Binary for Solaris - MAP

Release Notes for Version 4.00

1. Overview

This release expands MAP to support Long Messages for the support of SCCP Segmentation and Reassembly procedures.

This is the first release since V3.06 and is backwards compatible with that release. This release is developed for use with the SS7 Development Package for Solaris V3.00 or later. It cannot be used with earlier development packages.

Customers who wish to make use of the Long Message support offered in V3.00 of the development package should upgrade to this release of software (Long Message support is required for SCCP Segmentation). In addition the customer should upgrade to SCCP for Solaris V3.00 or later and TCAP for Solaris V4.00 or later. Other customers need not upgrade.

2 New functionality

2.1 Support for Long Messages (SCCP Segmentation/Reassembly)

Starting with this release MAP now supports the generation and reception of long TCPPN_COMPONENT (towards and from the TCAP). This is typically used to support SCCP Segmentation and Reassembly procedures together with the SCCP and TCAP modules.

To enable correct operation the MAPF_SEGMENTATION (0x0004) flag of the option field of MAP_MSG_CONFIG (0x77e4) must be set and the GCT environment must be set up to handle long messages.

See ga237sss.pdf for more details on the new encoding scheme allowing supporting parameters longer than 255 bytes in the MAP to TCAP interface.

The maximum size of the following parameters has been increased up to 255 bytes when the MAPF_SEGMENTATION flag has been set the GCT environment setup to support large messages:
MAPPN_GMSC_camel_subs_info,
MAPPN_subscriber_data_comp,
MAPPN_basic_svc_grp_list ,
MAPPN_fwd_feature_list ,
MAPPN_ccbs_feat_list ,
MAPPN_callbar_feature_list ,
MAPPN_CUG_feature_list ,
MAPPN_CUG_feature ,
MAPPN_req_subscr_info ,

MAPPN_call_forwarding_data ,
MAPPN_call_barring_data ,
MAPPN_odb_info ,
MAPPN_camel_subscr_info ,
MAPPN_o_csi ,
MAPPN_d_csi ,
MAPPN_o_bcsm_camel_tdp_criteria_list
as well as all ellipses parameters.

No individual MAP parameters are currently supported to have a size greater than 255 therefore the MAP module does not generate code-shifts toward the application at present.

If the MAP module has not been configured to support large message (MAPF_SEGMENTATION flag not set), the maximum size of the above parameters is kept unchanged.

The MAP module will fail to initialize if it is configured to support large message but the GCT environment has not been configured to support them.

2.2 Use of Solaris shared library

This release makes use of shared library version of the GCT library included in V3.00 of the development package.

2.3 Additional error report in MAP_MSG_CONFIG confirmation

In order to simplify the identification of configuration errors MAP_MSG_CONFIG (0x77e4) now supports one extra field, error_offset (MAPMO_CONFIG_error_offset=24).

The module ignores this field on reception of the MAP_MSG_CONFIG message but sets the field in the MAP_MSG_CONFIG confirmation (0x37e4) if an error in the configuration is found. In this situation then the status field will also be set to a non-zero value.

The error offset field gives information about the byte offset of the parameter area in MAP_MSG_CONFIG which causes the configuration to fail. In order to do this the MAP_MSG_CONFIG message length must be long enough, i.e. at least 26 bytes. There is no change of operation when MAP_MSG_CONFIG length is less than 26 bytes.

3 Fault cleared

MAPPN_locinfo_ellipsis in MAP-ANYTIME-INTERROGATION

The location info ellipsis parameter is now passed to the user when a MAP-ANYTIME-INTERROGATION-ACK is received through TCAP. This parameter was discarded in previous software releases.

Dialogic
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Binary for Solaris - MAP

Release Notes for Version 4.01

1. Overview

This software release adds support for a number of new services;

MAP-SEND-PARAMETERS
MAP-ACTIVATE-TRACE-MODE
MAP-DEACTIVATE-TRACE-MODE
MAP-TRACE-SUBSCRIBER-ACTIVITY

The MAP-READY-FOR-SM operation is also now supported for MAP-V3.

This release modifies the ASN.1 handling for the Send Routing Information Result. Customers using the Send Routing Information operation with multiple RESULT (NL/L) TCAP components should upgrade to this release. Other users need not upgrade.

This release resolves an incompatibility issue between the MAP and TCAP modules in the handling of TC-NOTICE indications that could lead to dialog leakage after dialogs have been closed in MAP. The revised handling is enabled by default, but may be disabled. In other respects this release is fully backwards compatible.

In addition to the above, some minor problems including formatting for MAP-ATSI have been corrected in this release.

2. New functionality

2.1 New SendParameters Operation

This release adds the SendParameters operation to the MAP module. The operation allows a VLR to request one or several parameters related to a subscriber. This operation is used under MAP-v1 Application Contexts only.

Note: The SubscriberData data type returned in the SendParameters Result message is not fully ASN.1 decoded. The received ASN.1 data in this field is returned to the user. Similarly, ASN.1 data supplied by the user for this parameter is inserted into the message to TCAP.

The user may request the SendParameters operation using one of two MAP-v1 Application Contexts : *networkLocUp-v1* or *infoRetrieval-v1*. However when the operation is received from TCAP it will always be associated with the *infoRetrieval-v1* Application Context.

Note the service name MAP-SEND-PARAMETERS is used in this document to indicate use of the ‘SendParameters’ operation. The MAP-SEND-PARAMETERS name is not actually used in any MAP

specification. Service names were introduced for MAP-v2 operations and the SendParameters operation is used under MAP-v1 only. See Section 4 for details.

2.2 New Services

Trace services, MAP-ACTIVATE-TRACE-MODE and MAP-DEACTIVATE-TRACE-MODE, to activate and deactivate subscriber tracing in the VLR are now supported.

The MAP-TRACE-SUBSCRIBER-ACTIVITY, used between the VLR and the MSC, to activate the subscriber tracing in the MSC is also supported.

The following MAP services have also been added:

- MAP-FAILURE-REPORT
- MAP-FORWARD-CHECK-SS-INDICATION
- MAP-NOTE-MS-PRESENT-FOR-GPRS
- MAP-PURGE-MS

See Section 4 for details.

2.3 MAP-READY-FOR-SM for MAPv3

The MAP-READY-FOR-SM service has been made available under a MAP v3 Application Context.

2.4 Abort TCAP Dialog when TC-NOTICE Received

An incompatibility exists between the MAP and TCAP standards that could leave TCAP dialogs open after they had been closed in MAP. This condition occurs when MAP is in the ‘Dialog Initiated’ state and is waiting for a response to an output dialog. If a TC-NOTICE message is received from TCAP, indicating that the output message could not be delivered, MAP sends an MAP_OPEN_CNF message to the MAP-User and closes the dialog. This leaves the affected TCAP dialog open because sending TC-NOTICE does not change the TCAP state.

On receipt of TC-NOTICE in the ‘Dialog Initiated’ state, MAP now automatically sends, to TCAP, a TC-U-ABORT message with an Abort Reason of ‘User Defined’. This closes the affected dialog in TCAP.

There is no problem when MAP receives TC-NOTICE and is not in the ‘Dialog Initiated’ state because it sends MAP-NOTICE to the MAP-User and the dialog is not closed.

