

Layered HLR AUC Service Associated Data over CLI

Ericsson Dynamic Activation 1

INTERFACE DESCRIPTION

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1 Introduction

This document covers the service associated data operations available through the Ericsson™ Dynamic Activation (EDA) Command Line Interface (CLI).

HLRFEID is commonly used in the service associated data operations. Its value, name, is defined in the Dynamic Activation Graphical User Interface (GUI) for each connected layered HLR Front End (HLR-FE). Refer to *User Guide for Resource Activation*, Reference [1] for more information.

1.1 Purpose and Scope

This document covers the service associated data operations.

1.2 Target Group

The target group for this document is as follows:

- System Integrator

Users of this document must meet the following prerequisites:

- Knowledge about the Dynamic Activation CLI

Refer to the document *Generic CLI Interface Specification*, Reference [2].

- Knowledge about Service Associated Data

1.3 Typographic Conventions

Typographic conventions are described in the document *Library Overview*, Reference [3].

In addition, this document uses the following:

- HLR-FE is referred to as Home Location Register (HLR) throughout this document.

1.4 Prerequisites

To use this document fully, user must meet the following prerequisites:

- Knowledge about the Dynamic Activation CLI



Refer to the document *Generic CLI Interface Specification*, Reference [2].

- Knowledge about Service Associated Data

1.5 Response Types

This section covers the response types for the commands specified in this document.

All print commands use the dynamic response specified in the document *Generic CLI Interface Specification*, Reference [2]. The print responses include a short XML document.

All commands, except print commands, uses the notification only response specified in the document *Generic CLI Interface Specification*, Reference [2].

1.6 Namespace

<http://schemas.ericsson.com/hlr/13.5/> is the provisioning namespace used for the operations described in this document.



2 Access Point Name

This section covers Access Point Name (APN) operations.

2.1 Initiate Access Point Name (HECDAPI)

The HECDAPI command initiates an APN in the HLR.

2.1.1 HECDAPI Request

Command Description:

```
HECDAPI:APN=apn,APNID=apnid[,HLRFEID=hlrfeid];
```

The following table explains the attributes that can be used in an HECDAPI request.

Table 1 Attributes

Attribute	Type	Description
APN	String, 0-62 characters The entered APN must be compliant with the following syntax: <ul style="list-style-type: none"> The APN consists of one or more labels separated with dots. Each label must start with a letter or a digit, end with a letter or a digit, and have as criteria characters only letters, digits, and hyphens. APN must not start with the text RAC, LAC, SGSN, or RNC APN must not end in .GPRS. 	Access Point Name (APN) The APN is the name of an access point for GPRS. It represents a network to which a mobile phone can be connected.
APNID	Integer 0-16383	APN identifier
HLRFEID ⁽¹⁾	Text string	HLR-FE ID where to send the command. Normally, the HLRFEID is omitted, which means the order is executed in all HLR front ends.

(1) HLRFEID is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

2.1.2 HECDAPI Response

The HECDAPI command responds with only a notification.



2.2 Print Access Point Name (HECDAPP)

The HECDAPP command prints APN data from the HLR.

2.2.1 HECDAPP Request

Command Description:

$$\text{HECDAPP:} \left[\begin{array}{l} \text{APN=apn} \\ \text{APNID=apnid} \\ \text{APNID=ALL} \end{array} \right] \left[\text{,HLRFEID=hlrfeid} \right];$$

The following table explains the attributes that can be used in an HECDAPP request.

Table 2 Attributes

Attribute	Type	Description
APN	String, 0-62 characters The entered APN must be compliant with the following syntax: <ul style="list-style-type: none">• The APN consists of one or more labels separated with dots. Each label must start with a letter or a digit, end with a letter or a digit, and have as criteria characters only letters, digits, and hyphens.• APN must not start with the text RAC, LAC, SGSN, or RNC• APN must not end in .GPRS.	Access Point Name (APN) The APN is the name of an access point for GPRS. It represents a network to which a mobile phone can be connected.
APNID	Integer 0-16383 String ALL = Return all registered APNs.	APN identifier
HLRFEID ⁽¹⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order is executed in a random HLR ⁽²⁾ .

(1) HLRFEID is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(2) Under normal conditions, all HLRs contain the same data.

2.2.2 HECDAPP Response

The HECDAPP response is an XML structure written directly in the CLI. The following is the XML schema used.



```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
  targetNamespace="http://schemas.ericsson.com/hlr/13.5/"
  elementFormDefault="qualified" attributeFormDefault="qualified">
  <xs:element name="AccessPointNameData">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="AccessPointName" minOccurs="0"
          maxOccurs="unbounded">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="apn" type="xs:string" />
              <xs:element name="apnid" type="xs:integer" />
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

The following table covers the attributes that can be received in an HECDAPP response.

Table 3 Attributes

Attribute	Type	Description
APN	String, 0-62 characters The APN consists of one or more labels separated with dots. Each label must start with a letter or a digit, end with a letter or a digit, and have as criteria characters only letters, digits, and hyphens.	Access Point Name (APN) The APN is the name of an access point for GPRS. It represents a network to which a mobile phone can be connected.
APNID	Integer 0-16383	APN identifier

2.3 Change Access Point Name (HECDAPC)

The HECDAPC command changes an APN associated to an APN ID in the HLR. Optionally a network update is sent for each affected normal HLR subscriber, no network update is sent for M2M subscribers.

2.3.1 HECDAPC Request

Command Description:

```
HECDAPC:APNID=apnid,APN=apn[,HLRFEID=hlrfeid][,UPDATENET];
```

The following table explains the attributes that can be used in an HECDAPC request.



Table 4 Attributes

Attribute	Type	Description
APN	String, 0-62 characters The entered APN must be compliant with the following syntax: <ul style="list-style-type: none">• The APN consists of one or more labels separated with dots. Each label must start with a letter or a digit, end with a letter or a digit, and have as criteria characters only letters, digits, and hyphens.• APN must not start with the text RAC, LAC, SGSN, or RNC• APN must not end in .GPRS.	Access Point Name (APN) The APN is the name of an access point for GPRS. It represents a network to which a mobile phone can be connected.
APNID	Integer 0-16383	APN identifier
HLRFEID ⁽¹⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order is executed in all HLR front ends. ⁽²⁾
UPDATENET	This parameter has no value.	If UPDATENET is given, an order is sent for each affected subscriber to update the VLR and SGSN with the changes.

(1) HLRFEID is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(2) Under normal conditions, all HLRs contain the same data.

2.3.2

HECDAPC Response

The command HECDAPC responds with only a notification.

If the UPDATENET indicator, is in the command a response file is generated according to the schema below.



```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" \
targetNamespace="http://schemas.ericsson.com/pg/hlr/13.5/" \
elementFormDefault="qualified" attributeFormDefault="qualified">
  <xs:element name="ChangeAPNLogData" minOccurs="0">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="FailedSubscriberNotifications" minOccurs="0">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="Subscriber" maxOccurs="unbounded">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element name="msisdn" type="xs:string" />
                    <xs:element name="FaultReason">
                      <xs:complexType>
                        <xs:sequence>
                          <xs:element name="code" type="xs:integer" />
                          <xs:element name="message" type="xs:string" />
                          <xs:element name="additionalInfo" type="xs:string"
minOccurs="0" />
                        </xs:sequence>
                      </xs:complexType>
                    </xs:element>
                  </xs:sequence>
                </xs:complexType>
              </xs:element>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
        <xs:element name="MassiveUpdateStatistics">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="starttime" type="xs:string" />
              <xs:element name="stoptime" type="xs:string" />
              <xs:element name="NumberOfChangedSubscribers" type="xs:integer" />
              <xs:element name="NumberOfFailedSubscribers" type="xs:integer" />
              <xs:element name="NumberOfRemainingSubscribers" type="xs:integer" />
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

Note: Error codes printed in the `FaultReason` element are related to the network update for a single subscriber. These errors do not stop the operation. If an error occurs before the network update is executed, that error code is returned in the generic XML structure, which is outside the previous schema.

The generic XML structure for file responses is specified in document *Introduction to Generic CLI Interface Specification*, Reference [2].

Table 5 Response Attributes

Attribute	Type	Description
additionalInfo	Text string	Additional information about the error
code	Integer	The error code
imsi	Digit string, 6-15 digits Each digit is 0-9	International Mobile Subscriber Identity
message	Text string	The error message



Attribute	Type	Description
msisdn	Digit string, 5-15 digits	Mobile Station ISDN or ISDN number
NumberOfChangedSubscribers	Text string	Number of successfully updated subscribers
NumberOfFailedSubscribers	Text string	Number of subscribers where the change failed
NumberOfRemainingSubscribers	Text string	Number of subscribers remaining when the cancel was executed
starttime	Text string	The start time for the massive change
stoptime	Text string	The stop time for the massive change

2.4 End Access Point Name (HECDAPE)

The HECDAPE command deletes an APN in the HLR.

2.4.1 HECDAPE Request

Command Description:

```
HECDAPE: [ APN=apn  
           APNID=apnid ] [,HLRFEID=hlrfeid];
```

The following table explains the attributes that can be used in an HECDAPE request.

Table 6 Attributes

Attribute	Type	Description
APN	String, 0-62 characters The entered APN must be compliant with the following syntax: <ul style="list-style-type: none">• The APN consists of one or more labels separated with dots. Each label must start with a letter or a digit, end with a letter or a digit, and have as criteria characters only letters, digits, and hyphens.• APN must not start with the text RAC, LAC, SGSN, or RNC• APN must not end in .GPRS.	Access Point Name (APN) The APN is the name of an access point for GPRS. It represents a network to which a mobile phone can be connected.



Attribute	Type	Description
APNID	Integer 0-16383	APN identifier
HLRFEID ⁽¹⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order is executed in all HLR front ends. ⁽²⁾

(1) *HLRFEID* is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(2) Under normal conditions, all HLRs contain the same data.

2.4.2 HECDAPE Response

The command HECDAPE responds with only a notification.



3 Bearer Capability Data

This section covers Bearer Capability (BC) data operations.

3.1 Initiate Bearer Capability Data (HECDBDI)

The HECDBDI command initiates a Public Land Mobile Network (PLMN) BC in the HLR.

3.1.1 HECDBDI Request

Command Description:

$$\text{HECDBDI:BC=bc,} \left[\begin{array}{l} \text{UDI} \\ \text{RDI} \\ \text{AUDIO} \\ \text{FAX} \\ \text{ALTFAX} \end{array} \right], \text{ACCST=accst} \left[\text{RC=rc, ACC=acc, ITN=itn[, HLRFEID=hlrfeid]} \right];$$

The following table explains the attributes that can be used in an HECDBDI request.

