

# Oracle Communications

## Cartridge Feature Specification for Ericsson HLR (Home Location Register)

**Vendor:** *Ericsson*

**Technology:** *HLR*

**Software Load / Interface Version:** *R12*

**Protocol:** TCP/IP / Telnet

**Rollback Supported:** *Yes*

**Complexity:** *High*

**NE Interface Specification:** *Home Location Register (HLR) MSC R12.1, WCDMA R5/GSM R12.1 /ALEX NE Specs*

**NE Description:** The ASAP Cartridge for the Ericsson HLR enables ASAP to activate mobility services on the Ericsson HLR for GSM services.

**Host Element Definition:**

- Supports multiple connections to the network element
- Configurable login credentials (Host IP Address and Port)
- Configurable connection timeout
- Configurable read timeout (on responses from the NE)

## Supported Atomic Actions

**GSM Subscription Services:**

Atomic Action	Description
Create GSM Subscription	Create a new GSM subscription with or without a pre-defined profile.
Modify GSM Subscription	Modify an existing GSM subscription.
Delete GSM Subscription	Delete an existing GSM subscription.
Query GSM Subscription	Query a GSM subscription.

**Additional MSISDN Services:**

Atomic Action	Description
Add additional MSISDN	Add an additional MSISDN to an existing subscription.
Remove additional MSISDN	Remove an additional MSISDN to an existing subscription.

**IMSI Services:**

Atomic Action	Description
Replace IMSI	Replace IMSI for a GSM subscriber.
Modify IMSI with changeover date	Modify the changeover date of the IMSI for a GSM subscriber.
Modify data for old IMSI	Modify the old data associated with the old IMSI for a GSM subscriber.
Cancel IMSI changeover	Cancel the IMSI changeover.

**Basic Services:**

Atomic Action	Description
Activate BS21	Activate Data circuit asynchronous 300 baud feature.
Deactivate BS21	Deactivate Data circuit asynchronous 300 baud feature.
Activate BS22	Activate Data circuit asynchronous 1200 baud feature.
Deactivate BS22	Deactivate Data circuit asynchronous 1200 baud feature.
Activate BS23	Activate Data circuit asynchronous 1200-75 baud feature.
Deactivate BS23	Deactivate Data circuit asynchronous 1200-75 baud feature.
Activate BS24	Activate Data circuit asynchronous 2400 baud feature.
Deactivate BS24	Deactivate Data circuit asynchronous 2400 baud feature.

Activate BS25	Activate Data circuit asynchronous 4800 baud feature.
Deactivate BS25	Deactivate Data circuit asynchronous 4800 baud feature.
Activate BS26	Activate Data circuit asynchronous 9600 baud feature.
Deactivate BS26	Deactivate Data circuit asynchronous 9600 baud feature.
Modify BS2F	Modify fall-back asynchronous bearer service feature.
Activate BS2G	Activate general asynchronous bearer service feature.
Deactivate BS2G	Deactivate general asynchronous bearer service feature.
Activate BS31	Activate Data circuit synchronous 1200 baud feature.
Deactivate BS31	Deactivate Data circuit synchronous 1200 baud feature.
Activate BS32	Activate Data circuit synchronous 2400 baud feature.
Deactivate BS32	Deactivate Data circuit synchronous 2400 baud feature.
Activate BS33	Activate Data circuit synchronous 4800 baud feature.
Deactivate BS33	Deactivate Data circuit synchronous 4800 baud feature.
Activate BS34	Activate Data circuit synchronous 9600 baud feature.
Deactivate BS34	Deactivate Data circuit synchronous 9600 baud feature.
Modify BS2F	Modify fall-back synchronous bearer service feature.
Activate BS3G	Activate general synchronous bearer service feature.
Deactivate BS3G	Deactivate general synchronous bearer service feature.

**Tele-Services:**

Atomic Action	Description
Modify NAM	Modify Network Access Mode feature.

