

## **Binary for Linux - MAP**

### **Release Notes for Version V5.12**

#### **1. Overview**

This release implements two new MAP services – Reset and SetReportingState. The new services are defined as per the 3GPP TS 29.002 v8.2.0 specification. The release expands the Subscriber Information that can be requested by some services and adds some parameters to the UpdateLocation service. The release also introduces a new method for MAP-Users to define and/or receive Primitive Service Types. Use of this new mechanism is required to permit use of the new Reset and SetReportingState services. A number of corrections have also been implemented.

This release corrects the handling of the MAPPN\_cell\_id parameter, used in the following services: AnyTimeInterrogation; ProvideSubscriberInfo; SendRoutingInfo (v3) and NoteMMEvent. This change will affect and prevent some incorrectly specified parameter values. In other respects this release is fully backwards compatible with previous release.

#### **2. New functionality**

##### **2.1 Extended Service Type parameter**

The services introduced in this release require the use of a new method of specifying the Primitive Service Type. This change has been introduced to permit additional Service Type definitions for MAP services to be allocated beyond the existing single octet range. The new method allows Primitive Service types that use up to two octets.

A new Primitive Service Type definition is added:

<b>Primitive</b>	<b>Mnemonic</b>	<b>Value (dec)</b>	<b>Value (hex)</b>
MAP-EXTENDED-SERVICE-TYPE	MAPST_EXTENDED_SERVICE_TYPE	255	0xff

This value is used at the start of the message to indicate that the message's Primitive Service Type is defined in a new parameter. The definition for the new parameter MAPPN\_SERVICE\_TYPE is given below.

Parameter	Mnemonic	Value (dec)	Value (hex)
Message Service Type	MAPPN_SERVICE_TYPE	248	0xf8

Parameter name	MAPPN_SERVICE_TYPE
Parameter length	Variable, set to 1 or 2
Parameter data	Primitive service type for the message.

### Services Requests sent to the MAP module

For single octet Service Types the user may choose to use either the existing explicit single octet primitive service type or the extended primitive type indicator MAPST\_EXTENDED\_SERVICE\_TYPE together with the MAPPN\_SERVICE\_TYPE parameter. For two octet service types the user must use the MAPST\_EXTENDED\_SERVICE\_TYPE together with the MAPPN\_SERVICE\_TYPE parameter.

Thus when MAPST\_EXTENDED\_SERVICE\_TYPE is the first message octet, the message must define the MAPPN\_SERVICE\_TYPE parameter or it will be rejected. The new definitions are only applicable on the interface to the MAP User and must be used for services that have a two octet (16-bit) Primitive Service Type.

### Service Indications send from the MAP module

For indications sent by the MAP module to the user the new Extended Service Types will only be used when a two octet Primitive Service Type is required. In may be desirable for an application to use a single method of decoding service type for all services, therefore a new MAP module option has been added:

Bit	Mnemonic	Description
5	MAPF_USE_TYPE_PARMs	If set to 1, MAP_MSG_SRV_IND messages sent to the user will always start with the MAPST_EXTENDED_SERVICE_TYPE octet followed by the messages primitive service type defined by a MAPPN_SERVICE_TYPE parameter.

When the MAPF\_USE\_TYPE\_PARMs (0x0020) flag is set in the options field of the MAP\_MSG\_CONFIG message, the MAP module will always use MAPST\_EXTENDED\_SERVICE\_TYPE octet and the MAPPN\_SERVICE\_TYPE parameter for all Service Indication messages sent to the MAP User.

The MAP module returns a new Software Event code via the MAP\_MSG\_ERROR\_IND message if the MAPST\_EXTENDED\_SERVICE\_TYPE octet is used in a message but the MAPPN\_SERVICE\_TYPE parameter is not found:

Code	Mnemonic	Id	Diag1	Diag2	Description
26	MAPSWE_USER_TYPE_PARM_MISSING	User Dialogu e Id	-	-	Missing MAPPN_SERVICE_TYPE parameter after MAPST_EXTENDED_SERVICE_TYPE found.

The above error may also cause a Selective Trace message MGT\_MSG\_SEL\_TRACE to be generated with the new reason code –

Status		Mnemonic	Description
15	0x0f	MAPt_service_type_param_missing	Refer to Software Event Indication 26.

## 2.2 MAP Reset Service added

The Reset service has been added to the MAP module. This service requires no response or errors.

The following (2 octet) Service Type Primitives are added for the new service:

Primitive	Mnemonic	Value (dec)	Value (hex)
MAP-RESET-REQ	MAPST_RESET_REQ	512	0x200
MAP-RESET-IND	MAPST_RESET_IND	513	0x201

RESET		
Parameter	Class	Context
Extended Service Type octet = 0xff	M	V2,V1
Service Type	M	V2,V1
Invoke ID	M	V2,V1
Network Resource	M	V1
HLR Number	M	V2,V1
HLR List	O	V2,V1
Ellipsis	O	V2,V1

The following new parameter name is defined for use in the new service messages:

Parameter	Mnemonic	Value (dec)	Value (hex)
HLR-List	MAPPN_hlr_list	544	0x220

Parameter name	MAPPN_hlr_list
Parameter length	Variable, in the range 2 to 220
Parameter data	A series of parameters in tag, length, data format that define a HLR-List structure as defined by TS 29.002.

## 2.3 MAP Set Reporting State Service added

The Set Reporting State service been added to the MAP module.

The following (2 octet) Service Type Primitives are added for the new service –

Primitive	Mnemonic	Value (dec)	Value (hex)
MAP-SET-REPORTING-STATE-REQ	MAPST_SET_REPORTING_STATE_REQ	516	0x204
MAP-SET-REPORTING-STATE-RSP	MAPST_SET_REPORTING_STATE_RSP	517	0x205
MAP-SET-REPORTING-STATE-IND	MAPST_SET_REPORTING_STATE_IND	518	0x206
MAP-SET-REPORTING-STATE-CNF	MAPST_SET_REPORTING_STATE_CNF	519	0x207

SET-REPORTING-STATE		
Parameter	Class	Context
Extended Service Type octet = 0xff	M	V3
Service Type	M	V3
Invoke ID	M	V3
IMSI	O	V3
LMSI	O	V3
CCBS Monitoring	O	V3
Ellipsis	O	V3

SET-REPORTING-STATE-ACK		
Parameter	Class	Context
Extended Service Type octet = 0xff	M	V3
Service Type	M	V3
Invoke ID	M	V3
<b>Where user error is not included</b>		
CCBS Subscriber Status	O	V3
Ellipsis	O	V3
<b>Where user error is included</b>		
User Error	M	V3
Provider Error	O	V3
Network Resource	O	V3
Ellipsis	O	V3

The following new parameter names are defined for use in the new service messages:

Parameter	Mnemonic	Value (dec)	Value (hex)
CCBS Monitoring	MAPPN_ccbs_monitoring	545	0x221
CCBS Subscriber Status	MAPPN_ccbs_subsc_status	546	0x222

Parameter name	MAPPN_ccbs_monitoring
Parameter length	Fixed, set to 1
Parameter data	ReportingState as specified by TS 29.002, i.e. 0 – Stop Monitoring 1 – Start Monitoring

Parameter name	MAPPN_ccbs_subsc_status
Parameter length	Fixed, set to 1
Parameter data	Encoded as specified by TS 29.002, i.e. 0 – ccbs Not Idle 1 – ccbs Idle 2 – ccbs Not Reachable

## 2.4 Requested Info and Subscriber Info enhancements

The information that can be requested by the Requested Info parameter has been enhanced. This affects Subscriber Info table data returned in service responses. The changes affect 3 existing services : AnyTimeInterrogation (ATI); ProvideSubscriberInfo (PSI) and SendRoutingInfo for MAPv3.