A new module option, MAPF_NO_NOTICE_ABORT (0x0008), has been added to allow the MAP module to revert to the old behaviour, i.e. not sending the TC-U-ABORT message. This option may be selected when configuring the MAP module using the MAP_MSG_CONFIG

(0x77e4) message and also when configuring additional Network Contexts with the MAP_MSG_NC_CONFIG message (0x77ed).

3. Faults Cleared

3.1 Correction to nomination of a different Application Context when messages are rejected

This change affects users who wish to reject operations received (from TCAP) with a certain Application Context and return a different Application Context to the sending end.

When the ‘Application Context not supported’ reason is used to refuse an incoming request message, any Application Context parameter from the user is now passed as part of the message to TCAP, without being adopted and changing the formatting of the message.

Messages formatted to Application Context version 1 have Application Context as a field, this change allows the user to refuse Application Contexts greater than 1 and indicate to the sending end that Application Context version 1 should be used as a preference.

3.2 MAP Sending Routing Info Result

The ASN.1 handling tables have been modified for the Send Routing Information Result to make the Routing_Info parameter optional. This will permit TCAP RESULT-NL / RESULT-L components to be received where only one of the results actually contains the routing information.

The encoding and decoding of the MAP Send Routing Information Result has been revised to allow better support for partial results. The parameter MAPPN_GMSC_camel_subs_info is no longer generated on decoding of the result instead it is now broken down into three sub-parameters as follows:

MAPPN_GMSC_camel_subs_info

replaced by

MAPPN_t_csi
MAPPN_o_csi
MAPPN_o_bcsm_camel_tdp_criteria_list

Each of the new parameters can be received in a separate partial result. Applications which receive this result and parameter will need to change to use the three new parameters instead. Applications which send the result may use either the old parameter or one or more of the three new parameters.

3.3 MAP-READY-FOR-SM operation formatting

The formatting of the result message for the MAP-READY-FOR-SM operation has been corrected for MAP-v2. Previously if the user specified only an Invoke Id parameter, the result message was incorrectly formatted by including an operation code field. The operation code field should only be part of the message if some other parameter is specified for the message. This formatting also applies to the new MAP-v3 implementation of the operation.

3.4 Formatting of Response messages with no parameters

This release corrects the ASN.1 formatting of operation response messages when there are no parameters other than the mandatory Invoke Id parameter. Previously, for some operations, the module coded these response messages with SEQ and Operation Code fields following the Invoke Id field. This is invalid under Q.771/773 and was being rejected by the Dialogic® TCAP module.

The following operations have been corrected:

ActivateSS
AnytimeSubscriptionInterrogation (ATSI)
DeactivateSS
DeleteSubscriberData
EraseSS
FailureReport
NoteMMEvent
NoteMSPresentForGPRS
PurgeMS
RegisterSS
ReportSMDeliveryStatus
ResumeCallHandling
SubscriberLocationReport
SendRoutingInfo (MAPv3)

3.4 MAP-DELETE-SUBSCRIBER-INFO Response in MAPv1

This release allows response messages to be processed for the DeleteSubscriberInfo operation when operating under MAPv1. Previously for this operation the module rejected requests to send a MAPv1 response and ignored MAPv1 received responses.

3.6 MAP-FORWARD-CHECK-SS-INDICATION now Class 4

The MAP-FORWARD-CHECK-SS-INDICATION service has been re-classified as Class 4 for TCAP communication. Previously the service was classified as Class 1. As this service only defines an invoke operation with no result message and no errors it should be Class 4.

3.7 MAP-ATSI Operation Formatting Error

The formatting of the invoke message for the MAP-ATSI (AnyTimeSubscriptionInterrogation) operation has been corrected. Previously the mandatory SubscriberIdentity selection (a choice between the IMSI and MSISDN parameters) was incorrectly ASN.1 formatted due to a missing SEQ field.

3.8 MAP-ATSI Response Message Formatting Error

The formatting of the response message for the MAP-ATSI (AnyTimeSubscriptionInterrogation) operation has been corrected. Previously a missing SEQ field caused output responses to be incorrectly formatted and all of the parameter data from input responses to be returned to the MAP-User in the MAPPN_Ellipsis parameter.

4. MAP Parameter and Primitive Formats

The following tables identify the format of primitives and associated parameters for the new MAP services:

- MAP-SEND-PARAMETERS
- MAP-ACTIVATE-TRACE-MODE
- MAP-DEACTIVATE-TRACE-MODE
- MAP-TRACE-SUBSCRIBER-ACTIVITY
- MAP-READY-FOR-SM
- MAP_FAILURE_REPORT
- MAP_FORWARD_CHECK_SS_INDICATION
- MAP_NOTE_MS_PRESENT_FOR_GPRS
- MAP_PURGE_MS

Primitive	Mnemonic	Value (dec)	Value (hex)
MAP-ACTIVATE-TRACE-MODE-REQ	MAPST_ACTIV_TRACE_MODE_REQ	45	0x2d
MAP-ACTIVATE-TRACE-MODE-RSP	MAPST_ACTIV_TRACE_MODE_RSP	167	0xa7
MAP-DEACTIVATE-TRACE-MODE-REQ	MAPST_DEACTIV_TRACE_MODE_REQ	97	0x61
MAP-DEACTIVATE-TRACE-MODE-RSP	MAPST_DEACTIV_TRACE_MODE_RSP	219	0xdb
MAP-FAILURE-REPORT-REQ	MAPST_FAIL_REPORT_REQ	53	0x35
MAP-FAILURE-REPORT-RSP	MAPST_FAIL_REPORT_RSP	175	0xaf
MAP-FORWARD-CHECK-SS-INDICATION-REQ	MAPST_FWD_CHK_SS_INDICAT_REQ	67	0x43
MAP-NOTE-MS-PRESENT-GPRS-REQ	MAPST_NOTE_MS_PRES_GPRS_REQ	51	0x33
MAP-NOTE-MS-PRESENT-GPRS-RSP	MAPST_NOTE_MS_PRES_GPRS_RSP	173	0xad
MAP-PURGE-MSUBSCRIBER-DATA-REQ	MAPST_PURGE_MS_REQ	57	0x39
MAP-PURGE-MSUBSCRIBER-DATA-RSP	MAPST_PURGE_MS_RSP	179	0xb3
MAP-SEND-PARAMETERS-REQ	MAPST_SEND_PARAMETERS_REQ	95	0x5f
MAP-SEND-PARAMETERS-RSP	MAPST_SEND_PARAMETERS_RSP	217	0xd9
MAP-TRACE-SUBSCRIBER-ACTIVITY-REQ	MAPST_TRACE_SUB_ACTIV_REQ	99	0x63