Activate TS11	Activate basic telephony feature.
Deactivate TS11	Deactivate basic telephony feature.
Activate TS21	Activate short message MT/PP feature.
Deactivate TS21	Deactivate short message MT/PP feature.
Activate TS22	Activate short message MO/PP feature.
Deactivate TS22	Deactivate short message MO/PP feature.
Activate TS61	Activate alternate speech/fax group 3 transparent feature.
Deactivate TS61	Deactivate alternate speech/fax group 3 transparent feature.
Activate TS62	Activate automatic facsimile group 3 feature.
Deactivate TS62	Deactivate automatic facsimile group 3 feature.
Activate TSMO	Activate short message option feature.
Deactivate TSMO	Deactivate short message option feature.

**Call Barring Services:**

<b>Atomic Action</b>	<b>Description</b>
Add BAIC	Add barring of all incoming calls.
Remove BAIC	Remove barring of all incoming calls.
Activate BAIC	Activate barring of all incoming calls.
Deactivate BAIC	Deactivate barring of all incoming calls.
Add BAOC	Add barring of all outgoing calls.
Remove BAOC	Remove barring of all outgoing calls.
Activate BAOC	Activate barring of all outgoing calls.
Deactivate BAOC	Deactivate barring of all outgoing calls.
Add BICRO	Add barring of all incoming calls when roaming outside the home PLMN country.

Remove BICRO	Remove barring of all incoming calls when roaming outside the home PLMN country.
Activate BICRO	Activate barring of all incoming calls when roaming outside the home PLMN country.
Deactivate BICRO	Deactivate barring of all incoming calls when roaming outside the home PLMN country.
Add BOIC	Add barring of all outgoing international calls.
Remove BOIC	Remove barring of all outgoing international calls.
Activate BOIC	Activate barring of all outgoing international calls.
Deactivate BOIC	Deactivate barring of all outgoing international calls.
Add BOIEXH	Add barring of all outgoing international calls except those directed to the home PLMN country.
Remove BOIEXH	Remove barring of all outgoing international calls except those directed to the home PLMN country.
Activate BOIEXH	Activate barring of all outgoing international calls except those directed to the home PLMN country.
Deactivate BOIEXH	Deactivate barring of all outgoing international calls except those directed to the home PLMN country.
Modify SOCB	Modify control of barring services.

**Call Forwarding Services:**

Atomic Action	Description
Add CFS	Add call forwarding services.
Remove CFS	Remove call forwarding services.
Add CFB	Add call forwarding when mobile subscriber is busy.
Remove CFB	Remove call forwarding when mobile subscriber is busy.
Activate CFB	Activate call forwarding when mobile subscriber is busy.
Deactivate CFB	Deactivate call forwarding when mobile subscriber is busy.

Add CFNRC	Add call forwarding when mobile subscriber is not reachable.
Remove CFNRC	Remove call forwarding when mobile subscriber is not reachable.
Activate CFNRC	Activate call forwarding when mobile subscriber is not reachable.
Deactivate CFNRC	Deactivate call forwarding when mobile subscriber is not reachable.
Add CFNRY	Add call forwarding when mobile subscriber does not reply.
Remove CFNRY	Remove call forwarding when mobile subscriber does not reply.
Activate CFNRY	Activate call forwarding when mobile subscriber does not reply.
Deactivate CFNRY	Deactivate call forwarding when mobile subscriber does not reply.
Add CFU	Add call forwarding unconditional.
Remove CFU	Remove call forwarding unconditional.
Activate CFU	Activate call forwarding unconditional.
Deactivate CFU	Deactivate call forwarding unconditional.
Add DCF	Add default call forwarding.
Remove DCF	Remove default call forwarding.
Modify OFA	Modify Origin for Forwarded-to number Analysis feature.
Add SPN	Add single personal number.
Remove SPN	Remove single personal number.
Modify SOCFB	Modify call forwarding on mobile subscriber busy.
Activate SOCFRC	Activate call forwarding on mobile subscriber not reachable.
Deactivate SOCFRC	Deactivate call forwarding on mobile subscriber not reachable.

