

Generic EDIFACT Interface Specification

Ericsson Dynamic Activation 1

SYSTEM INTERFACE

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1 Introduction

This section is an introduction to this document. It contains information about the prerequisites, purpose, scope, and target group for the document. This section also contains explanations of typographic conventions used in this document.

1.1 Purpose and Scope

The purpose of this document is to describe the electronic data interchange for administration, commerce and transport (EDIFACT) message interface, which is offered by Business Support and Control System (BSCS)/ Generic-Mediation-Device (GMD) to communicate with Ericsson™ Dynamic Activation (EDA). It includes the EDIFACT request and response messages with all their data segments and composite data elements

1.2 Target Groups

The target groups for this document are as follows:

- Solution Architects
- Solution Integrators
- System Administrators

1.3 Typographic Conventions

Typographic conventions are described in the document *Library Overview*, Reference [1].

1.4 Prerequisites

It is assumed that the readers/users of this document:

- Is familiar with TCP/IP Protocol

2 EDIFACT Interface Overview

EDIFACT interface is to provide direct communication between BSCS and Dynamic Activation. Communication takes place in two stages. The GMD generates hardware independent EDIFACT messages. Dynamic Activation generates the messages required by the network component.

An overview of the EDIFACT Message Interface is shown in Figure 1.

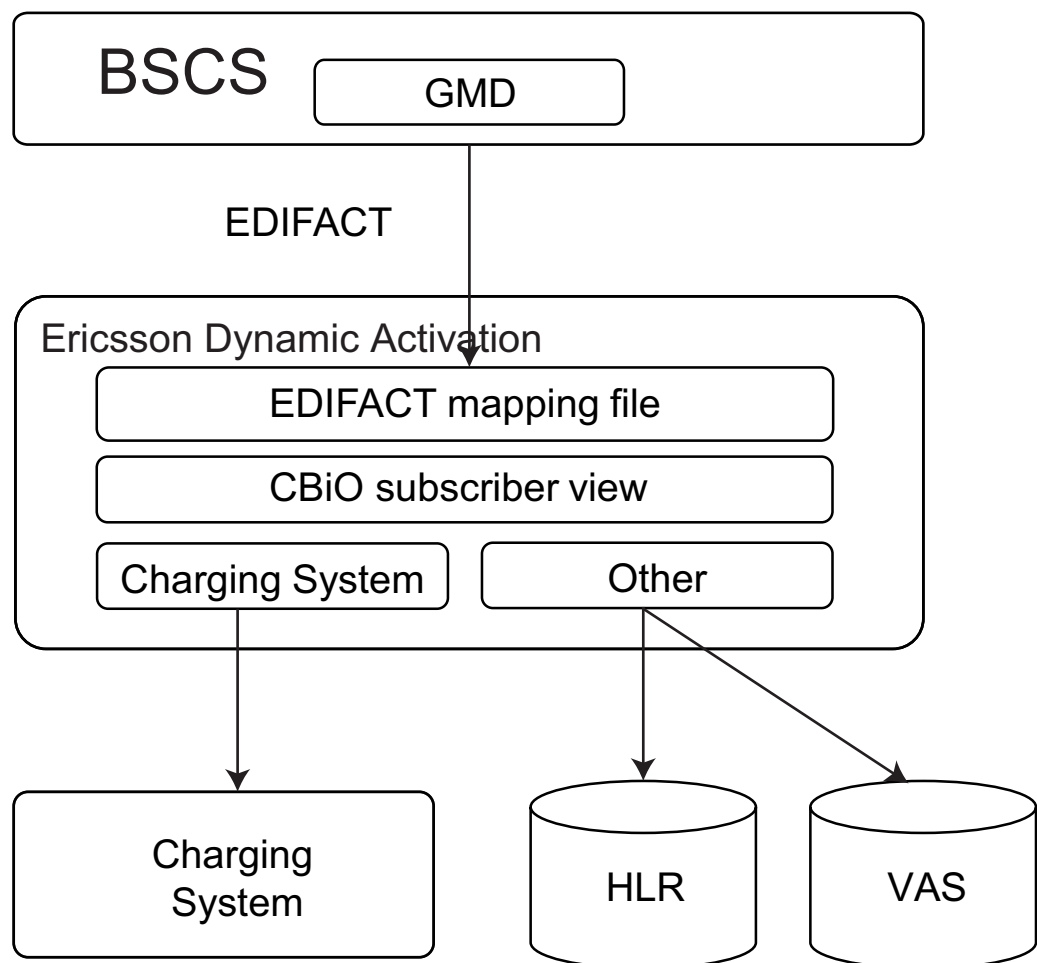


Figure 1 EDIFACT Message Interface

- Dynamic Activation - A provisioning system that provides a single provisioning interface towards Charging system and other NE, by hiding the complexities of provisioning underlying network.
- GMD - A BSCS component which generates EDIFACT messages.
- Charging System - is part of the CBiO solution. It is a mobile service that enables subscribers to make and receive calls, use of messaging and data



services as long as the account limitations (such as the service fee period, supervision period, account value, and barring list) are not met.

3 Message Design

Message exchange between GMD and Dynamic Activation are used electronic data interchange for administration, commerce and transport (EDIFACT) framework. Each message file from or to the GMD contains exactly one message. Each message has a frame of service segments: UNB+UNH+ [Data Segments] +UNT+UNZ

- **UNB, UNZ:** Message file header and trailer
- **UNH, UNT:** Message header and trailer
- **UNS:** Section separator

Other optional data elements are defined in chapter Section 3.3 on page 9

3.1 EDIFACT Messages

The GMD provides an EDIFACT request with a specified format to Dynamic Activation. The request contains all necessary information about destination, date when the action has to be done and the priority.

Each GMD request has its corresponding answer. These response messages contain return codes, return values and error information:

The following definition of the EDIFACT messages describes order and semantics of the message segments. The following definition of the EDIFACT messages describes order and semantics of the message segments. Segments marked with a letter "M" are mandatory while those with a letter "C" are conditional. A number "N" after the letter means that the segment can be repeated up to N times. An "A" after the letter means that the segment can be repeated arbitrarily.

3.1.1 MDCMD - Mediation Device Command

The MDCMD command is a market independent EDIFACT message, which will be used to request any action on a contract, service, network element or mediation device.

Name: MDCMD

Function: To do any action on a specified destination.

Definition:

Table 1 MDCMD Mediation Device Command - Definition

Ref.	Repeat	Name
UNB	M 1	Interchange header
UNH	M 1	Message header
XEV	M 1	Section one: Event type segment including action date and priority for the request
UNS	M 1	Section separator between section one and section two
XPM	C A	Section two: Detailed change information
XSV	C A	Service Identification if detailed change information is related to a service
XPM	C A	Service related detailed change information
UNS	M 1	Section separator between section two and section three
XPM	C A	Section three: Request and contract related parameter information.
XSV	C A	Service Identification
XPM	C A	Service related parameter information.
UNT	M 1	Message trailer
UNZ	M 1	Interchange trailer

The request can be related to a contract, service, network element or mediation device. It is divided into three sections:

Section 1: Event Section

This section is the only section, which is mandatory for each EDIFACT message.

It consists of only one Segment (XEV), which contains the following information:

- **Action_id:** Number which identifies the requested Action. For each possible GMD request action an own **Action_id** will be defined.
- **Managed Object level (MOLevel) :** This will be one of: mediation device, network element, AUC list of IMEI numbers, contract, carrier, service, resource of contract or service, Closed User Group or Micro Cell.
- **Managed Object Attribute of MOLevel to change.**
- **Action :** which have to be done. This will be one of add, delete, get or set.



Section 2: Detailed Action Information

This section contains the detailed information of the request action. For example, old and new Directory Number information, in case of a Directory Number Change request.

Section 3: Request and Contract Information

This section contains all information about a requests destination and, if available, about the contract and it's services and parameters.

The contract information is not available, if the MOLevel is one of mediation device, network element or AUC list of IMEI numbers.

3.1.2

MDRES - Response to Mediation Device Command

The MDRES is the EDIFACT response to a MDCMD command. The MDRES is the EDIFACT response to a MDCMD command. It contains the information, whether the requested action has been processed successfully or not. For each result originator only one loop has to be written. The mediation device has the possibility to copy XSV and XPM segments of the corresponding MDCMD command to this response. All XPM segments must be marked in the field PRMStatus (see Section 3.3.4 on page 12).

Name: MDRES

Function: Response to MD Command

Definition:

Table 2 MDRES - Response to Mediation Device Command - Definition

Ref.	Repeat	Name
UNB	M 1	Interchange header
UNH	M 1	Message header
XCR	M 1	Command result
XOR	C A	Identifier for originator of following parameter result.
XPM	C A	Parameter information of originator.
XSV	C A	Service Identification
XPM	C A	Service related parameter information.
UNT	M 1	Message trailer
UNZ	M 1	Interchange trailer



3.2 Service Segments

The EDIFACT messages consist of four service segments. These standard segments provide information on message type, message size, sender, recipient, date and time and a request-ID from the GMD. The Dynamic Activation copies the request-ID to its response which allows relating response messages to their requests.

Each segment starts with a three-letter segment tag. The data elements are separated by a + character. Segments are terminated by the ASCII character \. Data elements within a composite element are separated by a :.

In the definition charts those data elements marked with a letter "M" are mandatory while those with a letter "C" are conditional. Chart 2.1 shows which ASCII characters are legal for the element types a, n and an according to the level B character set

Table 3 Level B character set

Type	ASCII characters
a = alpha	ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz . , - () / = ! " % & * ; < > _
n = numeric	0123456789
an = alpha-numeric	ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz . , - () / = ! " % & * ; < > _ 0123456789

A basic data element can be defined as `<type><length>` or as `<type>..<length>` where `<type>` is one of a, n or an and `<length>` is a numeric value. The definition `<type>..<length>` means that the element can have up to `<length>` characters whereas `<type><length>` stands for a fixed field length.

3.2.1 UNB Interchange Header Segment

Tag: UNB

Function: To start, identify and specify an interchange.

Definition:

Table 4 UNB Interchange Header Segment - Definition

Ref.	Repr.	Name	Remarks
S001	M	SYNTAX IDENTIFIER	



Ref.	Repr.	Name	Remarks
-0001	a4 M	Syntax identifier	'UNOB' char set in 9.00 (ISO 8859/1) -0002 n1 M Syntax version number
-0002	n1 M	Syntax version number	value of 3
S002	M	INTERCHANGE SENDER	
-0004	an..35 M	Sender identification	
S003	M	INTERCHANGE RECIPIENT	
-0010	an..35 M	Recipient identification	
S004	M	DATE/TIME OF PREPARATION	
-0017	n6 M	Date	format YYMMDD
-0019	n4 M	Time	format HHMM
0020	an..14 M	INTERCHANGE CONTROL REFERENCE	Request ID

3.2.2

UNH Message Header Segment

Tag: UNB

Function: To head, identify and specify a message.