Primitive	Mnemonic	Value (dec)	Value (hex)
MAP-ACTIVATE-TRACE-MODE-CNF	MAPST_ACTIV_TRACE_MODE_CNF	168	0xa8
MAP-ACTIVATE-TRACE-MODE-IND	MAPST_ACTIV_TRACE_MODE_IND	46	0x2e
MAP-DEACTIVATE-TRACE-MODE-CNF	MAPST_DEACTIV_TRACE_MODE_CNF	220	0xdc
MAP-DEACTIVATE-TRACE-MODE-IND	MAPST_DEACTIV_TRACE_MODE_IND	98	0x62
MAP-FAILURE-REPORT-IND	MAPST_FAILURE_REPORT_IND	54	0x36
MAP-FAILURE-REPORT-CNF	MAPST_FAILURE_REPORT_CNF	176	0xb0
MAP-FORWARD-CHECK-SS-INDICATION-IND	MAPST_FWD_CHK_SS_INDICAT_IND	68	0x44
MAP-NOTE-MS-PRESENT-GPRS-IND	MAPST_NOTE_MS_PRES_GPRS_IND	52	0x34
MAP-NOTE-MS-PRESENT-GPRS-CNF	MAPST_NOTE_MS_PRES_GPRS_CNF	174	0xae
MAP-PURGE-MSUBSCRIBER-DATA-IND	MAPST_PURGE_MS_IND	58	0x3a
MAP-PURGE-MSUBSCRIBER-DATA-CNF	MAPST_PURGE_MS_CNF	180	0xb4
MAP-SEND-PARAMETERS-CNF	MAPST_SEND_PARAMETERS_CNF	218	0xda
MAP-SEND-PARAMETERS-IND	MAPST_SEND_PARAMETERS_IND	96	0x60
MAP-TRACE-SUBSCRIBER-ACTIVITY-IND	MAPST_TRACE_SUB_ACTIV_IND	100	0x64

ACTIVATE-TRACE-MODE		
Parameter	**Class**	**Context**
Primitive type octet	M	Any
Timeout (default = 30 seconds)	O	Any
Invoke ID	M	Any
IMSI	O	Any
Tracing reference	M	Any
Trace type	M	Any
OMC-Id	O	Any
Ellipsis[1]	O	Any

ACTIVATE-TRACE-MODE-ACK		
Parameter	**Class**	**Context**
Primitive type octet	M	Any
Invoke ID	M	Any
Where user error not included:		
Ellipsis[1]	O	V3
Where user error included:		
User Error	O	Any

1. The Ellipsis parameters should be used to send data, in ASN.1 format, for the 'extensionContainer' fields for the MAP v3 protocol.

DEACTIVATE-TRACE-MODE		
Parameter	**Class**	**Context**
Primitive type octet	M	Any
Timeout (default = 30 seconds)	O	Any
Invoke ID	M	Any
IMSI	O	Any
Tracing reference	M	Any
Ellipsis[1]	O	Any

DEACTIVATE-TRACE-MODE-ACK		
Parameter	**Class**	**Context**
Primitive type octet	M	Any
Invoke ID	M	Any
Where user error not included:		
Ellipsis[1]	O	V3
Where user error included:		
User Error	O	Any

1. The Ellipsis parameters should be used to send data, in ASN.1 format, for the 'extensionContainer' fields for the MAP v3 protocol.

FAILURE-REPORT		
Parameter	**Class**	**Context**
Primitive type octet	M	V3
Invoke ID	M	V3
IMSI	M	V3
GGSN Number	M	V3
GGSN Address	O	V3
Ellipsis	O	V3

FORWARD-CHECK-SS-INDICATION		
Parameter	**Class**	**Context**
Primitive type octet	M	Any
Invoke ID	M	Any

NOTE_MS_PRESENT_FOR_GPRS		
Parameter	**Class**	**Context**
Primitive type octet	M	V3
Invoke ID	M	V3
IMSI	M	V3
SGSN Address	M	V3
GGSN Address	O	V3
Ellipsis	O	V3

PURGE_MS		
Parameter	**Class**	**Context**
Primitive type octet	M	V2,V3
Invoke ID	M	V2,V3
IMSI	M	V2,V3
VLR Number	C[1]	V2,V3
SGSN Number	O	V3
Ellipsis	O	V2,V3

[1] Mandatory in context V2, Optional in context V3

SEND-PARAMETERS		
Parameter	**Class**	**Context**
Primitive type octet	M	V1
Timeout (default = 30 seconds)	O	V1
Invoke ID	M	V1
IMSI	C[1]	V1
TMSI	C[1]	V1
Requested Parameter 1	M	V1
Requested Parameter 2	O	V1

1. IMSI or TMSI may be present.

SEND-PARAMETERS-ACK		
Parameter	**Class**	**Context**
Primitive type octet	M	V1
Invoke ID	M	V1
Where user error not included:		
Sent IMSI (6)	C	V1
Sent RAND (6)	C[1]	V1
Sent SRES (6)	C[1]	V1
Sent KC (6)	C[1]	V1
Sent Authentication ellipsis (6)	C[1]	V1
Sent Subscriber Data (6)	C	V1
Sent Ki (6)	C	V1
Where user error included:		
User Error	O	V1

1. These Authentication Set parameters are together counted as a single choice. All of the parameters should be present for an instance, except for Sent Authentication ellipsis which is optional.

TRACE-SUBSCRIBER-ACTIVITY		
Parameter	**Class**	**Context**
Invoke ID	M	V1
IMSI	O	V1
Trace Reference	M	V1
Trace Type	M	V1
OMC-Id	O	V1
callReference	O	V1
Ellipsis	O	V1

Parameter	Mnemonic	Value (dec)	Value (hex)
Call Reference	MAPPN_callreference	365	0x16d
OMC-Id	MAPPN_omc_id	140	0x8c
Requested Parameter 1	MAPPN_req_param1	363	0x16b
Requested Parameter 2	MAPPN_req_param2	364	0x16c
Sent Authentication Ellipsis	MAPPN_sent_auth_set_ellipsis(6)	357 to 362	0x165 to 0x16a
Sent IMSI	MAPPN_sent_imsi(6)	321 to 326	0x141 to 0x146
Sent Kc	MAPPN_sent_kc(6)	351 to 356	0x15f to 0x164
Sent Ki	MAPPN_sent_ki(6)	327 to 332	0x147 to 0x14c
Sent RAND	MAPPN_sent_rand(6)	339 to 344	0x153 to 0x158
Sent SRES	MAPPN_sent_sres(6)	345 to 350	0x159 to 0x15e
Sent Subscriber Data	MAPPN_sent_sd(6)	333 to 338	0x14d to 0x152
Tracing Reference	MAPPN_trace_ref	139	0x8b
Trace Type	MAPPN_trace_type	138	0x8a

Parameter name	MAPPN_callreference
Parameter length	Variable, in the range 1 to 3
Parameter data	Encoded as specified in ETS 300 599

Parameter name	MAPPN_omc_id
Parameter length	Variable, in the range 1 to 20
Parameter data	Identity address allocated to an OMC (Operation and Maintenance Centre) and encoded as specified in ETS 300-599, i.e. starting with the octet containing nature of address indicator and numbering plan indicator.

Parameter name	MAPPN_req_param1
Parameter length	Fixed, set to 1
Parameter data	Single octet coded as follows: 0 – request IMSI 1 – request Authentication Set 2 – request Subscriber Data 4 – request Ki

Parameter name	MAPPN_req_param2
Parameter length	Fixed, set to 1
Parameter data	Single octet coded as follows: 0 – request IMSI 1 – request Authentication Set 2 – request Subscriber Data 4 – request Ki

Parameter name	MAPPN_sent_auth_set_ellipsis
Parameter length	Variable, in the range 2 to 220
Parameter data	Series of parameters in tag, length, data format as defined by the user.