Table 7 Attributes

Attribute	Type	Description
ACC	String in the format of $\langle ra \rangle - \langle s \rangle - \langle sa \rangle - \langle dc \rangle$	Information access
	$\langle ra \rangle$ is an integer 0-3. 0 = No rate adaptation 1 = V.110, I.460/X.30 Rate Adaptation 2 = ITU-T X.31 flag stuffing 3 = H.223 and H.245. Application system-dependent parameter unit value.	Rate adaptation
	$\langle s \rangle$ is an integer 0 or 3. 0 = Service Data Unit integrity 3 = Unstructured	Structure
	$\langle sa \rangle$ is an integer 0-1. 0 = Synchronous 1 = Asynchronous	Synchronous or Asynchronous Transfer Mode
	$\langle dc \rangle$ is an integer 0-1. 0 = Data compression not possible 1 = Data compression possible	Data compression
ACCST	String in the format of $\langle sap \rangle - \langle nsb \rangle - \langle ndb \rangle - \langle pi \rangle$	Information access structure
	$\langle sap \rangle$ is an integer 1, 2, or 6. 1 = I.440/450 2 = X.21 6 = X.32	Signalling access protocol
	$\langle nsb \rangle$ is an integer 0-1. 0 = 1 bit 1 = 2 bits	Number of stop bits
	$\langle ndb \rangle$ is an integer 0-1. 0 = 7 bits 1 = 8 bits	Number of data bits
	$\langle pi \rangle$ is an integer 0, 2, 3, 4, or 5. 0 = Odd 2 = Even 3 = None 4 = Forced to 0 5 = Forced to 1	Parity information
ALTFAX	This parameter has no value.	Alternative speech and facsimile group 3
AUDIO	This parameter has no value.	3.1 kHz audio (for example, PLMN)
BC	Integer 8-65535	PLMN Bearer Capability Number
FAX	This parameter has no value.	Facsimile group 3



Attribute	Type	Description
HLRFEID ⁽²⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order is executed in all HLR front ends. ⁽³⁾
ITN	String in the format of <ce>-<la2>	Interworking with terminating network
	<ce> is an integer 0-3. 0 = Transparent 1 = Non transparent 2 = Both, transparent preferred 3 = Both, non transparent preferred	Connection element
	<la2> is an integer 6, 8, or 12. <la2> is optional; and it is not valid if <ce> is 0. 6 = Recommendation X.25 link level 8 = ISO 6429, code set 0 (DC1/DC3) 12 = Character Oriented Protocol with Not-Flow Mechanism (COPNOFLCT)	User information Layer 2 protocol



Attribute	Type	Description
RC	String in the format of <code><ur>-<mt>-<ir>-<omt>-<fnur></code>	Radio channel
	<code><ur></code> is an integer 1-5. 1 = 300 bit/s 2 = 1200 bit/s 3 = 2400 bit/s 4 = 4800 bit/s 5 = 9600 bit/s	User rate
	<code><mt></code> is an integer 0-3, 5, 6, or 8 0 = None 1 = V.21 2 = V.22 3 = V.22 bis 5 = V.26 ter 6 = V.32 8 = Autobauding type 1	Modem type
	<code><ir></code> is an integer 2-3. 2 = 8 kbit/s 3 = 16 kbit/s	Intermediate rate
	<code><omt></code> is an integer 0 or 2. It is optional. 0 = No other modem type 2 = V.34	Other modem type
	<code><fnur></code> is an integer 0-8 or 10. It is optional. 0 = Not applicable 1 = 9600 bit/s 2 = 14400 bit/s 3 = 19200 bit/s 4 = 28800 bit/s 5 = 38400 bit/s 6 = 48000 bit/s 7 = 56000 bit/s 8 = 64000 bit/s 10 = 32000 bit/s	Fixed network user rate
RDI	This parameter has no value.	Restricted digital information
UDI	This parameter has no value.	Unrestricted digital information

(1) `<dc>` is relevant when `<sa>` is set to 1.

(2) `HLRFEID` is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(3) Under normal conditions, all HLRs contain the same data.

3.1.2 **HECDBDI Response**

The HECDBDI command responds with only a notification.

3.2 **Print Bearer Capability Data (HECDBDP)**

The HECDBDP command prints the PLMN BCs defined in the HLR.

3.2.1 **HECDBDP Request**

Command Description:

HECDBDP: $\left[\begin{array}{l} \text{BC=} \left[\begin{array}{l} \text{bc...} \\ \text{ALL} \end{array} \right] \\ \text{BS=bs} \end{array} \right] [, \text{HLRFEID=hlrfeid}];$

The following table explains the attributes that can be used in an HECDBDP request.

Table 8 *Attributes*

Attribute	Type	Description
BC	Integer 8-65535 String ALL	PLMN Bearer Capability Number
BS	String <i>See HLR Subscriber Data Type Definitions, Reference [4], for its values and value descriptions.</i>	Basic Service (BS)
HLRFEID ⁽¹⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order is executed in a random HLR ⁽²⁾ .

(1) HLRFEID is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.
(2) Under normal conditions, all HLRs contain the same data.

3.2.2 **HECDBDP Response**

The HECDBDP response is an XML structure written directly in the CLI. The following is the XML schema used.

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
targetNamespace="http://schemas.ericsson.com/hlr/13.5/"
elementFormDefault="qualified" attributeFormDefault="qualified">
  <xs:element name="PLMNBearerCapabilityData">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="PLMNBearerCapability"
minOccurs="0" maxOccurs="unbounded">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="bc" type="xs:string" />
              <xs:element name="itc" type="xs:string" />
              <xs:element name="rc" type="xs:string" />
              <xs:element name="acc" type="xs:string" />
              <xs:element name="accst" type="xs:string"
minOccurs="0" />
              <xs:element name="itn" type="xs:string" />
              <xs:element name="bs" type="xs:string"
maxOccurs="unbounded" />
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

The following table covers the attributes that can be received in an HECDBDP response.

Table 9 Attributes

Attribute	Type	Description
ACC	String in the format of <ra>-<s>-<sa>-<dc> ⁽¹⁾	Information access
	<ra> is an integer 0-3. 0 = No rate adaptation 1 = V.110, I.460/X.30 Rate Adaptation 2 = ITU-T X.31 flag stuffing 3 = H.223 and H.245. Application system-dependent parameter unit value.	Rate adaptation
	<s> is an integer 0 or 3. 0 = Service Data Unit integrity 3 = Unstructured	Structure
	<sa> is an integer 0-1. 0 = Synchronous 1 = Asynchronous	Synchronous or Asynchronous Transfer Mode
	<dc> is an integer 0-1. 0 = Data compression not possible 1 = Data compression possible	Data compression



Attribute	Type	Description
ACCST	String in the format of <i><sap>-<nsb>-<ndb>-<pi></i>	Information access structure
	<i><sap></i> is an integer 1, 2, or 6. 1 = I.440/450 2 = X.21 6 = X.32	Signalling access protocol
	<i><nsb></i> is an integer 0-1. 0 = 1 bit 1 = 2 bits	Number of stop bits
	<i><ndb></i> is an integer 0-1. 0 = 7 bits 1 = 8 bits	Number of data bits
	<i><pi></i> is an integer 0, 2, 3, 4, or 5. 0 = Odd 2 = Even 3 = None 4 = Forced to 0 5 = Forced to 1	Parity information
BC	Integer 8-65535.	PLMN Bearer Capability Number
ITC	String <ul style="list-style-type: none"> • UDI • RDI • AUDIO • FAX • ALTFAX 	Information transfer capability
ITN	String in the format of <i><ce>-<la2></i>	Interworking with terminating network
	<i><ce></i> is an integer 0-3. 0 = Transparent 1 = Non transparent 2 = Both, transparent preferred 3 = Both, non transparent preferred	Connection element
	<i><la2></i> is an integer 6, 8, or 12. <i><la2></i> is option, and it is not valid if <i><ce></i> is 0. 6 = Recommendation X.25 link level 8 = ISO 6429, code set 0 (DC1/DC3) 12 = Character Oriented Protocol with Not-Flow Mechanism (COPNOFLCT)	User information Layer 2 protocol



Attribute	Type	Description
RC	String in the format of <code><ur>-<mt>-<ir>-<omt>-<fnur></code>	Radio channel
	<code><ur></code> is an integer 1-5. 1 = 300 bit/s 2 = 1200 bit/s 3 = 2400 bit/s 4 = 4800 bit/s 5 = 9600 bit/s	User rate
	<code><mt></code> is an integer 0-3, 5, 6, or 8. 0 = None 1 = V.21 2 = V.22 3 = V.22 bis 5 = V.26 ter 6 = V.32 8 = Autobauding type 1	Modem type
	<code><ir></code> is an integer 2-3. 2 = 8 kbit/s 3 = 16 kbit/s	Intermediate rate
	<code><omt></code> is an integer 0 or 2. It is optional. 0 = No other modem type 2 = V.34	Other modem type
	<code><fnur></code> is an integer 0-8 or 10. It is optional. 0 = Not applicable 1 = 9600 bit/s 2 = 14400 bit/s 3 = 19200 bit/s 4 = 28800 bit/s 5 = 38400 bit/s 6 = 48000 bit/s 7 = 56000 bit/s 8 = 64000 bit/s 10 = 32000 bit/s	Fixed network user rate

(1) `<dc>` is relevant when `<sa>` is set to 1.

3.3 Change Bearer Capability Data (HECDBDC)

The HECDBDC command changes a PLMN BC stored in the HLR.



3.3.1 HECDBDC Request

Command Description:

$$\text{HECDBDC:BC=bc,} \left[\begin{array}{l} \text{UDI} \\ \text{RDI} \\ \text{AUDIO} \\ \text{FAX} \\ \text{ALTFAX} \end{array} \right], \text{ACCST=accst} \left[\begin{array}{l} \text{RC=rc, ACC=acc, ITN=itn[, HLRFEID=hlrfeid]} \end{array} \right];$$

The following table explains the attributes that can be used in an HECDBDC request.

Table 10 Attributes

Attribute	Type	Description
ACC	String in the format of <ra>-<s>-<sa>-<dc> ⁽¹⁾	Information access
	<ra> is an integer 0-3. 0 = No rate adaptation 1 = V.110, I.460/X.30 Rate Adaptation 2 = ITU-T X.31 flag stuffing 3 = H.223 and H.245. Application system-dependent parameter unit value.	Rate adaptation
	<s> is an integer 0 or 3. 0 = Service Data Unit integrity 3 = Unstructured	Structure
	<sa> is an integer 0-1. 0 = Synchronous 1 = Asynchronous	Synchronous or Asynchronous Transfer Mode
	<dc> is an integer 0-1. 0 = Data compression not possible 1 = Data compression possible	Data compression



Attribute	Type	Description
ACCSST	String in the format of <i><sap>-<nsb>-<ndb>-<pi></i>	Information access structure
	<i><sap></i> is an integer 1, 2, or 6. 1 = I.440/450 2 = X.21 6 = X.32	Signalling access protocol
	<i><nsb></i> is an integer 0-1. 0 = 1 bit 1 = 2 bits	Number of stop bits
	<i><ndb></i> is an integer 0-1. 0 = 7 bits 1 = 8 bits	Number of data bits
	<i><pi></i> is an integer 0, 2, 3, 4, or 5. 0 = Odd 2 = Even 3 = None 4 = Forced to 0 5 = Forced to 1	Parity information
ALTFAX	This parameter has no value.	Alternative speech and facsimile group 3
AUDIO	This parameter has no value.	3.1 kHz audio, for example PLMN
BC	Integer 8-65535	PLMN Bearer Capability Number
FAX	This parameter has no value.	Facsimile group 3
HLRFEID ⁽²⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order is executed in all HLR front ends. ⁽³⁾
ITN	String in the format of <i><ce>-<la2></i>	Interworking with terminating network
	<i><ce></i> is an integer 0-3. 0 = Transparent 1 = Non transparent 2 = Both, transparent preferred 3 = Both, non transparent preferred	Connection element
	<i><la2></i> is an integer 6, 8, or 12. <i><la2></i> is optional, and it is not valid if <i><ce></i> is 0. 6 = Recommendation X.25 link level 8 = ISO 6429, code set 0 (DC1/DC3) 12 = Character Oriented Protocol with Not-Flow Mechanism (COPNOFLCT)	User information Layer 2 protocol



Attribute	Type	Description
RC	String expressed as <code><ur>-<mt>-<ir>-<omt>-<fnur></code>	Radio channel
	<code><ur></code> is an integer 1-5. 1 = 300 bit/s 2 = 1200 bit/s 3 = 2400 bit/s 4 = 4800 bit/s 5 = 9600 bit/s	User rate
	<code><mt></code> is an integer 0-3, 5, 6, or 8 0 = None 1 = V.21 2 = V.22 3 = V.22 bis 5 = V.26 ter 6 = V.32 8 = Autobauding type 1	Modem type
	<code><ir></code> is an integer 2-3. 2 = 8 kbit/s 3 = 16 kbit/s	Intermediate rate
	<code><omt></code> is an integer 0 or 2. It is optional. 0 = No other modem type 2 = V.34	Other modem type
	<code><fnur></code> is an integer 0-8 or 10. It is optional. 0 = Not applicable 1 = 9600 bit/s 2 = 14400 bit/s 3 = 19200 bit/s 4 = 28800 bit/s 5 = 38400 bit/s 6 = 48000 bit/s 7 = 56000 bit/s 8 = 64000 bit/s 10 = 32000 bit/s	Fixed network user rate
RDI	This parameter has no value.	Restricted digital information
UDI	This parameter has no value.	Unrestricted digital information

(1) `<dc>` is relevant when `<sa>` is set to 1.

