Related 401
- call-Session-Unrelated..... 400
- call-Termination-Indicator 312
- call-Type-Criteria 223
- calling-Features-Indicator..... 511, 520, 540
- calling-Party-Number-Digits-1... 449, 492, 501
- calling-Party-Number-Digits-2... 449, 492, 501
- calling-Party-Number-String-1.. 452, 475, 477, 480, 486, 495, 504, 549, 571, 578
- calling-Party-Number-String-2.. 452, 475, 477, 480, 486, 495, 504, 549, 571, 578
- calling-Party-Subaddress ... 449, 453, 475, 477, 480, 486, 492, 501, 504, 549, 571, 578
- camel-Busy 273
- camel-Capability-Handling .. 161, 187, 226, 268, 278
- camel-Info 325
- Camel-Info 305
- camel-Routing-Info 309
- Camel-Routing-Info 306
- camel-Subscription-Info 136, 138, 222
- CAMEL-Subscription-Info 149
- camel-Subscription-Info-Withdraw 163
- Cancel-Location-Arg 151
- Cancel-Location-Res 152
- cancellation-Denied 531
- cancellation-Type 152, 530
- carrier-Digits 453, 504, 511, 520, 541, 585, 587, 588
- category 192, 270
- cause-Value 225, 277
- ccbs-Call 316, 326
- ccbs-Data 354
- CCBS-Data 339
- ccbs-Feature 319, 339, 340, 354
- CCBS-Feature 339
- ccbs-Feature-List 347
- CCBS-Feature-List 340
- ccbs-Index 340, 342
- ccbs-Indicators 329
- CCBS-Indicators 306
- ccbs-Monitoring 331
- ccbs-Possible 307, 322
- ccbs-Request-State 360
- ccbs-Subscriber-Status 308, 332
- cdma-Call-Mode 444, 461, 466, 471
- cdma-Channel-Data.. 444, 446, 461, 463, 466, 471, 473
- cdma-Code-Channel 581
- cdma-Code-Channel-Information..... 581
- CDMA-Code-Channel-Information..... 580
- cdma-Code-Channel-List 446, 463, 473
- CDMA-Code-Channel-List..... 581
- cdma-Mobile-Protocol-Revision... 444, 461, 471
- cdma-Pilot-Strength 582
- cdma-Private-Long-Code-Mask..... 431, 444, 461, 471, 489
- cdma-Search-Window 446, 463, 473
- cdma-Serving-One-Way-Delay.. 444, 461, 466, 471
- cdma-Signal-Quality 583
- cdma-Slot-Cycle-Index 480, 487
- cdma-Station-Class-Mark..... 444, 461, 466, 471, 480, 487
- cdma-Target-MAHO-Information..... 582
- CDMA-Target-MAHO-Information..... 581
- cdma-Target-MAHO-List 444, 461, 472
- CDMA-Target-MAHO-List..... 582
- cdma-Target-Measurement-Information..... 583
- CDMA-Target-Measurement-Information..... 582
- cdma-Target-Measurement-List.... 444, 461, 467, 472
- CDMA-Target-Measurement-List..... 583
- cdma-Target-One-Way-Delay 582, 583
- cell-Global-Id-Or-Service-Area-Id-Fixed-
Length..... 119
- cell-Global-Id-Or-Service-Area-Id-Or-LAI
..... 201, 203
- Cell-Global-Id-Or-Service-Area-Id-Or-LAI
..... 119
- cell-Id 390
- cell-Id-Or-Sai 409, 415
- channel-Data... 440, 442, 444, 446, 457, 459, 461, 463, 464, 466, 468, 469, 472, 473
- charging-Characteristics 141, 193, 233
- charging-Characteristics-Withdraw 164
- charging-Id 233
- Check-IMEI-Arg 153
- Check-IMEI-Res 154
- chosen-Channel-Info 155
- chosen-Radio-Resource-Information... 240, 243
- Chosen-Radio-Resource-Information..... 154
- chosen-Speech-Version..... 155
- ciphering-Algorithm 385
- ck 144, 280
- cksn 190, 390
- cli-Restriction-Option 347, 362

client-Identity..... 175
 Close-Argument..... 90
 codec-Info..... 385
 Codec-List..... 155
 codec1..... 155
 codec2..... 155
 codec3..... 156
 codec4..... 156
 codec5..... 156
 codec6..... 156
 codec7..... 156
 codec8..... 156
 Communications-Error..... 593
 complete-Data-List-Included..... 140, 188, 205
 conditionally-Denied-Reason..... 484, 552
 conference-Calling-Indicator..... 450, 453
 confidentiality-Mode..... 463
 confidentiality-Modes.. 429, 441, 442, 444, 446,
 456, 458, 459, 461, 468, 469, 472, 473
 confirmation..... 92
 CONSTANT..... 21
 Context..... 91
 context-Id..... 141, 156
 context-Id-List..... 171, 189
 Context-Id-List..... 156
 control-Channel-Data..... 530, 531, 534, 540
 Count-Request-Arg..... 438
 Count-Request-Res..... 439
 count-Update-Report..... 433
 cs-Allocation-Retention-Priority..... 193
 cs-LCS-Not-Supported-By-UE..... 284
 csg-Id..... 157
 csg-Subscription-Data..... 157
 CSG-Subscription-Data..... 157
 csg-Subscription-Data-List..... 194
 CSG-Subscription-Data-List..... 156
 csg-Subscription-Deleted..... 164
 csi-Active..... 162, 187, 207, 226, 268, 269, 278
 cug-Check-Info..... 322, 324, 328
 CUG-Check-Info..... 307
 cug-Feature..... 158
 CUG-Feature..... 158
 cug-Feature-List..... 159
 CUG-Feature-List..... 157
 cug-Index..... 160
 cug-Info..... 181
 CUG-Info..... 159
 cug-Interlock..... 160, 307
 cug-Outgoing-Access..... 307
 CUG-Reject-Param..... 613
 cug-Subscription..... 159
 CUG-Subscription..... 160
 cug-Subscription-Flag..... 328
 cug-Subscription-List..... 159
 CUG-Subscription-List..... 159
 current-Location..... 251

current-Location-Retrieved..... 202, 203
 current-Security-Context..... 260
 Current-Security-Context..... 160
 currently-Used-Codec..... 184

D

d-CSI..... 150, 288, 311, 322
 D-CSI..... 161
 d-IM-CSI..... 151
 data-Coding-Scheme..... 397, 398, 402
 Data-Missing-Param..... 597
 Deactivate-SS-Arg..... 340
 Deactivate-SS-Res..... 341
 Deactivate-Trace-Mode-Arg..... 294
 Deactivate-Trace-Mode-Res..... 295
 default-Call-Handling..... 167, 225, 277
 default-Context..... 140
 default-Priority..... 120, 347, 356, 358
 default-Session-Handling..... 186
 default-SMS-Handling..... 267
 deferred-mt-lr-Response-Indicator..... 408
 deferred-Location-Event-Type..... 395, 403
 deferred-mt-lr-Data..... 415
 Deferred-MT-LR-Data..... 395
 Delete-Subscriber-Data-Arg..... 162
 Delete-Subscriber-Data-Res..... 164
 delivery-Outcome-Indicator..... 376
 denied-Authorization-Period..... 510, 520, 540
 deny-Access..... 419, 426, 431, 435
 deregistration-Type..... 499
 destination-Digits..... 549, 584, 587, 588
 destination-Number..... 166
 destination-Number-Criteria..... 223
 Destination-Number-Criteria..... 165
 destination-Number-Length..... 166
 destination-Number-Length-List..... 165
 Destination-Number-Length-List..... 166
 destination-Number-List..... 165
 Destination-Number-List..... 166
 destination-Reference..... 107, 109, 114
 diagnostic-Info..... 622
 dialed-Number..... 167
 digit-Collection-Control..... 544
 digits..... 429, 449, 453, 456, 484, 491, 495, 500,
 504, 511, 520, 525, 527, 540, 545, 552, 570,
 571, 576
 dispatcher..... 366
 dispatcher-List..... 373
 Dispatcher-List..... 366
 dmh-Account-Code-Digits..... 453, 480, 495, 504,
 511, 520, 527, 541, 549, 571, 578
 dmh-Alternate-Billing-Digits..... 453, 480, 495,
 504, 511, 521, 527, 541, 549, 571, 578
 dmh-Billing-Digits..... 453, 480, 495, 504, 511,
 521, 527, 541, 549, 571, 578

dmh-Redirection-Indicator 453, 495, 505
 downlink-Attached 392
 dp-Analysed-Info-Criteria-List 161
 DP-Analysed-Info-Criteria-List 166
 dp-Analysed-Info-Criterium 167
 DP-Analysed-Info-Criterium 167
 dual-Communication 392

