

# HNB-CS Network Configuration Mode Commands

**Important** In Release 20 and later, HNBGW is not supported. Commands in this configuration mode must not be used in Release 20 and later. For more information, contact your Cisco account representative.

The HNB-CS Network configuration mode provides the commands to create, provide, and manage the circuit switched (CS) network instance allowing the Home Evolved NodeB Gateway (HNB-GW) access with the CS core network in a 3G UMTS network.

**Command Modes**

Exec > Global Configuration > HNB-CS Network Configuration

**configure > cs-network** *cs_instance*

Entering the above command sequence results in the following prompt:

`[local]`*`host_name`*`(config-cs-network-`*`instance_id`*`)#`

**Important** The commands or keywords/variables that are available are dependent on platform type, product version, and installed license(s).


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# associate alcap-service

Associates a previously defined Access Link Control Application Part (ALCAP) service with the CS network instance for multiplexing of different users onto one AAL2 transmission path using channel IDs (CIDs). This configuration is provided to support IuCS-over-ATM functionality

**Product**

HNB-GW

**Privilege**

Security Administrator, Administrator

**Command Modes**

Exec > Global Configuration > HNB-CS Network Configuration

**configure > cs-network** *cs_instance*

Entering the above command sequence results in the following prompt:

`[local]host_name(config-cs-network-instance_id)#`

**Syntax Description**

**associate alcap-service** *svc_name* **context** *ctx_name*
**no associate alcap-service**

**no**

Removes the associated ALCAP service from this HNB-CS network instance configuration.

***svc_name***

Identifies the name of the ALCAP service preconfigured in Context configuration mode to associate with an HNB-CS network instance for multiplexing of different users onto one AAL2 transmission path using channel IDs (CIDs).

*svc_name* must be a preconfigured ALCAP service.

Only one instance of this command can be configured.



**Caution** If this CLI is not configured any RAB-ASST-REQ requesting AAL2 connection setup shall be rejected with an appropriate cause.

**context*ctx_name***

Specifies the name of the context in which ALCAP service is configured.

*ctx_name* must be an existing context name in which this ALCAP service is configured.

**Usage Guidelines**

Use this command to configure IuCS-over-ATM support. This association of ALCAP protocol service configuration in HNB-CS network instance provides multiplexing of different users onto one AAL2 transmission path using channel IDs (CIDs).

**Caution** If this CLI is not configured any RAB-ASST-REQ message requesting AAL2 connection setup shall be rejected with an appropriate cause.

**Important** This command must not be used more than once to configure IuCS-over-ATM support.

### Example

Following command associates ALCAP service *alcap_svc1* configured in context named *Ctx_alcap1* with specific HNB-CS network instance:

```
associate alcap-service alcap_svc1context ctx_alcap1
```

# associate rtp pool

Associates a previously defined RTP pool (IP pool) with the CS network instance to be used for assignment of IP address/port as RTP streams end point address over IuCS interface. This configuration support is provided for RTP stream management feature in an HNB-GW service.

**Product** HNB-GW

**Privilege** Security Administrator, Administrator

**Command Modes** Exec > Global Configuration > HNB-CS Network Configuration

**configure > cs-network** *cs_instance*

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-cs-network-instance_id)#
```

**Syntax Description**

```
associate rtp pool pool_name context ctx_name
no associate rtp pool
```

#### no

Removes the associated RTP pool (IP pool) from this HNB-CS network instance configuration.

#### *pool_name*

Identifies the name of the RTP IP pool preconfigured in Context configuration mode to associate with an HNB-CS network instance to be used for assignment of IP address/port over the IuCS interface RTP streams.

*pool_name* must be an existing IP pool name configured in Context configuration mode.

**Important** For IP pool (RTP pool) configuration, refer *Context Configuration Commands Mode* chapter.

**context*ctx_name***

Specifies the name of the context in which RTP pool (IP pool) is configured.

*ctx_name* must be an existing context name in which this IP pool is configured.

**Usage Guidelines**

Use this command to associate RTP pool (IP Pool) with an HNB-CS network instance for allotment of IP address/port over IuCS interface for RTP streams across all sessions. A fixed range of RTP ports from 5000 through 65000 shall be used to allocate to RTP stream.

**Important** This command must be used to provide IP address/port for RTP streams end point address over IuCS interface.

**Important** This configuration support is provided for RTP stream management feature on an HNB-GW service.

**Example**

Following command associates RTP pool named *rtp_1* with specific HNB-CS network instance:

```
associate rtp pool rtp_1
```

# associate sccp-network

Associates a predefined Signaling Connection Control Part (SCCP) network ID with the CS network instance in order to route the messages towards MSC/VLR over IuCS interface.

**Product**

HNB-GW

**Privilege**

Security Administrator, Administrator

**Command Modes**

Exec > Global Configuration > HNB-CS Network Configuration

**configure > cs-network** *cs_instance*

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-cs-network-instance_id)#
```

**Syntax Description**

```
associate-sccp-network sccp_net_id
no associate-sccp-network
```

**no**

Removes the associated SCCP network ID from this HNB-CS network instance configuration.

***sccp_network_id***

Identifies the predefined SCCP network ID to associate with an HNB-CS network instance over IuCS/IuFlex interface to enable connection with MSC/VLR(s).

*sccp_network_id* must be a predefined SCCP network ID in Global configuration mode.

**Usage Guidelines** Use this command to associate a preconfigured SCCP network ID over IuCS interface in HNB-GW service to connect with CS network elements; i.e. MSC.

**Important** The SCCP network ID must be defined in Global Configuration mode before using it with this command.

**Important** A single SCCP network configuration instance can not be shared with multiple HNB-CS network instances.

**Example**

Following command associates SCCP network *2* with specific HNB-CS network instance:

```
associate-sccp-network 2
```

# end

Exits the current configuration mode and returns to the Exec mode.

**Product** All

**Privilege** Security Administrator, Administrator

**Syntax Description**

```
end
```

**Usage Guidelines** Use this command to return to the Exec mode.

# exit

Exits the current mode and returns to the parent configuration mode.

**Product** All

**Privilege** Security Administrator, Administrator

**Syntax Description**

```
exit
```

**Usage Guidelines** Use this command to return to the parent configuration mode.

# global-rnc-id

Configures the Radio Network Concentrator (RNC) identifier in a Radio Network PLMN associated with HNB-CS network configuration instance. The RNC identifier is provided to the HNB during HNB-REGISTRATION.

**Product**

HNB-GW

**Privilege**

Security Administrator, Administrator

**Command Modes**

Exec > Global Configuration > HNB-CS Network Configuration

**configure > cs-network** *cs_instance*

Entering the above command sequence results in the following prompt:

`[local]host_name(config-cs-network-instance_id)#`

**Syntax Description**

**`[ no ] global-rnc-id mcc mcc`** *`mcc_num`* **`mnc`** *`mnc_num`* **`id`** *`rnc_id`* **`[ common-plmn mcc`** *`mcc_num`* **`mnc`** *`mnc_num`* **`]`**

**no**

Deletes the RNC, MMC, and MNC information from the HNB-CS Network configuration instance.

**mcc *mcc_num***

Specifies the mobile country code (MCC) part of radio network PLMN identifier as an integer value from 100 through 999.

**mnc *mnc_num***

Specifies the mobile network code (MNC) part of radio network PLMN identifier as a 2- or 3-digit integer from 00 through 999.

**common-plmn mcc *mcc_num* mnc *mnc_num***

Configures the Common PLMN for this CS Network.

**mcc** *mcc_num* specifies mobile country code (MCC) part of Common PLMN for this CS Network as an integer value from 100 through 999.

**mnc** *mnc_num* specifies the mobile network code (MNC) part of Common PLMN for this CS Network as an integer value from 00 through 999.