Parameter name	MAPPN_sent_imsi
Parameter length	Variable, in the range 3 to 8
Parameter data	Content octets of the IMSI parameter encoded as specified in ETS 300-599

Parameter name	MAPPN_sent_kc
Parameter length	Fixed, set to 8
Parameter data	Encoded as specified in TS 100 974

Parameter name	MAPPN_sent_ki
Parameter length	Fixed, set to 16
Parameter data	Content octets of the Ki parameter encoded as specified in ETS 300-599

Parameter name	MAPPN_sent_rand
Parameter length	Fixed, set to 16
Parameter data	Encoded as specified in TS 100 974

Parameter name	MAPPN_sent_sd
Parameter length	Variable, in the range 2 to 220
Parameter data	Series of parameters in tag, length, data format that define the SubscriberData structure encoded as specified in ETS 300-599. The initial tag element for this data must be 2.

Parameter name	MAPPN_sent_sres
Parameter length	Fixed, set to 4
Parameter data	Encoded as specified in TS 100 974

Parameter name	MAPPN_trace_ref
Parameter length	Variable, in the range 1 to 2
Parameter data	Reference number associated with the tracing request and managed by the OMC

Parameter name	MAPPN_trace_type
Parameter length	Fixed, set to 1
Parameter data	Trace type parameter encoded as per GSM 12.08.

Service	Version
Mobility services:	
MAP-SEND-PARAMETERS	1
MAP-PURGE-MS	2,3
Operation and maintenance services:	
MAP-ACTIVATE-TRACE-MODE	1,2,3
MAP-DEACTIVATE-TRACE-MODE	1,2,3
MAP-TRACE-SUBSCRIBER-ACTIVITY	1
Network-Requested PDP Context Activation services:	
MAP-FAILURE-REPORTING	3
MAP-NOTE-MS-PRESENT-FOR-GPRS	3
Fault Recovery services:	
MAP-FORWARD-CHECK-SS-INDICATION	1,2,3

Dialogic
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Binary for Solaris - MAP

Release Notes for Version 4.02

1. Overview

This release implements five new operations for Handover Services; ForwardAccessSignalling , PrepareHandover, PrepareSubsequentHandover, ProcessAccessSignalling and SendEndSignal. In addition the service AuthenticationFailureReport is included.

This release also implements a change to the Check IMEI service in V1 application context to support some proprietary extensions and extends support of this service to V3 application contexts. The v2 application context remains unaffected.

This release also fixed an issue with the response ASN.1 encodings limited to some results in MAP Purge MS service.

The release is backwards compatible with the previous release.

2. New functionality

2.1 AuthenticationFailureReport

This release adds support for the service MAP-AUTHENTICATION-FAILURE-REPORT.

AUTHENTICATION-FAILURE-REPORT		
Parameter	**Class**	**Context**
Primitive type octet	M	V3
Invoke ID	M	V3
IMSI	M	V3
Failure Cause	M	V3
Re-Attempt	O	V3
Access Type	O	V3
Rand	O	V3
VLR Number	O	V3
SGSN Number	O	V3
User Error	O	V3
Provider Error	O	V3

Parameter	Mnemonic	Value (Decimal)	Value (Hex)
Failure Cause	MAPPN_failurecause	511	1FF
Re-Attempt	MAPPN_reattempt	512	200
Access Type	MAPPN_accesstype	513	201

Parameter Name	MAPPN_failurecause
Parameter Length	Fixed set to 1
Parameter Data	This parameter refers to an authentication failure which has occurred.

Parameter Name	MAPPN_reattempt
Parameter Length	Fixed set to 1
Parameter Data	It indicates whether the failure occurred in a normal authentication attempt or in an authentication reattempt (there was a previous unsuccessful authentication).

Parameter Name	MAPPN_accesstype
Parameter Length	Fixed set to 1
Parameter Data	It indicates whether the authentication procedure was initiated due to a call, an emergency call, a location updating, a supplementary service procedure, a short message transfer, a GPRS attach procedure, a routing area updating, a service request, a MS initiated Detach in GPRS, a PDP context activation or a PDP context deactivation procedure.

2.2 Handover Services

When a customer roams from one MSC to another, a handover procedure occurs. The following five new services are now supported:

- ForwardAccessSignalling
- PrepareHandover
- PrepareSubsequentHandover
- ProcessAccessSignalling
- SendEndSignal

These services have been encoded based upon 3GPP TS 29.002 V8.2.0 (2007-06).

The supplement GA248SSS is available on request with further detail on the parameter definitions for these services.

2.3 Custom Check IMEI handling

This release includes some enhancements to allow some proprietary extensions to the Check IMEI to be handled by the MAP module.

CHECK IMEI		
Parameter	**Class**	**Context**
Primitive type octet	M	V1
Invoke ID	M	V1
IMEI	C1	V1
Custom IMEI	C1	V1
Ellipsis	O	V1

C1 – The IMEI parameter may be encoded for v1 application contexts either as a primitive parameter or as a primitive parameter within an ASN.1 sequence structure.

The existing parameter MAPPN_IMEI should be used for in the normal case for v1 application contexts where only the IMEI parameter is required and this parameter does not need to be contained in a ASN.1 sequence structure.

If the IMEI is required to be encoded within an ASN.1 sequence structure then the MAPPN_cust_IMEI should be used instead. If the MAPPN_cust_IMEI parameter is used then additional parameters may also be included within the sequence after the IMEI parameter itself. These additional parameters should be specified using the MAPPN_ellipsis parameter and should be fully ASN.1 encoded complete with tag and length as well as the parameter data.

Parameter	Mnemonic	Value (Decimal)	Value (Hex)
Custom IMEI	MAPPN_cust_IMEI	514	202

Parameter Name	MAPPN_cust_IMEI
Parameter Length	Fixed set to 8
Parameter Data	This parameter contains the IMEI

2.2 Check IMEI for V3 implementation

The Check IMEI operation is now implemented for V3 as follows:

CHECK IMEI		
Parameter	**Class**	**Context**
Primitive type octet	M	V1,V2,V3
Invoke ID	M	V1,V2,V3
IMEI	M	V1,V2,V3
Requested Equipment Information	M	V3
Ellipsis	O	V3

CHECK-IMEI-ACK		
Parameter	**Class**	**Context**
Primitive type octet	M	V1,V2,V3
Invoke ID	M	V1,V2,V3
Equipment Status	C2	V1,V2,V3
Uesbi-iua	O	V3
Uesbi-iub	O	V3
Uesbi-ellipsis	O	V3
Ellipsis	O	V3
User Error	O	V1,V2,V3
Provider Error	O	V1,V2,V3

C2- the Equipment Status parameter is Mandatory for V1 and V2, optional for V3.

Parameter	Mnemonic	Value (Decimal)	Value (Hex)
Requested Equipment Information	MAPPN_requestedequipinfo	515	203

Parameter Name	MAPPN_requestedequipinfo

Parameter Length	Fixed set to 1
Parameter Data	This parameter contains the requested equipment information

3. Faults Cleared

3.1 Purge MS responses

The previous release included a fault which affected the result response to the Purge MS Service for v3 application contexts. This fault would mean responses were not encoded correctly. This has now been corrected. Support for v2 application contexts was not affected by this fault.

