ERICSSON

Configuring APN Resolve and Redirect

OPERATION DIRECTIONS

66/1543-AXB 250 05/8 Uen AD

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Contents

1 Introduction

This document describes how to configure the functionality included in the APN Resolve and Redirect feature for the GSM, WCDMA, and LTE access types.

1.1 Scope

This document covers the following areas:

— Prerequisites for the configuration

— Configuration guidelines

— Checkpointing and activating the pending configuration

— Configuration examples

1.2 Target Groups

This document is intended for personnel configuring the SGSN-MME.

2 Prerequisites

This section describes the prerequisites for the configuration.

2.1 Planning

Before configuring the feature, load the license-key file containing the feature license. For more information, see Installing Node-Based Licenses. If network-based licenses are used, see Activation of NeLS Client Licenses.

When planning the configuration for APN Resolve and Redirect, consider the following:

— The necessary parameters for the CLI commands outlined in this document are listed in SGSN-MME Licensed Capacities and Features.

— For more information about the feature, see APN Resolve and Redirect for GSM and WCDMA Access and APN Resolve and Redirect for LTE Access.

2.2 User

The person performing the configuration and planning must have training and a solid knowledge in the following areas:

— Working in UNIX™

— Packet-switching communication

— Operation of the SGSN-MME

3 Configuring APN Conversion

Configure APN Conversion by doing the following:

Instructions

1. Display the configuration classes and parameters related to APN Conversion by using the get_config_area –can ApnConversion CLI command.
2. Activate APN Conversion by setting the feature state to `ACTIVATED`, using the modify_feature_state CLI command.

   For GSM and WCDMA, the feature parameter is `apn_conversion_wg`. For LTE, the feature parameter is `apn_conversion_lte`. These parameters can be activated separately.
3. Specify an APN conversion criterion by using the create_apn_conversion_criteria CLI command.
4. Specify an APN conversion list by using the create_apn_conversion_list CLI command.
5. Specify the association between the APN conversion list and the APN conversion criterion by using the create_acl_acc CLI command.
6. Specify the association between the APN conversion list and the IMSI number series (IMSINS) by using the create_imsins or the modify_imsins CLI command.
7. Perform the consistency checking, activating, and checkpointing of the configuration, see Section 10 on page 18.

Example

The following examples show how to configure APN Conversion:

```
gsh modify_feature_state -fsi apn_conversion_wg -fs ACTIVATED

gsh modify_feature_state -fsi apn_conversion_lte -fs ACTIVATED

gsh create_apn_conversion_criteria -acid 1 -oan test.converted.apn
-can isp1.gprslab.com

gsh create_apn_conversion_list -acl 11

gsh create_acl_acc -acl 11 -acid 1

gsh create_imsins -imsi 546789 -rs home -dn mnc456.mcc123.gprs
-lcc 14 -qpmw 1 -qpmg 1 -np e212 -na international -earplr 0 –acl
11
```

4 Configuring APN Redirection (New Recommended Configuration Method)

Configure APN Redirection by doing the following:

Instructions

1. Display the configuration classes and parameters related to APN Redirection by using the get_config_area –can ApnRedirection CLI command.
2. Configure an APN redirection profile by using the create_apn_redirection_profile CLI command.
   - Specify a name for the APN redirection profile by configuring the `ApnRedirectionProfileName` parameter.
   - Specify the APN redirection rule by configuring the `ApnRedirectRule` parameter.
   - Specify the default APN for GPRS subscribers by configuring the `DefaultApnName` parameter.

     For EPS subscribers, the default APN is subscribed in the HSS.
   - Specify the device types not allowed for APN redirection by configuring the `ExceptionalDeviceGroupName` parameter.
3. Connect an APN redirection profile with an IMSINS by using the create_imsins or the modify_imsins CLI commands.

4. Enable the APN Redirection feature, by setting the feature state to ACTIVATED for the apn_redirection parameter, using the modify_feature_state CLI command.