**Usage Guidelines**

Use this command to configure RNC id to associate Radio Network PLMN which will be sent to HNBs from HNB-GW during HNB-REGISTRATION procedure. Depending upon the requirement the RNC Identifier can be provided at the desired granularity.

**Example**

The following command configures the HNB-GW service to return an RNC identifier as *102* when an HNB-REGISTRATION request is received with LAC *1*, and RAC *2*:

```
global rnc-id mcc 102 mnc 02 id 2
```

# iu-rtcp-interval

This command configures RTCP reporting interval for HNBGW Service on Iu Interface.

**Product**

HNB-GW

**Privilege**

Security Administrator, Administrator

**Command Modes**

Exec > Global Configuration > HNB-CS Network Configuration

**configure > cs-network** *cs_instance*

Entering the above command sequence results in the following prompt:

`[local]`*`host_name`*`(config-cs-network-`*`instance_id`*`)#`

**Syntax Description**

**`iu-rtcp-interval`** *`report_generation_interval`*
**`{ default | no } iu-rtcp-interval`**

**default**

Sets the default value assigned for reporting interval for HNBGW Service on Iu Interface.

**no**

Disables RTCP reporting interval for HNBGW Service on Iu Interface.

***report_generation_interval***

Specifies the RTCP report generation interval as an integer from 5 through 30.

**Usage Guidelines**

Use this command to configure RTCP reporting interval for HNBGW Service on Iu Interface.

**Example**

The following command configures RTCP reporting interval for HNBGW Service as 10 seconds:

```
iu-rtcp-interval 10
```

# map core-network-id

Maps/associates the CS core network id to a default Mobile Switching Center (MSC) in network using MSC point code in HNB-CS network to allow HNBs to access UMTS network.

**Product**

HNB-GW

**Privilege**

Security Administrator, Administrator

## Command Modes

Exec > Global Configuration > HNB-CS Network Configuration

**configure > cs-network** *cs_instance*

Entering the above command sequence results in the following prompt:

`[local]host_name(config-cs-network-instance_id)#`

## Syntax Description

**map core-network-id** *cn_id* **point-code** *msc_point_code*
**no map core-network-id** *cn_id*

### no

Removes the mapping of a CS core network id with particular MSC point code.

### *cn_id*

Specifies the core network identifier configured to represent a UMTS CS core network as an integer from 0 through 4095.

Multiple instance of this command can be mapped with different MSC point code.

### point-code *msc_point_code*

Specifies the SS7 address of the default MSC in the CS network in point code value to a configured HNB-CS network instance.

*point_code* is an SS7 point code in dotted-decimal ###.###.### or 8-digit decimal ######## format.

Only one instance of this MSC point code can be mapped with one CS core network id.

## Usage Guidelines

Use this command to map a UMTS CS core network identifier with a particular MSC point code.

This command can be entered multiple times with same MSC point code to map with one or more CS core network Id, but a particular core network identifier can be mapped to one MSC only.

This command is instrumental in Iu-Flex functionality, whenever HNB-GW receives RESET/RESET-RES messages from MSC with Global CN-ID information element, the response from HNB-GW is sent to the node configured for that particular Global CN-ID.

If the RESET/RESET-RES messages do not have Global CN-ID IE, then the response of those messages is directed to the default MSC which is configured using **msc point-code** command in this mode.

### Example

The following command configures the CS core network identifier *101* with an MSC point code *1.2.3*:

```
map core-network-id 101 point-code 1.2.3
```

The following command configures the CS core network identifier *102* with the same MSC point code *1.2.3*:

```
map core-network-id 102 point-code 1.2.3
```

# map idnns

Configures the mapping of Intra-Domain NAS Node Selector (IDNNS) IE received from UE in RUA connect message towards HNB-GW to MSC point code. This is an important configuration for CS network resource sharing over Iu-Flex interface.