E

electronic-Serial-Number ... 419, 423, 428, 433,
 436, 438, 440, 443, 449, 456, 468, 471, 474,
 477, 478, 480, 486, 489, 494, 499, 500, 508,
 515, 525, 528, 529, 532, 547, 554, 557, 561,
 564, 565, 566, 567, 575, 585, 586, 588
 emergency-Mode-Reset-Command-Flag ... 384, 387
 emlpp-Info 181
 EMLPP-Info 119
 encryption-Algorithm 132, 255
 encryption-Info 183, 238
 epc-AV 168
 eps-Authentication-Set-List 258
 EPS-Authentication-Set-List 167
 EPS-AV 168
 eps-Data-List 140
 EPS-Data-List 168
 eps-Info 282
 EPS-Info 169
 eps-Qos-Subscribed 141
 EPS-QoS-Subscribed 169
 eps-Subscription-Data 194
 EPS-Subscription-Data 170
 eps-Subscription-Data-Withdraw 164
 EPS-Subscription-Data-Withdraw 171
 equipment-Status 154
 Erase-CC-Entry-Arg 342
 Erase-CC-Entry-Res 342
 Erase-SS-Arg 343
 Erase-SS-Res 344
 errno(3) 596
 Error 594
 event-Met 217
 event-Report-Data 333
 Event-Report-Data 307
 expiration-Date 157
 ext-Basic-Service-Code 145, 146, 172
 Ext-Basic-Service-Code 120
 Ext-Basic-Service-Group-List 171
 ext-Bearer-Service-Code 146
 Ext-Call-Bar-Feature-List 172
 Ext-Call-Bar-Info 172
 ext-Call-Barring-Feature 172
 Ext-Call-Barring-Feature 173
 Ext-Call-Barring-Info-For-CSE 173
 ext-External-Client 176
 ext-external-Client-List 199

Ext-External-Client-List 175
 Ext-External-Signal-Info 122
 ext-Forw-Feature 177
 Ext-Forw-Feature 177
 Ext-Forw-Feature-List 177
 Ext-Forw-Info 178
 Ext-Forwarding-Info-For-CSE 176
 ext-Id 127
 ext-Protocol-Id 123
 ext-QoS-Subscribed 235
 Ext-SS-Data 179
 ext-SS-Info 180
 Ext-SS-Info 180
 Ext-SS-Info-For-CSE 180
 Ext-SS-Info-List 180
 ext-Teleservice-Code 278
 ext-Type 127
 ext2-QoS-Subscribed 235
 ext3-QoS-Subscribed 235
 extended-MS-CD 481, 484, 534, 576, 578
 extended-Routing-Info 328
 Extended-Routing-Info 308
 extended-System-My-Type-Code 481, 485, 576,
 578
 extensible-Call-Barred-Param 611
 Extensible-Call-Barred-Param 611
 extensible-System-Failure-Param 601
 Extensible-System-Failure-Param 598
 extension ... 92, 118, 120, 122, 123, 124, 125, 126,
 128, 132, 133, 134, 135, 136, 137, 139, 140,
 141, 142, 143, 144, 145, 147, 148, 149, 150,
 152, 153, 154, 155, 156, 157, 158, 159, 160,
 162, 163, 165, 167, 168, 170, 171, 173, 174,
 175, 176, 178, 179, 182, 184, 186, 187, 189,
 190, 192, 197, 198, 199, 201, 203, 204, 205,
 207, 209, 210, 211, 212, 213, 214, 215, 216,
 218, 219, 220, 221, 222, 223, 225, 226, 228,
 229, 230, 231, 233, 235, 238, 240, 242, 243,
 244, 245, 247, 249, 250, 252, 253, 254, 255,
 256, 257, 258, 259, 260, 261, 262, 263, 264,
 265, 267, 268, 269, 272, 274, 276, 277, 278,
 280, 281, 283, 284, 285, 287, 288, 290, 291,
 293, 294, 295, 296, 298, 299, 301, 303, 304,
 305, 306, 307, 308, 310, 311, 312, 313, 315,
 317, 318, 320, 321, 322, 323, 325, 329, 332,
 333, 334, 336, 338, 339, 340, 341, 342, 343,
 345, 346, 347, 349, 350, 352, 353, 354, 356,
 358, 359, 360, 361, 363, 364, 367, 369, 370,
 371, 372, 373, 374, 375, 377, 378, 379, 384,
 386, 387, 388, 389, 390, 392, 393, 396, 397,
 398, 399, 401, 402, 403, 404, 406, 408, 410,
 411, 412, 414, 416, 582, 583, 585, 587, 588,
 589, 598, 599, 600, 602, 607, 612, 621, 622,
 623, 624, 625, 626, 627
 Extension 91

extension-Container 118, 120, 122, 123, 125,
 126, 129, 132, 133, 134, 135, 136, 137, 139,
 140, 141, 142, 143, 148, 149, 150, 152, 153,
 154, 156, 157, 158, 159, 160, 161, 163, 165,
 167, 168, 170, 171, 172, 173, 174, 175, 176,
 178, 179, 182, 184, 186, 187, 189, 192, 197,
 199, 201, 203, 204, 205, 207, 208, 210, 211,
 212, 213, 214, 215, 218, 219, 220, 221, 222,
 224, 225, 226, 228, 229, 230, 231, 233, 235,
 238, 240, 242, 243, 244, 245, 247, 250, 252,
 253, 254, 255, 256, 257, 258, 259, 260, 261,
 262, 263, 264, 265, 267, 268, 269, 272, 274,
 277, 278, 281, 283, 284, 285, 287, 288, 290,
 291, 293, 294, 295, 296, 304, 305, 306, 307,
 308, 310, 311, 312, 313, 315, 317, 318, 320,
 321, 322, 323, 325, 329, 332, 333, 334, 360,
 361, 367, 369, 370, 371, 372, 373, 374, 375,
 377, 378, 379, 384, 386, 387, 388, 389, 390,
 392, 399, 402, 406, 408, 411, 412, 416, 598,
 599, 600, 601, 607, 612, 621, 622, 623, 624,
 625, 626, 627
 Extension-Container 121
 extensions 91, 129
 external-Address 125
 external-Client 174
 External-Client 175
 external-Client-List 199
 External-Client-List 174
 External-Signal-Info 121