Dialogic
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Binary for Solaris - MAP

Release Notes for Version 4.03

1. Overview

This release enables the proprietary CHECK-IMEI service operation, introduced for MAP-V1 in the last release, for MAP-V2 application contexts. The release also fixes handling of Abort PDU data received in U-ABORT messages from the TCAP layer.

The release is backwards compatible with the previous release.

2. New functionality

2.1 Custom CHECK-IMEI handling for MAP-V2

The proprietary extensions to the CHECK-IMEI service introduced in the last release have been made available for MAP-V2. The operation and parameters for these extensions are the same as detailed, for MAP-V1, in the last release (MAP V4.02).

3. Faults cleared

3.1 Handling of Abort PDU data in TC-U-ABORT messages

In some circumstances previous releases do not handle received TCAP U-ABORT messages correctly. If the received U-ABORT message contained Provider Abort PDU data and MAP was not in the DIALOGUE_INITIATED state, an erroneous MAP_MSG_ERROR_IND (with status MAPSWE_TX_FMT_ERR, 0x6) error was reported. The MAP module should send a P-ABORT message to the MAP-User in this circumstance. This fault has now been corrected.

3.2 Handling of TC-U-ABORT messages when no Abort PDU data

The MAP specification is ambiguous on required operation in non-DIALOGUE_INITIATED states when the U-ABORT message contains neither Provider nor User Abort PDU data. Since some customers are seeing such messages, the MAP module has been changed to handle them. The MAP module will send a U-ABORT message to the MAP-User specifying a User Reason of MAPUR_unspecified_reason (5).

Dialogic
19-Jun-08

Binary for Solaris - MAP

Release Notes for Version 5.00

1. Overview

This release is the first release since V4.04 and includes enhancements to the licensing mechanism to support new format tokens in license files.

This release also adds support for a customer specific operation Extended-Begin-Subscriber-Activity (op code 0xFD). It changes the module operation so that dialogues are closed if formatting or parameter errors are detected in TCAP messages and corrects a number of faults as detailed below.

The improvements in Dialogue handling included in this release can affect the situations and ways a dialogue can be closed. This revised handling can be disabled. In other respects this release is backwards compatible with the previous release.

2. New functionality

2.1 Extended-Begin-Subscriber-Activity-Operation

Support for a customer specific operation Extended-Begin-Subscriber-Activity has been added for the MAP V1 application context.

Operation	Dec	Hex
MAPOP_Ext_BeginSubscriberActivity	253	0xFD

Extended-Begin Subscriber Activity		
Parameter	**Class**	**Context**
Primitive type octet	M	V1
Invoke ID	M	V1
MSISDN	M	V1
IMSI	M	V1
OriginatingEntityNumber	M	V1

The following tables identify the primitives for the new MAP service

Primitive	Mnemonic	Value (Decimal)	Value (Hex)
MAP-EXT-BEGIN-SUBSCRIBER-ACTIVITY-IND	MAPST_EXT_BEGIN_SUB_ACTIV_IND	114	0x72
MAP-EXT-BEGIN-SUBSCRIBER-ACTIVITY-RSP	MAPST_EXT_BEGIN_SUB_ACTIV_RSP	229	0xe5

The response can only be issued if the error UnexpectedDataValue is reported.

A new parameter OriginatingEntityNumber has been added for use with this operation.

Parameter	Mnemonic	Value (Decimal)	Value (Hex)
Originating Entity Number	MAPPN_origentitynumber	516	204

Parameter Name	MAPPN_origentitynumber
Parameter Length	Variable, 1 to 9.
Parameter Data	This parameter contains the VLR number.

2.2 TCAP message errors cause Dialogue closure

In previous releases when the MAP module detected errors in the message formatting or parameters received from the TCAP network layer, the message just returned a status error and left the dialogue open. This could cause dialogues to be left open indefinitely.

This release has changed module operation on detection of TCAP received message errors. The module will now attempt to close the dialogue if errors are detected in the TCAP message. The following errors will cause this to happen –

- MAPSWE_INVALID_DLG_ID (for messages from TCAP only)
- MAPSWE_TCAP_BAD_FMT
- MAPSWE_TCAP_MAND_MISSING
- MAPSWE_BAD_TCAP_PRIM
- MAPSWE_TCAP_PAR_FMT_ERR
- MAPSWE_TCAP_UNREC_PARAM

When the dialogue is closed, the module will send a U-ABORT message to TCAP with an Abort PDU of Provider Abort Info - Abnormal Dialogue. A P-ABORT message is also sent to the MAP-User (so long as the MAP-User is aware of the dialogue) with a Provider Reason of ‘Abnormal MAP dialogue’. The module will continue to report the error by sending a MAP_MSG_ERROR_IND message and set an error code in the status field of any confirmation message.

For MAPSWE_INVALID_DLG_ID errors, MAP will send a minimal (no parameters) U-ABORT to TCAP to abort the dialogue and nothing to the MAP-User.

For customer that do not want this functionality, a new option bit is defined that will instruct the module not to abort dialogs when TCAP errors are detected, i.e. to revert to the 'old' module operation.

Bit	Mnemonic	Description
4	MAPF_NO_TCAP_PERR_ABORT	If set to 1, the MAP module will only report formatting or parameter errors detected in received TCAP messages by setting an error code in the message's status field. The associated dialogues are not closed. If set to 0, the MAP module will attempt to close dialogues if formatting or parameter errors are detected in received TCAP messages by sending U-ABORT to TCAP and P-ABORT to the MAP-User. It is recommended that applications set this option to 0.

2.3 Add extra information to some software events

The Software Event Indication message MAP_MSG_ERROR_IND (0x07e9) has been revised to pass more information for some errors.

To allow more information to be passed to the user a new diagnostic data parameter 'diag2' has been added to the MAP_MSG_ERROR_IND message. The new parameter uses 2 bytes. The messages may now have a Parameter Area length of 0, 1 or 3 bytes according to the parameters required for the error. When 'diag2' is required, 'diag1' will always be present, but may be set to zero.

MESSAGE HEADER	
FIELD NAME	**MEANING**
type	**MAP_MSG_ERROR_IND** (0x07e9)
id	See below
src	**MAP_TASK_ID**
dst	Management module id
rsp_req	Used to request a confirmation
hclass	0
status	**Software event code** (see below)
err_info	0
reserved	0
len	0, 1 or 3

PARAMETER AREA		
OFFSET	**SIZE**	**NAME**
0	1	diag1
1	2	diag2

For some messages the User Dialogue ID has been set as the error message 'id'. Of these messages, some additionally return either a Primitive Type or a Parameter Type Number in the 'diag2' parameter field. For some errors the User Dialogue Id may not be determined, it will then be set to zero. To allow differentiation between a valid Dialogue ID (of zero) and this invalid case, an Invalid Dialogue ID flag parameter (1 byte) is set as 'diag1' in the data field for some errors. This 'ID flag' parameter is set to zero when the Id field is valid and to 1 when it is invalid. The following table shows the changed messages.