Definition:

Table 5 UNH Message Header Segment - Definition

Ref.	Repr.	Name	Remarks
0062	an..14 M	MESSAGE REFERENCE NUMBER	Identical with 0020 in UNB
S009	an..14 M	MESSAGE IDENTIFIER	
-0065	an..6 M	Message Type	Message names
-0052	n..3 M	Message Version number	Value of the BSCS version (e.g. iX)
-0054	an..3M	Message release number	Release number (e.g. R2)
-0051	an..3M	Association assigned code	Always empty - not used by GMD
-0057	an..6C	Controlling agency code	Always empty - not used by GMD
-0110	an..6C	Code list directory version number	Always empty - not used by GMD
-0113	an..6C	Message type sub-function identification	Always empty - not used by GMD



Ref.	Repr.	Name	Remarks
030	C 1	COMMON ACCESS REFERENCE	
-0068	an..35	Public key of request	Value from GMD_REQUEST_BAS E.REQUEST_CODE

3.2.3 UNS Section Control Segment

Tag: UNS

Function: To indicate the start of a new message section.

Definition:

Table 6 UNH Message Header Segment - Definition

Ref.	Repr.	Name	Remarks
0081	a1	Section identifier	'S' = summary section separation

3.2.4 UNT Message Trailer Segment

Tag: UNT

Function: To end and check the completeness of a message.

Definition:

Table 7 UNT Message Trailer Segment - Definition

Ref.	Repr.	Name	Remarks
0074	n...6 M	NUMBER OF SEGMENTS IN THE MSG	Including UNH and UNT
0062	an...14 M	MESSAGE REFERENCE NUMBER	Identical with 0020 in UNB

3.2.5 UNZ Interchange Trailer Segment

Tag: UNZ

Function: To end and check the completeness of an interchange.

Definition:



Table 8 UNZ Interchange Trailer Segment - Definition

Ref.	Repr.	Name	Remarks
0036	n...6 M	INTERCHANGE CONTROL COUNT	Value of 1
0020	an...14 M	INTERCHANGE CONTROL REFERENCE	Identical with 0020 in UNB

3.3 Data Segments

The GMD provisioning data has a hierarchical structure. The following picture shows an overview of this hierarchy.

The hierarchy has four different elements:

- Levels - Each Level may have Types and Attributes.
- Types - Each Type may have Attributes.
- Attributes - Each Attribute may have Values.
- Values

3.3.1 XCR Command Result Segment

Tag: XCR

Function: Contains a result for the corresponding command

Definition:

Table 9 XCR Command Result Segment - Definition

Ref.	Repr.	Name	Remarks
	an...20 M	Result	The following values are supported: SUCCESS: if request has been processed successfully, ERROR: if request has failed, WARNING: if request has been processed successfully but some warnings occurred.
	n..20 C	ReturnCode	Additional numerical return code.



Ref.	Repr.	Name	Remarks
	a1 C	RetryIndicator	Y: If GMD should resent the request. N: If retry makes no sense. Default: No retry
	n14 C	Date/time	Format YYYYMMDDhhmmss

3.3.2 XEV Event Type Segment

Tag: XEV

Function: Specifies the Event Type

Definition:

Table 10 XEV Event Type Segment - Definition

Ref.	Repr.	Name	Remarks
	n..5 M	ActionId	Defines the action Id of the event.
	An..20 M	ActionType	defines the requested action of the event. <ul style="list-style-type: none">• ADD: add parameters• DELETE: delete parameters• SET: set parameters• GET: get parameters
	an..20 MM	MOLevel	Managed Object Level. <ul style="list-style-type: none">• MED_DEV: Mediation Device• NETW_ELEM: Network Element• IMEI_LIST: AUC list of IMEI numbers• CONTRACT: Contract• CARRIER: Carrier• SERVICE: Service• RESOURCE: resource of Contract or Service• CUG: Closed User Group• MICRO_CELL: Micro Cell
	An..20 C	MOType	Defines the type of the Managed Object Level.
	An..20 C	MOAttribute	Defines the Attribute of the Managed Object Level to change.



Ref.	Repr.	Name	Remarks
	A1 M	ResponseInd	Y: Action of receiving module is required and a response is expected. N: Action of receiving module may be required, but no response is expected.
	An..7 C	MOld	Managed Object Id: This field should be used if the XEV.MOLevel is not related to a service. In case of a service-related request, the corresponding MOld of the XSV segments has to be used.
	N2 M	Priority	Values from 00 to 10 00= lowest priority (no priority) 10= highest priority
	n14 M	DateTime	Contains date and time command should be executed. Format YYYYMMDDHHMMSS.
	An..5 M	PLNetId	Public Land Mobile Network (PLMN) Identifier.

The settings of fields ActionId, ActionType, MOLevel, MOType and MOAttribute for all request actions are described in Section 5 on page 64.

3.3.3

XEV Event Type Segment

Tag: XEV

Function: Specifies the Event Type

Definition:

Table 11 XEV Event Type Segment - Definition

Ref.	Repr.	Name	Remarks
	an...20 M	OriginType	Type of the Origin. NETW_ELEM: Network Element MED_DEV: Mediation Device,
	an..7 C	OriginId	Origin Id. If field OriginType is set to NETW_ELEM this field contains the corresponding Physical Switch Id SWITCH_ID.

3.3.4 XPM Parameter Segment

Tag: XPM

Function: Contains all parameter information

Definition:

Table 12 XPM Parameter Segment - Definition

Ref.	Repr.	Name	Remarks
	an..20 M	PRMAction	<p>Defines the requested action of the parameter segment.</p> <ul style="list-style-type: none"> • ADD: add parameters • DELETE: delete parameters • SET: set parameters • GET: get parameters • INFO: is used for contract and service related MDCMD requests to send an additional list of the current active services and parameters of the corresponding contract.
	an..20 M	MOLevel	<p>Every parameter segment is related to a Managed Object Level. The following values are supported:</p> <ul style="list-style-type: none"> • MED_DEV: Mediation Device • NETW_ELEM: Network Element • IMEI_LIST: AUC list of IMEI numbers • CONTRACT: Contract • CARRIER: Carrier • SERVICE: Service • RESOURCE: resource of Contract or Service • CUG: Closed User Group • MICRO_CELL: Micro Cell
	an..20 C	PRMTypeId	Parameter Type Id. Identifies the parameter type.
	an..20 C	PRMSubtypeId	Parameter Subtype Id. Identifies the parameter Subtype



Ref.	Repr.	Name	Remarks
	an..20 C	PRMAttribute	Parameter Attribute. Identifies the parameter Subtype
	an..20 C	PRMSetId	Parameter set Id if more than one XPM segments are united
	an..20 C	PRMParentId	Parameter parent Id. Identifies the parent of a SetId.
	an..20 C	PRMSiblingNo	Parameter sibling number. Identifies the sibling number of a parameter in a hierarchy
	an..20 C	PRMLevel	Parameter level. Identifies the Level of a parameter in a hierarchy.
	an..20 C	PRMSeqNo	Parameter sequence number. Defines the sequence number of a Parameter in a hierarchy.
	an..20 C	PRMValSeqNo	Parameter value sequence number. Enumerates multiple Parameter values.
	n..38 C	PRMValueId	Parameter value Id.
	an1 C	PRMResInd	Response Indicator. Will be set to 'N' if parameter information is not required from external system. Will be set to 'Y' if parameter information is required from external system.



Ref.	Repr.	Name	Remarks
	an..20 C	PRMStatus	<p>In MDCMD requests this field indicates if the value of a service parameter contributes to the Service Offering value.</p> <ul style="list-style-type: none">• SERVICE_OFFERING: The service parameter value contributes to the Service Offering.• Not set: The service parameter value does not contribute to the Service Offering <p>In MDRES requests this field identifies the status of the parameter. For MDRES requests this field is mandatory.</p> <ul style="list-style-type: none">• SUCCESS: The requested action has been processed successfully• ERROR: The requested action has failed.• WARNING: The requested action has been processed successfully but a warning has occurred
	an..2000 M	PRMValue	Parameter value.

The supported values for the different fields are defined in chapter Section 3.4 on page 15.

Note: If field `XPMResInd` is set to Y (parameter information from external system is required), Dynamic Activation must provide BSCS with parameter values in the corresponding `MDRES` request under the following conditions:

- 1 The corresponding `MDRES` request must contain this XPM segment.
- 2 The field `PRMStatus` must be set (as for all XPM Segments in EDIFACT responses).
- 3 The field `PRMValue` should be set but may contain NULL.
- 4 All other Fields must not be changed.

3.3.5 XSV Service Identification Segment

Tag: XSV

Function: Contains service identification



Definition:

Table 13 XSV Service Identification Segment - Definition

Ref.	Repr.	Name	Remarks
	an..20 M	ServiceAction	defines the requested action on the service. <ul style="list-style-type: none"> • ADD: add service • DELETE: delete service • SET: set service • GET: get service information • INFO: is used for section three of MDCMD request.
	an3 C	BS	Basic Service Code (e.g. "T11", "B68").
	an2 C	SS	Supplementary Service Code (e.g. "29").
	an..7 C	MOld	Managed Object Id. Contains the SWITCH_ID of the service.
	an..5 M	Profile	Defines the profile, to which the service belongs.
	an..1 C	PrepaidInd	Indicates the type of service whether prepaid or postpaid ("Y" or "N").
	an..38 C	SPCODE	Service Package Code of service.

3.4 Supported Parameter Information Segments

This chapter describes a standard set of Parameter Information Segments supported by the GMD.

3.4.1 Mediation Device specific Parameter Information Segments

This chapter describes the Mediation Device specific Parameter Information Segments. The MOLevel is always set to MED_DEV.

3.4.1.1 Request Parameter

This Parameter type is used for canceling a request at Dynamic Activation.

Note: This Segment is only sent in some special Customer releases. Canceling of requests is normally handled within the GMD.



```
PRMAction:      'DELETE'
MOLevel:        'MED_DEV'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'REQUEST'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSegNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.  Repr.      Name      Remarks
      n..14      REQUEST    Request, which should be canceled
```

3.4.1.2 Initiator

The Initiator parameter identifies the system, which was used to create the request. Possible values have to be configured in table GMD_REQUEST_INITIATOR.

The baseline setup contains values for the following systems:

- CS : Charging System
- CC : Customer Care (CX or external CC)
- BATCH : BSCS Batch Job

```
PRMAction:      'ADD', 'DELETE', 'INFO'
MOLevel:        'MED_DEV'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'INITIATOR'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSegNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.  Repr.      Name      Remarks
      an..5      Initiator    Initiator of a request.
```

3.4.2 Network Element Specific Parameter Information Segments

This chapter describes the network specific Parameter Information Segments. The MOLevel is always set to NETW_ELEM.

3.4.2.1 Transparent Mode Command

This Parameter type is only used for executing a switch command directly at the network component. Neither GMD nor Dynamic Activation interpret the command.



PRMAction:	'SET'		
MOLevel:	'NETW_ELEM'		
PRMTypeId:	unused		
PRMSubtypeId:	unused		
PRMAttribute:	'COMMAND'		
PRMSetId:	unused		
PRMParentId:	unused		
PRMSiblingNo:	unused		
PRMLevel:	unused		
PRMSeqNo:	unused		
PRMValSeqNo:	unused		
PRMValueId:	unused		
PRMResInd:	unused		
PRMValue:			
Ref.	Repr.	Name	Remarks
	an..2000	COMMAND	MML command, to be executed directly. Syntax and semantics of the line are hardware dependent.