F

Facilities-Directive-2-Arg 442
 Facilities-Directive-2-Res 446
 Facilities-Directive-Arg 439
 Facilities-Directive-Res 442
 Facilities-Release-Arg 447
 Facilities-Release-Res 448
 Facility-Not-Sup-Param 599
 failure-Cause 142
 Failure-Report-Arg 181
 Failure-Report-Res 182
 Feature-Request-Arg 448
 Feature-Request-Res 451
 feature-Result 451
 file-Descriptor 99
 Flash-Request-Arg 455
 Flash-Request-Res 456
 Forward-Access-Signalling-Arg 183
 Forward-Check-SS-Indication-Arg 185
 Forward-Group-Call-Signalling-Arg 383
 forwarded-To-Number 178, 211, 309, 345, 356
 forwarded-To-Subaddress 178, 211, 309, 345,
 356
 forwarding-Data 306, 321, 323
 Forwarding-Data 309

Forwarding-Failed-Param 612
 forwarding-Feature 346
 Forwarding-Feature 344
 forwarding-Feature-List 149, 176, 179, 346,
 350
 Forwarding-Feature-List 345
 forwarding-Info 181, 336, 341, 344, 357, 359
 Forwarding-Info 346
 forwarding-Info-For-CSE 180, 221
 forwarding-Interrogation-Required 329
 forwarding-Options 178, 309, 345
 forwarding-Reason 325
 Forwarding-Violation-Param 612
 freeze-N-TMSI 248
 freeze-P-TMSI 247
 freeze-TMSI 247

G

Generic-Service-Argument 92
 generic-Service-Info 350
 Generic-Service-Info 346
 Generic-Service-Result 92
 geodetic-Information 202, 203
 geographic-Authorization 511, 521, 541
 geographical-Information 201, 203
 geran-Classmark 239, 242
 geran-Codec-List 274
 geran-Positioning-Data 408, 415
 Get-Password-Arg 348
 Get-Password-Res 348
 ggsn-Address 182, 220, 233, 261, 262
 ggsn-List 299, 301
 ggsn-Number 182, 261
 ggsn-Trace-Depth 298
 gmlc 185
 gmlc-List 198
 GMLC-List 185
 gmlc-List-Withdraw 163
 gmlc-Restriction 175, 263
 gmsc-Address 315
 gmsc-Camel-Subscription-Info 306
 Gmsc-Camel-Subscription-Info 310
 gmsc-Or-gsmSCF-Address 325
 gprs-Camel-TDP-Data 185
 GPRS-Camel-TDP-Data 186
 gprs-Camel-TDP-Data-List 187
 GPRS-Camel-TDP-Data-List 185
 gprs-Connection-Suspended 622
 gprs-CSI 150, 264
 GPRS-CSI 187
 gprs-Data-List 189
 GPRS-Data-List 187
 gprs-Enhancement-Support-Indicator 265
 gprs-MS-Class 272
 GPRS-MS-Class 188

gprs-Node-Indicator 368, 399
 gprs-Subscription-Data 193
 GPRS-Subscription-Data 188
 gprs-Subscription-Data-Withdraw 163
 GPRS-Subscription-Data-Withdraw 189
 gprs-Support-Indicator 376, 378
 gprs-Trigger-Detection-Point 186
 group-Call-Number 386
 group-Id 290, 291, 390
 group-Information 454, 497, 506, 569, 572
 group-Key 385
 group-Key-Number-Vk-Id 385
 GSM-Abort-Argument 103
 GSM-Abort-Result 104
 GSM-Accept-Result 104
 gsm-Bearer-Capability 315, 331
 GSM-Close-Argument 105
 GSM-Context 106
 GSM-Map-Assoc-Args 107
 GSM-Notice-Result 107
 GSM-Open-Argument 109
 GSM-P-Abort-Result 109
 GSM-Refuse-Result 113
 GSM-Release-Argument 114
 GSM-Release-Result 114
 gsm-Security-Context-Data 161
 GSM-Security-Context-Data 189
 GSM-Service-Argument 114
 GSM-Service-Error 115
 GSM-Service-Reject 116
 GSM-Service-Result 117
 gsmSCF-Address 134, 135, 137, 167, 186, 207,
 225, 267, 269, 277
 gsmSCF-Initiated-Call 326

H

h-gmlc-Address 407, 415, 416
 h-Gmlc-Address 412
 Handoff-Back-2-Arg 459
 Handoff-Back-2-Res 462
 Handoff-Back-Arg 456
 Handoff-Back-Res 458
 Handoff-Measurement-Request-2-Arg 465
 Handoff-Measurement-Request-2-Res 466
 Handoff-Measurement-Request-Arg 464
 Handoff-Measurement-Request-Res 464
 handoff-Reason 441, 445, 458, 461, 468, 472
 handoff-State 441, 445, 458, 462
 Handoff-To-Third-2-Arg 470
 Handoff-To-Third-2-Res 473
 Handoff-To-Third-Arg 467
 Handoff-To-Third-Res 469
 handover-Number 240, 250
 hlr-Id 123
 hlr-List 253

HLR-List 123
 hlr-Number 253, 254, 283, 285
 ho-Number-Not-Required 237
 hop-Counter 260
 horizontal-Accuracy 402

I

ics-Indicator 194
 identity 152
 Identity 123
 ik 144, 280
 Illegal-Equipment-Param 605
 Illegal-SS-Operation-Param 617
 Illegal-Subscriber-Param 604
 imei 153, 251, 272, 406, 414
 imeisv 131, 239
 immediate-Response-Preferred 256
 imsi... 124, 129, 142, 162, 182, 191, 208, 217, 220,
 221, 238, 244, 247, 253, 256, 260, 261, 281,
 284, 293, 295, 296, 311, 313, 314, 319, 322,
 328, 331, 333, 360, 369, 373, 379, 381, 382,
 383, 388, 390, 391, 406, 414
 IMSI-With-LMSI 124
 Incompatible-Terminal-Param 599
 inform-Previous-Network-Entity 282, 284
 Inform-Service-Centre-Arg 366
 Information-Directive-Arg 474
 Information-Directive-Res 475
 Information-Forward-Arg 476
 Information-Forward-Res 477
 Information-Not-Available-Param 615
 Insert-Subscriber-Data-Arg 190
 Insert-Subscriber-Data-Res 194
 integrity-Protection-Algorithm 132, 255
 integrity-Protection-Info 183, 238
 inter-CUG-Restrictions 158
 inter-MSC-Circuit-ID... 421, 437, 440, 443, 447,
 456, 457, 460, 468, 471, 476, 478, 489, 545,
 553, 557, 573, 574
 inter-Switch-Count 440, 443, 468, 471
 Inter-System-Answer-Arg 478
 Inter-System-Answer-Res 478
 Inter-System-Page-2-Arg 485
 Inter-System-Page-2-Res 487
 Inter-System-Page-Arg 479
 Inter-System-Page-Res 484
 Inter-System-Setup-Arg 489
 Inter-System-Setup-Res 490
 Interrogate-SS-Arg 348
 Interrogate-SS-Res 349
 interrogation-Type 325
 intersystem-Termination 590
 Intersystem-Termination 584
 interval-Time 394
 intra-CUG-Options 160

- ip-sm-gw-Absent-Subscriber-Diagnostic-SM is
for delivery via IMS. 376
- ip-sm-gw-Indicator 376
- ip-sm-gw-sm-Delivery-Outcome 376
- ismi-With-LMSI 124
- isr-Information 169
- IST-Alert-Arg 311
- IST-Alert-Res 311
- ist-Alert-Timer 193, 312, 329
- IST-Command-Arg 312
- IST-Command-Res 313
- ist-Information-Withdraw 163, 312
- ist-Support-Indicator 289, 326
- iu-Available-Codec-List 241, 244
- iu-Current-Used-Codec 239
- iu-Selected-Codec 184, 240, 243
- iu-Supported-Codecs-List 184, 239