Modify SOCFRY	Modify call forwarding on no Reply.
Activate SOCFU	Activate call forwarding unconditional.
Deactivate SOCFU	Deactivate call forwarding unconditional.
Modify SODCF	Modify default call forwarding.
Modify SOSDCF	Modify supplementary default call forwarding.

**Calling Line Identification Services:**

Atomic Action	Description
Activate CLIP	Activate calling line identification presentation.
Deactivate CLIP	Deactivate calling line identification presentation.
Activate CLIR	Activate calling line identification restriction.
Deactivate CLIR	Deactivate calling line identification restriction.
Activate COLP	Activate connected line identification presentation.
Deactivate COLP	Deactivate connected line identification presentation.
Activate COLR	Activate connected line identification restriction.
Deactivate COLR	Deactivate connected line identification restriction.
Activate SOCLIP	Activate subscription option calling line identification presentation.
Deactivate SOCLIP	Deactivate subscription option calling line identification presentation.
Modify SOCLIR	Modify subscription option calling line identification restriction feature.
Activate SOCOLP	Activate subscription option connected line identification presentation feature.
Deactivate SOCOLP	Deactivate subscription option connected line identification presentation feature.

**Operator Determine Barring Services:**

Atomic Action	Description
Activate OBA	Activate operator determined barring of all incoming and outgoing calls
Deactivate OBA	Deactivate operator determined barring of all incoming and outgoing calls.
Modify OBI	Modify operator determined barring of all incoming calls.
Modify OBO	Modify operator determined barring of all outgoing calls.
Activate OBOPRE	Activate operator determined barring of outgoing premium rate calls (Entertainment) feature.
Deactivate OBOPRE	Deactivate operator determined barring of outgoing premium rate calls (Entertainment) feature.
Activate OBOPRI	Activate operator determined barring of outgoing premium rate calls (Information) feature.
Deactivate OBOPRI	Deactivate operator determined barring of outgoing premium rate calls (Information) feature.
Activate OBSSM	Activate operator determined barring of supplementary service management feature.
Deactivate OBSSM	Deactivate operator determined barring of supplementary service management feature.
Modify OBR	Modify operator determined barring of roaming feature.
Modify OBRF	Modify operator determined barring of roaming of registration of forwarded-to number feature.
Activate OBZI	Activate operator determined barring of incoming inter-zonal calls feature.
Deactivate OBZI	Deactivate operator determined barring of incoming inter-zonal calls feature.
Modify OBZO	Modify operator determined barring of outgoing inter-zonal calls feature.
Activate OSB1-4	Activate operator determined barring of specific

	barring in HPLMN (Type 1-4) feature.
Deactivate OSB1-4	Activate operator determined barring of specific barring in HPLMN (Type 1-4) feature.

**CAMEL Service:**

Atomic Action	Description
Add CAMEL	Add customized applications for mobile network enhanced logic.
Remove CAMEL	Remove customized applications for mobile network enhanced logic.
Modify CAMEL	Modify customized applications for mobile network enhanced logic.
Modify Extended CAMEL	Modify extended customized applications for mobile network enhanced logic.

**Location Service:**

Atomic Action	Description
Add Location Service	Add location services.
Remove Location Service	Remove location services.
Set Location	Sets the location of the mobile subscriber to unknown.
Modify Location Services Data	Change subscriber Location services data

**GMLC Address:**

Atomic Action	Description
Add GMLC	Add GMLC Identifier.
Remove GMLC	Remove GMLC Identifier.

**GPRS Service:**

Atomic Action	Description
Add GPRS Service	Add General Packet Radio Service (GPRS).
Remove GPRS Service	Remove General Packet Radio Service (GPRS).
Add APN	Add the Access Point Name feature.
Remove APN	Remove the Access Point Name feature.