The Requested Info parameter re-defined as –

Parameter name	MAPPN_req_info
Parameter length	Fixed, set to 1
Parameter data	Single octet indicating the information that is being requested as follows (where bit 0 is the least significant bit) :  bit 0 – if set, location information requested bit 1 – if set, subscriber state requested bit 2 – if set, current location is requested bit 3 – if set, IMEI is requested bit 4 – if set, MS classmark is requested bit 5 – if set, MNP requested info is requested  Note: Requested Domain is not handled by this parameter, instead include the new MAPPN_requested_domain parameter.

The Requested Info parameter is used by the ATI and PSI services. The additional requested information must be matched by additional

parameters for the Subscriber Info table used by service responses.  
The table is used by the ATI, PSI and SRI v3 services.

The three affected services are re-defined below –

ANY-TIME-INTERROGATION-REQUEST		
Parameter	Class	Context
Primitive type octet	M	V3
Timeout (default = 30 seconds)	O	V3
Invoke ID	M	V3
Requested info	M	V3
GsmSCF address	M	V3
IMSI	C <sup>1</sup>	V3
MSISDN	C <sup>1</sup>	V3
Requested Domain	O	V3
Requested info ellipsis	O	V3
Ellipsis	O	V3

1. Either include IMSI or MSISDN.

ANY-TIME-INTERROGATION-ACK		
Parameter	Class	Context
Primitive type octet	M	V3
Invoke ID	M	V3
<b>Where user error is not included:</b>		
Age of location information	C <sup>1</sup>	V3
Geographical information	C <sup>1</sup>	V3
VLR number	C <sup>1</sup>	V3
Location number	C <sup>1</sup>	V3
LAI	C <sup>1</sup>	V3
Cell ID	C <sup>1</sup>	V3
Selected LSA ID	O	V3
MSC Number	O	V3
Geodetic Information	O	V3
Current Location Retrieved	O	V3
SAI Present	O	V3
Subscriber state	C <sup>2</sup>	V3
Not reachable reason	C <sup>3</sup>	V3
Subscriber info ellipsis	O	V3
Location info ellipsis	O	V3
Cell Global Id for GPRS Location Info	O <sup>4</sup>	V3
LAI for GPRS Location Info	O <sup>4</sup>	V3
Routing Area Identity (RAI)	O	V3
Geographical Information for GPRS Location Info	O	V3
SGSN Number	O	V3
Selected LSA-Id for GPRS Location Info	O	V3
SAI Present for GPRS Location Info	O <sup>5</sup>	V3
Geodetic Information for GPRS Location Info	O	V3
Current Location Retrieved for GPRS Location Info	O	V3
Age of GPRS Location Information	O	V3
GPRS Location Info ellipsis	O	V3
PS Subscriber State	O	V3



PS PDP Active Not Reachable for Paging list	O <sup>6</sup>	V3
PS PDP Active Reachable for Paging list	O <sup>7</sup>	V3
PS Not Reachable Reason	O <sup>8</sup>	V3
IMEI	O	V3
MS Classmark2	O	V3
MS Network Capability	O	V3
MS Radio Access Capability	O	V3
Routing Number	O	V3
IMSI for Mobile Number Portability	O	V3
MSISDN for Mobile Number Portability	O	V3
MNP Number Portability Status	O	V3
MNP Info Res ellipsis	O	V3
Ellipsis	O	V3
<b>Where user error is included:</b>		
User error	M	V3
Network resource	O	V3
Ellipsis	O <sup>9</sup>	V3

1. At least one of these parameters should be included if the Location information was requested.
2. The parameter should be included if the Subscriber state was requested.
3. The parameter should be included if the Subscriber state is set to "not reachable".
4. Either of these parameters may be included but not both.
5. This parameter may only be included if Cell Global Id for GPRS Location Info was include.
6. This parameter should be included if PS Subscriber State is set to "PS PDP Active Not Reachable for Paging".
7. This parameter should be included if PS Subscriber State is set to "PS PDP Active Reachable for Paging".
8. This parameter should be included if PS Subscriber State is set to "Net Det Not Reachable".
9. This parameter can be included if the user-error is ATI-NotAllowed.

<b>PROVIDE_SUBSCRIBER_INFO_REQUEST</b>		
<b>Parameter</b>	<b>Class</b>	<b>Context</b>
Primitive type octet	M	V3
Timeout (default = 30 seconds)	O	V3
Invoke ID	M	V3

Requested info	M	V3
IMSI	M	V3
LMSI	O	V3
Requested Domain	O	V3
Requested info ellipsis	O	V3
Ellipsis	O	V3

PROVIDE_SUBSCRIBER_INFO_ACK		
Parameter	Class	Context
Primitive type octet	M	V3
Invoke ID	M	V3
<b>Where user error is not included:</b>		
Age of location information	C <sup>1</sup>	V3
Geographical information	C <sup>1</sup>	V3
VLR number	C <sup>1</sup>	V3
Location number	C <sup>1</sup>	V3
LAI	C <sup>1</sup>	V3
Cell ID	C <sup>1</sup>	V3
Selected LSA ID	O	V3
MSC Number	O	V3
Geodetic Information	O	V3
Current Location Retrieved	O	V3
SAI Present	O	V3
Subscriber state	C <sup>2</sup>	V3
Not reachable reason	C <sup>3</sup>	V3
Subscriber info ellipsis	O	V3
Location info ellipsis	O	V3
Cell Global Id for GPRS Location Info	O <sup>4</sup>	V3
LAI for GPRS Location Info	O <sup>4</sup>	V3
Routing Area Identity (RAI)	O	V3
Geographical Information for GPRS Location Info	O	V3
SGSN Number	O	V3
Selected LSA-Id for GPRS Location Info	O	V3
SAI Present for GPRS Location Info	O <sup>5</sup>	V3

Geodetic Information for GPRS Location Info	O	V3
Current Location Retrieved for GPRS Location Info	O	V3
Age of GPRS Location Information	O	V3
GPRS Location Info ellipsis	O	V3
PS Subscriber State	O	V3
PS PDP Active Not Reachable for Paging list	O <sup>6</sup>	V3
PS PDP Active Reachable for Paging list	O <sup>7</sup>	V3
PS Not Reachable Reason	O <sup>8</sup>	V3
IMEI	O	V3
MS Classmark2	O	V3
MS Network Capability	O	V3
MS Radio Access Capability	O	V3
Routing Number	O	V3
IMSI for Mobile Number Portability	O	V3
MSISDN for Mobile Number Portability	O	V3
MNP Number Portability Status	O	V3
MNP Info Res ellipsis	O	V3
Ellipsis	O	V3
<b>Where user error is included:</b>		
User error	M	V3
Ellipsis	O	V3

1. At least one of these parameters should be included if the Location information was requested.
2. The parameter should be included if the Subscriber state was requested.
3. The parameter should be included if the Subscriber state is set to "not reachable".
4. Either of these parameters may be included but not both.
5. This parameter may only be included if Cell Global Id for GPRS Location Info was include.
6. This parameter should be included if PS Subscriber State is set to "PS PDP Active Not Reachable for Paging".
7. This parameter should be included if PS Subscriber State is set to "PS PDP Active Reachable for Paging".
8. This parameter should be included if PS Subscriber State is set to "Net Det Not Reachable".