- K**
- kasme 168
- kc 145, 190, 392
- keep-CCBS-Call-Indicator 307
- key-Status 183
- ksi 280

- L**
- lac 200
- lai-Fixed-Length 119, 200
- lcs-APN 397
- lcs-Client-Dialed-By-MS 397
- lcs-Client-External-ID 396
- LCS-Client-External-ID 125
- lcs-Client-ID 406, 414
- LCS-Client-ID 396
- lcs-Client-Internal-ID 236, 397
- lcs-Client-Name 397
- LCS-Client-Name 397
- lcs-Client-Type 396
- lcs-Codeword 407
- LCS-Codeword 398
- lcs-Codeword-String 398
- lcs-Event 413
- lcs-Format-Indicator 398, 403
- lcs-Information 193
- LCS-Information 197
- lcs-Location-Info 396, 412, 414
- LCS-Location-Info 398
- lcs-Priority 406
- lcs-Privacy-Check 407
- LCS-Privacy-Check 400
- lcs-Privacy-Class 200
- LCS-Privacy-Class 198
- lcs-Privacy-Exception-List 198
- LCS-Privacy-Exception-List 199
- lcs-QoS 406
- LCS-QoS 401
- lcs-Reference-Number 407, 415, 416
- lcs-Requestor-ID 397
- LCS-Requestor-ID 402
- lcs-Service-Type-ID 407, 415
- leg-Information 481, 529, 549, 569, 578, 585,
587, 588
- license, AGPL 661
- license, FDL 671
- license, GNU Affero General Public License ... 661
- license, GNU Free Documentation License 671
- lmsi ... 124, 244, 253, 284, 315, 331, 368, 382, 399,
406
- lmu-Indicator 193
- local-Termination 590
- Local-Termination 585
- location-Area 229
- Location-Area 200
- location-Area-ID ... 420, 481, 487, 499, 511, 534,
549
- location-Estimate 408, 414
- location-Estimate-Type 403
- location-Info-With-LMSI 379
- Location-Info-With-LMSI 368
- location-Information 217, 250, 272
- Location-Information 202
- location-Information-GPRS 218, 272
- Location-Information-GPRS 200
- location-Number 203
- Location-Request-Arg 490
- Location-Request-Res 493
- location-Type 405
- Location-Type 403
- long-Forwarded-To-Number 178, 310, 345
- long-FTN-Supported 135, 137, 289, 316, 326,
336, 341, 343, 349, 356, 359
- long-Group-Id 290, 291
- long-Group-ID-Supported 290
- Long-Term-Denial-Param 619
- lsa-Active-Mode-Indicator 204
- lsa-Attributes 204
- lsa-Data 204
- LSA-Data 204
- lsa-Data-List 205
- LSA-Data-List 203
- lsa-Identity 204, 205
- lsa-Identity-List 206
- LSA-Identity-List 204
- lsa-Information 193
- LSA-Information 205
- lsa-Information-Withdraw 163
- LSA-Information-Withdraw 206
- lsa-Only-Access-Indicator 205

M

- m-CSI 150, 287
- M-CSI 206
- map-Assoc-Args 89, 90, 99
- Map-Assoc-Args 93
- MAP_feature 58, 60
- MAP_status 23, 79
- MAP_waiting_sessions 80
- match-Type 165
- max-Requested-Bandwidth-DL 133
- max-Requested-Bandwidth-UL 133
- maximum-Entitled-Priority 120, 347
- mc-SS-Info 193
- MC-SS-Info 125
- Message-Wait-List-Full-Param 621
- message-Waiting-Notification-Count 477, 512, 521, 541
- message-Waiting-Notification-Type... 477, 512, 521, 542
- mg-CSI 151, 264
- MG-CSI 207
- mgw-Event-List 303
- mgw-Interface-List 303
- mgw-List 299, 300
- mgw-Trace-Depth 297, 303
- mlc-Number 405, 411
- mm-Code 209
- MM-Event-Not-Supported-Param 626
- mnp-Info-Res 272
- MNP-Info-Res 208
- mnp-Requested-Info 251
- MO-Forward-SM-Arg 368
- MO-Forward-SM-Res 369
- mo-lr-Short-Circuit-Indicator... 407, 409, 416
- mo-sms-CSI 150, 264, 287
- mobile-Directory-Number..... 450, 455, 481, 487, 497, 501, 506, 512, 522, 542, 549, 572, 578, 585, 587
- mobile-Identification-Number... 419, 421, 423, 428, 433, 436, 439, 440, 444, 448, 449, 456, 457, 460, 468, 471, 474, 476, 478, 480, 486, 489, 494, 499, 501, 509, 515, 526, 528, 529, 532, 547, 553, 557, 561, 564, 565, 567, 575, 585, 586, 588
- mobile-Not-Reachable-Reason 262
- Mobile-On-Channel-Arg 498
- mobility-Triggers 206, 207
- Mobility-Triggers 209
- mode 91
- modification-Request-For-CB-Info 135
- Modification-Request-For-CB-Info 209
- modification-Request-For-CF-Info 135
- Modification-Request-For-CF-Info 210
- modification-Request-For-CSI 135
- Modification-Request-For-CSI 211
- modification-Request-For-IP-SM-GW-Data.. 135
- Modification-Request-For-IP-SM-GW-Data.. 212
- modification-Request-For-ODB-Data 135
- Modification-Request-For-ODB-Data 213
- modify-CSI-State 212
- modify-Notification-To-CSE.. 210, 211, 212, 213
- modify-Registration-Status 213
- molr-Class 214
- MOLR-Class 214
- molr-List 198
- MOLR-List 214
- monitoring-Mode 304
- more-Messages-To-Send 371
- ms-Classmark 251
- ms-Classmark-2 272
- MS-Inactive-Arg 498
- MS-Inactive-Res 500
- ms-Location 445, 462, 466, 472
- ms-Network-Capability 188
- ms-Not-Reachable 254
- ms-Radio-Access-Capability 188
- msc-Identification-Number .. 450, 481, 485, 492, 501, 527, 529, 549, 552, 569, 578, 585
- msc-Number 203, 259, 284, 314, 365
- msc-s-Event-List 302
- msc-s-Interface-List 302
- msc-s-List 299, 300
- msc-s-Trace-Depth 297, 302
- mscid.. 424, 428, 450, 468, 471, 481, 491, 494, 501, 516, 520, 524, 532, 540, 548, 552, 569, 574, 584
- msdisdn-BS-List 252
- msisdn..... 130, 192, 208, 215, 217, 221, 270, 296, 315, 322, 324, 329, 351, 353, 360, 364, 366, 367, 375, 377, 378, 380, 381, 382, 406, 414
- msisdn-BS 215
- MSISDN-BS 215
- msisdn-BS-List 139
- MSISDN-BS-List 215
- msrn 318
- MT-Forward-SM-Arg 370
- MT-Forward-SM-Res 371
- MT-Forward-SM-VGCS-Arg 371
- MT-Forward-SM-VGCS-Res 372
- mt-Roaming-Retry 322
- mt-Roaming-Retry-Supported 316, 327
- mt-Sms-Camel-TDP-Criteria 216
- MT-SMS-CAMEL-TDP-Criteria 216
- mt-sms-CAMEL-TDP-Criteria-List.. 151, 264, 288
- MT-SMS-CAMEL-TDP-Criteria-List 216
- mt-sms-CSI 151, 264, 288
- mt-Sms-TPDU-Type 279
- multicall-Bearer-Info 240
- multiple-Bearer-Not-Supported 240
- multiple-Bearer-Requested 237
- mw-Status 367