Code	Mnemonic	Id	Diag1	Diag2	Description
1	**MAPSWE_NO_MSSM**	User Dialogue ID	-	-	Maximum number of active invocations exceeded
2	**MAPSWE_NO_DLG**	0	-	-	No internal resource to handle dialogue.
3	**MAPSWE_NO_MAPM**	0	-	-	Internal pool of structured messages exhausted.
4	**MAPSWE_MAPM_LOW**	0	-	-	Internal pool of structured messages running low.
5	**MAPSWE_BAD_MSG**	Msg Type	-	-	Unrecognized inter task message received.
6	**MAPSWE_TX_FMT_ERR**	User Dialogue ID	-	-	Internal error during message formatting
7	**MAPSWE_USER_BAD_FMT**	User Dialogue ID	0	Primitive Type	Badly formatted message received from MAP User

Code	Mnemonic	Id	Diag1	Diag2	Description
8	**MAPSWE_TCAP_BAD_FMT**	User Dialogue ID	ID flag	Primitive Type	Badly formatted message received from TCAP (2 data bytes)
10	**MAPSWE_INVALID_DLG_ID**	Dialogue ID	ID flag	-	Message received from TCAP or application with unrecognized dialogue id
11	**MAPSWE_USER_MAND_ MISSING**	User Dialogue ID	0	MAP Parameter ID	Missing mandatory parameter in message received from the user
12	**MAPSWE_TCAP_MAND_MISSING**	User Dialogue ID	ID flag	TCAP Parameter ID	Missing mandatory parameter in message received from TCAP
13	**MAPSWE_BAD_USER_PRIM**	User Dialogue ID	0	Primitive Type	Unknown primitive received from the user. For a SER-REQ it may also indicate that an operation is invalid with the specified application context
14	**MAPSWE_BAD_TCAP_PRIM**	User Dialogue ID	ID flag	Primitive Type	Unknown primitive received from TCAP
15	**MAPSWE_USER_PAR_FMT_ERR**	User Dialogue ID	0	MAP Parameter ID	Formatting error in a parameter received from the user
16	**MAPSWE_TCAP_PAR_FMT_ERR**	User Dialogue ID	ID flag	TCAP Parameter ID	Formatting error in a parameter received from TCAP
17	**MAPSWE_USER_UNREC_PARAM**	User Dialogue ID	0	Parameter ID	Unrecognized parameter received from the user
18	**MAPSWE_TCAP_UNREC_PARAM**	User Dialogue ID	ID flag	Parameter ID	Unrecognized parameter received from TCAP
19	**MAPSWE_USER_MSG_UNEXP**	Dialogue ID	**Dialogue state** (see Dialogue state table below)	-	Unrecognized message received from the user
21	**MAPSWE_DBUF_LOW**	0	-	-	Running short of MAP_CPTBUF structures
22	**MAPSWE_NO_DBUF**	0	-	-	MAP_CPTBUF structures exhausted
23	**MAPSWE_DBUF_ABMT**	0	-	-	Number of MAP_CPTBUF structures recovered
24	**MAPSWE_TC_RESULT_NL_TOO_ BIG**	User Dialogue ID	-	-	Re-assembled message too big
25	**MAPSWE_INVALID_NC**	User Dialogue ID	NC value	-	An invalid Network Context value was received

3. Faults cleared

3.1 Parameters missing from some MAP operations

Previous releases excluded some parameters when they were received from TCAP. The following operations and parameters were affected,

For SEND_ROUTING_INFO for MAP V1 -
MAPPN_CUG_interlock

For SEND_ROUTING_INFO for MAP V2 -
MAPPN_CUG_CI_ellipsis

For SEND_ROUTING_INFO_ACK for MAP V2 -
MAPPN_CUG_CI_ellipsis,
MAPPN_fwd_data_ellipsis,
MAPPN_ellipsis

For SEND_ROUTING_INFO_FOR_SM for MAP V1 -
MAPPN_CUG_interlock

This has been fixed for this release and parameters are correctly received.

3.2 Correction to AC negotiation

When a dialogue is received from TCAP requesting an Application Context (AC) that is not supported by MAP, the U-ABORT message sent to TCAP should give an alternate version, if available. For previous releases this was not happening, the received AC was always returned to TCAP, indicating that no alternative AC is available.

This has now been corrected for all Application Contexts. If the requested AC version is not supported by MAP, but another version is supported, the alternative AC version is returned in the U-ABORT message (AC parameter) sent to TCAP. If more than one version is supported, then the highest supported version is returned as the alternative.

3.3 Trace of Module Configuration message added

The Module Configuration message MAP_MSG_CONFIG can now be traced. As for other message tracing, tracing of this message is enabled by using the MAP_MSG_TRACE_MASK message. To enable tracing of the Module Configuration message, the ‘non_prim_mask’ parameter should have the MAPNPM_CFG_MSK bit (0x0002) set to 1.

3.4 Dialogue ranges checked on module configuration

For previous releases, when the User and TCAP dialogue ranges were configured from the MAP_MSG_CONFIG message it was possible for dialogue ranges with identifiers exceeding the maximum value of

65535 (0xffff hex) to be configured. This release will reject Configuration messages that attempt to configure a User or TCAP range that would exceed the maximum. Invalid configurations will be rejected with MAPE_BAD_PARAM in the status field and the message offset to the invalid parameter in the ‘error_offset’ field.

3.5 MAP_MSG_CNF_TIM message parameter check

The module will now check the values received for the ‘t0’ parameter of the MAP_MSG_CNF_TIM message. If the parameter exceeds the maximum timer value of 409 seconds or is less than the minimum value of 1 second, the message will rejected and returns MAPE_BAD_PARAM in the status field.

3.6 HandoverControl AC for MAP V1

In previous releases the MAPOP_ActivateTraceMode operation was allowed under the HandoverControl AC for MAP V1. This was the only operation allowed for the AC. Since this operation is incidental to this AC, it is felt that leaving the operation may imply that the module fully supported this AC. The operation has therefore been removed for this release so that the HandoverControl AC for MAP V1 is now not supported.

Dialogic
25-Sep-08
Revised 05-Jun-09

Binary for Solaris - MAP

Release Notes for Version 5.01

1. Overview

This release implements a new message to enable the user to query dialogue status. It also makes a change to the Send-Authentication-Info mandatory parameters by making them optional and fixes a number of outstanding faults as detailed below.

This release is fully backwards compatible with previous releases.

2. New functionality

2.1 MAP Dialogue Status message

This message allows the user to query the MAP module to determine its current status of a dialogue. The user should send the message with the version initialized with all other fields set to zero.

The module sending the message should request that a confirmation message is returned by the MAP module after the message has been processed. This is achieved by setting the rsp_req field in the message header. This will cause a confirmation message of the same format to be returned. The status field in this message is zero on success or an error code otherwise.