5. Perform the consistency checking, activating, and checkpointing of the configuration, see Section 10 on page 18.

Example

The following examples show how to configure APN Redirection for the IMSINS 101168:

```
gsh create_apn_redirection_profile -arpn ArpTest1 -arr defaultApn
-dan defaultapn.gprslab.com -egdn edgn1

gsh create_imsins -arpn ArpTest1 -imsi 101168

gsh modify_feature_state -fsi apn_redirection -fs ACTIVATED
```

5 Configuring APN Redirection (Deprecated Configuration Method)

This section describes the old configuration method, which can be used to configure APN redirection for home subscribers only.

For a functional description of APN Redirection for home subscribers using the old configuration method, see APN Resolve and Redirect for LTE Access and APN Resolve and Redirect for GSM and WCDMA Access in the SGSN-MME 1.14 release, or earlier releases.

Attention!

The commands for APN Redirection in this section are set to DEPRECATED, and will be removed within 18 months after the release of SGSN-MME 1.15.

Ericsson recommends using the new configuration method described in Section 4 on page 3 to configure APN Redirection for both home and roaming subscribers.

Note: After upgrading to SGSN-MME 1.15 (or if the upgrading path includes SGSN-MME 1.15), the old configuration data of APN Redirection are automatically converted to a recommended setting according to the new configuration method. If users continue to use the old configuration method described in Section 5 on page 4 to modify APN Redirection for home subscribers, the modification is not automatically converted according to the new configuration method: In this case, the following can happen:

- If the IMSI number series for a UE is not associated to any APN redirection profile, the data configured with the old method takes effect for this UE.
- When both old data (configured according to Section 5 on page 4) and new data (configured according to Section 4 on page 3) exist for the same IMSI number series, only the new data takes effect.

Configure APN Redirection by doing the following:

Instructions

1. Display the configuration classes and parameters related to APN Redirection by using the get_config_area –can ApnRedirection CLI command.
2. Enable APN Redirection by setting the feature state to `ACTIVATED` for theapn_redirection parameter, using the modify_feature_state CLI command.

5.1 Configuring APN Redirection for GPRS Subscribers

Configure APN Redirection for GPRS Subscribers by doing the following:

Instructions

1. Configure the SGSN-MME default APN by using the modify_ne CLI command.
2. Configure the SGSNApnRedirectToSubscribedApn parameter by using the modify_sgsn CLI command.
3. Configure the SGSNApnRedirectForSingleApn parameter by using the modify_sgsn CLI command.
4. Configure the SGSNApnRedirectForMultipleApn parameter by using the modify_sgsn CLI command.
5. Configure the SGSNRejectEmptyApnForSinglePdpSubscription parameter by using the modify_sgsn CLI command
6. Enable APN Redirection for GPRS subscribers by setting the feature state to `ACTIVATED` for the apn_redirection parameter, using the modify_feature_state CLI command.

7. Optionally, configure the APN Redirection criteria based on the IMEI-TAC of the MS by using the create_apn_redirection_criteria CLI command. Before configuring the APN Redirection criteria, do the following to associate a specific device type with the device group:

    a. Create a device type by using the create_ue_device_type CLI command.

    b. Add the IMEI-TAC of the MS to the device type by using the create_ue_device_type_imei_tac CLI command.

    c. Create a device group by using the create_ue_device_group CLI command.

    d. Associate the device type with the device group by using the create_ue_dg_device_type CLI command.

8. Perform the consistency checking, activating, and checkpointing of the configuration, see Section 10 on page 18.

5.1.1 Configuration Examples of APN Redirection for GPRS Subscribers

The following example shows the current configuration for APN Redirection for GPRS subscribers:

```
gsh get_sgsn

Parameter                                              Active Data     Planned Data
-------------------------------------------------------------------------------------
timestamp                                              20140522073259  _
planState                                              _               _
arsp (SGSNAccessRestrictionSamePlmn)                   true            _
aqu (SGSNAllowQosUpgrade)                              upgradeAllowed  _
arfma (SGSNApnRedirectForMultipleApn)                  reject          _
arfsa (SGSNApnRedirectForSingleApn)                    subscribed      _
artsa (SGSNApnRedirectToSubscribedApn)                 false           _
lpcpu (SGSNLimitPdpContextsPerUser)                    0               _
mitl (SGSNMsInactivityTimeLimit)                       300             _
mfcr (SGSNMocnForcedCoordRoamers)                      false           _
rea (SGSNRejectEmptyApnForSinglePdpSubscription)       false           _
tire (SGSNTcpIpRecoveryEnable)                         false           _
t14 (GnT14PshoFrwRelComplete)                          5500            _
mscg (SGSNMocnSuppressCoordRoamersG)                   false           _
mscw (SGSNMocnSuppressCoordRoamersW)                   false           _
mfcg (SGSNMocnForcedCoordRoamersG)                     false           _
```