3.4.3 IMEI List Specific Parameter Information Segments

This chapter describes the IMEI List Parameter Information Segments. The MOLevel is always set to `IMEI_LIST`.

3.4.3.1 EIR Command

This Parameter type is only used for sending EIR commands to a black, white or grey list.

The EIR Command is sent to a special `EIR-VMD`. The EIR is in charge of IMEI numbers. Each mobile station has a unique IMEI. This request allows inserting a range of IMEIs to the EIR's white, gray or black list, to delete a range from a list or to retrieve the list status of one IMEI. The network operator defines the meaning of these three lists. In general the black list is for stolen or not type approved equipment. The gray list is for mobile stations, which are temporarily type approved. Type approved mobile stations are on the white list. Only mobile stations, which are on the black list, are banned from the PLMN.

When EIR stores an IMEI in more than one list, the Service Activation Module will return the most "important" list to a read request. The black list is considered to be more important than the gray list. The gray list is more important than the white list. [VMDEIR]

PRMAction:	'ADD', 'DELETE' or 'GET'		
MOLevel:	'IMEI_LIST'		
PRMTypeId:	'BLACK_LIST', 'WHITE_LIST', 'GREY_LIST' or unused		
PRMSubtypeId:	unused		
PRMAttribute:	'IMEI_START', 'IMEI_END' or 'IMEI'		
PRMSetId:	ListId		
PRMParentId:	unused		
PRMSiblingNo:	unused		
PRMLevel:	unused		
PRMSeqNo:	unused		
PRMValSeqNo:	unused		
PRMValueId:	unused		
PRMResInd:	unused		
PRMValue:			
Ref.	Repr.	Name	Remarks
	n15	IMEI	IMEI Number



Each IMEI consists of 8 digits TAC, 6 digits SNR and one check digit. A central body determines the Type Approval Code (TAC). The Serial Number (SNR) identifies each equipment within each TAC.

EIR commands with action `ADD` or `DELETE` in field `PRMAction` insert or delete the range between `IMEI_START` and `IMEI_END` to or from the specified list. In this case two XPM segments with the `PRMAttribute` `IMEI_START` and `IMEI_END` are written, which belong to the range. They are linked in field `PRMSetId` with the same `ListId`.

For EIR commands with action `GET` only one XPM segment with `PRMAttribute` `IMEI` is written. It specifies the IMEI for which the list status is requested.

3.4.4 Contract sSpecific Parameter Information Segments

This chapter describes the contract specific parameter information segments. The `MOLevel` is always set to `CONTRACT`.

3.4.4.1 Market Information

This Parameter type is used for setting the market of a contract:

```
PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'MARKET_ID'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.   Repr.   Name      Remarks
      an3      MarketId   GMD specific Market prefix.
```

```
PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'SUBMARKET_INFO'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.   Repr.   Name      Remarks
      an..20   SubmarketId MD specific submarket id. This field is only used in
                        special customer releases.
```

Note: This segment is only supported in special customer releases.



3.4.4.2 Contract Authentication

This Parameter type is used for sending GSM authentication information for the AUC.

```
PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'AUTHENTICATION_KI'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.  Repr.  Name      Remarks
an..32 KI        Secret authentication key which contains 32 hexadecimal
digits.
```

```
PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'AUTHENTICATION_KIND'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.  Repr.  Name      Remarks
an..7  KIND    Encryption key indicator using the format FFxxxFF where
x are hexadecimal digits.
```

The AD segment is only supported in special customer releases.

```
PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'AD'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.  Repr.  Name      Remarks
an..3  AD        KI-decrypting algorithm
```

This A38 segment is only supported in special customer releases.



```
PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'A38'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name    Remarks
      an..2    A38      Authentication algorithm.
```

The AUCDATA segment is only supported in special customer releases.

```
PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'AUCDATA'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name    Remarks
      an..72    AUCDATEA Authentication algorithm.
```

These parameter types are market specific and can be configured in table GMD_MPDSCCTAB for every market. If the AUC is preloaded the flags must be set to N, if the AUC is not preloaded the Dynamic Activation has to load the AUC at activation time. Therefor the flags must be set to Y.

AUCDATA is only available for switches of type 3G. A38 and AD are only available for switches, which are not of type 3G

The following table shows the default setup of the table for the currently supported markets. The values in the table have the following meaning:

- M: field is mandatory and not changeable. A GMD error occurs if no information is found.
- S: field is not supported (suppressed) and not changeable.
- Y: field is mandatory. A GMD error occurs if no information is found. This value can be set to C or N for this market.
- N: field is not supported, but can be set to “C” or “Y” for this market.
- C: field is conditional, it has only a value under certain conditions. No GMD error occurs if no information is found. This value can be set to Y or N for this market.



Table 14

GMD MARK ET_ID	GSM	NMT	ISD	CCD	X25	INT	INS	AMP	IPC
CON_A UC_CTL	N	S	S	S	S	N	N	N	N

3.4.4.3

Contract Tariff Model

This Parameter type is used for the Tariff Model of the Contract.

Note: This segment is only supported in special customer releases.

```

PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'TARIFF_MODEL'
PRMSetId:       change_Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name      Remarks
an..38  TariffMod Tariff Model identifier.

```

This parameter type is market specific and can be configured in table GMD_MPDSCCTAB for every market. The following table shows the default setup of the table for the currently supported markets. The values in the table have the following meaning:

- M: field is mandatory and not changeable. A GMD error occurs if no information is found.
- S: field is not supported (suppressed) and not changeable.
- Y: field is mandatory. A GMD error occurs if no information is found. This value can be set to C or N for this market.
- N: field is not supported, but can be set to “C” or “Y” for this market.
- C: field is conditional, it has only a value under certain conditions. No GMD error occurs if no information is found. This value can be set to Y or N for this market.

Table 15

GMD MARK ET_ID	GSM	NMT	ISD	CCD	X25	INT	INS	AMP	IPC
CON_T M_CTL	N	N	N	N	N	S	N	N	N



In case of a Tariff Model change the same PRMSetId links the DELETE and ADD XPM segments.

3.4.4.4 External Rate Plan

This parameter is used to map the external rate plan (from external Prepaid systems) to the BSCS rate plans.

Note: This segment is only supported in special customer releases.

```
PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'EXTLRATEPLAN'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSegNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name      Remarks
      an..38 External Rate plan identifier
```

3.4.4.5 Network Id

This parameter is needed by external Prepaid systems to configure their customer partitions.

Note: This segment is only supported in special customer releases.

```
PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'NETWORK_ID'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSegNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name      Remarks
      an..38 Network identifier
```

3.4.4.6 Service Mix Type

This parameter is used to designate the service mix type of the contract. This information is needed by Dynamic Activation to generate necessary MML commands for external prepaid systems.

Note: This segment is only supported in special customer releases.



```

PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'SERVICE_MIX_TYPE'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.  Name          Remarks
an..1   Service Mix type identifier.

```

This parameters EXTLRATEPLAN, NETWORK_ID, SERVICE_MIX_TYPE are market specific and can be configured in table GMD_MPDSCSTAB for every market. The following table shows the default setup of the table for the currently supported markets. The values in the table have the following meaning:

- **M**: field is mandatory and not changeable. A GMD error occurs if no information is found.
- **S**: field is not supported (suppressed) and not changeable.
- **Y**: field is mandatory. A GMD error occurs if no information is found. This value can be set to **C** or **N** for this market.
- **N**: field is not supported, but can be set to “C” or “Y” for this market.
- **C**: field is conditional, it has only a value under certain conditions. No GMD error occurs if no information is found. This value can be set to **Y** or **N** for this market.

Table 16

GMD_MARKET_ID	GSM	NMT	ISD	CCD	X25	INT	INS	AMP	IPC
CON_IN_CTL	N	N	N	N	N	N	N	N	N

If the field CON_IN_CTL in GMD_MPDSCSTAB is set to Y, then the field CON_TM_CTL should also be set to Y.

3.4.4.7

Contract Change Reason

This Parameter type is used in case of a tariff model change or contract type change of the Contract.

Note: This segment is only supported in special customer releases.



```
PRMAction:      'ADD' or 'DELETE'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'CHANGE_REASON'
PRMSetId:       change_Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSegNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.   Repr.   Name      Remarks
      an..10 Reason      Reason (code). Is only set in case of a Tariff Model change.
```

If a reason is available, this segment is linked to the corresponding DELETE and ADD XPM segments of the tariff model change or contract type change by the same PRMSetId

3.4.4.8 Contract Status

This Parameter type is used for setting the status of a contract:

```
PRMAction:      'SET'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'STATUS'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSegNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.   Repr.   Name      Remarks
      an..20 STATUS      'SUSPENDED' or 'REACTIVATED'
```

3.4.4.9 Contract Line Type

This Parameter type is used for setting the alternate line type of a contract:

```
PRMAction:      'ADD' or 'INFO'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'LINE_TYPE'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSegNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.   Repr.   Name      Remarks
      an..20 LINE_TYPE  'AL' indicates, that the contract represents an alternate line cont
```



3.4.4.10 Contract Service Package Code

This Parameter type is used for the Service package Code, assigned to the service having the Main MSISDN.

Note: This segment is only supported in special customer releases.

```
PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'SPCODE'
PRMSetId:       change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name      Remarks
      an..38  SPCODE    SPCODE of Service, where the Main MSISDN is assigned to.
```

3.4.4.11 Contract IN Trigger Flag

This flag is used to indicate, whether the contract has to be provisioned to the IN platform or to the postpaid platform. The segment is only supported in convergence releases of GMD. The segment is forwarded in the EDIFACT message for an initial request of a contract or in case, when the provisioning platform has to be changed.

```
PRMAction:      'ADD', 'INFO'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'IN_TRIGGER'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name      Remarks
      an..20  Status    'ACTIVATED' or 'DEACTIVATED'
```

The values have the following meaning:

- **ACTIVATED**

This request and all subsequent requests have to be provisioned to the IN platform until the platform is changed with another request containing an XPM-IN_TRIGGER segment with value DEACTIVATED.

- **DEACTIVATED**



This request and all subsequent requests have to be provisioned to the postpaid platform until the platform is changed with another request containing an XPM-IN_TRIGGER segment with value ACTIVATED.

3.4.4.12 Family Group

The family group is actually a customer specific attribute, which is used to partition all customers and their contract in BSCS. The partitioning is used for scalability reasons.

To allow the same partitioning on network element side the family group is available in the EDIFACT message if the corresponding feature code is set in DB table MPSCFTAB (CFCODE 165)

- Y: The FAMILY_GROUP EDIFACT segment is available in the INFO segments of each EDIFACT. A family group change can be provisioned via EDIFACT with ACTION 58.
- N: No FAMILY_GROUP EDIFACT segments are available in the EDIFACT. The family group provisioning request with ACTION_ID 58 will not lead to an EDIFACT.

```
PRMAction:      'SET', 'INFO'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'FAMILY_GROUP'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.   Repr.   Name      Remarks
an..20 FamilyGroup  Family group to which the customer holding the
contract is assigned to.
```

3.4.4.13 Call Collection HA Pair ID

The call collection HA pair ID is connected with the family group of a customer. It is only available in the EDIFACT in case of a family group provisioning via ACTION_ID 58.



```

PRMAction:      'SET'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'CALL_COLL_HA_PAIR_ID'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name                    Remarks
      an..20    CallCollHAPairID      Call Collection HA Pair ID.