(2) `HLRFEID` is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(3) Under normal conditions, all HLRs contain the same data.



3.3.2 HECDBDC Response

The HECDBDC command responds with only a notification.

3.4 End Bearer Capability Data (HECDBDE)

The HECDBDE command ends a PLMN BC in the HLR.

3.4.1 HECDBDE Request

Command Description:

```
HECDBDE:BC=bc[,HLRFEID=hlrfeid];
```

The following table explains the attributes that can be used in an HECDBDE request.

Table 11 Attributes

Attribute	Type	Description
BC	Integer 8-65535	PLMN Bearer Capability Number
HLRFEID ⁽¹⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order is executed in all HLR front ends. ⁽²⁾

(1) HLRFEID is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(2) Under normal conditions, all HLRs contain the same data.

3.4.2 HECDBDE Response

The HECDBDE command responds with only a notification.



4 Extended Quality of Service

This section covers Extended Quality of Service (QoS) operations.

4.1 Initiate Extended Quality of Service (HECDEQI)

The HECDEQI command initiates an extended QoS in the HLR.

QoS classes, also referred to as traffic classes, includes the following:

- Background traffic class
- Conversational traffic class
- Interactive traffic class
- Streaming traffic class

The maximum number of QoSs that can be defined in HLR is 4096.

4.1.1 HECDEQI Request

Command Description:

```

HECDEQI:EQOSID=eqosid, [
    [
        CON
        STR
    ], TD=td[,GBRU=gbru][,GBRD=gbrd]
    INT, THP=thp
    BACK
], ARP=arp,
DO=do, SDU=sdu, MBRU=mbru, MBRD=mbrd[,HLRFEID=hlrreid];
  
```

The following table explains the attributes that can be used in an HECDEQI request.

Table 12 HECDEQI Attributes

Attribute	Type	Description
ARP	Integer 1-3 1 = High priority 2 = Normal priority 3 = Low priority	Allocation and retention priority



Attribute	Type	Description
BACK	This parameter has no value.	Background traffic class
CON	This parameter has no value.	Conversational traffic class
DO	String YES = With delivery order NO = Without delivery order	Delivery order
EQOSID	Integer 0-4095	Extended QoS ID
GBRD	Integer 0-256000 Values from 1 Kbps to 63 Kbps are possible in 1 Kbps increments. Values from 64 Kbps to 568 Kbps are possible in 8 Kbps increments. Values from 576 Kbps to 8640 Kbps are possible in 64 Kbps increments. Values from 8700 Kbps to 16,000 Kbps are possible in 100 Kbps increments. Values from 17,000 Kbps to 128,000 Kbps are possible in 1000 Kbps increments. Values from 130,000 Kbps to 256,000 Kbps are possible in 2000 Kbps increments. Values higher than 2048 Kbps are application system-dependent parameter values.	Guaranteed bit rate for downlink in Kbps GBRD is not allowed if MBRD is 0.
GBRU	Integer 0-256000 Values from 1 Kbps to 63 Kbps are possible in 1 Kbps increments. Values from 64 Kbps to 568 Kbps are possible in 8 Kbps increments. Values from 576 Kbps to 8640 Kbps are possible in 64 Kbps increments. Values from 8700 Kbps to 16,000 Kbps are possible in 100 Kbps increments. Values from 17,000 Kbps to 128,000 Kbps are possible in 1000 Kbps increments. Values from 130,000 Kbps to 256,000 Kbps are possible in 2000 Kbps increments. Values higher than 8640 Kbps are application system-dependent parameter values.	Guaranteed bit rate for uplink in Kbps GBRU is not allowed if MBRU is 0.
HLRFEID ⁽¹⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order ⁽²⁾ is executed in all HLR front ends.
INT	This parameter has no value.	Interactive traffic class



Attribute	Type	Description
MBRD	<p>Integer 0-256000</p> <p>Values from 1 Kbps to 63 Kbps are possible in 1 Kbps increments.</p> <p>Values from 64 Kbps to 568 Kbps are possible in 8 Kbps increments.</p> <p>Values from 576 Kbps to 8640 Kbps are possible in 64 Kbps increments.</p> <p>Values from 8700 Kbps to 16,000 Kbps are possible in 100 Kbps increments.</p> <p>Values from 17,000 Kbps to 128,000 Kbps are possible in 1000 Kbps increments.</p> <p>Values from 130,000 Kbps to 256,000 Kbps are possible in 2000 Kbps increments.</p> <p>Values higher than 2048 Kbps are application system-dependent parameter values.</p>	Maximum bit rate for downlink in Kbps
MBRU	<p>Integer 0-256000</p> <p>Values from 1 Kbps to 63 Kbps are possible in 1 Kbps increments.</p> <p>Values from 64 Kbps to 568 Kbps are possible in 8 Kbps increments.</p> <p>Values from 576 Kbps to 8640 Kbps are possible in 64 Kbps increments.</p> <p>Values from 8700 Kbps to 16,000 Kbps are possible in 100 Kbps increments.</p> <p>Values from 17,000 Kbps to 128,000 Kbps are possible in 1000 Kbps increments.</p> <p>Values from 130,000 Kbps to 256,000 Kbps are possible in 2000 Kbps increments.</p> <p>Values higher than 8640 Kbps are application system-dependent parameter values.</p>	Maximum bit rate for uplink in Kbps



Attribute	Type	Description
SDU	String in the format of <code><desdu>-<maxsdu>-<rber>-<sduer></code>	Service Data Unit
	<code><desdu></code> is one of the following strings: NDE = No detect erroneous SDUs YES = Erroneous SDUs are delivered NO = Erroneous SDUs are not delivered	Delivery of erroneous SDUs
	<code><maxsdu></code> is an integer 1-151.	Maximal SDU size in tens of octets ⁽³⁾ .
	<code><rber></code> is an integer 1-9. 1 = $5 \cdot 10^{-2}$ 2 = $1 \cdot 10^{-2}$ 3 = $5 \cdot 10^{-3}$ 4 = $4 \cdot 10^{-3}$ 5 = $1 \cdot 10^{-3}$ 6 = $1 \cdot 10^{-4}$ 7 = $1 \cdot 10^{-5}$ 8 = $1 \cdot 10^{-6}$ 9 = $6 \cdot 10^{-8}$	Residual Bit Error Rate (BER)
	<code><sduer></code> is an integer 1-7. 1 = $1 \cdot 10^{-2}$ 2 = $7 \cdot 10^{-3}$ 3 = $1 \cdot 10^{-3}$ 4 = $1 \cdot 10^{-4}$ 5 = $1 \cdot 10^{-5}$ 6 = $1 \cdot 10^{-6}$ 7 = $1 \cdot 10^{-1}$	SDU error ratio
STR	This parameter has no value.	Streaming traffic class
TD	Integer 100-4000 Values from 100 to 150 are possible in increments of 10. Values from 200 to 950 are possible in increments of 50. Values from 1000 to 4000 are possible in increments of 100.	Transfer delay in milliseconds
THP	Integer 1-4 1 = Priority level 1, Signalling Indication = 0 2 = Priority level 2 3 = Priority level 3 4 = Priority level 1, Signalling Indication = 1	Traffic handling priority

(1) *HLRFEID* is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(2) Under normal conditions, all HLRs contain the same data.

(3) The value 151 means 1502 octets.



4.1.2 HECDEQI Response

The HECDEQI command responds with only a notification.

4.2 Print Extended Quality of Service (HECDEQP)

The HECDEQP command prints extended QoS data defined in the HLR.

4.2.1 HECDEQP Request

Command Description:

$$\text{HECDEQP:EQOSID} = \begin{bmatrix} \text{eqosid} \\ \text{ALL} \end{bmatrix} [, \text{HLRFEID} = \text{hlrfeid}] ;$$

The following table explains the attributes that can be used in an HECDEQP request.

Table 13 Attributes

Attribute	Type	Description
EQOSID	Integer 0-4095 String ALL	Extended QoS ID
HLRFEID ⁽¹⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order is executed in a random HLR ⁽²⁾ .

(1) HLRFEID is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(2) Under normal conditions, all HLRs contain the same data.