MESSAGE HEADER	
FIELD NAME	**MEANING**
type	**MAP_MSG_R_DLG_STATUS** (0x67ef)
id	Dialogue id
src	Management module id
dst	**MAP_TASK_ID**
rsp_req	Sending layer's bit must be set
hclass	0
status	0
err_info	0
len	50

PARAMETER AREA		
OFFSET	**SIZE**	**NAME**
0	1	version - must be set to zero
1	1	Dialogue state (see table below)
2	2	tcap_dlg_id
4	1	dest_address length
5	18	dest_address
23	1	orig_address length
24	18	orig_address
42	2	**num_invokes** - number of active invokes in a dialogue
44	2	Network Context
46	1	Application Context Name
47	1	Application Version
48	2	reserved – must be set to zero

Dialogue State

Dialogue State Values	
Name	**Value**
DSM_S_IDLE	0
DSM_S_WAIT_INIT_DATA	1
DSM_S_WAIT_USER_REQ	2
DSM_S_DLG_INIT	3
DSM_S_DLG_PEND	4
DSM_S_DLG_ACCEPT	5
DSM_S_DLG_EST	6
DSM_S_END_COMP	7
DSM_S_WAIT_COMP	8
DSM_S_RXED_OPEN_RSP	9
DSM_S_DLG_TERM	10
DSM_S_CLOSE_WAIT_COMP	11

2.2 Send-Authentication Mandatory Parameters for V3

According to the specifications, it is possible to resend this operation without parameters. This was not possible with mandatory parameters MAPPN_imsi and MAPPN_nb_req_vect. These parameters have now been made optional.

2.3 MAP_MSG_NC_CONFIG Tracing

Tracing has now been enabled for the Network Context Configuration message MAP_MSG_NC_CONFIG. A new non-primitive trace mask definition MAPNPM_NC_MSK (Value = 0x00000080) has been added to enable this tracing.

3. Faults Cleared

3.1 Software Event during AC negotiation

When a dialogue is received but the application context is not supported, the dialogue is aborted and, if possible, an alternative application context name is included in the U-ABORT. If a component follows the BEGIN, there will be no dialogue in existence when the component is received by MAP (since the dialogue has been aborted) so a Software Event (invalid dialogue ID) will be reported.

The module will now not report Software Event.

3.2 Send Routing Info Correction for MAPPN_net_sig_info

In the previous releases the ASN.1 table used for Send-Routing-Info for v1/v2 was incorrectly encoded in regards the MAPPN_net_sig_info parameter. This has been corrected. The encoding of the v3 was already correct is not affected.

3.3 Check IMEI v3 correction

A change has been made to the MAPPN_requestedequipinfo parameter to allow the permitted size to range between 2 and 8 octets. (Previously the permitted length of this parameter was fixed at 1 octet).

Dialogic
07-Oct-08

Binary for Solaris - MAP

Release Notes for Version 5.02

1. Overview

This release implements a new MAP service – AnyTimeModification. as defined per the 3GPP TS 29.002 v8.2.0 specification.

This release is fully backwards compatible with previous release.

2. New functionality

2.1 MAP AnyTime Modification Service

AnyTimeModification has been added to the services supported by the MAP module.

The following Service Type Primitives are added for the new service:

Primitive	Mnemonic	Value (dec)	Value (hex)
MAP-ANYTIME-MODIFICATION-REQ	MAPST_ANYTIME_MOD_REQ	115	0x73
MAP-ANYTIME-MODIFICATION-RSP	MAPST_ANYTIME_MOD_RSP	231	0xe7
MAP-ANYTIME-MODIFICATION-IND	MAPST_ANYTIME_MOD_IND	116	0x74
MAP-ANYTIME-MODIFICATION-CNF	MAPST_ANYTIME_MOD_CNF	232	0xe8

ANY-TIME-MODIFICATION		
Parameter	**Class**	**Context**
Primitive type octet	M	V3
Invoke ID	M	V3
IMSI[2]	C	V3
MSISDN	C	V3
GSM SCF Address	O	V3
Modification Request for CF Info (O)		
SS Code	O2[3]	V3
Bearer Service	C2	V3
Teleservice	C2	V3
Ext SS Status	O2	V3
Forwarded to Number	O2	V3
Forwarded to Subaddress	O2	V3
No Reply Condition Time	O2	V3
MR CFInfo Notification to CSE	O2	V3
MR CFInfo Ellipsis	O2	V3
Modification Request for CB Info (O)		
SS Code 2	O2	V3
Bearer Service Code 2	C2	V3
Teleservice Code 2	C2	V3
Ext SS Status 2	O2	V3
Password	O2	V3
Wrong Password Attempts Count	O2	V3
MR CBInfo Notification to CSE	O2	V3
MR CBInfo Ellipsis	O2	V3
Modification Request for CSI (O)		
Requested CAMEL Subscription Information	O2	V3
MR CSI Notification to CSE	O2	V3
Modify CSI State	O2	V3
Additional Requested CAMEL Subscription Information	O2	V3

[2] Either IMSI or MSISDN must be present.

[3] The ‘O2’ format used here indicates a parameter’s sub-table ‘nesting’, e.g. O3 = Parameter is Optional in sub-table which itself is nested in a sub-table.

MR CSI Ellipsis	O2	V3
Long Forwarded to Number Supported	O	V3
Modification Request for ODB data (O)		
ODB Data (O2)		
ODB General Data	O3	V3
ODB HPLMN Data	O3	V3
ODB Data Ellipsis	O3	V3
MR ODB Data Notification to CSE	O2	V3
MR ODB Data Ellipsis	O2	V3
Modification Request for IP-SM-GW Data (O)		
Modify Registration Status	O2	V3
MR IPSMGW Data Ellipsis	O2	V3
Ellipsis	O	V3

ANY-TIME-MODIFICATION-ACK		
Parameter	**Class**	**Context**
Primitive type octet	M	V3
Invoke ID	M	V3
Ext SS Info for CSE (O)		
Ext Forwarding Info for CSE (C2)		
SS Code	O3	V3
Ext Forwarding Feature List	O3	V3
Notification to CSE	O3	V3
Forwarding Ellipsis	O3	V3
Ext Call Barring Info for CSE (C2)		
SS Code	O3	V3
Ext Call Barring Feature List	O3	V3
Password	O3	V3
Wrong Password Attempts Count	O3	V3
Notification to CSE	O3	V3
Call Barring Ellipsis	O3	V3
CAMEL Subscription Information	O	V3
ODB Info (O)		
ODB Data (O2)		
ODB General Data	O3	V3
ODB HPLMN Data	O3	V3
ODB Data Ellipsis	O3	V3
ODB Info Notification to CSE	O2	V3
ODB Info Ellipsis	O2	V3
Ellipsis	O	V3
Where user error included:		
User Error	O	V3
Provider Error	O	V3
Unknown Subscriber Diagnostic	O	V3
Call Barring Cause	O	V3
Unauthorised Message Origination	O	V3
SS Code	O	V3
Bearer Service	O	V3
Teleservice	O	V3
SS Status	O	V3
Ellipsis	O	V3