```

3.4.4.14 Account Expiry Dates

The following attributes are used to provision 'life cycle' dates of a prepaid subscription.

```

PRMAction:      'ADD', 'DELETE', 'SET', 'INFO'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'A_ACCOUNT_EXP_DATE'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name                    Remarks
      a8        ActiveAccExpDate      Active account expiration date in format
YYYYMMDD.

```

```

PRMAction:      'ADD', 'DELETE', 'SET', 'INFO'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'P_ACCOUNT_EXP_DATE'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name                    Remarks
      a8        PassiveAccExpDate    Passive account expiration date in format YYYYMMDD.

```

3.4.4.15 Promotion Plan Dates

The following parameter types are used to provision promotion plan dates.



PRMAction: 'ADD', 'DELETE', 'SET', 'INFO'
MOLevel: 'CONTRACT'
PRMTypeId: unused
PRMSubtypeId: unused
PRMAttribute: 'PP_ACTION_ID'
PRMSetId: Set Id
PRMParentId: unused
PRMSiblingNo: unused
PRMLevel: unused
PRMSeqNo: unused
PRMValSeqNo: unused
PRMValueId: unused
PRMResInd: unused
PRMValue:
Ref. Repr. Name Remarks
n..20 Action Values can be 'SET' or 'INFO'.

PRMAction: 'ADD', 'DELETE', 'SET', 'INFO'
MOLevel: 'CONTRACT'
PRMTypeId: unused
PRMSubtypeId: unused
PRMAttribute: 'PP_ID'
PRMSetId: Set Id
PRMParentId: unused
PRMSiblingNo: unused
PRMLevel: unused
PRMSeqNo: unused
PRMValSeqNo: unused
PRMValueId: unused
PRMResInd: unused
PRMValue:
Ref. Repr. Name Remarks
n..20 PPID Promotion plan identifier.

PRMAction: 'ADD', 'DELETE', 'SET', 'INFO'
MOLevel: 'CONTRACT'
PRMTypeId: unused
PRMSubtypeId: unused
PRMAttribute: 'PP_START_DATE'
PRMSetId: Set Id
PRMParentId: unused
PRMSiblingNo: unused
PRMLevel: unused
PRMSeqNo: unused
PRMValSeqNo: unused
PRMValueId: unused
PRMResInd: unused
PRMValue:
Ref. Repr. Name Remarks
n..20 PPStartDate The start date of the promotion plan in
format YYYYMMDD.

PRMAction: 'ADD', 'DELETE', 'SET', 'INFO'
MOLevel: 'CONTRACT'
PRMTypeId: unused
PRMSubtypeId: unused
PRMAttribute: 'PP_END_DATE'
PRMSetId: Set Id
PRMParentId: unused
PRMSiblingNo: unused
PRMLevel: unused
PRMSeqNo: unused
PRMValSeqNo: unused
PRMValueId: unused
PRMResInd: unused
PRMValue:
Ref. Repr. Name Remarks
n..20 PPEndDate The end date of the promotion plan in format
YYYYMMDD.



```

PRMAction:      'SET'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'PP_ID_OLD'
PRMSetId:       Set Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:

```

Ref.	Repr.	Name	Remarks
	n..20	PPIdOld	The old identifier of a Promotion Plan.

```

PRMAction:      'SET'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'PP_START_DATE_OLD'
PRMSetId:       Set Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:

```

Ref.	Repr.	Name	Remarks
	n..20	PPStartDateOld	The previous start date of the promotion plan in format YYYYMMDD.

```

PRMAction:      'SET'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'PP_END_DATE_OLD'
PRMSetId:       Set Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:

```

Ref.	Repr.	Name	Remarks
	n..20	PPEndDateOld	The previous end date of the promotion plan in format YYYYMMDD.

3.4.4.16 Service Class

This Parameter type is used for provisioning the service class id.



```
PRMAction:      'ADD', 'DELETE', 'INFO'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'SERVICE_CLASS'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name                Remarks
      n..20    ServiceClass          Service Class ID.
```

3.4.4.17 Network Prefix

The following parameter type is used to provision the Network Prefix.

```
PRMAction:      'ADD', 'DELETE', 'INFO'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'NETWORK_PREFIX'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name                Remarks
      an..30    NetworkPrefix        Network specific prefix.
```

3.4.4.18 SDP ID

The following parameter type is used to provision the SDP ID. It is only available during contract activation (action ID 1) if CMS indicated (via DATA_2) the need to provision this value. It can also occur during MSISDN change.

```
PRMAction:      'ADD'
MOLevel:        'CONTRACT'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'SDP_ID'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name                Remarks
      n..18     SdpId               The SDP ID of the contract.
```



3.4.4.19 Contract Language

The contracts ISO 639 language code.

PRMAction:	'ADD', 'DELETE', 'SET', 'INFO'		
MOLevel:	'CONTRACT'		
PRMTypeId:	unused		
PRMSubtypeId:	unused		
PRMAttribute:	'LANGUAGE'		
PRMSetId:	unused		
PRMParentId:	unused		
PRMSiblingNo:	unused		
PRMLevel:	unused		
PRMSeqNo:	unused		
PRMValSeqNo:	unused		
PRMValueId:	unused		
PRMResInd:	unused		
PRMValue:			
Ref.	Repr.	Name	Remarks
	an..5	Language	The contracts ISO 639 language code.

3.4.4.20 Charging Engine

Identification of the charging engine responsible for the current contract.

PRMAction:	'ADD', 'DELETE' or 'INFO'		
MOLevel:	'CONTRACT'		
PRMTypeId:	unused		
PRMSubtypeId:	unused		
PRMAttribute:	'CHARGING_ENGINE'		
PRMSetId:	unused		
PRMParentId:	unused		
PRMSiblingNo:	unused		
PRMLevel:	unused		
PRMSeqNo:	unused		
PRMValSeqNo:	unused		
PRMValueId:	unused		
PRMResInd:	unused		
PRMValue:			
Ref.	Repr.	Name	Remarks
	an..5	ChargingEngine	Identification of the charging engine responsible for the current contract. Possible values are 'BSCS', 'CS'.

3.4.4.21 PAM Service ID

The PAM service ID identifies a contracted PAM scheme.



PRMAction:	'ADD', 'DELETE' or 'SET'		
MOLevel:	'CONTRACT'		
PRMTypeId:	'PAM'		
PRMSubtypeId:	unused		
PRMAttribute:	'SERVICE_ID'		
PRMSetId:	Set ID		
PRMParentId:	unused		
PRMSiblingNo:	unused		
PRMLevel:	unused		
PRMSeqNo:	unused		
PRMValSeqNo:	unused		
PRMValueId:	unused		
PRMResInd:	unused		
PRMValue:			
Ref.	Repr.	Name	Remarks
	an..2	PAM Service ID	The PAM service ID identifies a contracted PAM scheme. Along with the PAM service ID, the public keys of the PAM c PAM service ID, PAM class and PAM schedule belonging to the

3.4.4.22

PAM Class

The public key of the PAM class of a contracted PAM scheme.

PRMAction:	'ADD', 'DELETE' or 'SET'		
MOLevel:	'CONTRACT'		
PRMTypeId:	'PAM'		
PRMSubtypeId:	unused		
PRMAttribute:	'CLASS'		
PRMSetId:	Set ID		
PRMParentId:	unused		
PRMSiblingNo:	unused		
PRMLevel:	unused		
PRMSeqNo:	unused		
PRMValSeqNo:	unused		
PRMValueId:	unused		
PRMResInd:	unused		
PRMValue:			
Ref.	Repr.	Name	Remarks
	an..5	PAM Class	The public key of the PAM class of a contracted PAM scheme. Along with the PAM service ID, the public keys of the PAM c PAM service ID, PAM class and PAM schedule belonging to the same PAM scheme are tagged with the same PRMS

3.4.4.23

PAM Schedule

The public key of the PAM schedule of a contracted PAM scheme.

PRMAction:	'ADD', 'DELETE' or 'SET'		
MOLevel:	'CONTRACT'		
PRMTypeId:	'PAM'		
PRMSubtypeId:	unused		
PRMAttribute:	'SCHEDULE'		
PRMSetId:	Set ID		
PRMParentId:	unused		
PRMSiblingNo:	unused		
PRMLevel:	unused		
PRMSeqNo:	unused		
PRMValSeqNo:	unused		
PRMValueId:	unused		
PRMResInd:	unused		
PRMValue:			
Ref.	Repr.	Name	Remarks
	an..5	PAM Schedule	The public key of the PAM schedule of a contracted PAM sche Along with the PAM service ID, the public keys of the PAM c PAM service ID, PAM class and PAM schedule belonging to the



3.4.5 Carrier Specific Parameter Information Segments

This chapter describes the Carrier specific Parameter Information Segments. The MOLevel is always set to CARRIER.

3.4.5.1 Carrier Information

This Parameter type is used for the provisioning of Long Distance Carrier (LDC) or Local Exchange Carrier (LEC) information.

```

MOLevel:      'CARRIER'
PRMTypeId:    'LDC' or 'LEC'
PRMSubtypeId: unused
PRMAttribute: empty
PRMSetId:     empty
PRMParentId:  unused
PRMSiblingNo: unused
PRMLevel:     unused
PRMSeqNo:     unused
PRMValSeqNo:  unused
PRMValueId:   unused
PRMResInd:    unused
PRMValue:

```

Ref.	Repr.	Name	Remarks
an..10	Carrier	ICNETID of the long distance carrier (LDC) or the local exchange ca	

If the LDC Segment is not written, the HPLMN (Home Public Land Mobile Network) serves as preferred long distance carrier respectively.

If the LEC Segment is not written, the HPLMN (Home Public Land Mobile Network) serves as the local exchange carrier.

This parameter type is market specific and can be configured in table GMD_MPDSTAB for every market. The following table shows the default setup of the table for the currently supported markets. The values in the table have the following meaning:

- M: field is mandatory and not changeable. A GMD error occurs if no information is found.
- S: field is not supported (suppressed) and not changeable.
- Y: field is mandatory. A GMD error occurs if no information is found. This value can be set to C or N for this market.
- N: field is not supported, but can be set to "C" or "Y" for this market.
- C: field is conditional, it has only a value under certain conditions. No GMD error occurs if no information is found. This value can be set to Y or N for this market.



Table 17

GMD MARK ET_ID	GSM	NMT	ISD	CCD	X25	INT	INS	AMP	IPC
CON_C ARRIE R_CTL	C	S	C	S	C	N	N	C	N

3.4.6 Service Specific Parameter Information Segments

This chapter describes the Service specific Parameter Information Segments. The MOLevel is always set to SERVICE.