**Product**

HNB-GW

**Privilege**

Security Administrator, Administrator

**Command Modes**

Exec > Global Configuration > HNB-CS Network Configuration

**configure > cs-network** *cs_instance*

Entering the above command sequence results in the following prompt:

`[local]host_name(config-cs-network-instance_id)#`

**Syntax Description**

**`map idnns range`** *`idnns_start`* **`to`** *`idnns_end`* **`point-code`** *`msc_point_code`* **`[ backup point-code`** *`bkup_msc_point_code`***`]`**
**`no map idnns range`** *`idnns_start`* **`to`** *`idnss_end`*

**no**

Removes the entries of mapping of range of IDNNS received from UE with particular MSC point code.

**range *idnns_start* to *idnns_end***

Specifies the range of IDNNS received from the UE to map with a particular MSC point code during initial CS core network node selection.

*idnns_start* is an integer from 0 through 1023 that should be less than *idnns_end*.

*idnns_end* must be an integer from 0 through 1023 that should be more than *idnns_start*.

The command can be entered more than once to map multiple IDNNS ranges to the same MSC, but overlapping and mapping of the same range to different MSC point codes is not allowed.

**point-code *msc_point_code***

Specifies the SS7 address of the MSC in the CS network to map with a range of IDNNS values.

*msc_point_code* is an SS7 point code in dotted-decimal ###.###.### or 8-digit decimal ######## format.

**backup point-code *bkup_msc_point_code***

Specifies the SS7 address of the MSC to be used as a backup in the CS network to map with a range of IDNNS values.

*bkup_msc_point_code* is an SS7 point code in dotted-decimal ###.###.### or 8-digit decimal ######## format.

**Usage Guidelines**

Use this command to map a NRI received from UE during initial CS network node selection to MSC point code through NRI range mapping over Iu-Flex interface.

The IDNNS refers to the information element in RUA connect message from UE towards RAN (HNB-GW). In IDNNS IE, if the choice of routing mentioned is other than local P-TMSI, then the value it provides is used against this configuration to map the MSC point code.

If backup MSC point-code is specified, then specified MSC works as backup for the IDNS range configured. This Backup MSC is selected if the mapped MSC for a given IDNNS range is going for offloading using **offload-msc point-code** command.

The command can be entered more than once to map multiple IDNNS ranges to same MSC point code, but overlapping and mapping of same range to different MSC point code is not allowed.

### Example

The following command maps the IDNNS range from *101* to *201* with MSC point code *1.2.3* and point code *7.8.9* as backup MSC point code:

```
map nri range 101 to 201 point-code 1.2.3 backup point-code 7.8.9
```

The following command removes all IDNNS range matching entries between *301* to *399* from the configuration:

```
no map idnns range 301 to 399
```

# map lac

Configures the mapping of the Location Area Code (LAC) received from UE to an MSC point code. This is an important configuration for CS network resource sharing without Iu-Flex interface configuration.

**Product**

HNB-GW

**Privilege**

Security Administrator, Administrator

**Command Modes**

Exec > Global Configuration > HNB-CS Network Configuration

**configure > cs-network** *cs_instance*

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-cs-network-instance_id)#
```

**Syntax Description**

**map lac range** *lac_start* **to** *lac_end* **point-code** *msc_point_code*
**no map lac range** *lac_start* **to** *lac_end*

#### no

Removes the entries of mapping of range of LACs received from UE with particular MSC point code.

#### range *lac_start* to *lac_end*

Specifies the range of LACs received from UE to map with particular MSC point code during initial CS core network node selection.

*lac_start* is an integer from 0 through 65535 that should be less than *lac_end*.

*lac_end* is an integer from 0 through 65535 that should be more than *lac_start*.

The command can be entered more than once to map multiple LAC ranges to same MSC, but overlapping is not allowed.

**point-code *msc_point_code***

Specifies the SS7 address of the MSC in the CS network to map with a range of LAC values.

*point_code* is an SS7 point code in dotted-decimal ###.###.### or 8-digit decimal ######## format.

**Usage Guidelines**

Use this command to map a LAC, received from UE during HNB registration, for MSC selection over IuCS interface through LAC range mapping with MSC point code.

This configuration is used during initial CS core network node selection when the LAC from the UE is available. This configuration is used when the core network is not using Iu-Flex interface for MSC selection.

The command can be entered more than once to map multiple LAC ranges to same MSC point code.

**Important** This command can be used together with Iu-Flex configuration, but MSC selection based on LAC takes place only if Iu-Flex is not configured. If both Iu-Flex and LAC are configured then selection of MSC is based on Iu-Flex configuration only.

**Example**

The following command maps the LAC range from *20* to *50* with MSC point code *1.2.3*:

```
map lac range 20 to 50 point-code 1.2.3
```

The following command removes all LAC range matching entries between *20* to *50* from the configuration:

```
no map lac range 20 to 50
```

# map nri

Configures the mapping of Network Resource Identifier (NRI) sent from UE to the MSC point code. This is an important configuration for CS network resource sharing over Iu-Flex interface.

**Product**

HNB-GW

**Privilege**

Security Administrator, Administrator

**Command Modes**

Exec > Global Configuration > HNB-CS Network Configuration

**configure > cs-network** *cs_instance*

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-cs-network-instance_id)#
```

**Syntax Description**

```
map nri range nri_start to nri_end point-code msc_point_code
no map nri range nri_start to nri_end
```

**no**

Removes the entries of mapping of range of NRIs received from UE with particular MSC point code.

**range *nri_start* to *nri_end***

Specifies the range of NRIs received from UE to map with pa articular MSC point code during initial CS core network node selection.

*nri_start* is an integer from 0 through 1023 that should be less than *nri_end*.

*nri_end* is an integer from 0 through 1023 that should be more than *nri_start*.

The command can be entered more than once to map multiple NRI ranges to same MSC, but overlapping is not allowed.

**point-code *msc_point_code***

Specifies the SS7 address of the MSC in the CS network to map with a range of NRI values.

*point_code* is an SS7 point code in dotted-decimal ###.###.### or 8-digit decimal ######## format.

**Usage Guidelines**

Use this command to map a NRI received from UE during initial CS network node selection to MSC point code through NRI range mapping over Iu-Flex interface.

This configuration is used during initial CS core network node selection when the network resource identifier (NRI) from the UE is available. The NRI range is mapped to MSC point code. This configuration is used when the core network uses Iu-Flex interface.

The command can be entered more than once to map multiple NRI ranges to same MSC point code.

It is possible to configure multiple ranges to more than one MSC however this configuration is required only when the CS core network is configured as Multi-Operator Core Network (MOCN).

When the CS core network is not MOCN and one range is mapped to more than one MSC then MSC is selected randomly in a non-predictable manner.

**Example**

The following command maps the NRI range from *101* to *201* with MSC point code *1.2.3*:

```
map nri range 101 to 201 point-code 1.2.3
```

The following command maps the NRI range from *301* to *399* with MSC point code *1.2.3*:

```
map nri range 301 to 399 point-code 1.2.3
```

The following command removes all NRI range matching entries between *301* to *399* from the configuration:

```
no map nri range 301 to 399
```

# msc deadtime

Configures a timer on the HNB-GW to manage MSC availability in a CS core network on receiving of a PC-STATE-DOWN or SSN-STATE-DOWN (RANAP) indication from an SCCP instance.