N

na-ESRD 414, 416
 na-ESRK 414, 416
 na-ESRK-Request 129
 naea-Preferred-CI 193, 329
 NAEA-Preferred-CI 126
 naea-Preferred-CIC 126
 name-String 398
 namps-Call-Mode 445, 462, 466, 472
 namps-Channel-Data 445, 446, 462, 463, 466, 472, 474
 nbr-SB 126, 347
 nbr-SN 347
 nbr-User 126, 347, 356, 358
 needed-Lcs-Capability-Not-Supported-In-Serving-Node 599
 net-Det-Not-Reachable 246, 273
 network-Access-Mode 193
 network-Node-Number 368, 399
 network-Resource 598, 601
 network-Signal-Info 315, 325, 339
 network-Signal-Info-2 327
 no-Answer-Time 455, 497, 506, 550, 572
 No-Group-Call-Nb-Param 623
 no-Reply-Condition-Time 178, 211, 345, 356
 No-Roaming-Nb-Param 608
 no-SM-RP-DA 382
 no-SM-RP-OA 382
 No-Subscriber-Reply-Param 610
 not-Provided-From-SGSN 246
 not-Provided-From-VLR 273
 Note-MM-Event-Arg 217
 Note-MM-Event-Res 219
 Note-MS-Present-For-Gprs-Arg 219
 Note-MS-Present-For-Gprs-Res 220
 Note-Subscriber-Data-Modified-Arg 221
 Note-Subscriber-Data-Modified-Res 222
 Notice-Result 93
 notification-To-CSE 148, 149, 161, 174, 176, 187, 207, 226, 229, 268, 269, 278
 notification-To-MS-User 175, 199, 263
 Notify-USSD-Arg 350
 Notify-USSD-Res 351
 nsapi 232
 Number-Change-Param 603
 number-Of-Forwarding 324
 number-Of-Requested-Additional-Vectors 257
 number-Of-Requested-Vectors 256, 259
 number-Portability-Status 208, 329

O

o-Bcsm-Camel-TDP-Criteria 223
 O-Bcsm-Camel-TDP-Criteria 223
 o-Bcsm-Camel-TDP-Criteria-List 150, 287, 311, 322

O-Bcsm-Camel-TDP-Criteria-List 222
 o-Bcsm-Camel-TDP-Data 224
 O-Bcsm-Camel-TDP-Data 224
 o-Bcsm-Camel-TDP-Data-List 226
 O-Bcsm-Camel-TDP-Data-List 224
 o-Bcsm-Trigger-Detection-Point 223, 224
 o-Cause-Value-Criteria 224
 O-Cause-Value-Criteria 225
 o-CSI 150, 287, 310, 322
 O-CSI 225
 o-IM-Bcsm-Camel-TDP-Criteria-List 151
 o-IM-CSI 151
 occurrence-Info 394
 odb 251
 odb-Data 192, 213, 229, 271
 ODB-Data 226
 odb-General-Data 195, 227
 odb-HPLMN-Data 228
 odb-Info 136, 138, 221
 ODB-Info 229
 offered-Camel4-CSIs 197, 265, 289, 305
 offered-Camel4-CSIs-In-Interrogating-Node 316
 offered-Camel4-CSIs-In-SGSN 139
 offered-Camel4-CSIs-In-VLR 139
 offered-Camel4-CSIs-In-VMSC 330
 offered-Camel4-Functionalities 218
 OM-Attribute 593
 OM-Bad-Argument 593
 OM-Class 593
 OM-Index 593
 OM-Subobject 593
 omc-Id 293
 one-Time-Feature-Indicator 450, 455, 481, 497, 501, 506, 550, 579, 587
 ongoing-Call 373
 Open-Argument 94
 operation 92, 93
 Operation-Argument 95
 Operation-Error 95
 Operation-Reject 95
 Operation-Result 95
 or-Capability 325
 or-Interrogation 315, 325
 OR-Not-Allowed-Param 613
 or-Not-Supported-In-GMSC 316
 originating-Reference 107, 109, 114
 origination-Indicator 512, 522, 542
 Origination-Request-Arg 500
 Origination-Request-Res 502
 origination-Triggers 501, 513, 522, 542
 override-Category 362

P

p-Abort-Cause 111

- p-Abort-Reason..... 111
 - P-Abort-Result..... 95
 - paca-Indicator..... 455, 513, 522, 543
 - page-Indicator..... 481, 487
 - paging-Area..... 285, 316
 - Paging-Area..... 229
 - paging-Area-Capability..... 285
 - parameter..... 104, 116, 117, 594
 - password..... 148, 174, 210, 348, 355
 - pc-SSN..... 429, 450, 481, 485, 492, 497, 501, 534, 550, 552, 576, 579
 - pcs-Extension..... 127
 - pcs-Extensions..... 121
 - PCS-Extensions..... 126
 - pdn-Gw-Allocation-Type..... 141
 - pdn-Gw-Identity..... 141, 231
 - PDN-GW-Identity..... 229
 - pdn-Gw-IPv4-Address..... 230
 - pdn-Gw-IPv6-Address..... 230
 - pdn-Gw-Name..... 230
 - pdn-Gw-Update..... 169
 - PDN-GW-Update..... 230
 - pdp-Address..... 235
 - pdp-Charging-Characteristics..... 235
 - pdp-Context..... 188
 - PDP-Context..... 234
 - pdp-Context-Active..... 232
 - pdp-Context-Id..... 235
 - pdp-Context-Identifier..... 232
 - pdp-Context-Info..... 231
 - PDP-Context-Info..... 231
 - PDP-Context-Info-List..... 231
 - pdp-Type..... 232, 235
 - periodic-LDR-Info..... 407, 415
 - Periodic-LDR-Info..... 404
 - pilot-Billing-ID..... 482, 550, 569, 579
 - pilot-Number..... 455, 482, 506, 569, 579
 - plmn-Client-List..... 199
 - PLMN-Client-List..... 235
 - plmn-Id..... 409
 - plmn-List..... 410
 - PLMN-List..... 404
 - plmn-List-Prioritized..... 410
 - poll(2s)..... 34
 - poll(2s)..... 99
 - position-Method-Failure-Diagnostic..... 624
 - Position-Method-Failure-Param..... 624
 - ppr-Address..... 412
 - pre-Paging-Supported..... 316, 326
 - preferential-CUG-Indicator..... 158
 - preferred-Language-Indicator.... 513, 522, 543
 - Prepare-Group-Call-Arg..... 384
 - Prepare-Group-Call-Res..... 386
 - Prepare-HO-Arg..... 236
 - Prepare-HO-Res..... 239
 - Prepare-Subsequent-HO-Arg..... 241
 - Prepare-Subsequent-HO-Res..... 242
 - presentation-Abstract..... 95
 - Presentation-Context..... 95
 - presentation-Context-List..... 96
 - presentation-Id..... 95
 - presentation-Layer-Args..... 89, 90, 99
 - Presentation-Layer-Args..... 96
 - previous-LAI..... 259
 - priority..... 385
 - privacy-Override..... 406
 - private-Extension..... 128
 - Private-Extension..... 127
 - private-Extension-List..... 121, 128
 - Private-Extension-List..... 127
 - problem..... 103, 115, 116, 594
 - Problem-Diagnostic..... 107
 - Process-Access-Signalling-Arg..... 242
 - Process-Group-Call-Signalling-Arg..... 386
 - Process-USSD-Arg..... 351
 - Process-USSD-Res..... 353
 - profile..... 511, 520, 540
 - protected-Payload..... 627
 - protocol-Id..... 122
 - Provide-Roaming-Number-Arg..... 314
 - Provide-Roaming-Number-Res..... 317
 - Provide-Subscriber-Info-Arg..... 244
 - Provide-Subscriber-Info-Res..... 245
 - Provide-Subscriber-Location-Arg..... 405
 - Provide-Subscriber-Location-Res..... 407
 - provider-Reason..... 110
 - provisioned-SS..... 192, 271
 - ps-Attached-Not-Reachable-For-Paging..... 246
 - ps-Attached-Reachable-For-Paging..... 246
 - ps-Detached..... 246
 - ps-LCS-Not-Supported-By-UE..... 282
 - ps-PDP-Active-Not-Reachable-For-Paging.. 246
 - ps-PDP-Active-Reachable-For-Paging..... 246
 - ps-Subscriber-State..... 272
 - PS-Subscriber-State..... 245
 - pseudonum-Indicator..... 415
 - pstn-Termination..... 590
 - PSTN-Termination..... 587
 - Purge-MS-Arg..... 246
 - Purge-MS-Res..... 247
 - PW-Registration-Failure-Cause..... 619
- Q**
- qos-Class-Identifier..... 170
 - qos-Negotiated..... 233
 - qos-Requested..... 233
 - qos-Subscribed..... 233, 235
 - qos2-Negotiated..... 234
 - qos2-Requested..... 234
 - qos2-Subscribed..... 234
 - qos3-Negotiated..... 234