4.2.2 HECDEQP Response

The HECDEQP response is an XML structure written directly in the CLI. The following is the XML schema used.



```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
  targetNamespace="http://schemas.ericsson.com/hlr/13.5/"
  elementFormDefault="qualified" attributeFormDefault="qualified">
  <xs:element name="ExtendedQualityOfServiceData">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="ExtendedQualityOfService"
          minOccurs="0" maxOccurs="unbounded">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="eqosid" type="xs:integer" />
              <xs:element name="tc" type="xs:string" />
              <xs:element name="arp" type="xs:string" />
              <xs:element name="do" type="xs:string" />
              <xs:element name="sdu" type="xs:string" />
              <xs:element name="mbru" type="xs:string" />
              <xs:element name="mbrd" type="xs:string" />
              <xs:element name="thp" type="xs:string"
                minOccurs="0" />
              <xs:element name="td" type="xs:string"
                minOccurs="0" />
              <xs:element name="gbru" type="xs:string"
                minOccurs="0" />
              <xs:element name="gbrd" type="xs:string"
                minOccurs="0" />
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

The following table covers the attributes that can be received in an HECDEQP response.

Table 14 *Attributes*

Attribute	Type	Description
ARP	Integer 1-3 1 = High priority 2 = Normal priority 3 = Low priority	Allocation and retention priority
DO	String YES = With delivery order NO = Without delivery order	Delivery order
EQOSID	Integer 0-4095	Extended QoS ID



Attribute	Type	Description
GBRD	<p>Integer 0-256000</p> <p>Values from 1 Kbps to 63 Kbps are possible in 1 Kbps increments.</p> <p>Values from 64 Kbps to 568 Kbps are possible in 8 Kbps increments.</p> <p>Values from 576 Kbps to 8640 Kbps are possible in 64 Kbps increments.</p> <p>Values from 8700 Kbps to 16,000 Kbps are possible in 100 Kbps increments.</p> <p>Values from 17,000 Kbps to 128,000 Kbps are possible in 1000 Kbps increments.</p> <p>Values from 130,000 Kbps to 256,000 Kbps are possible in 2000 Kbps increments.</p> <p>Values higher than 2048 Kbps are application system-dependent parameter values.</p>	<p>Guaranteed bit rate for downlink in Kbps</p> <p>GBRD is not allowed if MBRD is 0.</p>
GBRU	<p>Integer 0-256000</p> <p>Values from 1 Kbps to 63 Kbps are possible in 1 Kbps increments.</p> <p>Values from 64 Kbps to 568 Kbps are possible in 8 Kbps increments.</p> <p>Values from 576 Kbps to 8640 Kbps are possible in 64 Kbps increments.</p> <p>Values from 8700 Kbps to 16,000 Kbps are possible in 100 Kbps increments.</p> <p>Values from 17,000 Kbps to 128,000 Kbps are possible in 1000 Kbps increments.</p> <p>Values from 130,000 Kbps to 256,000 Kbps are possible in 2000 Kbps increments.</p> <p>Values higher than 8640 Kbps are application system-dependent parameter values.</p>	<p>Guaranteed bit rate for uplink in Kbps</p> <p>GBRU is not allowed if MBRU is 0.</p>
MBRD	<p>Integer 0-256000</p> <p>Values from 1 Kbps to 63 Kbps are possible in 1 Kbps increments.</p> <p>Values from 64 Kbps to 568 Kbps are possible in 8 Kbps increments.</p> <p>Values from 576 Kbps to 8640 Kbps are possible in 64 Kbps increments.</p> <p>Values from 8700 Kbps to 16,000 Kbps are possible in 100 Kbps increments.</p> <p>Values from 17,000 Kbps to 128,000 Kbps are possible in 1000 Kbps increments.</p> <p>Values from 130,000 Kbps to 256,000 Kbps are possible in 2000 Kbps increments.</p> <p>Values higher than 2048 Kbps are application system-dependent parameter values.</p>	<p>Maximum bit rate for downlink in Kbps</p>



Attribute	Type	Description
MBRU	<p>Integer 0-256000</p> <p>Values from 1 Kbps to 63 Kbps are possible in 1 Kbps increments.</p> <p>Values from 64 Kbps to 568 Kbps are possible in 8 Kbps increments.</p> <p>Values from 576 Kbps to 8640 Kbps are possible in 64 Kbps increments.</p> <p>Values from 8700 Kbps to 16,000 Kbps are possible in 100 Kbps increments.</p> <p>Values from 17,000 Kbps to 128,000 Kbps are possible in 1000 Kbps increments.</p> <p>Values from 130,000 Kbps to 256,000 Kbps are possible in 2000 Kbps increments.</p> <p>Values higher than 8640 Kbps are application system-dependent parameter values.</p>	Maximum bit rate for uplink in Kbps
SDU	String expressed as <i><desdu>-<maxsdu>-<rber>-<sduer></i>	Service Data Unit
	<p><i><desdu></i> is one of the following strings:</p> <p>NDE = No detect erroneous SDUs</p> <p>YES = Erroneous SDUs are delivered</p> <p>NO = Erroneous SDUs are not delivered</p>	Delivery of erroneous SDUs
	<i><maxsdu></i> is an integer 1-151.	Maximal SDU size in tens of octets ⁽¹⁾
	<p><i><rber></i> is an integer 1-9.</p> <p>1 = $5 \cdot 10^{-2}$</p> <p>2 = $1 \cdot 10^{-2}$</p> <p>3 = $5 \cdot 10^{-3}$</p> <p>4 = $4 \cdot 10^{-3}$</p> <p>5 = $1 \cdot 10^{-3}$</p> <p>6 = $1 \cdot 10^{-4}$</p> <p>7 = $1 \cdot 10^{-5}$</p> <p>8 = $1 \cdot 10^{-6}$</p> <p>9 = $6 \cdot 10^{-8}$</p>	Residual Bit Error Rate (BER)
	<p><i><sduer></i> is an integer 1-7.</p> <p>1 = $1 \cdot 10^{-2}$</p> <p>2 = $7 \cdot 10^{-3}$</p> <p>3 = $1 \cdot 10^{-3}$</p> <p>4 = $1 \cdot 10^{-4}$</p> <p>5 = $1 \cdot 10^{-5}$</p> <p>6 = $1 \cdot 10^{-6}$</p> <p>7 = $1 \cdot 10^{-1}$</p>	SDU error ratio



Attribute	Type	Description
TC	String <ul style="list-style-type: none"> • BACK = Background • CON = Conversational • INT = Interactive • STR = Streaming 	Traffic class
TD	Integer 100-4000 Values from 100 to 150 are possible in increments of 10. Values from 200 to 950 are possible in increments of 50. Values from 1000 to 4000 are possible in increments of 100.	Transfer delay in milliseconds
THP	Integer 1-4 1= Priority level 1, Signalling Indication = 0 2 = Priority level 2 3 = Priority level 3 4 = Priority level 1, Signalling Indication = 1	Traffic handling priority

(1) The value 151 means 1502 octets.

4.3 Request Change Extended Quality of Service (HECDEQC)

The **HECDEQC** command is used to change the extended QoS data in the HLR-FE. Optionally a network update is sent for each affected normal HLR subscriber, no network update is sent for M2M subscribers.

4.3.1 HECDEQC Request

Command Description:

$$\text{HECDEQC:EQOSID=eqosid} + \left[\begin{array}{l} \left[\begin{array}{l} \text{CON} \\ \text{STR} \end{array} \right] \left[\text{TD=td} \right] \left[\text{GBRU=gbru} \right] \left[\text{GBRD=gbrd} \right] \\ \left[\text{INT} \right] \left[\text{THP=thp} \right] \\ \left[\text{BACK} \right] \end{array} \right] + \left[\begin{array}{l} \left[\text{ARP=arp} \right] \left[\text{DO=do} \right] \left[\text{SDU=sdu} \right] \left[\text{MBRU=mbru} \right] \left[\text{MBRD=mbrd} \right] \left[\text{HLRFEID=hlrfeid} \right] \left[\text{UPDATENET} \right] \end{array} \right];$$

The attributes for **HECDEQC** are specified in Table 15.

**Table 15** *HECDEQC Parameters*

Attribute	Type
ARP	Integer 1-3 1 = High priority 2 = Normal priority 3 = Low priority
BACK	This parameter has no value.
CON	This parameter has no value.
DO	String YES = With delivery order NO = Without delivery order
EQOSID	Integer 0-4095
GBRD	Integer 0-256000 Values from 1 Kbps to 63 Kbps are possible in 1 Kbps increments. Values from 64 Kbps to 568 Kbps are possible in 8 Kbps increments. Values from 576 Kbps to 8640 Kbps are possible in 64 Kbps increments. Values from 8700 Kbps to 16,000 Kbps are possible in 100 Kbps increments. Values from 17,000 Kbps to 128,000 Kbps are possible in 1000 Kbps increments. Values from 130,000 Kbps to 256,000 Kbps are possible in 2000 Kbps increments. Values higher than 2048 Kbps are application system-dependent parameter values. ERASE = Erase guaranteed bit rate for downlink.
GBRU	Integer 0-256000 Values from 1 Kbps to 63 Kbps are possible in 1 Kbps increments. Values from 64 Kbps to 568 Kbps are possible in 8 Kbps increments. Values from 576 Kbps to 8640 Kbps are possible in 64 Kbps increments. Values from 8700 Kbps to 16,000 Kbps are possible in 100 Kbps increments. Values from 17,000 Kbps to 128,000 Kbps are possible in 1000 Kbps increments. Values from 130,000 Kbps to 256,000 Kbps are possible in 2000 Kbps increments. Values higher than 8640 Kbps are application system-dependent parameter values. ERASE = Erase guaranteed bit rate for uplink.
HLRFEID ⁽¹⁾	Text string
INT	This parameter has no value.



Attribute	Type
MBRD	Integer 0-256000 Values from 1 Kbps to 63 Kbps are possible in 1 Kbps increments. Values from 64 Kbps to 568 Kbps are possible in 8 Kbps increments. Values from 576 Kbps to 8640 Kbps are possible in 64 Kbps increments. Values from 8700 Kbps to 16,000 Kbps are possible in 100 Kbps increments. Values from 17,000 Kbps to 128,000 Kbps are possible in 1000 Kbps increments. Values from 130,000 Kbps to 256,000 Kbps are possible in 2000 Kbps increments. Values higher than 2048 Kbps are application system-dependent parameter values. Values higher than 2048 Kbps are application system-dependent parameter values.
MBRU	Integer 0-256000 Values from 1 Kbps to 63 Kbps are possible in 1 Kbps increments. Values from 64 Kbps to 568 Kbps are possible in 8 Kbps increments. Values from 576 Kbps to 8640 Kbps are possible in 64 Kbps increments. Values from 8700 Kbps to 16,000 Kbps are possible in 100 Kbps increments. Values from 17,000 Kbps to 128,000 Kbps are possible in 1000 Kbps increments. Values from 130,000 Kbps to 256,000 Kbps are possible in 2000 Kbps increments. Values higher than 8640 Kbps are application system-dependent parameter values.



Attribute	Type
SDU	String in the format of <i><desdu>-<maxsdu>-<rber>-<sduer></i>
	<i><desdu></i> is one of the following strings: NDE = No detect erroneous SDUs YES = Erroneous SDUs are delivered NO = Erroneous SDUs are not delivered
	<i><maxsdu></i> is an integer 1-151. Values from 1 to 150 mean the number of octets in units of ten octets. Value 151 means 1502 octets.
	<i><rber></i> is an integer 1-9. 1 = $5 \cdot 10^{-2}$ 2 = $1 \cdot 10^{-2}$ 3 = $5 \cdot 10^{-3}$ 4 = $4 \cdot 10^{-3}$ 5 = $1 \cdot 10^{-3}$ 6 = $1 \cdot 10^{-4}$ 7 = $1 \cdot 10^{-5}$ 8 = $1 \cdot 10^{-6}$ 9 = $6 \cdot 10^{-8}$
STR	<i><sduer></i> is an integer 1-7. 1 = $1 \cdot 10^{-2}$ 2 = $7 \cdot 10^{-3}$ 3 = $1 \cdot 10^{-3}$ 4 = $1 \cdot 10^{-4}$ 5 = $1 \cdot 10^{-5}$ 6 = $1 \cdot 10^{-6}$ 7 = $1 \cdot 10^{-1}$
	This parameter has no value.
TD	Integer 100-4000 Values from 100 ms to 150 ms are possible in increments of 10 ms. Values from 200 ms to 950 ms are possible in increments of 50 ms. Values from 1000 ms to 4000 ms are possible in increments of 100 ms.



Attribute	Type
THP	Integer 1-4 1= Priority level 1, Signalling Indication = 0 2 = Priority level 2 3 = Priority level 3 4 = Priority level 1, Signalling Indication = 1
UPDATENET	This parameter has no value.

(1) *HLRFEID* is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(2) Under normal conditions, all HLRs contain the same data.

(3) The value 151 means 1502 octets.

4.3.2 HECDEQC Response

The command HECDEQC responds with only a notification.

If UPDATENET indicator, is in the command a response file is generated according to the schema below.



```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema" \
targetNamespace="http://schemas.ericsson.com/pg/hlr/13.5/" \
elementFormDefault="qualified" attributeFormDefault="qualified">
  <xs:element name="ChangeEQOSLogData" minOccurs="0">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="FailedSubscriberNotifications" minOccurs="0">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="Subscriber" maxOccurs="unbounded">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element name="msisdn" type="xs:string" />
                    <xs:element name="FaultReason">
                      <xs:complexType>
                        <xs:sequence>
                          <xs:element name="code" type="xs:integer" />
                          <xs:element name="message" type="xs:string" />
                          <xs:element name="additionalinfo" type="xs:string"
minOccurs="0" />
                        </xs:sequence>
                      </xs:complexType>
                    </xs:element>
                  </xs:sequence>
                </xs:complexType>
              </xs:element>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
        <xs:element name="MassiveUpdateStatistics">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="starttime" type="xs:string" />
              <xs:element name="stoptime" type="xs:string" />
              <xs:element name="NumberOfChangedSubscribers" type="xs:integer" />
              <xs:element name="NumberOfFailedSubscribers" type="xs:integer" />
              <xs:element name="NumberOfRemainingSubscribers" type="xs:integer" />
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

Note: Error codes printed in the `FaultReason` element are related to the network update for a single subscriber. These errors do not stop the operation. If an error occurs before the network update is executed, that error code is returned in the generic XML structure, which is outside the previous schema.