The following example shows an example configuration of APN Redirection for GPRS subscribers:

```
gsh modify_ne -dan defaultapn.gprslab.com
```

```
gsh modify_sgsn -artsa true

gsh modify_sgsn -arfsa reject

gsh modify_sgsn -arfma defaultorlowest

gsh modify_sgsn -rea true

gsh modify_feature_state -fsi apn_redirection -fs ACTIVATED
```

The following example shows an example configuration of the APN Redirection criteria for GPRS subscribers:

```
gsh create_ue_device_type -dn blackberry9700 -dv rim -dc smart
-dos other

gsh create_ue_device_type_imei_tac -dn blackberry9700 -tac
12345678

gsh create_ue_device_group –dgn blackberry

gsh create_ue_dg_device_type –dgn blackberry –dn blackberry9700

gsh create_apn_redirection_criteria -arid 1 -ara rejection -dgn
blackberry
```

In the following example, APN Redirection uses the subscribed APN with the default PDN context ID when the requested APN is unsubscribed, but the requested PDN type matches multiple subscribed APNs:

```
gsh modify_sgsn -arfma sgsndefaultapn –artsa true
```

5.2 Configuring APN Redirection for EPS Subscribers

Enable and configure APN Redirection for EPS subscribers by doing the following:

Instructions

1. Configure the EpsApnRedirectForSingleApn parameter by using the modify_apn_redirection CLI command.
2. Configure the EpsApnRedirectForMultipleApn parameter by using the modify_apn_redirection CLI command.
3. Enable APN Redirection for EPS subscribers by setting the feature state to ACTIVATED for the apn_redirection parameter, using the modify_feature_state CLI command.
4. Optionally, configure the APN Redirection criteria based on the IMEI-TAC of the UE by using the create_apn_redirection_criteria CLI command. Before

configuring the APN Redirection criteria, do the following to associate a specific device type with the device group:

a. Create a device type by using the create_ue_device_type CLI command.

b. Add the IMEI-TAC of the UE to the device type by using the create_ue_device_type_imei_tac CLI command.

c. Create a device group by using the create_ue_device_group CLI command.

d. Associate the device type with the device group by using the create_ue_dg_device_type CLI command.

5. Perform the consistency checking, activating, and checkpointing of the configuration, see Section 10 on page 18.

5.2.1 Configuration Examples of APN Redirection for EPS Subscribers

The following example shows the current configuration for APN Redirection for EPS subscribers:

```
gsh get_apn_redirection

Parameter                              Active Data     Planned Data
-------------------------------------------------------------------------
timestamp                              20140522073259  _
planState                              _               _
arfma (EpsApnRedirectForMultipleApn)   reject          _
arfsa (EpsApnRedirectForSingleApn)     subscribed      _
```

The configuration of APN Redirection can be modified, as shown in the following example:

```
modify_apn_redirection [-earfma EpsApnRedirectForMultipleApn]
[-earfsa EpsApnRedirectForSingleApn]
```

The following example shows how to enable APN Redirection for EPS subscribers:

```
gsh modify_feature_state -fsi apn_redirection -fs ACTIVATED
```

The following example shows an example configuration of the APN Redirection criteria for EPS subscribers:

```
gsh create_ue_device_type -dn blackberry9700 -dv rim -dc smart
-dos other

gsh create_ue_device_type_imei_tac -dn blackberry9700 -tac
12345678
```

```
gsh create_ue_device_group –dgn blackberry

gsh create_ue_dg_device_type –dgn blackberry –dn blackberry9700

gsh create_apn_redirection_criteria -arid 1 -ara rejection -dgn
blackberry
```