<b>SEND-ROUTING-INFO</b>
--------------------------

Parameter	Class	Context
Primitive type octet	M	Any
Timeout (default = 30 seconds)	O	Any
Invoke ID	M	Any
MSISDN	M	Any
CUG Interlock	O	V2,V3
CUG Outgoing_Access	O <sup>1</sup>	V2,V3
Number of Forwarding	O	Any
Interrogation type	M	V3
Or-interrogation	O	V3
Or-capability	O	V3
GMSC address	M	V3
Call reference number	O	V3
Forwarding reason	O	V3
Teleservice	C	V3
Bearer service	C	V3
Network Signal Info	O	Any
Supported camel phases	O	V3
Suppress t csi	O <sup>2</sup>	V3
Supression of announcement	O	V3
Alerting pattern	O	V3
CCBS call	O	V3
Supported CCBS phase	O	V3
Additional signal info	O	V3
CUG CI ellipsis	O	V3
CAMEL info ellipsis	O	V3
Ellipsis	O	Any

1. May only be present if CUG Interlock is present.
2. May only be present if Supported CAMEL phases is present.

SEND-ROUTING-INFO-ACK		
Parameter	Class	Context
Primitive type octet	M	Any
Invoke ID	M	Any
<b>Where user error is included:</b>		
User error	M	Any

Network resource	O	Any
Call barring cause	O	Any
CUG reject cause	O	V2,V3
Unknown subscriber diagnostic	O	V3
Absent subscriber reason	O	V3
CCBS possible	O	V3
CCBS busy	O	V3
Unauthorised message originator	O	V3
<b>Where user error is not included: (version1)</b>		
IMSI	M	V1
Roaming Number	C <sup>1</sup>	V1
Forwarded to Number	C <sup>1</sup>	V1
Forwarding Options	O <sup>2</sup>	V1
Forwarding data ellipsis	O	V1
Ellipsis	O	V1
<b>Where user error is not included: (version 2)</b>		
IMSI	M	V2
Roaming Number	C <sup>3</sup>	V2
Forwarded to Number	O	V2
Forwarded to Sub Address	O	V2
Forwarding Options	O	V2
CUG Interlock	O	V2
CUG Outgoing_Access	O <sup>4</sup>	V2
Forwarding data ellipsis	O	V2
CUG CI ellipsis	O	V2
Ellipsis	O	V2
<b>Where user error is not included: (version 3)</b>		
IMSI	O	V3
Roaming Number	C <sup>3</sup>	V3
Forwarded to Number	O	V3
Forwarded to Sub Address	O	V3
Forwarding Options	O	V3
T-CSI	O <sup>5</sup>	V3
O-CSI	O <sup>5</sup>	V3
O-BCSM camel TDP Criteria List	O <sup>5</sup>	V3
CUG Interlock	O	V3
CUG Outgoing_Access	O <sup>4</sup>	V3

CUG Subscription Flag	O	V3
Age of Location Information	O	V3
Geographical Information	O	V3
VLR Number	O	V3
Location Number	O	V3
Cell ID	C <sup>6</sup>	V3
LAI	C <sup>6</sup>	V3
Selected LSA ID	O	V3
MSC Number	O	V3
Geodetic Information	O	V3
Current Location Retrieved	O	V3
SAI Present	O	V3
Subscriber State	C <sup>7</sup>	V3
Not Reachable Reason	C <sup>7</sup>	V3
Cell Global Id for GPRS Location Info	O <sup>8</sup>	V3
LAI for GPRS Location Info	O <sup>8</sup>	V3
Routing Area Identity (RAI)	O	V3
Geographical Information for GPRS Location Info	O	V3
SGSN Number	O	V3
Selected LSA-Id for GPRS Location Info	O	V3
SAI Present for GPRS Location Info	O <sup>9</sup>	V3
Geodetic Information for GPRS Location Info	O	V3
Current Location Retrieved for GPRS Location Info	O	V3
Age of GPRS Location Information	O	V3
GPRS Location Info ellipsis	O	V3
PS Subscriber State	O	V3
PS PDP Active Not Reachable for Paging list	O <sup>10</sup>	V3
PS PDP Active Reachable for Paging list	O <sup>11</sup>	V3
PS Not Reachable Reason	O <sup>12</sup>	V3
IMEI	O	V3
MS Classmark2	O	V3
MS Network Capability	O	V3

MS Radio Access Capability	O	V3
Routing Number	O	V3
IMSI for Mobile Number Portability	O	V3
MSISDN for Mobile Number Portability	O	V3
MNP Number Portability Status	O	V3
MNP Info Res ellipsis	O	V3
SS-List	O	V3
Teleservice	C	V3
Ext bearer service	C	V3
Forwarding interrogation required	O	V3
VMSC address	O	V3
NAEA Preferred CIC	O	V3
CCBS Possible	O	V3
Keep CCBS Call Indicator	O	V3
MSISDN	O	V3
Number Portability Status	O	V3
Subscriber info ellipsis	O	V3
Location info ellipsis	O	V3
CCBS indicator ellipsis	O	V3
CAMEL routing ellipsis	O	V3
NAEA preferred CI ellipsis	O	V3
Forwarding data ellipsis	O	V3
CUG CI ellipsis	O	V3
Ellipsis	O	V3

1. Either Roaming Number or Forwarded to Number must be included.
2. May only be present if Forwarded to Number is present.
3. If present, neither Forwarded to Number, Forwarded to Sub-Address, nor Forwarding Options is present.
4. May only be present if CUG Interlock is present.
5. Can only be present if Roaming Number is absent
6. Only one may be present
7. Only one may be present
8. Either of these parameters may be included but not both.
9. This parameter may only be included if Cell Global Id for GPRS Location Info was include.
10. This parameter should be included if PS Subscriber State is set to "PS PDP Active Not Reachable for Paging".
11. This parameter should be included if PS Subscriber State is set to "PS PDP Active Reachable for Paging".