qos3-Requested..... 234
 qos3-Subscribed..... 234
 qualification-Information-Code.. 509, 515, 532
 Qualification-Request-Arg..... 514
 Qualification-Request-Res..... 517
 Qualitification-Directive-Arg..... 507
 Qualitification-Directive-Res..... 514
 quintuplet-List..... 145
 Quintuplet-List..... 248

R

rab-Configuration-Indicator..... 184, 239, 242
 rab-Id..... 147, 238, 249, 250
 radio-Resource..... 248
 Radio-Resource..... 248
 radio-Resource-Information..... 184, 238, 249
 radio-Resource-List..... 184, 238
 Radio-Resource-List..... 248
 ran-Periodic-Location-Support..... 410
 ran-Technology..... 410
 ranap-Service-Handover..... 184, 238
 rand..... 143, 144, 145, 168, 254
 rand-Valid-Time..... 525
 randc..... 488, 524
 random-Variable..... 430, 488, 525
 random-Variable-Base-Station..... 436
 Random-Variable-Request-Arg..... 524
 Random-Variable-Request-Res..... 524
 random-Variable-SSD..... 420, 427, 432, 435
 random-Variable-Unique-Challenge.... 420, 422, 427, 432, 435
 re-attempt..... 142
 re-synchronisation-Info..... 256
 Ready-For-SM-Arg..... 373
 Ready-For-SM-Res..... 374
 received-Signal-Quality..... 530, 531, 535, 544
 redirecting-Number-Digits.. 455, 493, 498, 506, 572
 redirecting-Number-String.. 455, 475, 477, 482, 487, 498, 506, 512, 522, 527, 542, 550, 572, 579
 redirecting-Subaddress..... 455, 475, 482, 487, 493, 498, 506, 527, 550, 572, 579
 Redirection-Directive-Arg..... 525
 Redirection-Directive-Res..... 527
 redirection-Reason..... 528, 567
 Redirection-Request-Arg..... 527
 Redirection-Request-Res..... 529
 refuse-Reason..... 113
 Refuse-Result..... 96
 regional-Subscription-Data..... 192, 271
 regional-Subscription-Identifier..... 163
 regional-Subscription-Response..... 164, 196
 Register-CC-Entry-Arg..... 353
 Register-CC-Entry-Res..... 354
 Register-Password-Arg..... 354

Register-Password-Res..... 355
 Register-SS-Arg..... 355
 Register-SS-Res..... 356
 Registration-Cancellation-Arg..... 529
 Registration-Cancellation-Res..... 530
 Registration-Notification-Arg..... 531
 Registration-Notification-Res..... 537
 reidrecting-Subaddress..... 477
 Release-Argument..... 96
 release-Group-Call..... 387
 release-Method..... 105
 release-Reason..... 447
 Release-Resources-Arg..... 317
 Release-Resources-Res..... 318
 release-Resources-Supported..... 317, 331
 Release-Result..... 96
 relocation-Number..... 249
 Relocation-Number..... 249
 relocation-Number-List..... 240
 Relocation-Number-List..... 249
 Remote-User-Free-Arg..... 318
 Remote-User-Free-Res..... 320
 Remote-User-Interaction-Directive-Arg... 544
 Remote-User-Interaction-Directive-Res... 545
 replace-B-Number..... 319
 reply-Limit..... 91
 report-Cause..... 112
 Report-SM-Delivery-Status-Arg..... 374
 Report-SM-Delivery-Status-Res..... 376
 report-Type..... 423, 425, 535
 reporting-Amount..... 404
 reporting-Interval..... 404
 reporting-PLMN..... 405
 Reporting-PLMN..... 409
 reporting-PLMN-List..... 407, 416
 Reporting-PLMN-List..... 410
 requested-Camel-Subscription-Info..... 211
 requested-CAMEL-Subscription-Info..... 251
 requested-Domain..... 251
 requested-Equipment-Info..... 153
 requested-Info..... 133, 244, 389
 Requested-Info..... 250
 requested-SS-Info..... 251
 requested-Subscription-Info..... 137
 Requested-Subscription-Info..... 251
 requesting-Address..... 94
 requesting-Node-Type..... 256
 requesting-PLMN-Id..... 257
 requesting-Title..... 94, 97
 requestor-Address..... 98
 requestor-ID-String..... 402
 requestor-Title..... 98
 Reset-Arg..... 252
 Reset-Circuit-Arg..... 545
 Reset-Circuit-Res..... 545
 Resource-Limitation-Param..... 600

responder-Address 87, 91, 94, 97
 responder-Title 87, 91, 94, 97
 response 93
 response-Time 402
 Response-Time 410
 response-Time-Category 411
 Restore-Data-Arg 253
 Restore-Data-Res 254
 restriction-Digits 513, 523, 543
 Resume-Call-Handling-Arg 321
 Resume-Call-Handling-Res 322
 Resynchronisation-Info 254
 rfsp-Id 170
 rnc-Address 233
 rnc-Interface-List 302
 rnc-List 301
 rnc-Trace-Depth 298, 302
 Roaming-Not-Allowed-Param 604
 roaming-Number 317, 323
 roaming-Restricted-In-Sgsn-Due-To-
 Unsupported-Feature 163, 193
 roaming-Restriction-Due-To-Unsupported-
 Feature 163, 192, 271
 role 99
 routeing-Area-Identity 201
 routeing-Number 208
 routing-Digits 455, 498, 507, 514, 523, 543,
 585, 587, 588
 routing-Info 308
 Routing-Info 323
 routing-Info-2 330
 Routing-Info-For-LCS-Arg 411
 Routing-Info-For-LCS-Res 412
 Routing-Info-For-SM-Arg 377
 Routing-Info-For-SM-Res 379
 Routing-Request-Arg 546
 Routing-Request-Res 551
 ruf-Outcome 320