**Product**

HNB-GW

**Privilege**

Security Administrator, Administrator

**Command Modes**

Exec > Global Configuration > HNB-CS Network Configuration

**configure > cs-network** *cs_instance*

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-cs-network-instance_id)#
```

**Syntax Description**

**msc deadtime { immidiate |***dur* **}**
**[ no | default ] msc deaddtime**

**no**

Marks the peer node (MSC) as always available; it can never be marked down for a specific HNB-CS network instance.

**default**

Sets the default action for HNB-GW and provisions it as such that the peer node (MSC) is marked down as soon as HNB-GW receives PC-STATE-DOWN or SSN-STATE-DOWN (RANAP) indication from SCCP in a specific HNB-CS network instance. Default: Enabled

**immidiate**

Sets the HNB-GW to mark the peer node (MSC) down immediately and clears all Iu-CS connections towards the MSC. Default: Disabled

***dur***

Sets the duration (in seconds) for a timer that starts when the HNB-GW receives a PC-STATE-DOWN or SSN-STATE-DOWN (RANAP) indication from SCCP for a peer MSC. On expiry of this timer the peer MSC is marked as dead and all Iu-CS connections towards that MSC are released.

*dur* is an integer from 1 through 30.

Only one instance of this command can be configured.

**Usage Guidelines**

This command is used to configure a timer on HNB-GW to manage MSC availability in a CS core network on receiving of PC-STATE-DOWN or SSN-STATE-DOWN (RANAP) indication from SCCP. This configuration plays important role during RANAP reset procedure as well.

Timer value sets the duration in seconds for a timer which started once HNB-GW receives PC-STATE-DOWN or SSN-STATE-DOWN (RANAP) indication from SCCP for a peer MSC. On expiry of this timer the peer MSC is marked as dead and all Iu-CS connections towards that MSC shall be released.



**Important** This command can be entered only once. Reentering this command overwrites the previous parameters.

### Example

The following command configures the deadtime timer value for *10* seconds on HNB-GW. Once HNB-GW receives PC-STATE-DOWN or SSN-STATE-DOWN (RANAP) indication from SCCP for a peer MSC the HNB-GW waits for configured period and on expiry of timer it marks the specific MSC as dead:

```
msc deadtime 10
```

# msc point-code

Configures the default MSC point-code within an HNB-CS network instance. This command is used when HNB-GW is to be connected to only one MSC with in a CS network or as default MSC for all HNBs connected through specific HNB-CS network instance.

**Product**

HNB-GW

**Privilege**

Security Administrator, Administrator

**Command Modes**

Exec > Global Configuration > HNB-CS Network Configuration

**configure > cs-network** *cs_instance*

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-cs-network-instance_id)#
```

**Syntax Description**

**[ no ] msc point-code** *point_code*

#### no

Removes the configured default MSC point code from a specific HNB-CS network instance.



**Caution** Removing the MSC point code is a disruptive operation and affects all HNB sessions which are connected to particular MSC through an HNB-CS network instance.

#### msc *point_code*

Specifies the SS7 address of the default MSC in the CS network to this configured HNB-CS network instance.

*point_code* is an SS7 point code in dotted-decimal ###.###.### or 8-digit decimal ######## format.

Only one instance of this command can be configured.

**Usage Guidelines**

Use this command to configure a default MSC to which HNB connects for CS network access through HNB-GW service.

Point-code is an SS7 address for an element in the SS7 network. Point-codes must be defined in dotted-decimal format in a string of 1 to 11 digits. Format options include:

- 0.0.1 to 7.255.7 for point-code in the ITU range.

- 0.0.1 to 255.255.255 for point-code in the ANSI range.
- 0.0.1 to 15.31.255 for point-code in the TTC Range.
- a string of 1 to 11 digits in dotted-decimal to represent a point-code in a different range.



**Important** This command can be entered only once. If entered again the previous value shall be overwritten.

### Example

The following command configures a default MSC with point code *101.201.101* for HNBs to access CS network through HNB-GW service in this HNB-CS network instance:

```
msc point-code 101.201.101
```

# nri length

Configures the network resource identifier (NRI) length in bits to identify a specific MSC serving in a pooled area. At least one NRI value has to be assigned to an MSC serving in a pool. The NRI is coded inside of the temporary mobile subscriber identity (TMSI), located within bits 14 to 23 with an variable length between 0 and 10 bits. Operator needs to set this NRI length to indicates the number of bits that shall be used for the NRI field to set the parameters for Iu-Flex (MSC pooling) functionality.