In the following example, APN Redirection rejects a request when the requested APN is unsubscribed, but the requested PDN type matches a single APN:

```
gsh modify_apn_redirection -arfsa reject

gsh check_config

gsh activate_config_pending
```

New APN Redirection configuration can be applied:

```
gsh get_apn_redirection

Parameter                              Active Data     Planned Data
-----------------------------------------------------------------------
timestamp                              20140522080846  _
planState                              _               _
arfma (EpsApnRedirectForMultipleApn)   reject          _
arfsa (EpsApnRedirectForSingleApn)     reject          _
```

In the following example, APN Redirection uses the subscribed APN with the lowest PDN context ID when the requested APN is unsubscribed, but the requested PDN matches multiple subscribed APNs:

```
gsh modify_apn_redirection -arfma lowestContextId
```

5.2.1.1 Rejecting a Request

6 Configuring APN Resolution Extension (New Recommended Configuration Method)

To configure APN Resolution Extension, do the following:

Instructions

1. To display the configuration classes and parameters related to APN Resolution Extension, use the get_config_area -can ApnResolutionExtension CLI command.

2. Configure an APN resolution criterion by using the create_enhanced_apn_resolution_criteria or themodify_enhanced_apn_resolution_criteria CLI command.

   - The `ApnResolutionCriteriaId` parameter specifies the ID of an APN resolution criterion.

   - The `ApnName` parameter specifies an APN to which the configured APN resolution criteria apply. If this parameter is not configured, the resolution criteria apply to all APNs except those configured with specific resolution criteria.

   - The `InfixOrder` parameter specifies the precedence order if more than one infix is configured for APN Resolution Extension.

   At least one infix is configured as the APN resolution extension for PGW selection. The following three parameters are used to specify infixes:

   - The `ChargingCharacteristicsName` parameter specifies a CC infix based on Charging Characteristics.

   - The `GeographicalAreaGroupName` parameter specifies a GAN infix based on Geographical Area.

     For information about how to configure the Geographical Area (GA) and the Geographical Area Group (GAG), see Geographical Area (CLI).

   - The `SubscriberIDDigits` parameter specifies an infix using part of the MSISDN number.

3. Configure an APN resolution list by using the create_enhanced_apn_resolution_list CLI command.

   Associate the APN resolution list with one or more APN resolution criteria IDs by using the create_enhanced_arl_arc CLI command.

4. Associate the APN resolution list with an IMSI number series by using the create_imsins or the modify_imsins CLI command.

5. Enable APN Resolution Extension by setting the feature state to `ACTIVATED` for the apn_resolution_extension parameter, using the modify_feature_state CLI command.

6. Perform the consistency checking, activating, and checkpointing of the configuration, see Section 10 on page 18.

Example

The following examples show how to configure APN Resolution Extension for the IMSINS 202168:

```
gsh create_enhanced_apn_resolution_criteria -arcid 1 -apn
ttcn1202.com.mnc099.mcc240.gprs -sid 3-6 -ccn xyz1 -gagn gag1 -io
sid,ccn,gagn

gsh create_enhanced_apn_resolution_list -earl 11

gsh create_enhanced_arl_arc -earl 11 -arcid 1

gsh create_imsins -earl 11 -imsi 202168

gsh modify_feature_state -fsi apn_resolution_extension -fs
ACTIVATED
```

7 Configuring APN Resolution Extension Function (Deprecated Configuration Method)

This section describes the old configuration method, which can be used to configure APN Resolution Extension for home subscribers only.

Attention!

The commands for APN Resolution Extension in this section are set to DEPRECATED, and will be removed within 18 months after the release of SGSN-MME 1.15.

Ericsson recommends using the new configuration method described in Section 6 on page 9 to configure APN Resolution Extension for both home and roaming subscribers.