**Other Services:**

Atomic Action	Description
Modify ACC	Modify an Account Code feature.
Modify AOC	Modify the advice of charge feature.
Modify CAPL	Modify channel allocation priority level feature.
Modify CAT	Modify subscriber category option on an existing subscription.
Add CAW	Add call waiting option on an existing subscription.
Remove CAW	Remove call waiting option on an existing subscription.
Activate CAW	Activate call waiting option on an existing subscription.
Deactivate CAW	Deactivate call waiting option on an existing subscription.
Modify DBSG	Modify Default Basic Service Group feature.
Modify DEMLPP	Modify Default Enhanced Multi-Level Precedence and Pre-emption feature.
Activate EMLPP	Activate Enhanced Multi-Level Precedence and Pre-emption feature.
Deactivate EMLPP	Deactivate Enhanced Multi-Level Precedence and Pre-emption feature.
Activate HOLD	Activate Call Hold feature.

Deactivate HOLD	Deactivate Call Hold feature.
Modify HPN	Modify High Presentation Notification feature.
Activate ICI	Activate Immediate Call Itemization feature.
Deactivate ICI	Deactivate Immediate Call Itemization feature.
Modify MEMLPP	Modify Enhanced Multi-Level Precedence and Pre-emption maximum priority level.
Activate MPTY	Activate Multiparty Service.
Deactivate MPTY	Deactivate Multiparty Service.
Modify OFA	Modify Origin for Forwarded-to number Analysis feature.
Activate OIN	Activate Originating Intelligent Network feature.
Deactivate OIN	Deactivate Originating Intelligent Network feature.
Modify OICK	Modify Originating Intelligent Network Category Key feature.
Activate PAI	Activate Positioning Allowed Indicator feature.
Deactivate PAI	Deactivate Positioning Allowed Indicator feature.
Modify PICI	Modify Primary Inter-exchange Carrier Identity feature.
Modify PWD	Modify subscriber password on an existing subscription.
Get PDP	Query the packet data protocol context data for a series of connected subscribers feature.
Modify REGSER	Modify Regional Service feature.
Modify SCHAR	Modify Subscriber Charging Characteristics feature.
Modify STYPE	Modify Subscriber Type feature.
Modify TICK	Modify Terminating Intelligent Network Category Key feature.
Activate TIN	Activate Terminating Intelligent Network feature.
Deactivate TIN	Deactivate Terminating Intelligent Network feature.

Add CUG	Add Closed User Group feature.
Remove CUG	Remove Closed User Group feature.

**Features:**

Atomic Action	Description
Add features	Add all features to an existing subscriber.
Remove features	Remove all features from an existing subscriber.
Modify features	Modify all features from an existing subscriber.

**Multiple Subscriptions:**

Atomic Action	Description
Add Multiple subscriptions	Initiate multiple subscriptions data
Remove Multiple subscriptions	End multiple subscription data.
Modify multiple subscriptions	Changes multiple subscription data.

**SMS SPAM Data:**

Atomic Action	Description
Add SMS SPAM data	Add spam SMS data
Remove SMS SPAM data	Remove spam SMS data

**Cartridge Deliverables****Software:**

- Atomic Actions (for testing purposes)
- Service Actions (for testing purposes)
- Action Processors
- Connection Handlers
- Installation script
- Sample Network Element Configuration
- Sample Work Orders

**Documentation:**

- Cartridge Guide: Containing descriptions of the following items:
  - Atomic Actions
  - Service Actions
  - Installation procedures
  - Sample Network Element Configuration
- Cartridge Release Record: Indicating the software used during the certification process of the product.

**Customer Acceptance of this Cartridge Feature Specification**

<p><b>Customer representative authorised to accept:</b></p> <p><b>Signature:</b></p>  <p><b>Date:</b></p>
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