**Product** HNB-GW

**Privilege** Security Administrator, Administrator

**Command Modes** Exec > Global Configuration > HNB-CS Network Configuration

**configure > cs-network** *cs_instance*

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-cs-network-instance_id)#
```

**Syntax Description**

**nri length** *nri_value*
**default nri length**

#### default

Sets the NRI length to the default value of 0 and disables the Iu-Flex (MSC pooling) functionality.

#### nri length *nri_value*

Default: 0

Specifies the number of bits to be used in the P-TMSI (bits 23 to 18) to define the network resource identifier (NRI). The NRI length configuration also sets the maximum size of the pool. If not configured, the NRI length is of zero length.

*length* is an integer from 1 to 10 that identifies the number of bits. When a non-zero value is configured the CS network is considered to be a pool.

**Usage Guidelines**

Use this command to enable the Iu-Flex functionality on HNB-GW. This command identifies a unique MSC serving a pooled area for Iu-Flex functionality and at least one NRI value has to assigned to an MSC serving in a pool. It performs MSC pooling/offloading scenario over Iu-Flex interface. The NRI is stored in the bits 14 to 23 of TMSI. The HNB-GW uses a portion of this NRI to set the parameters for Iu-Flex (MSC pooling) functionality.

If more than one NRI is configured, the HNB-GW service does round-robin between the available NRIs when new subscriber(s) (re)connect.

This command must be used in conjunction with **null nri** command to configured MSC pooling/offloading over Iu-Flex interface.

### Example

The following command sets the HNB-GW to a bit length of *6* to derive the values from the NRI field (stored in bits 14 to 23 of TMSI) to set the parameters for Iu-Flex (MSC pooling) functionality:

```
nri length 6
```

# null-nri

Configures the null NRI for load redistribution in support of Iu-Flex functionality. The NRI value defined with this command must be unique across the pool areas. This null-NRI is used by HNB-GW for load redistribution during MSC offloading.

**Product**

HNB-GW

**Privilege**

Security Administrator, Administrator

**Command Modes**

Exec > Global Configuration > HNB-CS Network Configuration

**configure > cs-network** *cs_instance*

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-cs-network-instance_id)#
```

**Syntax Description**

**null-nri** *null_nri_value*
**no null-nri** *null_nri_value*

#### no

Disables/removes the configured null-NRI value used for MSC offloading procedure.

#### *null_nri_value*

Specifies the null-NRI value to be used by HNB-GW for load re-distribution during MSC offloading as an integer from 0 through 1023.

Without MOCN configuration this value can be entered only once.

For MOCN a unique null-NRI must be assigned to each MOCN operator identified by its PLMN-ID (MCC+MNC).

A 0 (zero) value configured as a null-NRI indicates the keyword is not to be used. There is no default value for this parameter.

**Usage Guidelines**

Use this command to identify the MSC to be used by HNB-GW for load redistribution during MSC offloading over an Iu-Flex interface.

There is one unique null-NRI in a PLMN supporting pool functionality.

Without MOCN configuration this command can be entered only once. For MOCN a unique null-NRI must be assigned to each MOCN operator identified by its PLMN-ID (MCC+MNC).

### Example

The following command sets the null-NRI as *1001* to be used by HNB-GW for load redistribution during MSC offloading:

```
null-nri 1001
```

# offload-msc

Provisions the HNB-GW to enable or disable the exclusion of a particular primary MSC node during an NAS Node Selection Function (NNSF) procedure when it needs to be offloaded while using Iu-Flex functionality on the HNB-GW.