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

Parameter	Mnemonic	Value (dec)	Value (hex)
SS Code 2	MAPPN_ss_code_2	517	0x205
Ext SS Status	MAPPN_ext_ss_status	518	0x206
Wrong Password Attempts Count	MAPPN_wrongpw_att_count	519	0x207
Modify CSI State	MAPPN_mod_csi_state	520	0x208
Modify Registration Status	MAPPN_mod_regn_status	521	0x209
Notification to CSE	MAPPN_notn_to_cse	522	0x20a
Requested CAMEL Subscription Information	MAPPN_reqcamel_subinfo	523	0x20b
Additional Requested CAMEL Subscription Information	MAPPN_add_reqcamel_subinfo	524	0x20c
ODB General Data	MAPPN_odb_gen_data	525	0x20d
ODB HPLMN Data	MAPPN_odb_hplmn_data	526	0x20e
ODB Data Ellipsis	MAPPN_odb_data_ellipsis	527	0x20f
ODB Info Notification to CSE	MAPPN_odb_notn_tocse	528	0x210
ODB Info Ellipsis	MAPPN_odb_info_ellipsis	529	0x211
Ext Call Barring Feature List	MAPPN_ext_callbar_feature_list	530	0x212
Password	MAPPN_password	531	0x213
MR CFInfo Notification to CSE	MAPPN_mr_cfi_notn_tocse	532	0x214
MR CFInfo Ellipsis	MAPPN_mr_cfi_ellipsis	533	0x215
MR CBInfo Notification to CSE	MAPPN_mr_cbi_notn_tocse	534	0x216
MR CBInfo Ellipsis	MAPPN_mr_cbi_ellipsis	535	0x217
MR CSI Notification to CSE	MAPPN_mr_csi_notn_tocse	536	0x218
MR CSI Ellipsis	MAPPN_mr_csi_ellipsis	537	0x219
MR ODB Data Notification to CSE	MAPPN_mr_odb_data_notn_tocse	538	0x21a
MR ODB Data Ellipsis	MAPPN_mr_odb_data_ellipsis	539	0x21b
MR IPSMGW Data Ellipsis	MAPPN_mr_ipsmgw_data_ellipsis	540	0x21c
Ext SS Status 2	MAPPN_ext_ss_status_2	541	0x21d
Ext Forwarding Feature List	MAPPN_ext_fwd_feature_list	542	0x21e

Parameter name	MAPPN_add_reqcamel_subinfo
Parameter length	Fixed, set to 1
Parameter data	Encoded as specified by TS 29.002, i.e. 0 – mt-sms-CSI 1 – mg-CSI 2 – o-IM-CSI 3 – d-IM-CSI 4 – vt-IM-CSI

Parameter name	MAPPN_ext_callbar_feature_list
Parameter length	Variable, in the range 1 to 220
Parameter data	Coded as specified for Ext-CallBarFeatureList in TS 29.002.

Parameter name	MAPPN_ext_fwd_feature_list
Parameter length	Variable, in the range 1 to 220
Parameter data	Coded as specified for Ext-ForwFeatureList in TS 29.002.

Parameter name	MAPPN_ext_ss_status
Parameter length	Variable, in the range 1 to 5
Parameter data	Gives extended supplementary service status information, as defined in TS 29.002.

Parameter name	MAPPN_ext_ss_status_2
Parameter length	Variable, in the range 1 to 5
Parameter data	Gives extended supplementary service status information, as defined in TS 29.002.

Parameter name	MAPPN_mod_csi_state
Parameter length	Fixed, set to 1
Parameter data	Encoded as a ModificationInstruction as specified by TS 29.002, i.e. 0 – Deactivate 1 - Activate

Parameter name	MAPPN_mod_regn_status
Parameter length	Fixed, set to 1
Parameter data	Encoded as a ModificationInstruction as specified by TS 29.002, i.e. 0 – Deactivate 1 - Activate

Parameter name	MAPPN_mr_cfinfo_notn_tocse
Parameter length	Fixed, set to 1
Parameter data	Applicable to the MofificationRequestFor-CF-Info table and encoded as a ModificationInstruction as specified by TS 29.002, i.e. 0 – Deactivate 1 - Activate

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

Parameter name	MAPPN_mr_cbinfo_notn_tocse
Parameter length	Fixed, set to 1
Parameter data	Applicable to the MofificationRequestFor-CB-Info table and encoded as a ModificationInstruction as specified by TS 29.002, i.e. 0 – Deactivate 1 - Activate

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

Parameter name	MAPPN_mr_csi_notn_tocse
Parameter length	Fixed, set to 1
Parameter data	Applicable to the MofificationRequestFor-CSI table and encoded as a ModificationInstruction as specified by TS 29.002, i.e. 0 – Deactivate 1 - Activate

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

Parameter name	MAPPN_mr_odb_data_notn_tocse
Parameter length	Fixed, set to 1
Parameter data	Applicable to the MofificationRequestFor-ODB-data table and encoded as a ModificationInstruction as specified by TS 29.002, i.e. 0 – Deactivate 1 – Activate

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

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

Parameter name	MAPPN_notn_tocse
Parameter length	Fixed, set to 0
Parameter data	Prescience of parameter indicates Notification to CSE.

Parameter name	MAPPN_odb_gen_data
Parameter length	Variable, in the range 2 to 4
Parameter data	Bit encoded as specified by TS 29.002.

Parameter name	MAPPN_odb_hplmn_data
Parameter length	Variable, in the range 1 to 4
Parameter data	Bit encoded as specified by TS 29.002, i.e. Bit 0 = plmn-SpecificBarringType1 Bit 1 = plmn-SpecificBarringType2 Bit 2 = plmn-SpecificBarringType3 Bit 3 = plmn-SpecificBarringType4

Parameter name	MAPPN_odb_data_ellipsis
Parameter length	Variable, in the range 2 to 220
Parameter data	Series of parameters in tag, length, data format, as defined by the users.

Parameter name	MAPPN_odb_notn_tocse
Parameter length	Fixed, set to 0
Parameter data	Prescience of parameter indicates Notification to CSE.

Parameter name	MAPPN_odb_info_ellipsis
Parameter length	Variable, in the range 2 to 220
Parameter data	Series of parameters in tag, length, data format, as defined by the users.

Parameter name	MAPPN_password
Parameter length	Fixed, set to 4
Parameter data	Encoded as Password specified in TS 29.002.

Parameter name	MAPPN_reqcamel_subinfo
Parameter length	Fixed, set to 1
Parameter data	Encoded as specified by TS 29.002, i.e. 0 – o-CSI 1 – t-CSI 2 – vt-CSI 3 – tif-CSI 4 – gprs-CSI 5 – mo-sms-CSI 6 – ss-CSI 7 – m-CSI 8 – d-CSI

Parameter name	MAPPN_ss_code_2
Parameter length	Fixed, set to 1
Parameter data	Contains the code identifying a single supplementary service.

Parameter name	MAPPN_wrongpw_att_count
Parameter length	Fixed, set to 1
Parameter data	Integer, in range o to 4

3. Faults Cleared

3.1 Changes to MAPPN_fwd_to_num and MAPPN_no_reply_condition_time parameters

The parameter MAPPN_fwd_to_num has been expanded to allow use of AddressString parameters with a range of 1 to 20 octets as specified by TS 29.002. Previously the parameter allowed only ISDNString parameters with a range of 1 to 9 octets.

The parameter MAPPN_no_reply_condition_time has been expanded to allow use of Ext-NoReplyConditionTime parameters (1 to 100) as well as original NoReplyConditionTime parametes (5 to 30).

3.2 Correction to tracing message used for NC Configuration

The previous release added tracing of Network Context (NC) configuration messages. If NC Configuration Tracing was enabled before the Module Configuration message was received, on receiving

the MAP_MSG_CONFIG message the module erroneously sent three blank NC Configuration trace messages (for each NC 1 to 3) to the trace module. This release corrects this and the blank messages are no longer sent.

3.3 Slow License Validation

Some users have experienced problems with slow license validation on certain platforms. Previous releases worked around this problem but required licenses to be reactivated. With this release the problem is corrected without the need to reactivate the license.

Dialogic
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