Note: After upgrading to SGSN-MME 1.15 (or if the upgrading path includes SGSN-MME 1.15), the old configuration data of APN Resolution Extension Function are automatically converted to a recommended setting according to the new configuration method. After that, if users continue to use the old way described in Section 7 on page 11 to modify APN Resolution Extension Function configuration for home subscribers, the modification is not automatically converted according to the new configuration method, and the following can happen:

- The data configured with the old method will be invalid after the deprecated commands are removed in the future.
- When both the old (configured according to Section 7 on page 11) and the new data (configured according to Section 6 on page 9) exist for the same IMSI number series, only the new data takes effect.
- If the IMSI number series are not associated to any enhanced APN resolution criteria, the data configured with the old method takes effect for those UEs.

For an overview of the procedure for configuring the functionality, see Figure 1.

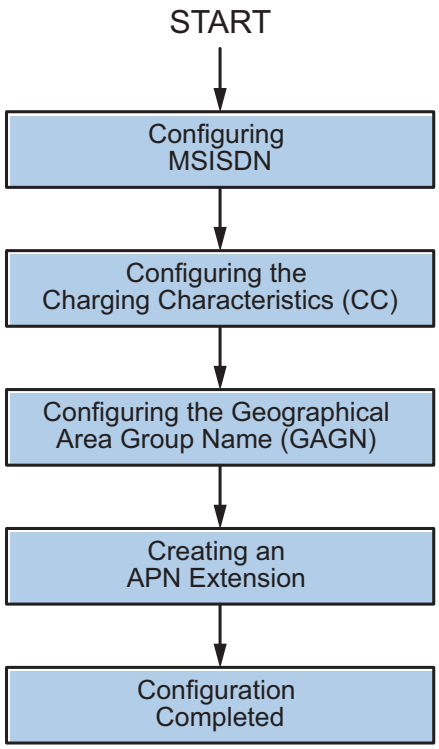

Figure 1 APN Resolution Extension Function Configuration Flowchart

7.1 Configuring MSISDN

Configure the partial MSISDN number as one of the APN resolution criteria of an APN by performing the following step:

1. Specify which part of the MSISDN number is to be used as the APN Resolution Criteria, from the most significant digit to the least significant digit, by using the modify_apn_resolution_msisdn CLI command.

7.2 Configuring the Charging Characteristics

This section describes how to configure the Charging Characteristics (CC) as one of the APN resolution criteria of an APN. If default values are to be used, the following steps are optional.

1. Specify which APN extension applies to the CC-based APN extension by using the modify_apn_resolution_cc command.

2. Specify whether `0` or `1` is used to trigger the CC-based APN extension by using the modify_apn_resolution_cc command.

3. Specify whether B15, the most significant bit of the second byte of the CC, is inverted by using the modify_apn_resolution_cc command.

4. Enable Configuring the Charging Characteristics feature, by setting the feature state to `ACTIVATED` for the apn_resolution_extension parameter, using the modify_feature_state CLI command.

7.3 Configuring GAGN

Configure the Geographical Area Group Name (GAGN) as one of the APN resolution criteria of an APN by doing the following:

1. Specify the area ranges that are included in the GA.

    a. For GSM and WCDMA, specify the Routing Areas (RA). Only after the creation of the RA and GA the association between them can be created. Create a RA by using the create_ra CLI command. Create a GA by using the create_ga command. Create association between the RA and GA by using the create_ga_ra command.

    b. For LTE, specify the Tracking Area (TA) ranges. One TA range can be only one or more than one tracking area. Create a GA by using the create_ga CLI command. Create the association between the TA range and GA by using the create_ga_ta_range command.

2. Specify which GAs are included in the Geographical Area Group (GAG). Only after the creation of the GA and GAG the association between them can be created. Create a GAG by using the create_ga_group command. Create the association between the GA and GAG by using the create_gag_ga command.

3. Check whether the RA or TA range overlaps more than one GA, but those GAs are included in one GAG, by using the check_config command.

   Note: It is possible for an RA or TA range to be included in more than one GA. It is not allowed to configure two GAs with an overlapping RA into one GAG.

7.4 Creating an APN Extension

Create an APN Extension by doing the following:

1. Specify which APN resolution criteria are used for each APN by using the create_apn_resolution_criteria command.

   Note: Only after the creation of a GAGc the APN resolution criteria can be set with the GAGN.