S

sai-Present 201, 203, 409, 415
 sccp-Address 88
 sccp-Title 100
 Secure-Transport-Error-Param 627
 security-Context 88
 security-header 627
 segmentation-Prohibited 256, 259
 seizure-Type 573
 select(2) 34
 select(2) 99
 selected-GSM-Algorithm 243
 selected-LSA-Id 203
 selected-LSA-Identity 201
 selected-Rab-Id 242, 243
 selected-UMTS-Algorithm 243

selected-UMTS-Algorithms 240
 Selected-UMTS-Algorithms 255
 Send-Authentication-Info-Arg 255
 Send-Authentication-Info-Res 257
 Send-End-Signal-Arg 258
 Send-End-Signal-Res 258
 Send-Group-Call-End-Signal-Arg 388
 Send-Group-Call-End-Signal-Res 388
 Send-Group-Call-Info-Arg 389
 Send-Group-Call-Info-Res 391
 Send-Identification-Arg 259
 Send-Identification-Res 260
 Send-IMSI-Arg 296
 Send-IMSI-Res 296
 Send-Info-For-Mo-Sms-Arg 379
 Send-Info-For-Mo-Sms-Res 380
 Send-Info-For-Mt-Sms-Arg 380
 Send-Info-For-Mt-Sms-Res 381
 Send-Routing-Info-Arg 323
 Send-Routing-Info-For-Gprs-Arg 261
 Send-Routing-Info-For-Gprs-Res 261
 Send-Routing-Info-Res 327
 send-Subscriber-Data 274
 sender-Identification-Number 420, 425, 430,
 433, 436, 438, 439, 450, 475, 482, 499, 502,
 514, 516, 527, 530, 535, 544, 550, 575
 sequence-Number 415
 served-Party-IP-Address 141
 Service-Argument 96
 service-Centre-Address .. 366, 375, 378, 380, 382
 Service-Error 97
 service-Indicator 339
 service-Key 167, 186, 206, 207, 217, 225, 267,
 277
 Service-Reject 97
 Service-Result 98
 service-Type 262
 Service-Type 263
 service-Type-Identity 263
 service-Type-List 199
 Service-Type-List 262
 serving-Cell-ID 441, 444, 457, 461, 464, 465,
 468, 471, 524
 serving-Node-Type-Indicator 282
 session 87, 89, 90, 94
 Session 98
 Set-Reporting-State-Arg 331
 Set-Reporting-State-Res 332
 setup-Result 490
 sgsn-Address 220, 262, 281
 sgsn-Camel-Subscription-Info 193
 SGSN-CAMEL-Subscription-Info 264
 sgsn-Capability 282
 SGSN-Capability 264
 sgsn-List 299, 300
 sgsn-mme-Separation-Supported 283

- sgsn-Number 143, 201, 247, 281, 365
- sgsn-Trace-Depth..... 297
- shape-Of-Location-Estimated-Not-Supported
..... 599
- shared-Secret-Data..... 420, 427, 432, 435
- Short-Term-Denial-Param 619
- signal-Info..... 118, 122, 123
- signal-Quality..... 465, 589
- signaling-Message-Encryption-Key.... 432, 441,
445, 458, 462, 469, 472, 489
- skip-Subscriber-Data-Update 132, 282, 285
- slr-Arg-Extension-Container..... 414
- SLR-Arg-Extension-Container..... 128
- slr-Arg-PCS-Extensions..... 128
- SLR-Arg-PCS-Extensions..... 128
- SM-Delivery-Failure-Cause 621
- sm-Delivery-Not-Intended 378
- sm-Delivery-Outcome 375
- sm-Enumerated-Delivery-Failure-Cause..... 622
- sm-RP-DA 369, 370, 381
- SM-RP-DA..... 381
- sm-RP-MTI..... 378
- sm-RP-OA 369, 370, 372
- SM-RP-OA..... 382
- sm-RP-PRI..... 378
- sm-RP-SMEA 378
- sm-RP-UI..... 369, 370, 371, 372, 373, 384
- sms-Access-Denied-Reason..... 564, 566
- sms-Address..... 535, 565, 566
- sms-Bearer-Data..... 553, 555, 557, 558, 561, 562
- sms-Call-Barring-Support-Indicator 266
- sms-CAMEL-TDP-Data 266
- SMS-CAMEL-TDP-Data 267
- sms-CAMEL-TDP-Data-List 268
- SMS-CAMEL-TDP-Data-List 266
- sms-Cause-Code 555, 558, 562
- sms-Charge-Indicator 554, 557, 561
- SMS-CSI..... 267
- SMS-Delivery-Backward-Arg 553
- SMS-Delivery-Backward-Res 554
- SMS-Delivery-Forward-Arg 556
- SMS-Delivery-Forward-Res 558
- SMS-Delivery-Point-To-Point-Arg 560
- SMS-Delivery-Point-To-Point-Res 562
- sms-Destination-Address..... 554, 558, 561
- sms-Message-Count 561
- sms-Message-Waiting-Indicator .. 499, 531, 536,
544
- SMS-Notification-Arg..... 564
- sms-Notification-Indicator 561, 565
- SMS-Notification-Res 565
- sms-Original-Destination-Address.... 554, 558,
561
- sms-Original-Destination-Subaddress..... 554,
558, 561
- sms-Original-Originating-Address.... 554, 558,
562
- sms-Original-Originating-Subaddress..... 554,
558, 562
- sms-Originating-Address..... 554, 558, 562
- sms-Origination-Restrictions 514, 523, 543
- SMS-Request-Arg..... 565
- SMS-Request-Res..... 566
- sms-Teleservice-Identifier.. 554, 557, 561, 566
- sms-Termination-Restrictions 514, 523, 543
- sms-Trigger-Detection-Point 216, 267
- solsa-Support-Indicator..... 265, 289
- source..... 111
- specific-CSI-Deleted-List 150
- specific-CSI-Withdraw..... 163
- specific-Information... 104, 105, 106, 107, 109,
114, 117
- Specific-Information..... 129
- spini-PIN 514, 523, 543
- spini-Triggers 514, 523, 543
- sres 145
- ss-Camel-Data..... 269
- SS-Camel-Data..... 268
- ss-Code.... 125, 172, 174, 176, 178, 179, 199, 209,
210, 214, 270, 336, 338, 341, 342, 343, 346,
348, 349, 354, 355, 356, 357, 359, 362
- ss-CSI..... 150, 287
- SS-CSI..... 269
- ss-Data..... 181, 337, 342, 344, 357, 359
- SS-Data..... 357
- ss-Event..... 360
- ss-Event-List 269
- SS-Event-List 269
- ss-Event-Spec..... 358
- ss-Event-Specification..... 360
- SS-Event-Specification..... 358
- SS-For-BS-Code..... 358
- SS-Incompatibility-Param 618
- SS-Info..... 359
- ss-Info-For-CSE..... 136
- SS-Invocation-Notification-Arg 360
- SS-Invocation-Notification-Res 361
- ss-List 163, 195, 329
- SS-List..... 361
- ss-List-2..... 330
- SS-Not-Available-Param..... 617
- ss-Status.. 125, 173, 177, 179, 199, 209, 210, 214,
338, 343, 345, 347, 349, 357
- ss-Subscription-Option..... 179, 358
- SS-Subscription-Option..... 362
- SS-Subscription-Violation-Param..... 618
- ssd-Not-Shared 420, 432, 435
- ssd-Update-Report 433
- state-Attributes..... 384
- State-Attributes..... 392
- station-Class-Mark.. 441, 445, 464, 466, 468, 472