The generic XML structure for file responses is specified in document Introduction to *Generic CLI Interface Specification*, Reference [2].

Table 16 Response Attributes

Attribute	Type	Description
additionalInfo	Text string	Additional information about the error
code	Integer	The error code
imsi	Digit string, 6-15 digits Each digit is 0-9	International Mobile Subscriber Identity
message	Text string	The error message



Attribute	Type	Description
msisdn	Digit string, 5-15 digits	Mobile Station ISDN or ISDN number
NumberOfChangedSubscribers	Text string	Number of successfully updated subscribers
NumberOfFailedSubscribers	Text string	Number of subscribers where the change failed
NumberOfRemainingSubscribers	Text string	Number of subscribers remaining when the cancel was executed
starttime	Text string	The start time for the massive change
stoptime	Text string	The stop time for the massive change

4.4 End Extended Quality of Service (HECDEQE)

The HECDEQE command deletes an extended QoS defined in the HLR.

4.4.1 HECDEQE Request

Command Description:

```
HECDEQE:EQOSID=eqosid[,HLRFEID=hlrfeid];
```

The following table explains the attributes that can be used in an HECDEQE request.

Table 17 Attributes

Attribute	Type	Description
EQOSID	Integer 0-4095	Extended QoS ID
HLRFEID ⁽¹⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order is executed in all HLR front ends. ⁽²⁾

(1) HLRFEID is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(2) Under normal conditions, all HLRs contain the same data.

4.4.2 HECDEQE Response

The HECDEQE command responds with only a notification.



5 Interexchange Carrier

This section covers Interexchange Carrier operations.

5.1 Initiate Interexchange Carrier (HECDIXI)

The **HECDIXI** command defines an Interexchange Carrier (IXC) and assigns it a Carrier Identification Code (CIC) in the HLR.

5.1.1 HECDIXI Request

Command Description:

```
HECDIXI:IXC=ixc,CIC=cic[,HLRFEID=hlrfeid];
```

The following table explains the attributes that can be used in an **HECDIXI** request.

Table 18 Attributes

Attribute	Type	Description
CIC	Digit string, 1-6 digits Each digit is 0-9.	Carrier Identification Code
IXC	Text string 1-7 characters	Interexchange Carrier
HLRFEID ⁽¹⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order is executed in all HLR front ends. ⁽²⁾

(1) *HLRFEID* is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(2) Under normal conditions, all HLRs contain the same data.

5.1.2 HECDIXI Response

The **HECDIXI** command responds with only a notification.

5.2 Print Interexchange Carrier (HECDIXP)

The **HECDIXP** command prints all IXCs, and their associated CICs and Preferred Interexchange Carrier Identifiers (PICIs) in the HLR.



5.2.1 HECDIXP Request

Command Description:

```
HECDIXP[:HLRFEID=hlrfeid];
```

The following table explains the attributes that can be used in an HECDIXP request.

Table 19 Attributes

Attribute	Type	Description
HLRFEID ⁽¹⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order is executed in a random HLR ⁽²⁾ .

(1) HLRFEID is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(2) Under normal conditions, all HLRs contain the same data.

5.2.2 HECDIXP Response

The HECDIXP response is an XML structure written directly in the CLI. The following is the XML schema used.

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
  targetNamespace="http://schemas.ericsson.com/hlr/13.5/"
  elementFormDefault="qualified" attributeFormDefault="qualified">
  <xs:element name="InterexchangeCarrierData">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="InterexchangeCarrier" minOccurs="0"
          maxOccurs="unbounded">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="ixc" type="xs:string" />
              <xs:element name="cic" type="xs:string" />
              <xs:element name="pici" type="xs:string"
                minOccurs="0"
                maxOccurs="unbounded" />
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

The following table covers the attributes that can be received in an HECDIXP response.

Table 20 Attributes

Attribute	Type	Description
CIC	Digit string, 1-6 digits Each digit is 0-9.	Carrier Identification Code



Attribute	Type	Description
IXC	Text string, 1-7 characters	Interexchange Carrier
PICI	Integer 1-255	Preferred Interexchange Carrier

5.3 Change Interexchange Carrier (HECDIXC)

The **HECDIXC** command assigns an IXC to a PICI in the HLR.

5.3.1 HECDIXC Request

Command Description:

```
HECDIXC:PICI=pici,IXC=ixc[,ERASE][,HLRFEID=hlrfeid];
```

The following table explains the attributes that can be used in an **HECDIXC** request.

Table 21 Attributes

Attribute	Type	Description
ERASE	This parameter has no value.	If ERASE is given, the current relationship between the PICI and the IXC is erased.
HLRFEID ⁽¹⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order is executed in all HLR front ends. ⁽²⁾
IXC	Text string, 1-7 characters	Interexchange Carrier
PICI	Integer 1-255	Preferred Interexchange Carrier

(1) *HLRFEID* is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(2) Under normal conditions, all HLRs contain the same data.

5.3.2 HECDIXC Response

The **HECDIXC** command responds with only a notification.

5.4 End Interexchange Carrier (HECDIXE)

This command ends an **IXC**; either the one specified in the command, or the one corresponding to the specified **CIC**.

5.4.1 HECDIXE Request

Command Description:


$$\text{HECDIXE:} \left[\begin{array}{l} \text{CIC=cic} \\ \text{IXC=ixc} \end{array} \right] [, \text{HLRFEID=hlrfeid}] ;$$

The following table explains the attributes that can be used in an HECDIXE request.

Table 22 Attributes

Attribute	Type	Description
CIC	Digit string, 1-6 digits Each digit is 0-9.	Carrier Identification Code
IXC	Text string, 1-7 characters	Interexchange Carrier
HLRFEID ⁽¹⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order is executed in all HLR front ends. ⁽²⁾

(1) HLRFEID is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(2) Under normal conditions, all HLRs contain the same data.

5.4.2 HECDIXE Response

The HECDIXE command responds with only a notification.



6 Location Service Address

This section covers Location Service Address operations.

6.1 Initiate Location Service Address (HECDGLI)

The **HECDGLI** command initiates a Location Service (LCS) nodes-related address in the HLR.

6.1.1 HECDGLI Request

$$\text{HECDGLI} : \left[\begin{array}{l} \text{GMLCA=gmlca, GMLCID=gmlcid} \\ \text{HGMLCA=hgmlca, HGMLCID=hgmlcid} \\ \text{PPRA=ppra, PPRID=pprid} \end{array} \right] \left[\text{, HLRFEID=hlrfeid} \right];$$

If the parameter **GMLCA** is given, a Gateway Mobile Location Center (GMLC) address is initiated. The maximal number of stored GMLC addresses is 256.

If the parameter **HGMLCA** is given, a Home GMLC (HGMLC) address is initiated. If **HGMLCA** is entered with an IPv6 format, it is allowed to use double colon (::) indicating a group of words equal to zero. The double colon can only appear once in an address. The maximal number of stored HGMLC addresses is 256.

If the parameter **PPRA** is given, a Privacy Profile Register (PPR) address is initiated. If **PPRA** is entered with an IPv6 format, it is allowed to use double colon (::) indicating a group of words equal to zero. The double colon can only appear once in an address. The maximum number of stored privacy profile register addresses is 256.

The following table explains the attributes that can be used in an **HECDGLI** request.

Table 23 Attributes

Attribute	Type	Description
GMLCA	Digit string, 3-15 digits E.164 number	Gateway Mobile Location Center address
GMLCID	Integer 0-255	GMLC address identifier
HGMLCA	IPv4 address: Text string, 7-15 characters IPv6 address: Text string, 2-39 characters	Home GMLC address



Attribute	Type	Description
HGMLCID	Integer 0-255	Home GMLC identifier
HLRFEID ⁽¹⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order is executed in all HLR front ends. ⁽²⁾
PPRA	IPv4 address: Text string, 7-15 characters IPv6 address: Text string, 2-39 characters	Privacy Profile Register address
PPRID	Integer 0-255	PPR address identifier

(1) HLRFEID is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(2) Under normal conditions, all HLRs contain the same data.

6.1.2 HECDGLI Response

The HECDGLI command responds with only a notification.

6.2 Print Location Service Address (HECDGLP)

The HECDGLP command prints the data of LCS nodes-related addresses in the HLR.

6.2.1 HECDGLP Request

Command Description:

```
HECDGLP: [
  GMLCA=[
    gmlca
    ALL
  ]
  GMLCID=gmlcid
  HGMLCA=[
    hgmlca
    ALL
  ]
  HGMLCID=hgmlcid
  PPRA=[
    ppra
    ALL
  ]
  PPRID=pprid
]
```

If the parameters GMLCA or GMLCID are given, the indicated GMLC addresses are printed.



If the parameters `HGMLCA` or `HGMLCID` are given, the indicated home GMLC addresses are printed. If `HGMLCA` is entered with an IPv6 format, it is allowed to use double colon (::) indicating a group of words equal to zero. The double colon can only appear once in one address.

If the parameters `PPRA` or `PPRID` are given, the indicated PPR addresses are printed. If `PPRA` is entered with an IPv6 format, it is allowed to use double colon (::) indicating a group of words equal to zero. The double colon can only appear once in one address.

The following table explains the attributes that can be used in an `HECDGLP` request.

Table 24 *Attributes*

Attribute	Type	Description
GMLCA	Digit string, 3-15 digits E.164 number	Gateway Mobile Location Center address
GMLCID	Integer 0-255	GMLC address identifier
HGMLCA	IPv4 address: Text string, 7-15 characters IPv6 address: Text string, 2-39 characters	Home GMLC address
HGMLCID	Integer 0-255	Home GMLC identifier
HLRFEID ⁽¹⁾	Text string	HLR-FE ID to send the command Normally, the <code>HLRFEID</code> is omitted, which means the order is executed in a random HLR ⁽²⁾ .
PPRA	IPv4 address: Text string, 7-15 characters IPv6 address: Text string, 2-39 characters	Privacy Profile Register address
PPRID	Integer 0-255	PPR address identifier

(1) *HLRFEID* is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(2) Under normal conditions, all HLRs contain the same data.

6.2.2

HECDGLP Response

The `HECDGLP` response is an XML structure written directly in the CLI. The following is the XML schema used.



```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
  targetNamespace="http://schemas.ericsson.com/hlr/13.5/"
  elementFormDefault="qualified" attributeFormDefault="qualified">
  <xs:element name="LocationServiceAddressData">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="LocationServiceAddress" minOccurs="0"
          maxOccurs="unbounded">
            <xs:complexType>
              <xs:choice>
                <xs:sequence>
                  <xs:element name="gmlca" type="xs:string" />
                  <xs:element name="gmlcid"
                    type="xs:integer" />
                </xs:sequence>
                <xs:sequence>
                  <xs:element name="hgmlca" type="xs:string" />
                  <xs:element name="hgmlcid"
                    type="xs:integer" />
                </xs:sequence>
                <xs:sequence>
                  <xs:element name="ppra" type="xs:string" />
                  <xs:element name="pprid" type="xs:integer" />
                </xs:sequence>
              </xs:choice>
            </xs:complexType>
          </xs:element>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
  </xs:schema>
```

The following table covers the attributes that can be received in an HECDGLP response.

Table 25 Attributes

Attribute	Type	Description
GMLCA	Digit string, 3-15 digits E.164 number	Gateway Mobile Location Center address
GMLCID	Integer 0-255	GMLC address identifier
HGMLCA	IPv4 address: Text string, 7-15 characters IPv6 address: Text string, 2-39 characters	Home GMLC address
HGMLCID	Integer 0-255	Home GMLC identifier
PPRA	IPv4 address: Text string, 7-15 characters IPv6 address: Text string, 2-39 characters	Privacy Profile Register address
PPRID	Integer 0-255	PPR address identifier

6.3 End Location Service Address (HECDGLE)

The HECDGLE command ends LCS nodes-related addresses defined in the HLR.