12. This parameter should be included if PS Subscriber State is set to “Net Det Not Reachable”.

The following new parameter names are defined for use in the changed service messages:

Parameter	Mnemonic	Value (dec)	Value (hex)
Requested Domain	MAPPN_requested_domain	543	0x21f
MS Classmark2	MAPPN_ms_classmark2	547	0x223
MS Network Capability	MAPPN_ms_network_cap	548	0x224
MS Radio Access Capability	MAPPN_ms_radio_access_cap	549	0x225
Routing Number	MAPPN_routing_num	550	0x226
MNP Info Res ellipsis	MAPPN_mnpinfo_ellipsis	551	0x227
Cell Global Id for GPRS Location Info	MAPPN_gprsinfo_cell_id	552	0x228
LAI for GPRS Location Info	MAPPN_gprsinfo_lai	553	0x229
GPRS Location Info ellipsis	MAPPN_gprsinfo_ellipsis	554	0x22a
SAI Present for GPRS Location Info	MAPPN_gprsinfo_sai_present	555	0x22b
Geographical Information for GPRS Location Info	MAPPN_gprsinfo_geograph_info	556	0x22c
Routing Area Identity (RAI)	MAPPN_rai	557	0x22d
Selected LSA-Id for GPRS Location Info	MAPPN_gprsinfo_sel_lsa_id	558	0x22e
Geodetic Information for GPRS Location Info	MAPPN_gprsinfo_geodetic_info	559	0x22f
Current Location Retrieved for GPRS Location Info	MAPPN_gprsinfo_cur_loc_ret	560	0x230
Age of GPRS Location Information	MAPPN_gprsinfo_age	561	0x231
PS Subscriber State	MAPPN_ps_sub_state	562	0x232
PS PDP Active Not Reachable for Paging list	MAPPN_ps_pdpactnotreach_list	563	0x233
PS PDP Active Reachable for Paging list	MAPPN_ps_pdpactreachable_list	564	0x234
PS Not Reachable Reason	MAPPN_ps_not_reach_rsn	565	0x235
IMSI for Mobile Number Portability	MAPPN_mnp_imsi	566	0x236
MSISDN for Mobile Number Portability	MAPPN_mnp_msisdn	567	0x237
MNP Number Portability Status	MAPPN_mnp_num_port_status	568	0x238



Parameter name	MAPPN_gprsinfo_age
Parameter length	Variable, in the range 1 to 2
Parameter data	Age of the LocationInformationGPRS table data in minutes. Encoded as specified for AgeOfLocationInformation in TS 29.002.

Parameter name	MAPPN_gprsinfo_cell_id
Parameter length	Fixed, set to 7
Parameter data	Cell Id defined for the LocationInformationGPRS table. Encoded as specified for CellGlobalOrServiceAreaIdFixedLength defined in TS 29.002. First 5 octets contain the Mobile country code, the Mobile network code, and the Location area code; last 2 octets contain the Cell ID or Service Area Code.

Parameter name	MAPPN_gprsinfo_cur_loc_ret
Parameter length	Fixed, set to 0
Parameter data	No data – presence of tag indicates that the LocationInformationGPRS table data was retrieved after a successful paging.

Parameter name	MAPPN_gprsinfo_ellipsis
Parameter length	Variable, in the range 2 to 220
Parameter data	Ellipsis data applicable to the LocationInformationGPRS table in TS 29.002. A series of parameters in tag, length, data format, as defined by the users.

Parameter name	MAPPN_gprsinfo_geodetic_info
Parameter length	Fixed, set to 10
Parameter data	GeodeticInformation for the LocationInformationGPRS table. Encoded as specified in TS 29.002.

Parameter name	MAPPN_gprsinfo_geograph_info
Parameter length	Fixed, set to 8
Parameter data	GeographicalInformation for the LocationInformationGPRS table. Encoded as specified in TS 29.002.

Parameter name	MAPPN_gprsinfo_lai
Parameter length	Fixed, set to 5
Parameter data	Local Area Id defined for the LocationInformationGPRS table. Encoded as specified for LAIFixedLength defined in TS 29.002. The first 3 octets contain the Mobile country code and the Mobile network code and the last 2 octets define the Location area code.

Parameter name	MAPPN_gprsinfo_sai_present
Parameter length	Fixed, set to 0
Parameter data	No data – presence of tag indicates that the LocationInformationGPRS table Cell Id (MAPPN_gprsinfo_cell_id) contains a Service Area Id .

Parameter name	MAPPN_gprsinfo_sel_lsa_id
Parameter length	Fixed, set to 3
Parameter data	Selected LSA Id defined for the LocationInformationGPRS table. Encoded as specified for LSAIdentity defined in TS 29.002.

Parameter name	MAPPN_mnp_imsi
Parameter length	Variable, in the range 3 to 8
Parameter data	IMSI defined for the MNInfoRes table. Encoded as specified for IMSI defined in TS 29.002.

Parameter name	MAPPN_mnp_msisdn
Parameter length	Variable, in the range 1 to 15
Parameter data	MSISDN defined for the MNInfoRes table. Encoded as specified for ISDN-AddressString defined in TS 29.002.

Parameter name	MAPPN_mnp_num_port_status
Parameter length	Fixed, set to 1
Parameter data	<p>Number Portability Status defined for the MNInfoRes table.  Encoded as specified by TS 29.002, i.e.</p> <ul style="list-style-type: none"> <li>0 – Not Known to be Ported</li> <li>1 – Own Number Ported Out</li> <li>2 – Foreign Number Ported To Foreign Network</li> <li>4 – Own Number Not Ported Out</li> <li>5 – Foreign Number Ported In</li> </ul>

Parameter name	MAPPN_mnpinfo_ellipsis
Parameter length	Variable, in the range 2 to 220
Parameter data	Ellipsis data applicable to the MNPIInfoRes table in TS 29.002. A series of parameters in tag, length, data format, as defined by the users.

Parameter name	MAPPN_ms_classmark2
Parameter length	Fixed, set to 3
Parameter data	Value part of the Mobile Station Classmark 2 IE. Encoded as defined in TS 24.008.

Parameter name	MAPPN_ms_network_cap
Parameter length	Variable, in the range 1 to 8
Parameter data	Value part of the Mobile Station Network Capability IE. Encoded as defined in TS 24.008.

Parameter name	MAPPN_ms_radio_access_cap
Parameter length	Variable, in the range 1 to 50
Parameter data	Value part of the Mobile Station Radio Access Capability IE. Encoded as defined in TS 24.008.

Parameter name	MAPPN_ps_not_reach_rsn
Parameter length	Fixed, set to 1
Parameter data	<p>Not Reachable Reason defined for the PS-SubscriberState table. Encoded as specified in TS 29.002, i.e.</p> <ul style="list-style-type: none"> <li>0 – Mobile Subscriber Purged</li> <li>1 – IMSI Detached</li> <li>2 – Restricted Area</li> <li>3 – Not Registered</li> </ul>

Parameter name	MAPPN_ps_pdpactnotreach_list
Parameter length	Variable, in the range 9 to 220
Parameter data	A series of parameters in tag, length, data format that define a PDP-ContextInfoList structure for the ps-PDP-ActiveNotReachableForPaging field of the PS-SubscriberState table by TS 29.002.

Parameter name	MAPPN_ps_pdpactreachable_list
Parameter length	Variable, in the range 9 to 220
Parameter data	A series of parameters in tag, length, data format that define a PDP-ContextInfoList structure for the ps-PDP-ActiveReachableForPaging field of the PS-SubscriberState table by TS 29.002.

Parameter name	MAPPN_ps_sub_state
Parameter length	Fixed, set to 1
Parameter data	<p>PS Subscriber's State encode as a single octet, i.e.</p> <ul style="list-style-type: none"> <li>0 – Not Provided From SGSN</li> <li>1 – PS Detached</li> <li>2 – PS Attached Not Reachable For Paging</li> <li>3 – PS Attached Reachable for Paging</li> <li>4 – PS PDP Active Not Reachable for Paging</li> <li>5 – PS PDP Active Reachable for Paging</li> <li>6 – Net Det Not Reachable</li> </ul> <p>Some states linked to another parameter, e.g. state 4 to MAPPN_ps_pdpactnotreach_list. The user need not specify the PS Subscriber's State parameter if a linked parameter is used. On receive, both parameters are returned to the user.</p>

Parameter name	MAPPN_rai
Parameter length	Fixed, set to 6
Parameter data	Routing Area Identity (RAI) as specified by TS 29.002.