- Status-Report-Arg 332
- Status-Report-Res 333
- stn-sr 171
- stn-sr-Withdraw 164
- STREAMS 13, 17
- Sub-Busy-For-MT-SMS-Param 622
- subscriber-Data 191
- Subscriber-Data 270
- subscriber-Data-Stored 274
- subscriber-Identity 133, 135, 137
- Subscriber-Identity 129
- subscriber-Info 134, 245, 329
- Subscriber-Info 271
- Subscriber-Location-Report-Arg 413
- Subscriber-Location-Report-Res 416
- subscriber-State 250, 272
- Subscriber-State 273
- subscriber-Status 192, 270
- Super-Charger-Info 273
- super-Charger-Supported-In-HLR 193
- super-Charger-Supported-In-Serving-Network-Entity 265, 289
- supported-Camel-Phases.. 197, 217, 265, 288, 305
- supported-Camel-Phases-In-Interrogating-Node 316
- supported-Camel-Phases-In-VMSC 329
- supported-CCBS-Phase 326
- Supported-Codecs-List 274
- supported-Features 197, 266
- supported-GAD-Shapes 406
- supported-LCS-Capability-Sets 289, 399
- supported-RAT-Types-Indicator 266, 289
- supported-SGSN-CAMEL-Phases 138, 252
- supported-VLR-CAMEL-Phases 138, 252
- suppress-Incoming-Call-Barring 326
- suppress-MT-SS 327
- suppress-T-CSI 305
- suppress-VT-CSI 316, 326
- suppression-Of-Announcement 315, 325
- system-Access-Data 530, 531, 536, 544
- system-Access-Type.. 424, 428, 488, 516, 536, 576
- system-Capabilities 424, 429, 433, 536
- System-Failure-Param 600
- system-My-Type-Code 482, 491, 509, 515, 518, 526, 533, 538, 548, 568

- T**
- t-BCSM-CAMEL-TDP-Criteria 275
- T-BCSM-CAMEL-TDP-Criteria 275
- t-BCSM-CAMEL-TDP-Criteria-List.. 150, 287, 311
- T-BCSM-CAMEL-TDP-Criteria-List 275
- t-Bcsm-Camel-TDP-Data 276
- T-Bcsm-Camel-TDP-Data 276
- t-Bcsm-Camel-TDP-Data-List 278
- T-Bcsm-Camel-TDP-Data-List 276
- t-Bcsm-Trigger-Detection-Point 276
- t-BCSM-Trigger-Detection-Point 275
- t-Cause-Value-Criteria 276
- T-Cause-Value-Criteria 277
- t-CSI 150, 310
- T-CSI 277
- talker-Channel-Parameter 386
- talker-Priority 384, 387, 388, 390
- target-Cell-Id 237, 241
- target-Cell-ID 441, 444, 446, 457, 461, 463, 465, 468, 471, 474, 581, 582, 583, 589
- Target-Cell-Outside-GCA-Param 607
- target-Measurement-Information 589
- Target-Measurement-Information 588
- target-Measurement-List 467
- Target-Measurement-List 589
- target-MS 411, 412
- target-MS-Number 241
- target-RNC-Id 241
- tdma-Burst-Indicator ... 441, 442, 445, 447, 458, 459, 462, 463, 469, 472, 474
- tdma-Call-Mode 441, 445, 458, 462, 464, 466, 469, 472
- tdma-Channel-Data.. 441, 442, 445, 447, 458, 459, 462, 463, 464, 466, 469, 470, 473, 474
- teid-For-Gn-And-Gp 233
- teid-For-Iu 233
- Teleserv-Not-Prov-Param 606
- teleservice 385, 390
- teleservice-List 192, 195, 271
- Teleservice-List 278
- terminal-Type 427, 430, 536
- termination-Access-Type 493
- termination-Cause 395
- termination-List 455, 498, 507, 572
- Termination-List 589
- termination-Restriction-Code 514, 523, 543
- termination-Treatment 483, 551, 579, 586
- termination-Triggers ... 455, 483, 498, 507, 514, 523, 544, 551, 572, 580, 585, 587, 588
- tif-CSI 150, 287
- tif-CSI-Notification-To-CSE 150
- time-Limit 91
- Title 99
- tmsi 259, 390
- tpdu-Type-Criterion 216
- TPDU-Type-Criterion 279
- trace-Depth-List 293
- Trace-Depth-List 297
- trace-Event-List 294
- Trace-Event-List 298
- trace-Interface-List 294
- Trace-Interface-List 299
- trace-NE-Type-List 293
- trace-Propagation-List 185, 239
- Trace-Propagation-List 301

trace-Recording-Session-Reference 302
 trace-Reference 293, 295, 301
 trace-Reference-2 293, 295, 302
 trace-Support-Indicator 294
 trace-Type 293, 302
 Tracing-Buffer-Full-Param 607
 transaction-Capability 451, 493, 501, 517,
 536, 569
 transaction-Id 233
 Transfer-To-Number-Request-Arg 566
 Transfer-To-Number-Request-Res 569
 translated-B-Number 319, 339
 triplet-List 144
 Triplet-List 279
 trunk-Status 546
 Trunk-Test-Arg 572
 Trunk-Test-Disconnect-Arg 573
 Trunk-Test-Disconnect-Res 573
 Trunk-Test-Res 573
 type-Of-Update 152

U

uesbi-Iu 239
 UESBI-Iu 280
 uesbi-IuA 280
 uesbi-IuB 280
 umts-Security-Context-Data 161
 UMTS-Security-Context-Data 280
 unauthorized-LCS-Client-Diagnostic 625
 Unauthorized-LCS-Client-Param 624
 unauthorized-Message-Originator 612
 Unauthorized-Requesting-Network-Param 625
 unavailability-Cause 330
 Unblock-Arg 574
 Unblock-Res 574
 Unexpected-Data-Param 601
 Unidentified-Sub-Param 603
 unique-Challenge-Report 422, 434
 Unknown-Or-Unreachable-LCS-Client-Param
 626
 Unknown-Subscriber-Param 602
 Unreliable-Roamer-Data-Directive-Arg 574
 Unreliable-Roamer-Data-Directive-Res 575
 Unsolicited-Response-Arg 575
 Unsolicited-Response-Res 577
 update-Count 420, 427, 432, 435
 Update-Gprs-Location-Arg 281
 Update-Gprs-Location-Res 282
 Update-Location-Arg 283
 Update-Location-Res 285
 uplink-Attached 392
 uplink-Free 386
 uplink-Reject-Command 384
 uplink-Release-Command 384
 uplink-Release-Indication 384, 387

uplink-Request 387
 uplink-Request-Ack 384
 uplink-Seized-Command 384
 used-RAT-Type 282
 USSD-Arg 362
 ussd-Data-Coding-Scheme 350, 352, 353, 363,
 364
 USSD-Res 364
 ussd-String 350, 352, 353, 363, 364
 utran-Codec-List 274
 utran-Positioning-Data 408, 415
 uu-Data 322
 UU-Data 334
 uu-Indicator 334
 uui 334
 uusCF-Interaction 334

V

v-Gmlc-Address 282, 285, 412
 VBS-Data-List 286
 vbs-Group-Indication 163
 vbs-Subscription-Data 192, 271
 velocity-Estimate 409, 415
 velocity-Request 402
 version-List 93
 vertical-accuracy 402
 vertical-Coordinate-Request 402
 VGCS-Data-List 286
 vgcs-Group-Indication 163
 vgcs-Subscription-Data 192, 271
 vlr-Camel-Subscription-Info 192, 271
 Vlr-Camel-Subscription-Info 286
 vlr-Capability 253, 284
 VLR-Capability 288
 vlr-Number 143, 203, 247, 284
 vmsc-Address 329
 voice-Broadcast-Data 286
 Voice-Broadcast-Data 290
 voice-Group-Call-Data 286
 Voice-Group-Call-Data 290
 voice-Mailbox-Number 551, 587
 voice-Mailbox-PIN 551, 587
 voice-Privacy-Mask 432, 441, 445, 458, 462,
 469, 473, 489
 vplmn-Address-Allowed 141, 235
 vstk 386
 vstk-rand 386
 vt-BCSM-CAMEL-TDP-Criteria-List 150
 vt-CSI 150, 287
 vt-IM-BCSM-CAMEL-TDP-Criterial-List 151
 vt-IM-CSI 151

W

wrong-Password-Attempts-Counter..... 148, 174, 210

X

xres..... 144, 168

Z

zone-Code..... 292
Zone-Code-List..... 291