3.4.6.1 Service Status

This Parameter type is used for setting the status of a service:

```
PRMAction:      'SET'
MOLevel:        'SERVICE'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'STATUS'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name    Remarks
      an..20    Status    'ACTIVATED' or 'DEACTIVATED'
```

3.4.6.2 Service Parameters

This Parameter type is used for Service Parameters of a service.

```
PRMAction:      'ADD', 'DELETE', 'SET' or 'INFO'
MOLevel:        'SERVICE'
PRMTypeId:      'SERVICE_PARAMETER'
PRMSubtypeId:   Parameter Number
PRMAttribute:   External parameter Code
PRMSetId:       unused
PRMParentId:    Parent Sequence Number
PRMSiblingNo:   Sibling Sequence Number
PRMLevel:       Complex Level
PRMSeqNo:       Complex Sequence Number
PRMValSeqNo:    Value Sequence Number
PRMValueId:     Parameter Value Id
PRMResInd:      Response Indicator
PRMValue:
Ref.    Repr.    Name    Remarks
      an..100    Value    Parameter value.'
```

If the Value contains a Date, the format is: YYYYMMDDHHMMSS.



3.4.6.3 Service Logic Code

This Parameter type is used for sending the complete BSCS Service Logic code.

```
PRMAction:      'ADD', 'DELETE', 'SET' and 'GET'
MOLevel:        'SERVICE'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'SVLCODE'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name      Remarks
      an38      SvIcode   BSCS service logic code.
```

This value is normally not needed from Dynamic Activation, but under certain circumstances it may be necessary. Therefore it can be enabled for each market in table GMD_MPDSCSTAB.

The following table shows the default setup of the table for the currently supported markets. The values in the table have the following meaning:

- M: field is mandatory and not changeable. A GMD error occurs if no information is found.
- S: field is not supported (suppressed) and not changeable.
- Y: field is mandatory. A GMD error occurs if no information is found. This value can be set to C or N for this market.
- N: field is not supported, but can be set to "C" or "Y" for this market.
- C: field is conditional, it has only a value under certain conditions. No GMD error occurs if no information is found. This value can be set to Y or N for this market.

Table 18

GMD MARK ET_ID	GSM	NMT	ISD	CCD	X25	INT	INS	AMP	IPC
SVC_S VLCOD E_CTL	N	N	N	N	N	N	N	N	N

3.4.6.4 Service Profile

This Parameter type is used to identify the profile of a service.



```
PRMAction:      'ADD', 'DELETE', 'SET' or 'INFO'
MOLevel:        'SERVICE'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'PROFILE'
PRMSetId:       change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name    Remarks
      an..20    Value    Profile Identifier.
```

3.4.6.5 Service Offering values

The following parameters are used to provision the Service Offering values for a specific service.

```
PRMAction:      'ADD', 'DELETE', 'INFO', 'SET'
MOLevel:        'SERVICE'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'SERVICE_OFFERING'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name    Remarks
      n..20    ServiceOffering    Service Offering value for a distinct
service.
```

3.4.6.6 Service control type

This parameter type is used to identify control type of service.

```
PRMAction:      'ADD', 'DELETE', 'SET' or 'INFO'
MOLevel:        'SERVICE'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:   'PAYMENT_CTL_TYPE'
PRMSetId:       unset
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name    Remarks
      n1    Value    Service control type. Domain: '0' - unset, '1' - online,
'2' - offline.
```

This value is normally not needed from Dynamic Activation, but under certain circumstances it may be necessary. Therefore it can be enabled for each market in table GMD_MPDSCCTAB.



The following table shows the default setup of the table for the currently supported markets. The values in the table have the following meaning:

- **M**: field is mandatory and not changeable. A GMD error occurs if no information is found.
- **S**: field is not supported (suppressed) and not changeable.
- **Y**: field is mandatory. A GMD error occurs if no information is found. This value can be set to **C** or **N** for this market.
- **N**: field is not supported, but can be set to “**C**” or “**Y**” for this market.
- **C**: field is conditional, it has only a value under certain conditions. No GMD error occurs if no information is found. This value can be set to **Y** or **N** for this market.

Table 19

GMD MARK ET_ID	GSM	NMT	ISD	CCD	X25	INT	INS	AMP	IPC
SVC_P CTR_C TL	Y	N	N	N	N	N	N	N	N

3.4.6.7

Offer ID

The Offer ID linked to a bundle service.

```

PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'SERVICE'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:    'OFFER_ID'
PRMSetId:       unset
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSegNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name    Remarks
n..20   Offer ID  The Offer ID linked to a bundle service.
```

3.4.7

Micro Cell Specific Parameter Information Segments

This chapter describes the Micro Cell specific Parameter Information Segments. The MOLevel is always set to MICRO_CELL.

Note: This Micro Cells are only supported in special customer releases.



3.4.7.1 Micro Cell Information

This Parameter type is used for sending Micro Cell information:

```
PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'MICRO_CELL'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:    'MICRO_CELL'
PRMSetId:       change_Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSegNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name      Remarks
an..50  MicroCell Micro Cell
```

3.4.7.2 Micro Cell Change Reason

This Parameter type is used in case of a Micro Cell change.

```
PRMAction:      'ADD' or 'DELETE'
MOLevel:        'MICRO_CELL'
PRMTypeId:      unused
PRMSubtypeId:   unused
PRMAttribute:    'CHANGE_REASON'
PRMSetId:       change_Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSegNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name      Remarks
an..10  Reason    Reason    Reason (code). Is only set in case of a Micro Cell
change.
```

If a reason is available, this segment is linked to the corresponding **DELETE** and **ADD** XPM segments of the carrier change by the same **PRMSetId**

3.4.7.3 Micro Cell IMC Destination

This Parameter type is used for the Microcell destinations, assigned to to a Micro Cell.

Note: This segment is only supported in special customer releases.



```

PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'MICRO_CELL'
PRMTypeId:      'ONKZ' or 'FF_NUMBER'
PRMSubtypeId:   unused
PRMAttribute:   'IMC_DESTINATION'
PRMSetId:       running number
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name          Remarks
      an..63    IMC_DEST    Microcell destination number ("Ortsnetzkennzahl" or
Friends & Familie number).

```

3.4.8 Closed User Group Specific Parameter Information Segments

This chapter describes the Closed User Group (CUG) specific Parameter Information Segments. The MOLevel is always set to CUG.

This parameter type is market specific and can be configured in table GMD_MPDSCTAB for every market. The following table shows the default setup of the table for the currently supported markets. The values in the table have the following meaning:

- M: field is mandatory and not changeable. A GMD error occurs if no information is found.
- S: field is not supported (suppressed) and not changeable.
- Y: field is mandatory. A GMD error occurs if no information is found. This value can be set to C or N for this market.
- N: field is not supported, but can be set to "C" or "Y" for this market.
- C: field is conditional, it has only a value under certain conditions. No GMD error occurs if no information is found. This value can be set to Y or N for this market.

Table 20

GMD MARK ET_ID	GSM	NMT	ISD	CCD	X25	INT	INS	AMP	IPC
SVC_CUG_CT L	C	S	C	S	C	S	N	C	N

3.4.8.1 Closed User Group Inter Lock Code

This Parameter type is used for Close User Groups.

If Closed User Groups are supported and assigned, this segment is Mandatory for each Closed User group. Each Closed User Group Segment may be



followed by one corresponding Intra CUG options segment and one or more BSG parameter segment(s). This depends on the corresponding service setup.

```
PRMAction:      'ADD', 'DELETE', SET' or 'INFO'
MOLevel:        'CUG'
PRMTypeId:      'CLOSED_USER_GROUP'
PRMSubtypeId:   unused
PRMAttribute:   'INTERLOCK_CODE'
PRMSetId:       CUG Set Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSegNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name          Remarks
      an..20    InterLockCode  Closed User Group Interlock code
```

3.4.8.2 Closed User Group Index

The following settings are available:

```
PRMAction:      'ADD', 'DELETE', SET' or 'INFO'
MOLevel:        'CUG'
PRMTypeId:      'CLOSED_USER_GROUP'
PRMSubtypeId:   unused
PRMAttribute:   'CUG_INDEX'
PRMSetId:       CUG Set Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSegNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name          Remarks
      an..20    CUGIndex      Closed user group Index
```

3.4.8.3 Closed User Group Intra CUG Options

The following settings are available:

```
PRMAction:      'ADD', 'DELETE', SET' or 'INFO'
MOLevel:        'CUG'
PRMTypeId:      'INTRA_CUG_OPT'
PRMSubtypeId:   Parameter Number
PRMAttribute:   External parameter Code
PRMSetId:       CUG Set Id
PRMParentId:    Parent Sequence Number
PRMSiblingNo:   Sibling Sequence Number
PRMLevel:       Complex Level
PRMSegNo:       Complex Sequence Number
PRMValSeqNo:    Value Sequence Number
PRMValueId:     Parameter Value Id
PRMResInd:      Response Indicator
PRMValue:
Ref.    Repr.    Name          Remarks
      an..100    Value         Parameter value.
```

If the Value contains a Date, the format is: YYYYMMDDHHMMSS



3.4.8.4 CUG Basic Service Group Id

The following settings are available:

```

PRMAction:      'ADD', 'DELETE', SET' or 'INFO'
MOLevel:        'CUG'
PRMTypeId:      'BSG_PARAMETER'
PRMSubtypeId:   CUG set Id
PRMAttribute:   'BSG_ID'
PRMSetId:       BSG Set Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name      Remarks
      an..20    BSG      Closed User Group Interlock code

```

3.4.8.5 CUG Basic Service Group preferred CUG Index

The following settings are available:

```

PRMAction:      'ADD', 'DELETE', SET' or 'INFO'
MOLevel:        'CUG'
PRMTypeId:      'BSG_PARAMETER'
PRMSubtypeId:   unused
PRMAttribute:   'PREFERRED_CUG_INDEX'
PRMSetId:       BSG Set Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name      Remarks
      an..20    CUGIndex  Closed User Group Interlock code

```

3.4.8.6 CUG Basic Service Group Parameter

The following settings are available:

```

PRMAction:      'ADD', 'DELETE', SET' or 'INFO'
MOLevel:        'CUG'
PRMTypeId:      'BSG_PARAMETER'
PRMSubtypeId:   Parameter Number
PRMAttribute:   External parameter Code
PRMSetId:       BSG Set Id
PRMParentId:    Parent Sequence Number
PRMSiblingNo:   Sibling Sequence Number
PRMLevel:       Complex Level
PRMSeqNo:       Complex Sequence Number
PRMValSeqNo:    Value Sequence Number
PRMValueId:     Parameter Value Id
PRMResInd:      Response Indicator
PRMValue:
Ref.    Repr.    Name      Remarks
      an..100  Value     Parameter value.

```

If the Value contains a Date, the format is: YYYYMMDDHHMMSS



3.4.9 Resource specific Parameter Information Segments - Directory Numbers

This chapter describes the Resource specific Parameter Information Segments. The MOLevel is always set to RESOURCE.

3.4.9.1 Directory Number

A directory number has different meanings in different markets. There can also be different types of directory numbers for the very same market. For example, in market GSM there can be MSISDNs (for regular phone calls), IP numbers or network identification numbers (for GPRS access) and others. Details about directory numbers and there structure can be found in DB table RES_DIRNUM_STRUCTURE.

In case of a Directory Number change the DELETE and ADD XPM segments a linked by the same PRMSetId.

3.4.9.2 Directory Number

The following settings are available:

```
PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'RESOURCE'
PRMTypeId:      'DIR_NUM'
PRMSubtypeId:   unused
PRMAttribute:   'DIR_NUM'
PRMSetId:       set_id or change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
```

Ref.	Repr.	Name	Remarks
an..66	DirNum		Directory Number or Begin of Directory Number Block, if Directory Number is a Block Number.