   If the default values are used, proceed to step 3.

2. Specify the infix order by using the modify_apn_resolution_infix_order command.

If APN Resolution Extension Function is based on the IMSINS, the APN, or combination of the APN and IMSINS, the following steps are optional.

3. Specify an APN resolution criteria list by using the create_apn_resolution_list command.

4. Specify an association between an APN Resolution list and an APN Resolution Criteria by using the create_arl_arc command.

5. Specify an association between an APN Resolution list and an IMSINS by using the create_imsins or the modify_imsins command.

6. Perform the consistency checking, activating, and checkpointing the configuration, see Section 10 on page 18.

For more information on the configuration of the GA, GAG, the association between the GA and RA, and the association between the GAG and GA, see Geographical Area (CLI).

7.5 Examples of Configuring APN Resolution Extension Function

The following example configures the APN Resolution Extension Function functionality.

```
gsh modify_apn_resolution_msisdn -msd 3 -lsd 7

gsh modify_apn_resolution_cc -ccn CC
```

```
gsh modify_apn_resolution_cc -ccn CC -ccti no -cctv 0

gsh modify_apn_resolution_cc -ccti no

gsh modify_feature_state fsi apn_resolution_extension -fs
ACTIVATED
```

7.5.1 Example of Configuring GAGN as an APN Resolution Criteria

This example specifies the area ranges for GSM and WCDMA:

```
gsh create_ra -mcc 123 -mnc 456 -lac 28 -rac 8 -at gsm

gsh create_ga -gan ga2

gsh create_ga_ra -gan ga2 -mcc 123 -mnc 456 -lac 28 -rac 8
```

The area ranges for LTE can be specified as shown in the following example:

```
gsh create_ga -gan WestRegionLte

gsh create_ga_ta_range -gan WestRegionLte -tan TaRange2 -mcc 123
-mnc 456 -first 20 -last 21
```

The following example commands specify which GAs can be included in the GAG:

```
gsh create_ga_group -gagn gag1

gsh create_gag_ga -gagn gag1 -gan ga2
```

This example creates and modifies the APN resolution criteria:

```
gsh create_apn_resolution_criteria -an isp10.gprslab.com.mnc456.mc
c123.gprs -si msisdn -cc true -gagn gag1 -ab yes -ib no

gsh modify_apn_resolution_infix_order -ai1 si -ai2 cc -ai3 ga

gsh get_config_area -can ApnResolutionExtension

ApnResolutionExtension configured
---------------------------------
  feature  -name apn_resolution_extension -state ACTIVATED
  apn_resolution_criteria  -an isp10.gprslab.com.mnc456.mcc123.gprs -si msis
     ga_group  -gagn gag1
        gag_ga  -gagn gag1 -gan ga2
           ga  -gan ga2

  apn_resolution_cc
  apn_resolution_infix_order
```

8 Configuring APN Local Breakout Control

This section describes how to configure APN Local Breakout Control for roaming subscribers, and how to configure APN-OI specifically for local breakout.

8.1 Configuring APN Local Breakout Control

This subsection describes how to configure APN Local Breakout Control for roaming subscribers.

1. Enable the APN Local Breakout Control feature, by setting the feature state to `ACTIVATED` for the apn_local_breakout_control parameter, by using the modify_feature_state CLI command.

2. Create a local breakout profile by using the create_local_breakout_profile CLI command. Specify the profile name, and set the local breakout mode according to the following:

   - Set the `LocalBreakoutMode` parameter to `allow`, if all APNs specified by `VPLMN-address-allowed` in the subscription data are allowed for local breakout.

   - Set the `LocalBreakoutMode` parameter to `restricted`, if only some of APNs specified by `VPLMN-address-allowed` in the subscription data are allowed for local breakout.

3. When the `LocalBreakoutMode` parameter is set to `restricted`, specify the APNs allowed for local breakout by configuring the ApnNiExceptionId parameter, and associate them to the local breakout profile, by using the create_local_breakout_allowed_apn CLI command.