6.3.1 HECDGLE Request

Command Description:

```

HECDGLE: [
    GMLCA=gmlca...
    GMLCID=gmlcid...
    HGMLCA=hgmlca...
    HGMLCID=hgmlcid...
    PPRA=ppra...
    PPRID=pprid...
] [,HLRFEID=hlrfeid];

```

If the parameter **GMLCA** is given, the indicated GMLC addresses are ended.

If the parameter **GMLCID** is given, the associated GMLC addresses are ended.

If the parameter **HGMLCA** is given, the indicated HGMLC addresses are ended. If **HGMLCA** is entered with an IPv6 format, it is allowed to use double colon (::) indicating a group of words equal to zero. The double colon can only appear once in an address.

If the parameter **HGMLCID** is given, the associated HGMLC addresses are ended.

If the parameter **PPRA** is given, the indicated PPR addresses are ended. If **PPRA** is entered with an IPv6 format, it is allowed to use double colon indicating a group of words equal to zero. The double colon can only appear once in an address.

If the parameter **PPRID** is given, the associated PPR addresses are ended.

The following table explains the attributes that can be used in an **HECDGLE** request.

Table 26 *Attributes*

Attribute	Type	Description
GMLCA	Digit string, 3-15 digits E.164 number String ALL	Gateway Mobile Location Center address
GMLCID	Integer 0-255	GMLC address identifier
HGMLCA	IPv4 address: Text string, 7-15 characters IPv6 address: Text string, 2-39 characters String ALL	Home GMLC address ⁽¹⁾



Attribute	Type	Description
HGMLCID	Integer 0-255	Home GMLC identifier
HLRFEID ⁽²⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order is executed in all HLR front ends. ⁽³⁾
PPRA	IPv4 address: Text string, 7-15 characters IPv6 address: Text string, 2-39 characters String ALL	Privacy Profile Register address ⁽¹⁾
PPRID	Integer 0-255	PPR address identifier

(1) Ranges (&&) are not supported for this parameter.

(2) HLRFEID is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(3) Under normal conditions, all HLRs contain the same data.

6.3.2 HECDGLE Response

The HECDGLE command responds with only a notification.



7 Zone Code Set

This section covers Zone Code (ZC) set operations.

7.1 Initiate Zone Code Set (HECDZNI)

The `HECDZNI` command initiates ZCs for a regional service area identity in one ZC set.

The first time `HECDZNI` is executed for a certain ZC set, the ZC set is defined. Each ZC set can hold up to ten Regional Service Area Identities (RSAs). Each RSA can hold up to 10 ZCs.

Note: The command is accepted only if the ZC set is not tied to any subscriber.

7.1.1 HECDZNI Request

Command Description

```
HECDZNI:ZCSET=zcset,RSai=rsai,ZC=zc...[,HLRFEID=hlrfeid];
```

The following table explains the attributes that can be used in an `HECDZNI` request.

Table 27 Attributes

Attribute	Type	Description
HLRFEID ⁽¹⁾	Text string	HLR-FE ID to send the command Normally, the <code>HLRFEID</code> is omitted, which means the order is executed in all HLR front ends. ⁽²⁾
RSai	Integer 0-65535	Regional service area identity
ZC	Integer 0-65535	Zone code
ZCSET	Integer 1-65534	Zone code set

(1) *HLRFEID* is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(2) Under normal conditions, all HLRS contain the same data.

7.1.2 HECDZNI Response

The `HECDZNI` command responds with only a notification.



7.2 Print Zone Code Set (HECDZNP)

The HECDZNP command prints ZC set data.

7.2.1 HECDZNP Request

Command Description

$$\text{HECDZNP:} \left[\begin{array}{l} \text{ZCSET} = \left[\begin{array}{l} \text{zcset} \dots \\ \text{ALL} \end{array} \right] \\ \text{RSAI} = \text{rsai} \end{array} \right] [, \text{HLRFEID} = \text{hlrfeid}];$$

When the parameter `ZCSET` is given, the defined ZC sets given in the command, are printed.

When the parameter `RSAI` is given, the ZC sets for which the given `RSAI` exists, are printed.

The following table explains the attributes that can be used in an HECDZNP request.

Table 28 Attributes

Attribute	Type	Description
HLRFEID ⁽¹⁾	Text string	HLR-FE ID to send the command Normally, the <code>HLRFEID</code> is omitted, which means the order is executed in a random HLR ⁽²⁾ .
RSAI	Integer 0-65535	Regional service area identity
ZC	Integer 0-65535	Zone code
ZCSET	Integer 1-65534 String ALL	Zone code set

(1) *HLRFEID* is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(2) Under normal conditions, all HLRs contain the same data.

7.2.2 HECDZNP Response

The HECDZNP response is an XML structure written directly in the CLI. The following is the XML schema used.



```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
  targetNamespace="http://schemas.ericsson.com/hlr/13.5/"
  elementFormDefault="qualified" attributeFormDefault="qualified">
  <xs:element name="ZoneCodeSetData">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="ZoneCodeSet" minOccurs="0"
          maxOccurs="unbounded">
            <xs:complexType>
              <xs:sequence>
                <xs:element name="zcset" type="xs:integer" />
                <xs:element name="RegionalServicesArea"
                  maxOccurs="unbounded">
                    <xs:complexType>
                      <xs:sequence>
                        <xs:element name="rsai"
                          type="xs:integer" />
                        <xs:element name="zc" type="xs:integer"
                          maxOccurs="unbounded" />
                      </xs:sequence>
                    </xs:complexType>
                  </xs:element>
                </xs:sequence>
              </xs:complexType>
            </xs:element>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
    </xs:sequence>
  </xs:element>
</xs:schema>
```

The following table covers the attributes that can be received in a HECDZNP response.

Table 29 Attributes

Attribute	Type	Description
RSAI	Integer 0-65535	Regional service area identity
ZC	Integer 0-65535	Zone code
ZCSET	Integer 1-65534	Zone code set

7.3 Change Zone Code Set (HECDZNC)

The command HECDZNC adds or deletes ZCs for an already defined RSAI in an existing ZC set.

Note: The command is accepted only if the ZC set is not tied to any subscriber.

7.3.1 HECDZNC Request

Command Description

```
HECDZNC:ZCSET=zcset,RSAI=rsai,ZC=zc...[,HLRFEID=hlrfeid];
```

The following table explains the attributes that can be used in an HECDZNC request.



Table 30 Attributes

Attribute	Type	Description
HLRFEID ⁽¹⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order is executed in all HLR front ends. ⁽²⁾
RSAl	Integer 0-65535	Regional service area identity
ZC	Integer 0-65535	Zone code
ZCSET	Integer 1-65534	Zone code set

(1) HLRFEID is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(2) Under normal conditions, all HLRs contain the same data.

7.3.2 HECDZNC Response

The HECDZNC command responds with only a notification.

7.4 End Zone Code Set (HECDZNE)

The HECDZNE command ends the ZCs for an RSAl from a ZC set.

7.4.1 HECDZNE Request

Command Description

$$\text{HECDZNE:ZCSET=zset,RSAl=}\left[\begin{array}{c} \text{rsai} \\ \text{ALL} \end{array}\right]\text{[,ZC=zC][,HLRFEID=hlrfid];}$$

The following table explains the attributes that can be used in an HECDZNE request.

Table 31 Attributes

Attribute	Type	Description
HLRFEID ⁽¹⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order is executed in all HLR front ends. ⁽²⁾
RSAl	Integer 0-65535 String ALL	Regional service area identity
ZC	Integer 0-65535	Zone code
ZCSET	Integer 1-65534	Zone code set

(1) HLRFEID is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(2) Under normal conditions, all HLRs contain the same data.



7.4.2 HECDZNE Response

The HECDZNE command responds with only a notification.





8 GSM Service Control Function Address

This section covers GSM service control function (gsmSCF) address operations.

8.1 Initiate GSM Service Control Function Address (HECDGSI)

The HECDGSI command initiates a gsmSCF address.

8.1.1 HECDGSI Request

Command Description:

```
HECDGSI:GSA=gsa[,HLRFEID=hlrfeid];
```

The following table explains the attributes that can be used in an HECDGSI request.

Table 32 Attributes

Attribute	Type	Description
GSA	Digit string, 3-15 digits	gsmSCF address
HLRFEID ⁽¹⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order is executed in all HLR front ends. ⁽²⁾

(1) HLRFEID is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(2) Under normal conditions, all HLRs contain the same data.

8.1.2 HECDGSI Response

The HECDGSI command responds with only a notification.

8.2 Print GSM Service Control Function Address (HECDGSP)

The HECDGSP command prints gsmSCF address data from the HLR.

8.2.1 HECDGSP Request

Command Description:


$$\text{HECDGSP:GSA} = \begin{bmatrix} \text{gsa} \\ \text{ALL} \end{bmatrix} + [, \text{MAPOP}] [, \text{HLRFEID} = \text{hlrfeid}] ;$$

The following table explains the attributes that can be used in an HECDGSP request.

Table 33 *Attributes*

Attribute	Type	Description
GSA ⁽¹⁾	Digit string, 3-15 digits String ALL	gsmSCF address If the GSA value is a digit string, only a specific gsmSCF address is printed. If the GSA value is ALL, all gsmSCF addresses are printed.
MAPOP ⁽¹⁾	No value	Mobile Application Part (MAP) operation The MAPOP related to the gsmSCF address is printed.
HLRFEID ⁽²⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order is executed in a random HLR ⁽³⁾ .

(1) If the GSA does not have MAPOP in the HLR-FE, no MAPOP is printed even if the MAPOP is present in the request. If the GSA has MAPOP in the HLR-FE, no MAPOP is printed if the MAPOP is not present in the request.

(2) HLRFEID is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(3) Under normal conditions, all HLRs contain the same data.

8.2.2

HECDGSP Response

The HECDGSP response is an XML structure written directly in the CLI. The following is the XML schema used.

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
  targetNamespace="http://schemas.ericsson.com/hlr/13.5/"
  elementFormDefault="qualified" attributeFormDefault="qualified">
  <xs:element name="GSMServiceControlFunctionAddressData">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="GSMServiceControlFunctionAddress"
          minOccurs="0" maxOccurs="unbounded">
            <xs:complexType>
              <xs:sequence>
                <xs:element name="gsa" type="xs:string" />
                <xs:element name="mapop" type="xs:string" minOccurs="0"
                  maxOccurs="unbounded" />
              </xs:sequence>
            </xs:complexType>
          </xs:element>
        </xs:sequence>
      </xs:complexType>
    </xs:element>
  </xs:schema>
```



The following table covers the attributes that can be received in an HECDGSP response.

Table 34 Attributes

Attribute	Type	Description
GSA	Digit string, 3-15 digits	gsmSCF address
MAPOP	<p>The format of the string is Code-Value.</p> <p>Code:</p> <ul style="list-style-type: none"> • ATI = MAP Any Time Interrogation • ATM = MAP Any Time Modification • ATSI = MAP Any Time Subscription Interrogation • NSDM = MAP Note Subscriber Data Modified <p>Value:</p> <ul style="list-style-type: none"> • 0 = Not allowed for the gsmSCF • 1 = Allowed for the gsmSCF <p>Example: ATI-1</p>	Mobile Application Part (MAP) operation

8.3 Change GSM Service Control Function Address (HECDGSC)

The HECDGSC command assigns a MAPOP to a gsmSCF address which is already defined in the HLR.

8.3.1 HECDGSC Request

Command Description:

```
HECDGSC:GSA=gsa,MAPOP=mapop[,HLRFEID=hlrfeid];
```

The following table explains the attributes that can be used in an HECDGSC request.

Table 35 Attributes

Attribute	Type	Description
GSA	Digit string, 3-15 digits	gsmSCF address



Attribute	Type	Description
MAPOP	The format of the string is Code-Value. Code: <ul style="list-style-type: none">• ATI = MAP Any Time Interrogation• ATM = MAP Any Time Modification• ATSI = MAP Any Time Subscription Interrogation• NSDM = MAP Note Subscriber Data Modified Value: <ul style="list-style-type: none">• 0 = Not allowed for the gsmSCF• 1 = Allowed for the gsmSCF Example: ATI-1	Mobile Application Part (MAP) operation
HLRFEID ⁽¹⁾	Text string	HLR-FE ID where to send the command Normally, the HLRFEID is omitted, which means the order is executed in all HLR front ends. ⁽²⁾

(1) HLRFEID is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(2) Under normal conditions, all HLRs contain the same data.

8.3.2 HECDGSC Response

The HECDGSC command responds with only a notification.

8.4 End GSM Service Control Function Address (HECDGSE)

The HECDGSE command ends a gsmSCF address already defined in the HLR.

8.4.1 HECDGSE Request

Command Description

```
HECDGSE:GSA=gsa[,HLRFEID=hlrfeid];
```

The following table explains the attributes that can be used in an HECDGSE request.

*Table 36 Attributes*

Attribute	Type	Description
GSA	Digit string, 3-15 digits	gsmSCF address
HLRFEID ⁽¹⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order is executed in all HLR front ends. ⁽²⁾

(1) *HLRFEID* is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

(2) Under normal conditions, all HLRs contain the same data.

8.4.2

HECDGSE Response

The HECDGSE command responds with only a notification.





9 Roaming Service Areas

This section covers Roaming Service Areas operations.

9.1 Change Roaming Service Area (HECDRAC)

The **HECDRAC** command changes data applicable to a roaming service area in the HLR-FE.

The command allows to initiate, change, or to end an area within a roaming service area.

9.1.1 HECDRAC Request

Command Description:

$$\text{HECDRAC:RSA=rsa,RAID=raid} + \left[\left[\text{,RSP=rsp} \right] \left[\text{,SRR=srr} \right] \left[\text{,RSIP=rsip} + \left[\text{,HLRFEID=hlrfeid} \right] \right] \right];$$

The following table explains the attributes that can be used in an **HECDRAC** request.

Table 37 Attributes

Attribute	Type	Description
RAID	Numeral 0 - 127	Roaming area identifier
RSA	Numeral 1 - 4096	Roaming service area
RSIP	Numeral 0 - 4096	Roaming service induction profile
RSP	Numeral 0 - 4096	Roaming service restriction profile



Attribute	Type	Description
SRR	0 - No roaming restriction 1 - Roaming restricted in non-General Packet Radio Service (GPRS) network 2 - Roaming restricted in GPRS network Application system-dependent parameter value. 3 - Roaming restricted in both non-GPRS and GPRS networks. Application system-dependent parameter value. Application system-dependent parameter.	Selective roaming restriction
HLRFEID ⁽¹⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order is executed in all HLR front ends.

(1) HLRFEID is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

9.1.2 HECDRAC Response

The HECDRAC command responds only with a notification.

9.2 Print Roaming Service Area (HECDRAP)

9.2.1 HECDRAP Request

Command Description:

$$\text{HECDRAP} \left[\begin{array}{c} \left[\begin{array}{c} \text{RSA=rsa } [, \text{HLRFEID=hlrfeid}] \\ \text{HLRFEID=hlrfeid} \end{array} \right] \\ :+ \\ \left[\begin{array}{c} \text{HLRFEID=hlrfeid} \end{array} \right] \end{array} \right] ;$$

The following table explains the attributes that can be used in an HECDRAP request.

Table 38 Attributes

Attribute	Type	Description
RSA	Numeral 1 - 4096	Roaming service area
HLRFEID ⁽¹⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order is executed in a random HLR (Under normal conditions, all HLRS contain the same data).

(1) HLRFEID is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.



9.2.2

HECDRAP Response

The HECDRAP response is an XML structure written directly in the CLI. The following is the XML schema used.

```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
  targetNamespace="http://schemas.ericsson.com/hlr/13.5/"
  elementFormDefault="qualified" attributeFormDefault="qualified">
  <xs:element name="HlrRoamingServiceAreaData">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="RsaData" minOccurs="0"
          maxOccurs="unbounded">
            <xs:complexType>
              <xs:sequence>
                <xs:element name="rsa" type="xs:integer" />
                <xs:element name="raidData" minOccurs="0"
                  maxOccurs="unbounded">
                    <xs:complexType>
                      <xs:sequence>
                        <xs:element name="raid" type="xs:integer" />
                        <xs:element name="rsp" type="xs:integer"
                          minOccurs="0" />
                        <xs:element name="srr" type="xs:integer"
                          minOccurs="0" />
                        <xs:element name="rsip" type="xs:integer"
                          minOccurs="0" />
                      </xs:sequence>
                    </xs:complexType>
                  </xs:element>
                </xs:sequence>
              </xs:complexType>
            </xs:element>
          </xs:sequence>
        </xs:complexType>
      </xs:element>
    </xs:sequence>
  </xs:element>
</xs:schema>
```

The following table covers the attributes that can be received in an HECDRAP response.

Table 39 Attributes

Attribute	Type	Description
RAID	Numeral 0 - 127	Roaming area identifier
RSA	Numeral 1 - 4096	Roaming service area
RSIP	Numeral 0 - 4096	Roaming service induction profile
RSP	Numeral 0 - 4096	Roaming service restriction profile
SRR	0 - No roaming restriction 1 - Roaming restricted in non-General Packet Radio Service (GPRS) network 2 - Roaming restricted in GPRS network Application system-dependent parameter value. 3 - Roaming restricted in both non-GPRS and GPRS networks. Application system-dependent parameter value. Application system-dependent parameter.	Selective roaming restriction



**Table 40** *Attributes*

Attribute	Type	Description
BSG	Identifier 2 - 6 characters	Basic Service Group
EOICK	Numeral 0 - 1	Extended Originating intelligent network Category Key
ERASE	-	Erase indicator
ETICK	Numeral 0 - 1	Extended Terminating Intelligent Network Category Key
INDAPP	0 - Induction of the outgoing call barring services is not applied at early call forwarding in HLR-FE 1 - Induction of the outgoing call barring services is applied at early and late call forwarding in HLR-FE	Induction applicability indicator
RESTAPP	0 - Restriction of the call forwarding services is applied only at late call forwarding in HLR-FE 1 - Restriction of the call forwarding is applied at early and late call forwarding in HLR-FE	Restriction applicability indicator
RSIP	Numeral 1 - 4096	Roaming service induction profile
RSP	Numeral 1 - 4096	Roaming service restriction profile
SK	Numeral 0 - 2147483647	Service Key
SUD	String ⁽¹⁾	Subscriber Data
TDPTYPE	Application system-dependent parameter	Type of Trigger Detection Point (TDP)
HLRFEID ⁽²⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order is executed in all HLR front ends.

(1) See *HLR Subscriber Data Type Definitions, Reference [4]* for a specific definition.

(2) *HLRFEID* is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

10.1.2 **HECDRPC Response**

The command `HECDRPC` responds with only a notification.

10.2 **Print Roaming Service Profiles (HECDRPP)**

10.2.1 **HECDRPP Request**

Command Description:

$$\text{HECDRPP} \left[\begin{array}{c} \left[\begin{array}{c} \text{RSP=rsip } [, \text{HLRFEID=hlrfeid}] \\ \text{RSIP=rsip } [, \text{HLRFEID=hlrfeid}] \\ \text{HLRFEID=hlrfeid} \end{array} \right] \end{array} \right];$$

The following table explains the attributes that can be used in an HECDRPP request.

Table 41 Attributes

Attribute	Type	Description
RSIP	Numeral 1 - 4096 ALL, All defined roaming service induction profiles.	Roaming service induction profile
RSP	Numeral 1 - 4096 ALL, All defined roaming service restriction profiles.	Roaming service restriction profile
HLRFEID ⁽¹⁾	Text string	HLR-FE ID to send the command Normally, the HLRFEID is omitted, which means the order is executed in a random HLR (Under normal conditions, all HLRs contain the same data).

(1) HLRFEID is the name of the HLR-FE NE, defined in the Dynamic Activation GUI.

10.2.2 HECDRPP Response

The HECDRPP response is an XML structure written directly in the CLI. The following is the XML schema is used.