3.4.9.3 Directory Number End

The following settings are available:



```

PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'RESOURCE'
PRMTypeId:      'DIR_NUM'
PRMSubtypeId:   unused
PRMAttribute:   'DIR_NUM_END'
PRMSetId:       set id or change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.   Repr.   Name      Remarks
      an..66   DirNumEnd  End of Directory Number Block, if Directory Number is
a Block Number.

```

3.4.9.4 Directory Number Role

The following settings are available:

```

PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'RESOURCE'
PRMTypeId:      'DIR_NUM'
PRMSubtypeId:   unused
PRMAttribute:   'ROLE'
PRMSetId:       set id or change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.   Repr.   Name      Remarks
      an..20   Role      'MAIN', or 'NORMAL'. Defines, if the Directory Number is
a main or a normal Directory Number

```

3.4.9.5 Directory Number Bearer Capability

The following settings are available:

```

PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'RESOURCE'
PRMTypeId:      'DIR_NUM'
PRMSubtypeId:   unused
PRMAttribute:   'BCC'
PRMSetId:       set id or change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.   Repr.   Name      Remarks
      an..5    BCC      Bearer Capability Code of Directory Number.

```

3.4.9.6 Cellular Number

The following settings are available:



```
PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'RESOURCE'
PRMTypeId:      'DIR_NUM'
PRMSubtypeId:   unused
PRMAttribute:   'CELL_NUM'
PRMSetId:       set id or change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name    Remarks
      an..6     CELL_NUM
```

3.4.9.7 Directory Number SIS Code

The following settings are available:

```
PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'RESOURCE'
PRMTypeId:      'DIR_NUM'
PRMSubtypeId:   unused
PRMAttribute:   'SIS'
PRMSetId:       set id or change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name    Remarks
      an..36     SIS_CODE
```

3.4.9.8 Directory Number Kcode

The following settings are available:

```
PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'RESOURCE'
PRMTypeId:      'DIR_NUM'
PRMSubtypeId:   unused
PRMAttribute:   'KCODE'
PRMSetId:       set id or change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name    Remarks
      an..20     KCODE
```

3.4.9.9 Directory Number Change Reason

The following settings are available:



Note: This Parameter type is used in case of a Directory Number change.

```

PRMAction:      'ADD' or 'DELETE'
MOLevel:        'RESOURCE'
PRMTypeId:      'DIR_NUM'
PRMSubtypeId:   unused
PRMAttribute:   'CHANGE_REASON'
PRMSetId:       change_Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSegNo:       unused
PRMValSegNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name    Remarks
      an..10    Reason    Reason (code). Is only set in case of a Directory
Number change

```

3.4.9.10 Directory Number Numbering Plan

This Parameter type is used to identify the Numbering Plan of a Directory Number.

```

PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'RESOURCE'
PRMTypeId:      'DIR_NUM'
PRMSubtypeId:   unused
PRMAttribute:   'NUMBERING_PLAN'
PRMSetId:       set id or change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSegNo:       unused
PRMValSegNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name    Remarks
      an..5      NumPlan  Numbering plan of directory number.

```

3.4.9.11 Directory Number Link

The following settings are available:

```

PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'RESOURCE'
PRMTypeId:      'DIR_NUM'
PRMSubtypeId:   unused
PRMAttribute:   'LINK_NUM'
PRMSetId:       set id or change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSegNo:       unused
PRMValSegNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name    Remarks
      an..66    LinkedDirNum  Linked Directory Number or Begin of a Linked Directory Number
if Directory Number is a Block Number.

```



3.4.9.12 Directory Number End Link

The following settings are available:

```
PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'RESOURCE'
PRMTypeId:      'DIR_NUM'
PRMSubtypeId:   unused
PRMAttribute:   'LINK_NUM_END'
PRMSetId:       set id or change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name    Remarks
      an..66    LinkedDirNumEnd    End of number block which is linked to
DIR_NUM.
```

3.4.9.13 Directory Number HLR

The following settings are available:

```
PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'RESOURCE'
PRMTypeId:      'DIR_NUM'
PRMSubtypeId:   unused
PRMAttribute:   'HLCODE'
PRMSetId:       set id or change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name    Remarks
      an..20    Hlcode    Public key of the directory numbers HLR.
```

3.4.9.14 Directory Number Logical HLR

The following settings are available:

```
PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'RESOURCE'
PRMTypeId:      'DIR_NUM'
PRMSubtypeId:   unused
PRMAttribute:   'HMCODE'
PRMSetId:       set id or change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name    Remarks
      an..20    Hmcode    Public key of the directory numbers logical HLR.
```



3.4.9.15 Directory Number Alternate Line

The following settings are available:

```
PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'RESOURCE'
PRMTypeId:      'DIR_NUM'
PRMSubtypeId:   unused
PRMAttribute:   ';MAIN_CONTRACT'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name    Remarks
an..66   DIR_NUM    Main Directory Number of an Alternate Line.
```

3.4.9.16 Directory Number Source Network Prefix

The following settings are available:

```
PRMAction:      'ADD' or 'DELETE' So
MOLevel:        'RESOURCE'
PRMTypeId:      'DIR_NUM'
PRMSubtypeId:   unused
PRMAttribute:   'SOURCE_NETWORK'
PRMSetId:       set id or change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name    Remarks
an..30   SourceNetworkPrefix    Network specific prefix of source network
of imported directory number.
```

3.4.9.17 Directory Number Target Network Prefix

The following settings are available:

```
PRMAction:      'ADD' or 'DELETE'
MOLevel:        'RESOURCE'
PRMTypeId:      'DIR_NUM'
PRMSubtypeId:   unused
PRMAttribute:   'TARGET_NETWORK'
PRMSetId:       set id or change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name    Remarks
an..30   TargetNetworkPrefix    Network specific prefix of target network
of imported directory number.
```



3.4.9.18 SDP ID

The following parameter type is used to provision the SDP ID. It is only available during MSISDN change if CMS indicated (via DATA_3) the need to provision this value. It can also occur during initial contract activation on contract level.

```
PRMAction:      'ADD'
MOLevel:        'RESOURCE'
PRMTypeId:      'DIR_NUM'
PRMSubtypeId:   unused
PRMAttribute:   'SDP_ID'
PRMSetId:       set Id or change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSegNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
```

Ref.	Repr.	Name	Remarks
n..18	SdpId		The SDP ID of the related MSISDN.

3.4.10 Resource specific Parameter Information Segments - Storage Medium

This chapter describes the Resource specific Parameter Information Segments. The MOLevel is always set to RESOURCE.

3.4.10.1 Storage Medium

Storage Medium has the following meaning for the different networks:

Table 21

BSCS Terminology \ Market	GSM	NMT	ISD	CCD	X25	INT	INS	AMP	IPC
Storage Medium	SIM	ESN	-	Card No.	-	-	-	ESN	-

This parameter type is market specific and can be configured in table GMD_MPDSCSTAB for every market. The following table shows the default setup of the table for the currently supported markets. The values in the table have the following meaning:

- M: field is mandatory and not changeable. A GMD error occurs if no information is found.
- S: field is not supported (suppressed) and not changeable.
- Y: field is mandatory. A GMD error occurs if no information is found. This value can be set to C or N for this market.



- N: field is not supported, but can be set to “C” or “Y” for this market.
- C: field is conditional, it has only a value under certain conditions. No GMD error occurs if no information is found. This value can be set to Y or N for this market.

Table 22

GMD MARK ET_ID	GSM	NMT	ISD	CCD	X25	INT	INS	AMP	IPC
CON_S TOR_M ED_CT L	N	S	S	M	S	S	N	M	N

In case of a Storage Medium change the DELETE and ADD XPM segments a linked by the same PRMSetId.

3.4.10.2 Storage Medium

This Parameter type is used for sending Storage Medium information:

```

PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'RESOURCE'
PRMTypeId:      'STOR_MED'
PRMSubtypeId:   unused
PRMAttribute:   'STOR_MED'
PRMSetId:       set id or change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSegNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name      Remarks
an..50  StorMed  Storage Medium

```

3.4.10.3 Storage Medium Issuer Code

The following settings are available:

```

PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'RESOURCE'
PRMTypeId:      'STOR_MED'
PRMSubtypeId:   unused
PRMAttribute:   'ISSUER_CODE'
PRMSetId:       set id or change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSegNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name      Remarks
an..25  IssCode    Issuer Code of a Calling Card. Attention: This
parameter is only set for market 'CCD'.

```



3.4.10.4 Storage Medium PIN

The following settings are available:

```
PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'RESOURCE'
PRMTypeId:      'STOR_MED'
PRMSubtypeId:   unused
PRMAttribute:   'PIN'
PRMSetId:       set id or change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.   Repr.   Name      Remarks
      an..8    PIN        PIN of a Calling Card. Attention: This parameter is
only set for market 'CCD'.
```

3.4.10.5 Storage Medium Change Reason

The following settings are available:

```
PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'RESOURCE'
PRMTypeId:      'STOR_MED'
PRMSubtypeId:   unused
PRMAttribute:   'CHANGE_REASON'
PRMSetId:       change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.   Repr.   Name      Remarks
      an..10   Reason     Reason (code). Is only set in case of a Storage Medium
change.
```

3.4.10.6 Storage Medium PUK

The following settings are available:

```
PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'RESOURCE'
PRMTypeId:      'STOR_MED'
PRMSubtypeId:   unused
PRMAttribute:   'PUK1'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.   Repr.   Name      Remarks
zzzzzzzzzz      an..16   PUK1        The storage mediums PU
```



3.4.11 Resource specific Parameter Information Segments - Port

This chapter describes the Resource specific Parameter Information Segments. The MOLevel is always set to 'RESOURCE'.

3.4.11.1 Port

Port has the following meaning for the different markets:

Table 23

BSCS Terminology \ Market	GSM	NMT	ISD	CCD	X25	INT	INS	AMP	IPC
Port	IMSI	RID	OLID	Serial No.	NUI	Account Id.	-	MIN	-

This parameter type is market specific and can be configured in table GMD_MPDSCCTAB for every market. Depending on the market a Port can be related to the Contract (e.g. GSM) or the Service (e.g. ISDN). Because of this the port has to columns in this table.

The following table shows the default setup of the table for the currently supported markets. The values in the table have the following meaning:

- M: field is mandatory and not changeable. A GMD error occurs if no information is found.
- S: field is not supported (suppressed) and not changeable.
- Y: field is mandatory. A GMD error occurs if no information is found. This value can be set to C or N for this market.
- N: field is not supported, but can be set to "C" or "Y" for this market.
- C: field is conditional, it has only a value under certain conditions. No GMD error occurs if no information is found. This value can be set to Y or N for this market.

Table 24

GMD_MARKET_ID	GSM	NMT	ISD	CCD	X25	INT	INS	AMP	IPC
CON_PORT_CTL	M	S	S	S	S	M	N	M	N
SVC_PORT_CTL	S	S	C	S	C	S	N	S	N



In case of a Port change the DELETE and ADD XPM segments a linked by the same PRMSetId.