Parameter name	MAPPN_requested_domain
Parameter length	Fixed, set to 1
Parameter data	<p>The presence of this parameter indicates that Domain information is requested in the response. The parameter is Domain Type as specified by TS 29.002, i.e.</p> <ul style="list-style-type: none"> <li>0 – CS Domain</li> <li>1 – PS Domain</li> </ul>

Parameter name	MAPPN_routing_num
Parameter length	Variable, in the range 1 to 5
Parameter data	Routing Number as specified by TS 29.002.

## 2.5 New parameters for Update Location Service.

The Update Location service for MAP v3 has been updated to add additional parameters to the request message. The added parameters are already defined in the MAP module for other services. The definition of the service is now as follows:

UPDATE-LOCATION		
Parameter	Class	Context
Primitive type octet	M	Any
Timeout (default = 30 seconds)	O	Any
Invoke ID	M	Any
IMSI	M	Any
Roaming number	C <sup>1</sup>	V1
MSC number	C <sup>1</sup>	Any
VLR number	M	Any
LMSI	O	Any
Supported CAMEL phase	O	V3
VLR capability ellipsis	O	V3
Solsa support indicator	O	V3
IST Supported Indicator	O	V3
Send Subscriber Data	C <sup>2</sup>	V3
Subscriber Data Stored	C <sup>2</sup>	V3
Long FTN Supported	O	V3
Ellipsis	O	Any

1. The selection is a choice between Roaming number and MSC number in MAP V1. MSC number is mandatory in MAP V2 and V3 and Roaming number is not allowed.
2. Either Send Subscriber Data or Subscriber Data Stored may be defined, but not both.

UPDATE-LOCATION-ACK		
Parameter	Class	Context
Primitive type octet	M	Any
Invoke ID	M	Any
<b>Where user error is not included:</b>		
HLR number	M	Any
Ellipsis	O	V2,V3
<b>Where user error is included:</b>		
User error	M	Any

Network resource	O	Any
Roaming not allowed cause	C <sup>1</sup>	V2, V3
Unknown subscriber diagnostic	O	V3
Ellipsis	O	V3

1. If the user error is set to 'roaming not allowed', then 'roaming not allowed cause' is mandatory.

### 3. Faults Cleared

#### 3.1 Remove parameters from PUSSR, USSR and USSN

For previous releases the ProcessUnstructuredSSRequest (PUSSR), UnstructuredSSRequest (USSR) and UnstructuredSSNotify(USSN) services allowed the use of both the MAPPN\_msisdn and MAPPN\_alert\_pattern parameters. According to the MAP specification (TS29.002 v8.2.0) Section 11.9, the PUSSR service should use the MSISDN parameter and not Alert Pattern. Similarly, Sections 11.10 and 11.11 indicate that USSR and USSN should use the Alert Pattern parameter and not MSISDN.

For this release this has been corrected and the definitions of the services are as follows:

<b>PROCESS_UNSTRUCTURED_SS_REQUEST<sup>1</sup></b>		
<b>Parameter</b>	<b>Class</b>	<b>Context</b>
Primitive type octet	M	V1, V2
Timeout (default = 600 seconds)	O	V1, V2
Invoke ID	M	V1, V2
USSD Data Coding Scheme	M	V2
USSD String	M	V1, V2
MSISDN	O	V2
Ellipsis	O	V2

1. This primitive is used for the Version 1 "Process unstructured SS data" service.

PROCESS_UNSTRUCTURED_SS_REQUEST_ACK		
Parameter	Class	Context
Primitive type octet	M	V1, V2
Invoke ID	M	V1, V2
<b>Where user error is not included:</b>		
USSD Data Coding Scheme	M	V2
USSD String	C <sup>1</sup>	V1, V2
Ellipsis	O	V2
<b>Where user error is included:</b>		
User Error	M	V1, V2
Network Resource	O	V1, V2
Call barring cause	O	V2
Unauthorised message originator	O	V2

1. Optional in version 1.

UNSTRUCTURED_SS_NOTIFY		
Parameter	Class	Context
Primitive type octet	M	V1, V2
Timeout (default = 600 seconds)	O	V1, V2
Invoke ID	M	V1, V2
USSD Data Coding Scheme	M	V1, V2
USSD String	M	V1, V2
Alerting pattern	O	V2
Ellipsis	O	V2

UNSTRUCTURED_SS_NOTIFY_ACK		
Parameter	Class	Context
Primitive type octet	M	V1, V2
Invoke ID	M	V1, V2
<b>Where user error is included:</b>		
User Error	M	V1, V2
Network resource	O	V1, V2
Absent subscriber reason	O	V2

UNSTRUCTURED_SS_REQUEST		
Parameter	Class	Context
Primitive type octet	M	V1, V2
Timeout (default = 600 seconds)	O	V1, V2
Invoke ID	M	V1, V2
USSD Data Coding Scheme	M	V1, V2
USSD String	M	V1, V2
Alerting pattern	O	V2
Ellipsis	O	V2

UNSTRUCTURED_SS_REQUEST_ACK		
Parameter	Class	Context
Primitive type octet	M	V1, V2
Invoke ID	M	V1, V2
<b>Where user error is not included:</b>		
USSD Data Coding Scheme	M	V1, V2
USSD String	M	V1, V2
<b>Where user error is included:</b>		
User Error	M	V1, V2
Network resource	O	V1, V2
Absent subscriber reason	O	V2

### 3.2 Correction to decoding of RequestedInfo

For previous releases, when the MAPPN\_req\_info parameter was coded with more than one bit set, only a single bit was ever sent in the output message. This affected the ATI and PSI services. For this release, the parameter is correctly encoded into the output message when more than one bit is sent. Note: that on this release the number of valid bits for encoding for this parameter has increased (as detailed in Section 2.4 above).

### 3.3 Added parameters to ATI service

Previous releases allowed some parameters to be sent but they would be discarded if received. The parameters affected were MAPPN\_selectedlsa\_id, MAPPN\_msc\_num, MAPPN\_geodetic\_info, MAPPN\_currenr\_loc\_retrieved and MAPPN\_sai\_present in the ATI, PSI and SRI v3 services. These parameters can now be received correctly for the services. New definitions for all of these services are listed under Section 2.4.



### **3.4 Change to permitted length of MAPPN\_cell\_id parameter**

Previous code releases allowed the MAPPN\_cell\_id parameter have lengths between 5 and 7 octets. This is invalid according to TS29.002, the CellGlobalOrServiceAreaIdFixedLength variable should have a fixed length of 7 octets. This release forces the parameter to have a length of 7 octets.

Dialogic  
15-May-09

## **Binary for Linux - MAP**

### **Release Notes for Version V5.13**

#### **1. Overview**

This release implements four new MAP services – StatusReport, RemoteUserFree, RegisterCC and EraseCC. The new services are defined as per the 3GPP TS 29.002 v8.2.0 specification.

The release is fully backwards compatible with the previous release.