```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
targetNamespace="http://schemas.ericsson.com/hlr/13.5/"
elementFormDefault="qualified" attributeFormDefault="qualified">
<xs:element name="HlrRoamingServiceProfileData">
<xs:complexType>
<xs:sequence>
<xs:element name="RspData" minOccurs="0"
maxOccurs="unbounded">
<xs:complexType>
<xs:sequence>
<xs:element name="rsp" type="xs:integer" />
<xs:element name="sud" type="xs:string" minOccurs="0"
maxOccurs="unbounded"/>
<xs:element name="SudAndBsg" minOccurs="0"
maxOccurs="unbounded">
<xs:complexType>
<xs:sequence>
<xs:element name="sud" type="xs:string" />
<xs:element name="bsg" type="xs:string"
minOccurs="0"
maxOccurs="unbounded"/>
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="restapp" type="xs:integer"
minOccurs="0" maxOccurs="1"/>
<xs:element name="eoick" type="xs:boolean"
minOccurs="0" maxOccurs="1"/>
<xs:element name="etick" type="xs:boolean"
minOccurs="0" maxOccurs="1"/>
<xs:element name="TdptypeAndSk" minOccurs="0"
maxOccurs="unbounded">
<xs:complexType>
<xs:sequence>
<xs:element name="tdptype" type="xs:string"
minOccurs="0" maxOccurs="1"/>
<xs:element name="sk" type="xs:integer"
minOccurs="0" maxOccurs="unbounded"/>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="RsipData" minOccurs="0"
maxOccurs="unbounded">
<xs:complexType>
<xs:sequence>
<xs:element name="rsip" type="xs:integer" />
<xs:element name="sud" type="xs:string" minOccurs="0"
maxOccurs="unbounded"/>
<xs:element name="SudAndBsg" minOccurs="0"
maxOccurs="unbounded">
<xs:complexType>
<xs:sequence>
<xs:element name="sud" type="xs:string" />
<xs:element name="bsg" type="xs:string"
minOccurs="0" maxOccurs="unbounded"/>
</xs:sequence>
</xs:complexType>
</xs:element>
<xs:element name="indapp" type="xs:integer"
minOccurs="0" maxOccurs="1"/>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:schema>
```



The following table covers the attributes that can be received in an HECDRPP response.

Table 42 Attributes

Attribute	Type	Description
BSG	Identifier 2 - 6 characters	Basic Service Group
EOICK	Numeral 0 - 1	Extended Originating intelligent network Category Key
ETICK	Numeral 0 - 1	Extended Terminating intelligent network Category Key
INDAPP	0 - Induction of the outgoing call barring services is not applied at early call forwarding in HLR-FE 1 - Induction of the outgoing call barring services is applied at early and late call forwarding in HLR-FE	Induction applicability indicator
RESTAPP	0 - Restriction of the call forwarding services is applied only at late call forwarding in HLR-FE 1 - Restriction of the call forwarding is applied at early and late call forwarding in HLR-FE	Restriction applicability indicator
RSIP	Numeral 1 - 4096	Roaming service induction profile
RSP	Numeral 1 - 4096	Roaming service restriction profile
SK	Numeral 0 - 2147483647	Service Key
SUD	String ⁽¹⁾	Subscriber Data
TDPTYPE	Application system-dependent parameter	Type of Trigger Detection Point (TDP)

(1) See *HLR Subscriber Data Type Definitions, Reference [4]*, for a specific definition.





11 Faults or Errors

The CLI error codes can appear both directly in the prompt, and in the result files. Besides the generic and common error codes, the CLI commands can also return some more specific error codes.

11.1 General CLI Errors

The following table covers Dynamic Activation Internal error codes. They can appear in any CLI responses.

Table 43 General Dynamic Activation Internal Error Codes

Error Code	Error Message
1001	Invalid resource ID.
1002	Invalid XPath.
1003	Unrecognized namespace. No data view associated.
1004	Access denied. Invalid principal or credentials.
1005	Not authorized to perform current operation on selected data view.
1006	Invalid parameter.
1007	The XPath failed to match any data in the processed XML.
1008	Failed to provision data.
1009	Unsupported operation.
1093	Could not process request because of limit of maximum number of concurrent ongoing CLI transactions reached.
1095	Communication error while interacting with a Network Element.
1096	Time-out expired during wait for answer from Network Element.
1097	Failure during processing of the request.
1098	Could not process request because of resource limitation.
1099	System error.
1100	Execution was canceled
1101	External error
1103	License error

11.2 Command Mapped Errors

This section covers User Data Consolidation (UDC) HLR/AUC Activation Interface errors that are mapped towards certain commands. The commands listed in this section can be assumed to be stopping, unless "(not stopping)"



is stated. They are listed in the following table along with the commands that can return them.

Table 44 Command Mapped Errors

Error Code	Error Message	Command
2001	FORMAT ERROR	All CLI commands
2002	UNREASONABLE VALUE	All commands starting with HECD
2003	FUNCTION BUSY	All commands starting with HECD
2005	STORAGE IO FAILURE	All commands starting with HECD
2006	PARTLY EXECUTED, HLR ID <id> FAILED	All non-Print commands starting with HECD
2007	UNKNOWN HLR ID	All commands starting with HECD

11.3 HLR Errors

This section covers HLR errors that can be sent through UDC HLR/AUC Activation Interface. The error codes can only appear in certain commands. The commands listed in this section can be assumed to be stopping, unless "(not stopping)" is stated. The following table lists the HLR error codes for CLI.

Table 45 HLR Error Codes

Error Code	Error Message	Command
10015	SUBSCRIBER DATA NOT RECOGNIZED	HECDRPC
10032	SUBSCRIBER DATA NOT APPLICABLE	HECDRPC
10036	BC ALREADY DEFINED	HECDBDI
10043	BASIC SERVICE GROUP NOT RECOGNIZED	HECDRPC
10045	ADDITIONAL MSISDN TIED TO BC	HECDBDE
10055	BC NOT DEFINED	HECDBDC
		HECDBDE
		HECDBDP
10056	BS NOT SUPPORTED	HECDBDP
10057	BC OUT OF RANGE	HECDBDI
		HECDBDC
10059	INCOMPATIBILITY AMONGST PARAMETER UNITS	HECDBDI
		HECDBDC



Error Code	Error Message	Command
10067	BC DOES NOT REPRESENT ANY BS	HECDBDI
		HECDBDC
10074	BC RESERVED FOR SPECIFIC BS	HECDBDI
		HECDBDC
10075	FUNCTIONALITY NOT SUPPORTED BY THIS EXCHANGE	HECDAPC
		HECDAPE
		HECDAPI
		HECDAPP
		HECDEQC
		HECDEQI
		HECDEQE
		HECDEQP
		HECDIXC
		HECDIXI
		HECDIXE
		HECDIXP
		HECDGLE
		HECDGLI
		HECDGLP
		HECDGSE
		HECDGSI
		HECDGSP
		HECDGSC
		HECDZNC
		HECDZNI
		HECDZNE
		HECDZNP
		HECDRAC
		HECDRAP
		HECDRPC
		HECDRPP
10079	BASIC SERVICE GROUP INCLUDED MORE THAN ONCE	HECDRPC
10083	PARAMETER NOT SUPPORTED BY THIS EXCHANGE	HECDRPC
		HECDRPP
10084	MAXIMUM NUMBER OF GSA DEFINED REACHED	HECDGSI
10085	GSA ALREADY DEFINED	HECDGSI



Error Code	Error Message	Command
10189	PARAMETER VALUE NOT SUPPORTED BY THIS EXCHANGE	HECDRPC
10091	RSAI ALREADY EXISTS IN ZONE CODE SET	HECDZNI
10092	MAXIMUM NUMBER OF ZONE CODES EXCEEDED	HECDZNC
		HECDZNI
10093	MAXIMUM NUMBER OF RSAI EXCEEDED	HECDZNI
10094	ZONE CODE SET TIED TO SUBSCRIBERS	HECDZNC
		HECDZNE
		HECDZNI
10095	ZONE CODE INCLUDED MORE THAN ONCE	HECDZNC
		HECDZNI
10096	ZONE CODE SET NOT DEFINED	HECDZNC
		HECDZNE
		HECDZNP
10097	ZONE CODE DELETION NOT ALLOWED	HECDZNC
10098	RSAI DOES NOT EXIST IN ZONE CODE SET	HECDZNC
		HECDZNE
		HECDZNP
10099	ZONE CODE ALREADY DEFINED	HECDZNC
10100	ZONE CODE NOT DEFINED	HECDZNC
10118	IXC ALREADY DEFINED	HECDIXI
10119	IXC NOT DEFINED	HECDIXC
		HECDIXE
10120	CIC ALREADY ASSIGNED	HECDIXI
10121	CIC NOT ASSIGNED	HECDIXE
10122	PICI-IXC RELATION DOES NOT EXIST	HECDIXC
10123	IXC IS ASSIGNED TO A PICI	HECDIXE
10124	MAXIMUM NUMBER OF IXC REACHED	HECDIXI
10125	SUBSCRIBER ASSOCIATED TO THE PICI	HECDIXC
10175	GSA NOT DEFINED	HECDGSE
		HECDGSP
		HECDGSC
		HECDGPC
10181	BS REPRESENTED BY BC NOT WITHIN THE SAME BSG	HECDBDC



Error Code	Error Message	Command
10183	PARAMETER NOT SUPPORTED BY THIS EXCHANGE	HECDBDI
		HECDBDC
		HECDGLI
		HECDGLP
		HECDRAC
10184	MAXIMUM NUMBER OF GSA DEFINED REACHED	HECDGSI
10185	GSA ALREADY DEFINED	HECDGSI
		HECDGPC
10186	GSA IN USE	HECDGSE
10189	PARAMETER VALUE NOT SUPPORTED BY THIS EXCHANGE	HECDBDI
		HECDBDC
		HECDEQC
		HECDEQI
		HECDGLE
		HECDGLP
		HECDGSP
		HECDGSC
		HECDRAC
10209	APN IDENTIFIER IN USE	HECDAPI
10210	APN NOT VALID	HECDAPC
		HECDAPE
		HECDAPI
10211	APN NOT DEFINED	HECDAPC
		HECDAPE
10212	APN IN USE	HECDAPE
10214	APN ALREADY DEFINED	HECDAPC
		HECDAPI
10238	LCS ADDRESS ALREADY DEFINED	HECDGLI
10239	MAXIMUM NUMBER OF LCS ADDRESSES DEFINED REACHED	HECDGLI
10241	NO GMLC ADDRESSES DEFINED	HECDGLE
10258	STORAGE SHORTAGE IN ZONE CODE DATA FILE	HECDZNI
10288	LCS ADDRESS IDENTIFIER IN USE	HECDGLI
10289	LCS ADDRESS IN USE	HECDGLE
10310	EXTENDED QOS IDENTIFIER IN USE	HECDEQI
10311	EXTENDED QOS ALREADY DEFINED	HECDEQI
		HECDEQC



Error Code	Error Message	Command
10312	EXTENDED QOS IN USE	HECDEQE
10314	EXTENDED QOS NOT DEFINED	HECDEQC
		HECDEQE
		HECDEQP
10317	STORAGE SHORTAGE IN APN DATA FILE	HECDAPI
10318	APN IDENTIFIER OUT OF RANGE	HECDAPC
		HECDAPI
10322	TD VALUE NOT ALLOWED WITH TRAFFIC CLASS	HECDEQC
		HECDEQI
10323	SDU VALUE NOT ALLOWED WITH TRAFFIC CLASS	HECDEQC
		HECDEQI
10402	NO SK DEFINED FOR SPECIFIED TDPTYPE	HECDRPC
10403	MAXIMUM NUMBER OF SK EXCEEDED FOR SPECIFIED TDPTYPE	HECDRPC
10404	SK NOT DEFINED FOR SPECIFIED TDPTYPE	HECDRPC
10405	SK ALREADY DEFINED FOR SPECIFIED TDPTYPE	HECDRPC
10406	SK INCLUDED MORE THAN ONCE	HECDRPC
10407	RSP NOT ASSIGNED TO SPECIFIED RAID	HECDRAC
10408	SRR NOT ASSIGNED TO SPECIFIED RAID	HECDRAC
10409	SRR ALREADY ASSIGNED TO SPECIFIED RAID	HECDRAC
10410	RSP ALREADY ASSIGNED TO SPECIFIED RAID	HECDRAC
10414	SUBSCRIBER DATA VALUES INCOMPATIBLE	HECDRAC
10416	SUBSCRIBER DATA VALUE INCLUDED MORE THAN ONCE	HECDRAC
10478	LCS ADDRESS NOT DEFINED	HECDGLE
		HECDGLP
10483	NO HGMLC ADDRESSES DEFINED	HECDGLE
10484	NO PPR ADDRESSES DEFINED	HECDGLE
10524	SUD NOT APPLICABLE PER BASIC SERVICE GROUP	HECDRAC
10525	RSIP NOT ASSIGNED TO SPECIFIED RAID	HECDRAC
10526	RSIP ALREADY ASSIGNED TO SPECIFIED RAID	HECDRAC
10527	SUD NOT APPLICABLE TO SPECIFIED BASIC SERVICE GROUP	HECDRAC
10543	INCOMPATIBLE GBRD AND MBRD VALUES	HECDEQC
		HECDEQI
10544	INCOMPATIBLE GBRU AND MBRU VALUES	HECDEQC
		HECDEQI



Error Code	Error Message	Command
10545	INCOMPATIBLE MBRD AND MBRU VALUES	HECDEQC
		HECDEQI
10558	MISSING PARAMETER FOR THE SPECIFIED TRAFFIC CLASS	HECDEQC
10559	EXTENDED QOS DATA INCOMPATIBLE WITH STORED EXTENDED QOS DATA	HECDEQC
10560	ANY SUBSCRIBER/PROFILE WITH PDPTY NOT SET TO PPP	HECDEQC
10805	GSMSCF PROFILE ALREADY DEFINED	HECDGPI
10806	GSMSCF PROFILE NOT DEFINED	HECDGPC
		HECDGPP
		HECDGPE
10807	GSA MAXIMUM AMOUNT EXCEEDED	HECDGPI
		HECDGPC
10808	GSMSCF PROFILE IN USE	HECDGPE





12 Appendix - HLR Classic and HLR-FE Layered Incompatibilities

For information about incompatibilities between UDB R13.0/13.2 and UDC 11B Layered Configuration, see Reference [5].





Reference List

Ericsson Documents

- [1] *User Guide for Resource Activation*, 1/1553-CSH 109 628 Uen
- [2] *Generic CLI Interface Specification*, 15/155 19-CSH 109 628 Uen
- [3] *Library Overview*, 18/1553-CSH 109 628 Uen
- [4] *HLR Subscriber Data Type Definitions*, 1/198 18-CSH 109 628 Uen
- [5] *User Data Register (UDR) 11B, Network Impact Report from UDB R13.0/13.2 to UDR 11B Layered Configuration*, 2/10948-FGC1011354 Uen