3.4.11.2 Port

The following settings are available:

```
PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'RESOURCE'
PRMTypeId:      'PORT'
PRMSubtypeId:   unused
PRMAttribute:   'PORT'
PRMSetId:       set id or change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name    Remarks
an..50   PORT    Port number
```

3.4.11.3 Port Switch Id

The following settings are available:

```
PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'RESOURCE'
PRMTypeId:      'PORT'
PRMSubtypeId:   unused
PRMAttribute:   'SWITCH_ID'
PRMSetId:       set id or change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name    Remarks
an..7    SWITCH_ID    Switch id of corresponding Port number
```

3.4.11.4 Port Numbering Plan

The following settings are available:



```

PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'RESOURCE'
PRMTypeId:      'PORT'
PRMSubtypeId:   unused
PRMAttribute:   'NUMBERING_PLAN'
PRMSetId:       set Id or change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSegNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name      Remarks
an..5   NumPlan  Numbering plan of port.

```

3.4.11.5 Port change reason

The following settings are available:

```

PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'RESOURCE'
PRMTypeId:      'PORT'
PRMSubtypeId:   unused
PRMAttribute:   'CHANGE_REASON'
PRMSetId:       change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSegNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name      Remarks
an..10   Reason     Reason (code). Is only set in case of a port change

```

3.4.11.6 Port HLR

The following settings are available:

```

PRMAction:      'ADD', 'DELETE' or 'INFO'
MOLevel:        'RESOURCE'
PRMTypeId:      'PORT'
PRMSubtypeId:   unused
PRMAttribute:   'HLCODE'
PRMSetId:       set Id or change Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSegNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMValue:
Ref.    Repr.    Name      Remarks
an..20   Hlcode     HLR of this port.

```

3.4.12 Response Parameter Information Segments

This chapter describes the Response Parameter Information Segments. The MOLevel is always set to MED_DEV. This Parameter Information Segments are



currently only used for MDRES requests. The Information about the originator of the information has to be stored in the XOR segment.

Additionally to this predefined Response Parameter Information Segments, each used XPM segment from the GMD Command MDCMD can be moved to the Dynamic Activation Response MDRES.

The field PRMStatus must be set in all XPM Segments of MDRES.

3.4.12.1 Error Information

The following settings are available:

```
PRMAction:      'INFO'
MOLevel:        'MED_DEV'
PRMTypeId:      'ERROR'
PRMSubtypeId:   unused
PRMAttribute:   'ERROR_LINE'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMStatus:      'ERROR'
PRMValue:
Ref.  Repr.  Name      Remarks
      an..80  ErrorLine  One line from an error message.
```

3.4.12.2 Error Information

The following settings are available:

```
PRMAction:      'INFO'
MOLevel:        'MED_DEV'
PRMTypeId:      'ERROR_STRUCT'
PRMSubtypeId:   unused
PRMAttribute:   'ERROR_FLAG'
PRMSetId:       Set Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMStatus:      'ERROR'
PRMValue:
Ref.  Repr.  Name      Remarks
      a1     ErrorFlag  "E" = error or "W" = warning
```



```

PRMAction:      'INFO'
MOLevel:        'MED_DEV'
PRMTypeId:      'ERROR_STRUCT'
PRMSubtypeId:   unused
PRMAttribute:   'ERROR_FLAG'
PRMSetId:       Set Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMStatus:      'ERROR'
PRMValue:
Ref.    Repr.    Name    Remarks
   al      ErrorFlag    "E" = error or "W" = warning

```

```

PRMAction:      'INFO'
MOLevel:        'MED_DEV'
PRMTypeId:      'ERROR_STRUCT'
PRMSubtypeId:   unused
PRMAttribute:   'SUB_SYSTEM'
PRMSetId:       Set Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMStatus:      'ERROR'
PRMValue:
Ref.    Repr.    Name    Remarks
   an..40  SubSystem    Sub-System where the error occurred.

```

```

PRMAction:      'INFO'
MOLevel:        'MED_DEV'
PRMTypeId:      'ERROR_STRUCT'
PRMSubtypeId:   unused
PRMAttribute:   'RELEASE'
PRMSetId:       Set Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMStatus:      'ERROR'
PRMValue:
Ref.    Repr.    Name    Remarks
   an..40  Release    Release of Sub-System

```



```
PRMAction:      'INFO'
MOLevel:        'MED_DEV'
PRMTypeId:      'ERROR_STRUCT'
PRMSubtypeId:   unused
PRMAttribute:   'ERROR_QUALIFIER'
PRMSetId:       Set Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMStatus:      'ERROR'
PRMValue:
```

Ref.	Repr.	Name	Remarks
------	-------	------	---------

```
PRMAction:      'INFO'
MOLevel:        'MED_DEV'
PRMTypeId:      'ERROR_STRUCT'
PRMSubtypeId:   unused
PRMAttribute:   'ERROR_TEXT'
PRMSetId:       Set Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMStatus:      'ERROR'
PRMValue:
```

Ref.	Repr.	Name	Remarks
	an..80	ErrorText	Error text belonging to specified qualifier.

```
PRMAction:      'INFO'
MOLevel:        'MED_DEV'
PRMTypeId:      'ERROR_STRUCT'
PRMSubtypeId:   unused
PRMAttribute:   'ERROR_CODE'
PRMSetId:       Set Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMStatus:      'ERROR'
PRMValue:
```

Ref.	Repr.	Name	Remarks
	an..20	ErrorCode	Error Code belonging to given error text.

The following error qualifiers are available:

Table 25 Error Qualifiers

ERR-QUALIFIER	ERR-QUALIFIER
INTERNAL	Internal Error
DB	Database Error
CONNECT	Connection Error: The Dynamic Activation wasn't able to communicate with the switch.
IPC	IPC error



The Dynamic Activation developer can suggest new qualifier values. He can define qualifier values himself, which start with an “X” character.

3.4.12.3 Response Information

The following settings are available:

```
PRMAction:      'INFO'
MOLevel:        'MED_DEV'
PRMTypeId:      'RESPONSE'
PRMSubtypeId:   unused
PRMAttribute:   'RESULT_LINE'
PRMSetId:       unused
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSegNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMStatus:      'SUCCESS' or 'WARNING'
PRMValue:
Ref.  Repr.  Name      Remarks
an..80 ResultLine One line from a result text.
```

3.4.12.4 Structured Response Information

The following settings are available:

```
PRMAction:      'INFO'
MOLevel:        'MED_DEV'
PRMTypeId:      'RESPONSE_STRUCT'
PRMSubtypeId:   unused
PRMAttribute:   'RETURN_QUALIFIER'
PRMSetId:       Set Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSegNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMStatus:      'SUCCESS' or 'WARNING'
PRMValue:
Ref.  Repr.  Name      Remarks
an..10 ReturnQualifier Result Qualifier available qualifiers are
specified below
```



```
PRMAction:      'INFO'
MOLevel:        'MED_DEV'
PRMTypeId:      'RESPONSE_STRUCT'
PRMSubtypeId:   unused
PRMAttribute:   'RETURN_QUALIFIER'
PRMSetId:       Set Id
PRMParentId:    unused
PRMSiblingNo:   unused
PRMLevel:       unused
PRMSeqNo:       unused
PRMValSeqNo:    unused
PRMValueId:     unused
PRMResInd:      unused
PRMStatus:      'SUCCESS' or 'WARNING'
PRMValue:
Ref.  Repr.  Name      Remarks
an..10 ReturnQualifier Result Qualifier available qualifiers are
specified below
```

The following result qualifiers are available:

Table 26 Result Qualifier

RET-QUALIFIER	ERR-QUALIFIER
PORT	Port
DIRNUM	Directory Number
IMEI	IMEI
IMEI-LIST	W" = white list, "G" = gray list or "B" = black list
SERVICE	service code, e.g. "T11" for telephony
STATUS	status of SERVICE, Port or SVLCODE

The Dynamic Activation developer can suggest new qualifier values. He can define qualifier values himself which start with an "X" character.

3.5 Interprocess communication between GMD and Dynamic Activation

As described above the generic and the vendor specific parts of the mediation device exchange messages. One Mediation Device generates a message and sends it to the other Mediation Device. If the GMD sends a message to Dynamic Activation, Dynamic Activation has to translate this message either to a internal Dynamic Activation command with corresponding action, or to a hardware dependent command which has to be send to a network component. If the Dynamic Activation sends a message to the GMD, the GMD has to translate this message into GMD or BSCS specific action. If a response is required for an EDIFACT message, the receiving Mediation Device has to generate a response message, to make the results of the required action known to the calling Mediation Device.

EDIFACT messages are exchanged via IPC. The mediation device's IPC bases on TCP/IP sockets. Each process identifies the host machine of the other process by its IP address. GMD and Dynamic Activation exchange action and acknowledgment messages via sockets.



For every command or response a new TCP/IP socket connection has to be established.

3.5.1 IPC between the GMD and Dynamic Activation

The GMD Command Generator (GMDCOM) is responsible for sending requests to Dynamic Activation.

The GMDCOM fetches a configurable number of requests from the queue and sends for each request a message (e.g. EDIFACT Command) to the corresponding Dynamic Activation. When Dynamic Activation has completed the request it sends a message (e.g. EDIFACT Response) to the GMD Request Response Server (GMDRRS). The recipient of a message answers always with an Acknowledgment message.

To provide IPC with sockets to GMD and Dynamic Activation the following service needs to be defined:

GMD_RRS request response server of the GMD

There are also TCP ports for Dynamic Activation required. The GMD must know these ports.

3.5.2 Sending an EDIFACT message

When a Mediation Device has created an EDIFACT message it has to be sent to Dynamic Activation. This sending of an EDIFACT messages takes place in 5 steps.

1. The sending Mediation Device writes a Message Header to the TCP/IP socket, which contains the information, that an EDIFACT command or an EDIFACT response will be transferred (`field MsgType = "EDIFACT"`).
2. The sending Mediation Device writes an EDIFACT Header to the same TCP/IP socket containing the sender and request identification (`field EdifactType = "MDCMD" or "MDRES"`).
3. The sending Mediation Device writes the EDIFACT message itself to the same TCP/IP socket.
4. The receiving Mediation Device reads these 3 messages and writes a Message Header to the same TCP/IP socket, which contains the information, that an acknowledgment message will be transferred (`field MsgType = "ACKNOWLEDGMENT"`).
5. After the Message Header, the receiving Mediation Device writes the Acknowledgment message itself to the same TCP/IP socket, to indicate whether receiving the EDI message was successful or not.

The transaction is not complete until the sending Mediation Device receives an Acknowledgment Message with Result = 0. If any error occurs during the transaction, all 5 steps have to be repeated.

3.5.3 Message Structures

All character fields in the message structures are zero terminated strings. To avoid alignment conflicts, in case Dynamic Activation and GMD run on different hardware, the length of all character fields is dividable by four.