#### **2. New functionality**

##### **2.1 MAP Status Report Service added**

The Status Report service been added to the MAP module. The following (2 octet) Service Type Primitives are added for the new service –

<b>Primitive</b>	<b>Mnemonic</b>	<b>Value (dec)</b>	<b>Value (hex)</b>
MAP-STATUS-REPORT-REQ	MAPST_STATUS_REPORT_REQ	520	0x208
MAP-STATUS-REPORT-RSP	MAPST_STATUS_REPORT_RSP	521	0x209
MAP-STATUS-REPORT-IND	MAPST_STATUS_REPORT_IND	522	0x20a
MAP-STATUS-REPORT-CNF	MAPST_STATUS_REPORT_CNF	523	0x20b

<b>STATUS-REPORT</b>		
<b>Parameter</b>	<b>Class</b>	<b>Context</b>
Extended Service Type octet = 0xff	M	V3
Service Type	M	V3
Invoke ID	M	V3
IMSI	M	V3
CCBS Subscriber State	O	V3
Event Report Data Ellipsis	O	V3
Monitoring Mode	O	V3
Call Outcome	O	V3
Call Report Data Ellipsis	O	V3
Ellipsis	O	V3

STATUS-REPORT-ACK		
Parameter	Class	Context
Extended Service Type octet = 0xff	M	V3
Service Type	M	V3
Invoke ID	M	V3
<b>Where user error is not included</b>		
Ellipsis	O	V3
<b>Where user error is included</b>		
User Error	M	V3
Provider Error	O	V3
Network Resource	O	V3
Ellipsis	O	V3

The following new parameter names are defined for use in the new service messages:

Parameter	Mnemonic	Value (dec)	Value (hex)
Event Report Data Ellipsis	MAPPN_event_report_data_ellipsis	569	0x239
Call Report Data Ellipsis	MAPPN_call_report_data_ellipsis	570	0x23a
Monitoring Mode	MAPPN_monitoring_mode	571	0x23b
Call Outcome	MAPPN_call_outcome	572	0x23c

Parameter name	MAPPN_event_report_data_ellipsis
Parameter length	Variable, in the range 2 to 220
Parameter data	Ellipsis data applicable to the EventReportData table in TS 29.002. A series of parameters in tag, length, data format, as defined by the users.

Parameter name	MAPPN_call_report_data_ellipsis
Parameter length	Variable, in the range 2 to 220
Parameter data	Ellipsis data applicable to the CallReportData table in TS 29.002. A series of parameters in tag, length, data format, as defined by the users.

Parameter name	MAPPN_monitoring_mode
Parameter length	Fixed, set to 1
Parameter data	MonitoringMode as specified by TS 29.002, i.e. 0 – A-side 1 – B-side

Parameter name	MAPPN_call_outcome
Parameter length	Fixed, set to 1
Parameter data	CallOutcome as specified by TS 29.002, i.e. 0 – Success 1 – Failure 2 – Busy

## 2.2 MAP Remote User Free Service added

The Remote User Free service been added to the MAP module. The following (2 octet) Service Type Primitives are added for the new service –

Primitive	Mnemonic	Value (dec)	Value (hex)
MAP-REMOTE-USER-FREE-REQ	MAPST_REMOTE_USER_FREE_REQ	524	0x20c
MAP-REMOTE-USER-FREE-RSP	MAPST_REMOTE_USER_FREE_RSP	525	0x20d
MAP-REMOTE-USER-FREE-IND	MAPST_REMOTE_USER_FREE_IND	526	0x20e
MAP-REMOTE-USER-FREE-CNF	MAPST_REMOTE_USER_FREE_CNF	527	0x20f

REMOTE-USER-FREE		
Parameter	Class	Context
Extended Service Type octet = 0xff	M	V3
Service Type	M	V3
Invoke ID	M	V3
IMSI	M	V3
Call Info	M	V3
CCBS Index	O	V3
B Subscriber Number	O	V3
B Subscriber Subaddress	O	V3
Tele Service	O	V3
Bearer Service	O	V3
CCBS Feature Ellipsis	O	V3
Translated B Number	M	V3
Replace B Number	O	V3
Alerting Pattern	O	V3
Ellipsis	O	V3

REMOTE-USER_FREE-ACK		
Parameter	Class	Context
Extended Service Type octet = 0xff	M	V3
Service Type	M	V3
Invoke ID	M	V3
<b>Where user error is not included</b>		
Remote User Free Outcome	M	V3
Ellipsis	O	V3
<b>Where user error is included</b>		
User Error	M	V3
Provider Error	O	V3
Network Resource	O	V3
Ellipsis	O	V3

The following new parameter names are defined for use in the new service messages:

Parameter	Mnemonic	Value (dec)	Value (hex)
Call Info	MAPPN_call_info	573	0x23d

Parameter	Mnemonic	Value (dec)	Value (hex)
CCBS Index	MAPPN_ccbs_index	574	0x23e
B Subscriber Number	MAPPN_b_subscriber_num	575	023f
B Subscriber Subaddress	MAPPN_b_subscriber_sub_addr	576	0x240
Translated B Number	MAPPN_translated_b_num	577	0x241
Replace B Number	MAPPN_replace_b_num	578	0x242
Remote User Free Outcome	MAPPN_ruf_outcome	579	0x243
CCBS Feature Request Ellipsis	MAPPN_ccbs_feature_ellipsis	580	0x244

Parameter name	MAPPN_call_info
Parameter length	Variable, in the range 1 to 200
Parameter data	Encoded as ExtrenalSignalInfo as specified as TS29.002.

Parameter name	MAPPN_ccbs_index
Parameter length	Fixed, set to 1
Parameter data	CCBS-Index as specified by TS 29.002.

Parameter name	MAPPN_b_subscriber_num
Parameter length	Variable, in the range 1 to 15
Parameter data	Encoded as specified in TS 100 974

Parameter name	MAPPN_subscriber_sub_addr
Parameter length	Variable, in the range of 1 to 21
Parameter data	Encoded as specified by TS 29.002,

Parameter name	MAPPN_translated_b_num
Parameter length	Variable, in the range 1 to 15
Parameter data	Encoded as specified in TS 100 974

Parameter name	MAPPN_replace_b_num
Parameter length	0
Parameter data	Not applicable

Parameter name	MAPPN_ruf_outcomed
Parameter length	Fixed, set to 1
Parameter data	RUF-Outcome as specified by TS 29.002, i.e. 0 – Accepted 1 – Rejected 2 – No Response from free MS 3 – No Response from busy MS 4 – udub from free MS 5 – udub from busy MS

Parameter name	MAPPN_ccbs_feature_ellipsis
Parameter length	Variable, in the range 2 to 220
Parameter data	Ellipsis data applicable to the CCBS-Feature table in TS 29.002. A series of parameters in tag, length, data format, as defined by the users.