4. Associate the local breakout profiles with an IMSINS by using the modify_imsins CLI command.

5. Perform the consistency checking, activating, and checkpointing the configuration, see Section 10 on page 18.

8.2 Optionally Configuring APN-OI Specifically for Local Breakout

This subsection describes how to configure APN-OI specifically for local breakout.

APN-OI for local breakout can be configured by the `ApnOperatorId` parameter, with either the create_local_breakout_profile or create_local_breakout_allowed_apn CLI command. Which command is used to depends on the setting of the `LocalBreakoutMode` parameter.

— When the LocalBreakoutMode parameter is set to allowed, configure the APN-OI by using the create_local_breakout_profile CLI command, and associate it with the specified local breakout profile.

— When the LocalBreakoutMode parameter is set to restricted, configure the APN-OI by using the create_local_breakout_allowed_apn CLI command, and associate it with the specified local breakout profile.

8.3 Example of Configuring APN Local Breakout Control

This example shows how to configure the APN Local Breakout Control, including how to configure APN-OI specifically for local breakout, for the roaming subscribers restricted by both the subscription data and the LocalBreakoutMode parameter.

```
gsh get_config_area –can ApnLocalBreakoutControl

gsh modify_feature_state -fsi apn_local_breakout_control -fs
ACTIVATED

gsh create_local_breakout_profile -lbp LocalBreakoutProfile1 -lm
restricted

gsh create_local_breakout_allowed_apn -lbp LocalBreakoutProfile1
-apn isp10.gprslab.com -aoi mnc168.mcc101.gprs

gsh modify_imsins -imsi 101168 -lbp LocalBreakoutProfile1
```

This example shows how to configure the APN Local Breakout Control, including how to configure APN-OI specifically for local breakout, for the roaming subscribers restricted by the subscription data only.

```
gsh modify_feature_state -fsi apn_local_breakout_control -fs
ACTIVATED

gsh create_local_breakout_profile -lbp LocalBreakoutProfile2 -lm
allowed

gsh modify_local_breakout_profile -lbp LocalBreakoutProfile2 -lm
allowed -aoi mnc456.mcc201.gprs

gsh modify_imsins -imsi 201168 -lbp LocalBreakoutProfile2
```

9 Configuring APN-OI Replacement

Configure APN-OI Replacement by doing the following:

1. If the Static Gateway Selection function is on, disable that node function by configuring the static_gw_selection parameter, using the modify_node_function CLI command.

2. Enable the Configuring APN-OI Replacement feature, by setting the feature state to `ACTIVATED` for the apn_oi_replacement parameter, using the modify_feature_state CLI command.

3. Perform the consistency checking, activating, and checkpointing the configuration, see Section 10 on page 18.

9.1 Example of Configuring APN-OI Replacement

The following section shows an example of how to configure APN-OI Replacement.

```
gsh modify_node_function -name static_gw_selection -state off

gsh modify_feature_state -fsi apn_oi_replacement -fs ACTIVATED

gsh check_config

gsh activate_config_pending
```

10 Consistency Checking, Activating, and Checkpointing

This section describes procedures for consistency checking, activating, and checkpointing the configuration.

10.1 Checking Performance Measurement Jobs

Optionally, update the PM jobs, see Performance Measurement Job (CLI). For more information about relevant counters, see APN Resolve and Redirect for GSM and WCDMA Access and APN Resolve and Redirect for LTE Access.

10.2 Checking and Activating the Configuration

Check the consistency and activate the pending configuration by doing the following:

1. Run a consistency check before activating the pending configurations by using the following CLI command:

   ```
   gsh check_config
   ```

2. Activate the pending configuration by using the following CLI command:

   ```
   gsh activate_config_pending
   ```

10.3 Checkpointing the SC

When all features are configured, do the following:

1. Verify that the traffic is stable by performing a health check. For more information about how to perform the health check procedure, see Health Check.

2. When the traffic is stable, store the current trusted Software Configuration (SC) by performing a checkpoint. Set the SC as the default SC (permanent SC) for recovery in the event of automatic fallback.

   ```
   gsh checkpoint { -cpn CheckpointName } -default_sc true
   ```

Reference List

Network License Server (NeLS) CPI Library References

[1] Activation of NeLS Client Licenses
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