3.5.3.1 Structure of the Message Header

The Message Header contains the following information:

- Magic Cookie
- Message Version
- Message Type
- Message Subtype
- Sender Identification
- Receiver Identification
- Length of the following message(s)

The Message Header has the following structure:

```
#define MDMHV2_LEN_MESSAGE_COOKIE 16
#define MDMHV2_LEN_MESSAGE_VERSION 16
#define MDMHV2_LEN_MESSAGE_TYPE 16
#define MDMHV2_LEN_MESSAGE_SUBTYPE 16
#define MDMHV2_LEN_SENDER_ID 8
#define MDMHV2_LEN_RECEIVER_ID 8
#define MDMHV2_LEN_MESSAGE_LENGTH 16

#define MDMHV2_MESSAGE_HEADER struct message_header_struct
MDMHV2_MESSAGE_HEADER { /* Message Cookie */
    char Cookie[MDMHV2_LEN_MESSAGE_COOKIE]; /* 'HEADER_COOKIE' */

    /* Message Version */
    char Version[MDMHV2_LEN_MESSAGE_VERSION];

    /* Message Type */
    char MsgType[MDMHV2_LEN_MESSAGE_TYPE];

    /* Message Subtype */
    char MsgSubtype[MDMHV2_LEN_MESSAGE_SUBTYPE];

    /* Id of the sending system: GMD- or VMD-ID */
    char SenderId[MDMHV2_LEN_SENDER_ID];

    /* Id of the receiving system: GMD- or VMD-ID */
    char ReceiverId[MDMHV2_LEN_RECEIVER_ID];

    /* length of following message(s) */
    char Length[MDMHV2_LEN_MESSAGE_LENGTH]; };
```




The Message Header contains the following fields:

- Version - is an int value converted to character, which contains the version number of the message. The Version number for this release is 1.
- MsgType - identifies the message type. Currently the following values are supported

```
#define MDMHV2_MSG_TYPE_EDIFACT          "EDIFACT"
#define MDMHV2_MSG_TYPE_ACKNOWLEDGMENT  "ACKNOWLEDGMENT"
#define MDMHV2_MSG_TYPE_SWITCH_STATUS    "SWITCH_STATUS"
```

- MsgSubtype - identifies the message subtype. This field is for future use.
- SenderId - is used for identifying the sender of the message. The identity of the GMD is defined in the BSCS database.
- ReceiverId - is used for identifying the receiver of the message. The identity of Dynamic Activation is defined in the BSCS database.

is used for identifying the receiver of the message. The identity of Dynamic Activation is defined in the BSCS database.

- Length - is a long value converted to character, which contains the length of all following messages (e.g. for EDIFACT commands or responses the length of the EDIFACT message Header plus the length of the EDIFACT message itself).

3.5.3.2

Structure of the EDIFACT Header

The EDIFACT Header contains the following information:

- Request Identification
- Length of the following EDIFACT message

The EDIFACT Header has the following structure:

```
#define MDEHV2_LEN_REQUEST_ID          16
#define MDEHV2_LEN_EDIFACT_TYPE        16
#define MDEHV2_LEN_EDIFACT_LENGTH      16

#define MDEHV2_EDIFACT_HEADER           struct edifact_header_struct

MDEHV2_EDIFACT_HEADER {

    /* request handle of the corresponding request */
    char      RequestId[MDEHV2_LEN_REQUEST_ID];

    /* EDIFACT Command Type */
    char      EdifactType[MDEHV2_LEN_EDIFACT_TYPE];

    /* length of EDIFACT message */
    char      EdifactLength[MDEHV2_LEN_EDIFACT_LENGTH];
};
```

The EDIFACT Header contains the following fields

- RequestId - is a unique identifier, which identifies the request and the corresponding response.
- EdifactType - identifies the EDIFACT message type. Currently the following values are supported:

```
#define MDEHV2_EDIFACT_TYPE_COMMAND      "MDCMD"
#define MDEHV2_EDIFACT_TYPE_RESPONSE    "MDRES"
```

- EdifactLength - is a long value converted to character, which contains the length of the following EDIFACT message.

3.5.3.3 Structure of the Acknowledgment Message

Acknowledgment messages tell the sender of an EDI message who just posted an action message, if receiving the EDI message was successful. Acknowledgment messages have the following structure:

```
#define MDAMV2_LEN_ERROR_MSG      80
#define MDAMV2_LEN_RESULT        16

#define MDAMV2_ACKNOWLEDGMENT    struct gmd_acknowledgment_struct

MDAMV2_ACKNOWLEDGMENT {
    char Result[MDAMV2_LEN_RESULT];    /* contains a number */
    char ErrorMsg[MDAMV2_LEN_ERROR_MSG]; /* description of errors */
};
```

The EDIFACT Message Header contains the following fields:

- Result - is a long value converted to character and has a zero value, if receiving the EDI message was successful. Otherwise it contains an error code.
- ErrorMsg - is empty if receiving the EDI message was successful. Otherwise it contains an error text.

3.5.4 Provisioning System Acknowledgement Message (MVNO / MVNE integration)

To allow integrating multiple BSCS instances in an MVNO / MVNE context (where a single BSCS instance represents either an MVNO or an MVNE installation) GMD offers a simple TCP/IP handshake message.

Integrating multiple BSCS instances in an MVNO / MVNE context requires a provisioning system, which exchanges information between multiple BSCS instances (each of them representing either an MVNO or an MVNE instance). This provisioning system is not part of BSCS.



3.5.4.1 Configuration

The IP address and the port of the provisioning system have to be set up in the multi server table `MSDSVTAB`.

- **TYPE:** The type of the provisioning system is 'P' for 'P'rovisioning system.
- **SUBTYPE:** The sub type for acknowledgement messages is 'A' for 'A'cknowledgement message.

`GMDRES` will try to send an acknowledgement message whenever an address with the above specifications is available in `MSDSVTAB`. Although only needed in an MVNE context the acknowledgement is also sent in other setups.

Acknowledgement sending can be suppressed by setting the environment variable `GMD_NO_PROV_HANDSHAKE`.

3.5.4.2 Message structure

The default acknowledgement message is just a simple string, which is composed of the public key of the request, an error code and a date with ':' as the delimiter char. The format is as follows:

```
REQUEST_CODE:ERROR_CODE:EFFECTIVE_DATE
```

where

- **REQUEST_CODE (char 35):** This is the alphanumeric public request identifier of a request. Its value is unique over all involved BSCS installations.
- **ERROR_CODE (char 20):** This is the numeric error code as it can also be found in `MDSRRTAB`. In case of success its value is 0.
- **EFFECTIVE_DATE (char 14):** In case of a successful request processing the effective date represents the time and date at which the request related changes became valid.

4 Faults and Errors

4.1 EDIFACT NBIA Error Codes

The following table covers EDIFACT NBIA error codes.

*Table 27 EDIFACT Internal Error Codes*

Error Code	Error Description
1097	EDIFACT request is invalid
1005	No such <code>senderId</code> configured

5

Appendix A

Table 28 Appendix A- the Setting of All Request Actions

Requested Action	Act-Id	Action	MO_Level	MO_Type	MO_Attribute
Initial Activation of a contract	1	ADD	CONTRACT		
Deactivation of an active contract	2	DELETE	CONTRACT		
Reactivation of a contract	3	SET	CONTRACT		STATUS
Suspension of a contract	4	SET	CONTRACT		STATUS
Deactivation of a suspended contract	5	DELETE	CONTRACT		
Change Directory Number	6001	SET	RESOURCE	DIR_NUM	
Change Storage Medium	6002	SET	RESOURCE	STOR_MED	
Change Port of a contract	6003	SET	RESOURCE	PORT	
Change Switch	6004	SET	CARRIER		
Change Carrier	7	SET	CARRIER		
Add a service	8	ADD	SERVICE		
Delete a service	9	DELETE	SERVICE		
Change Status of a service	10	SET	SERVICE		STATUS
STATUS	11	SET	SERVICE		PARAMETER
Change Bear er Capability Code	12	SET	RESOURCE	DIR_NUM	PARAMETER



Requested Action	Act-Id	Action	MO_Level	MO_Type	MO_Attribute
Add new Directory Number	13001	ADD	RESOURCE	DIR_NUM	
Add new Storage Medium	13002	ADD	RESOURCE	STOR_MED	
Add new Port	13003	ADD	RESOURCE	PORT	
Delete old Directory Number	14001	DELETE	RESOURCE	DIR_NUM	
Delete old Storage Medium	14002	DELETE	RESOURCE	STOR_MED	
Delete old Port	14003	DELETE	RESOURCE	PORT	
Get all information of a contract	15	GET	CONTRACT		
Change Tariff Model of a contract	16	SET	CONTRACT		TARIFF_MODEL
Change Contract Type of a contract	17	SET	CONTRACT		CONTR_TYPE
Add Micro Cell	18	ADD	MICRO_CELL		
Delete Micro Cell	19	DELETE	MICRO_CELL		
Change Micro Cell	20	SET	MICRO_CELL		
Change Micro Cell Parameters	20001	SET	MICRO_CELL		
Add or Delete Origin/Destination Numbers of a Micro Cell	20002	SET	MICRO_CELL		
Add Closed User Group	21	ADD	CUG		
Delete Closed User Group	22	DELETE	CUG		
Change Closed User Group	23	SET	CUG		PARAMETER
Get parameters of a service	24	GET	SERVICE		
Execute command at Switch	25	SET	NETW_ELEM		COMMAND
Add IMEI number to Black list	26	ADD	IMEI_LIST	BLACK_LIST	
Delete IMEI number from Black list	27	DELETE	IMEI_LIST	BLACK_LIST	



Requested Action	Act-Id	Action	MO_Level	MO_Type	MO_Attribute
Add IMEI number to White list	28	ADD	IMEI_LIST	WHITE_LIST	
Delete IMEI number from White list	29	DELETE	IMEI_LIST	WHITE_LIST	
Add IMEI number to Grey list	30	ADD	IMEI_LIST	GREY_LIST	
Delete IMEI number from Grey list	31	DELETE	IMEI_LIST	GREY_LIST	
Get list of IMEI number	32	GET	IMEI_LIST		
Set contract parameters	34	SET	CONTRACT		
Add global IOT entry	35	ADD	CONTRACT		
Action on Invisible Numbers	36	ADD	CONTRACT		
Action on closed user group	37	SET	CUG		
Change trial date	38	SET	SERVICE		
Change service package	39	SET	CONTRACT		
Change service profile	40	SET	SERVICE		
Change main directory number flag	41	SET	SERVICE		
Customer data change	42	SET	CONTRACT		
Create Tickler	43	SET	CONTRACT		
Service Prepaid Attribute Info ADD	44	ADD	SERVICE		
Service Prepaid Attribute Info SET	45	SET	SERVICE		
Preactivated prepaid Contract Move	51	ADD	CONTRACT		
Account Change, FU as OCC	52	SET	CONTRACT		
Carry Over Change	54	SET	CONTRACT		
Provision Family Group	58	SET	CONTRACT		



Requested Action	Act-Id	Action	MO_Level	MO_Type	MO_Attribute
Contract Takeover - Source Contract Deactivation	59	DELETE	CONTRACT		
Contract Takeover - Target Contract Activation	60	ADD	CONTRACT		
Modify IVR Language	68	SET	CONTRACT		
Remove service (provisioning of all service parameters)	70	DELETE	SERVICE		
Set promotion plan dates	30002	SET	CONTRACT		PROMOTION_PLAN
Change Service Class	30005	SET	CONTRACT		SERVICE_CLASS
Modifications on contracted PAM schemes	30006	SET	CONTRACT	PAM	





Reference List

- [1] *Library Overview*, 18/1553-CSH 109 628 Uen