### 2.3 MAP Register CC Entry Service added

The Register CC Entry service been added to the MAP module. The following (2 octet) Service Type Primitives are added for the new service –

Primitive	Mnemonic	Value (dec)	Value (hex)
MAP-REGISTER-CC-ENTRY-REQ	MAPST_REGISTER_CC_ENTRY_REQ	528	0x210
MAP-REGISTER-CC-ENTRY-RSP	MAPST_REGISTER_CC_ENTRY_RSP	529	0x211
MAP-REGISTER-CC-ENTRY-IND	MAPST_REGISTER_CC_ENTRY_IND	530	0x212
MAP-REGISTER-CC-ENTRY-CNF	MAPST_REGISTER_CC_ENTRY_CNF	531	0x213

REGISTER-CC-ENTRY		
Parameter	Class	Context
Extended Service Type octet = 0xff	M	V3
Service Type	M	V3
Invoke ID	M	V3
SS-Code	M	V3
CCBS Index	O	V3
B Subscriber Number	O	V3
B Subscriber Subaddress	O	V3
Tele Service	O	V3
Bearer Service	O	V3
CCBS Feature Ellipsis	O	V3
Translated B Number	O	V3
Service Indicator	O	V3
Call Info	O	V3
Network Signal Info	O	V3
CCBS Data Ellipsis	O	V3
Ellipsis	O	V3



REGISTER-CC-ENTRY-ACK		
Parameter	Class	Context
Extended Service Type octet = 0xff	M	V3
Service Type	M	V3
Invoke ID	M	V3
<b>Where user error is not included</b>		
CCBS Index	O	V3
B Subscriber Number	O	V3
B Subscriber Subaddress	O	V3
Tele Service	O	V3
Bearer Service	O	V3
CCBS Feature Ellipsis	O	V3
Ellipsis	O	V3
<b>Where user error is included</b>		
User Error	M	V3
Provider Error	O	V3
Network Resource	O	V3
Ellipsis	O	V3

The following new parameter names are defined for use in the new service messages:

Parameter	Mnemonic	Value (dec)	Value (hex)
Service Indicator	MAPPN_service_ind	581	0x245
CCBS Data Ellipsis	MAPPN_ccbs_data_ellipsis	582	0x246

Parameter name	MAPPN_service_ind
Parameter length	Variable, in the range 1 to 4
Parameter data	Encoded as ServiceIndicator as specified as TS29.002.

Parameter name	MAPPN_ccbs_data_ellipsis
Parameter length	Variable, in the range 2 to 220
Parameter data	Ellipsis data applicable to the CCBS-Data table in TS 29.002. A series of parameters in tag, length, data format, as defined by the users.

## 2.4 MAP Erase CC Entry Service added

The Erase CC Entry service been added to the MAP module. The following (2 octet) Service Type Primitives are added for the new service –

Primitive	Mnemonic	Value (dec)	Value (hex)
MAP-ERASE-CC-ENTRY-REQ	MAPST_ERASE_CC_ENTRY_REQ	532	0x214
MAP-ERASE-CC-ENTRY-RSP	MAPST_ERASE_CC_ENTRY_RSP	533	0x215
MAP-ERASE-CC-ENTRY-IND	MAPST_ERASE_CC_ENTRY_IND	534	0x216
MAP-ERASE-CC-ENTRY-CNF	MAPST_ERASE_CC_ENTRY_CNF	535	0x217

ERASE-CC-ENTRY		
Parameter	Class	Context
Extended Service Type octet = 0xff	M	V3
Service Type	M	V3
Invoke ID	M	V3
SS-Code	M	V3
CCBS Index	O	V3
Ellipsis	O	V3

ERASE-CC-ENTRY-ACK		
Parameter	Class	Context
Extended Service Type octet = 0xff	M	V3
Service Type	M	V3
Invoke ID	M	V3
<b>Where user error is not included</b>		
SS-Code	M	V3
SS-Status	O	V3
Ellipsis	O	V3
<b>Where user error is included</b>		
User Error	M	V3
Provider Error	O	V3
Network Resource	O	V3
Ellipsis	O	V3

There are no new parameters defines for this service

### **3. Faults Cleared**

#### **3.1 MAPPN\_requestedequipinfo minimum size**

The minimum size of this parameter has been altered from 2 to 1. This is in accordance with MAP spec 29.002. The maximum size remains at 8 for backwards compatibility.

Dialogic  
08-Jun-09

## **Binary for Linux - MAP**

### **Release Notes for Version V5.14**

#### **1. Overview**

This release corrects the processing of a Send-Authentication-Info v3 message from TCAP when no parameters are defined. The release is fully backwards compatible with previous releases.

#### **2. Faults Cleared**

##### **2.1 Correction to reception of SendAuthInfo when no parameters**

For previous releases, Send-Authentication-Info v3 messages with no parameters were rejected by MAP when received from TCAP. This release corrects this behaviour; Send-Authentication-Info messages with no parameters are now accepted.

Note: that the IMSI and NumberOfRequestedVectors parameters for this service are normally Mandatory according to the specifications, however if the message is repeated the specifications state that the parameters can be excluded, thus a Send-Authentication-Info message with no parameters is valid.

Dialogic  
03-July-09

## **Binary for Linux - MAP**

### **Release Notes for Version V5.15**

#### **1. Overview**

This release enables the Interrogate-SS service for use with the MAP version 1 application context. This release also restores parameters to the ProcessUnstructuredSSRequest, UnstructuredSSRequest and UnstructuredSSNotify services that were removed in a previous release. The release is fully backwards compatible with previous releases.

#### **2. New functionality**

##### **2.1 Interrogate-SS Service added for MAP Version 1**

The Interrogate-SS service has been enabled for use with the MAP V1 application context. The following tables define the expected parameters for Requests and Responses for the expanded service for both V1 and V2 Application Contexts:

<b>INTERROGATE-SS</b>		
<b>Parameter</b>	<b>Class</b>	<b>Context</b>
Primitive type octet	M	V1, V2
Timeout (default = 30 seconds)	M	V1, V2
Invoke ID	M	V1, V2
SS code	M	V1, V2
Bearer Service Code	O	V1, V2
Teleservice Code	O	V1, V2
Ellipsis	O	V1, V2

INTERROGATE-SS-ACK		
Parameter	Class	Context
Primitive type octet	M	V1, V2
Invoke ID	M	V1, V2
<b>Where user error is not included (version 1)</b>		
SS status	C <sup>1</sup>	V1
Forwarded To Number	C <sup>1</sup>	V1
Basic Service List	C <sup>1</sup>	V1
Forwarding Feature List	C <sup>1</sup>	V1
<b>Where user error is not included (version 2)</b>		
SS status	C <sup>2</sup>	V2
Basic Service Group List	C <sup>2</sup>	V2
Forwarding Feature List	C <sup>2</sup>	V2
CLI restriction option	O <sup>3</sup>	V2
Maximum entitled priority	O <sup>3</sup>	V2
Default priority	O <sup>3</sup>	V2
CCBS Feature List	O <sup>3</sup>	V2
Ellipsis	O <sup>3</sup>	V2
<b>Where user error is included</b>		
User Error	M	V1, V2
Network Resource	O	V1, V2
Call Barring Cause	O	V1, V2
Ellipsis	O	V1, V2

1. One of these parameters must be present.
2. One of these parameters must be present.
3. Can only be present if 'SS status' is present.

The following new parameter is defined for use in the service messages:

Parameter	Mnemonic	Value (dec)	Value (hex)
Basic Service List	MAPPN_basic_service_list	583	0x247

Parameter name	MAPPN_basic_service_list
Parameter length	Variable, in the range 1 to 220
Parameter data	Coded as specified for BasicServiceList in GSM 09.02 Phase 1.

### 3. Other Changes

#### 3.1 USSD Operations – MSISDN & Alerting Pattern parameters

To align with the published ASN.1 tables, this release reinstates three optional parameters to USSD services that were removed in a previous release (V5.12). The specific changes are the Alerting Pattern parameter has been restored to the ProcessUnstructuredSSRequest (PUSSR) service and the MSISDN parameter has been restored to the UnstructuredSSRequest (USSR) and UnstructuredSSNotify(USSN) services.

The full definitions for these services are as follows:

<b>PROCESS_UNSTRUCTURED_SS_REQUEST<sup>1</sup></b>		
<b>Parameter</b>	<b>Class</b>	<b>Context</b>
Primitive type octet	M	V1, V2
Timeout (default = 600 seconds)	O	V1, V2
Invoke ID	M	V1, V2
USSD Data Coding Scheme	M	V2
USSD String	M	V1, V2
Alerting pattern	O	V2
MSISDN	O	V2
Ellipsis	O	V2

1. This primitive is used for the Version 1 “Process unstructured SS data” service.

<b>PROCESS_UNSTRUCTURED_SS_REQUEST_ACK</b>		
<b>Parameter</b>	<b>Class</b>	<b>Context</b>
Primitive type octet	M	V1, V2
Invoke ID	M	V1, V2
<b>Where user error is not included:</b>		
USSD Data Coding Scheme	M	V2
USSD String	C <sup>1</sup>	V1, V2
Ellipsis	O	V2
<b>Where user error is included:</b>		
User Error	M	V1, V2
Network Resource	O	V1, V2
Call barring cause	O	V2
Unauthorised message originator	O	V2

1. Optional in version 1.

UNSTRUCTURED_SS_NOTIFY		
Parameter	Class	Context
Primitive type octet	M	V1, V2
Timeout (default = 600 seconds)	O	V1, V2
Invoke ID	M	V1, V2
USSD Data Coding Scheme	M	V1, V2
USSD String	M	V1, V2
Alerting pattern	O	V2
MSISDN	O	V2
Ellipsis	O	V2

UNSTRUCTURED_SS_NOTIFY_ACK		
Parameter	Class	Context
Primitive type octet	M	V1, V2
Invoke ID	M	V1, V2
<b>Where user error is included:</b>		
User Error	M	V1, V2
Network resource	O	V1, V2
Absent subscriber reason	O	V2

UNSTRUCTURED_SS_REQUEST		
Parameter	Class	Context
Primitive type octet	M	V1, V2
Timeout (default = 600 seconds)	O	V1, V2
Invoke ID	M	V1, V2
USSD Data Coding Scheme	M	V1, V2
USSD String	M	V1, V2
Alerting pattern	O	V2
MSISDN	O	V2
Ellipsis	O	V2

UNSTRUCTURED_SS_REQUEST_ACK		
Parameter	Class	Context
Primitive type octet	M	V1, V2
Invoke ID	M	V1, V2
<b>Where user error is not included:</b>		



USSD Data Coding Scheme	M	V1, V2
USSD String	M	V1, V2
<b>Where user error is included:</b>		
User Error	M	V1, V2
Network resource	O	V1, V2
Absent subscriber reason	O	V2

Dialogic  
16-Sep-09

## **Binary for Linux - MAP**

### **Release Notes for Version V5.16**

#### **1. Overview**

This release makes the GetPassword and RegisterPassword services available under MAP V1. This release also allows Quality of Service (QoS) parameter data received from TCAP to be passed to the MAP-User. The release also corrects the formatting of the response message sent to TCAP for some services. The release is fully backwards compatible with previous releases.

#### **2. Changes**

##### **2.1 GetPassword and RegisterPassword for MAP V1**

The MAP services GET-PASSWORD and REGISTER-PASSWORD are now available for use under MAP V1. The parameter area content tables for the services are now as follows:

<b>GET-PASSWORD</b>		
<b>Parameter</b>	<b>Class</b>	<b>Context</b>
Primitive type octet	M	V1, V2
Timeout (default = 30 seconds)	O	V1, V2
Invoke ID	M	V1, V2
Linked ID	O	V1, V2
Guidance Info	M	V1, V2
Ellipsis	O	V2

<b>GET-PASSWORD-ACK</b>		
<b>Parameter</b>	<b>Class</b>	<b>Context</b>
Primitive type octet	M	V1, V2
Invoke ID	M	V1, V2
Current Password	M	V1, V2
Ellipsis	O	V2

REGISTER-PASSWORD		
Parameter	Class	Context
Primitive type octet	M	V1, V2
Timeout (default = 600 seconds)	O	V1, V2
Invoke ID	M	V1, V2
SS Code	M	V1, V2
Ellipsis	O	V2

REGISTER-PASSWORD-ACK		
Parameter	Class	Context
Primitive type octet	M	V1, V2
Invoke ID	M	V1, V2
<b>Where user error is not included:</b>		
New Password	M	V1, V2
Ellipsis	O	V2
<b>Where user error is included:</b>		
User error	M	V1, V2
Registration Failure Cause	O	V1, V2
Network Resource	O	V1, V2
Per Call Basis	C <sup>1</sup>	V1
Notification To Held Retrieved Party	C <sup>1</sup>	V1
User to User Service Indicator	C <sup>1</sup>	V1
Maximum Conferees Number	C <sup>1</sup>	V1
Hunt Group Access Selection Order	C <sup>1</sup>	V1
Call barring cause	O	V2
Ellipsis	O	V2

1. One or none of these parameters may be included when User Error is SS\_Subscribion\_Violation.

## 2.2 QoS Transparency

The MAP module can be configured to return any QoS information received from TCAP to the MAP-User. This is controlled via a new configuration option flag:

Bit	Mnemonic	Description
6	MAPF_QOS_TRANSPARENT	If set to 1, QoS parameter data received from TCAP is passed to the MAP-User in the MAPPN_qos (238) parameter. If set to 0, received TCAP QoS data is discarded.

The option is applicable to the MAP\_MSG\_CONFIG and MAP\_MSG\_NC\_CONFIG configuration messages, e.g. this facility is selectable for different MAP-Users via the Module and NC configurations.

When the option is enable, whenever QoS data is received from TCAP it will be returned to the MAP\_User in the next Dialogue Indication message, as detailed in the updated table below:

Parameter	MAP Primitive						
	O P E N - I N D	C L O S E - I N D	D E L I M I T E R - I N D	U - A B O R T - I N D	P - A B O R T - I N D	O P E N - C N F	N O T I C E - I N D
Destination address	M			O		O	
Destination reference	O						
Originating address	O			O		O	
Originating reference	O						
Result						M	
Refuse reason						O*	
Release method							
User reason				M			
Provider reason					M	O	
Diagnostic information				O			
Application context name	M					O	
Source					M		
Problem diagnostic							M
Quality of Service†	O	O		O	O	O	
Ellipsis	O						
Release confirm		O					
Report cause							O
NC	O						

\* May only be used with MAP V2 and V3 dialogues.

† QoS returned only if MAPF\_QOS\_TRANSPARENT option is set.

## 2.3 TCAP Response message format

For previous releases the TCAP formatting of the response messages for some services could be incorrect. This fault affected response messages where only an Invoke ID parameter was defined (no other parameters). This caused an invalidly formatted response message to be sent to TCAP. The following services were affected:

- AuthenticationFailureReport
- SetReportingState
- StatusReport
- Register-CC-Entry
- SendEndSignalling
- PrepareHandover
- SendAuthInfo (for MAP V3)

The fault has been corrected for this release and the response messages are correctly formatted when sent to TCAP.

Dialogic  
30-Oct-09