**Product**

HNB-GW

**Privilege**

Security Administrator, Administrator

**Command Modes**

Exec > Global Configuration > HNB-CS Network Configuration

**configure > cs-network** *cs_instance*

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-cs-network-instance_id)#
```

**Syntax Description**

**`[ no ] offload-msc point-code`** *msc_point_code*

### no

Removes the specified primary MSC point code from the exclusion list for NNSF function on HNB-GW and re-enables the inclusion of the primary MSC to be considered by HNB-GW.

### point-code *msc_point_code*

Specifies the SS7 address of the primary MSC in the CS network to be excluded for NNSF function on HNB-GW when it needs to be offloaded via Iu-Flex functionality.

*point_code* is an SS7 point code in dotted-decimal ###.###.### or 8-digit decimal ######## format.

Only one instance of this primary MSC point code can be mapped with one CS core network id.

**Usage Guidelines**

Use this command to provision the HNB-GW to enable or disable the exclusion of the primary MSC node when it needs to be offloaded.

When this command is enabled for exclusion of primary MSC node during NNSF function in HNB-GW, the HNB-GW excludes the particular node from being considered.

User can re-enable the inclusion of the primary MSC node to be considered for NNSF functionality by **no offload-msc point-code** command.



**Important** Offload check is only for the primary point code and NOT for the backup point code.

This command can be used for planned maintenance as well.

### Example

The following command configures the HNB-GW to exclude the primary MSC point code *1.2.3* from being considered in NSSF function for Iu-Flex support:

```
offload-msc point-code 1.2.3
```

The following command re-enables the inclusion of MSC point code *1.2.3* from being considered in NSSF function for Iu-Flex support:

```
no offload-msc point-code 1.2.3
```

# ranap reset

Configures various Radio Access Network (RAN) Application Part reset procedure parameters for CS network association in an HNB access network.

**Product** HNB-GW

**Privilege** Security Administrator, Administrator

**Command Modes** Exec > Global Configuration > HNB-CS Network Configuration

**configure** > **cs-network** *cs_instance*

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-cs-network-instance_id)#
```

**Syntax Description**

```
ranap reset {  ack-timeout timer_value | guard-timeout g_timer |
hnbgw-initiated | max-retransmissions  retries | use-actual-plmn  }
default ranap reset { ack-timeout | guard-timeout | hnbgw-initiated |
max-retransmissions  | use-actual-plmn  }
no ranap {  hnbgw-initiated | use-actual-plmn }
```

#### default

Resets the RANAP RESET parameters in HNB-CS Network configuration instance.

**no**

Disables the RANAP RESET procedure related parameters in an HNB-CS Network configuration instance.

**ack-timeout *timer_value***

Sets the timer value (in seconds) to wait for Reset Acknowledge from MSC. This is used during HNB-GW initiated RANAP RESET procedure in HNB-CS Network configuration instance.

*timer_value* is an integer value from 5 through 10. Default: 10

**guard-timeout *g_timer_value***

Sets the timer value (in seconds) to send Reset Acknowledge to MSC. After this duration the HNB-GW sends RESET-ACK to MSC. This is used during MSC initiated RANAP RESET procedure in HNB-CS Network configuration instance.

*g_timer_value* is an integer value from 5 through 10. Default: 10

**hnbgw-initiated**

Enables the HNB-GW Initiated RANAP RESET procedures. Default: Disabled

**max-retransmission *retries***

Sets the maximum number of retires allowed for transmission of RESET-ACK message to MSC. This is used during RANAP RESET procedure in HNB-CS Network configuration instance.

*retries* is an integer value from 0 through 2. When 0 is used retransmission is disabled. Default: 1

**use-actual-plmn**

Actual PLMN will be sent in RANAP Reset/Reset Resource. By default, Common PLMN will be sent.

**Usage Guidelines**

Use this command to configure the RANAP RESET procedure related parameters in HNB-CS Network configuration for multiple HNB-GW service support.

**Example**

The following command configures the HNB-GW initiated RANAP RESET Procedure for an HNB-CS Network configuration instance:

```
ranap reset hnbgw-initiated
```

# sccp

Configures Signaling Connection Control Part (SCCP) related parameters for HNB-GW on the circuit switched (CS) network.

**Product**

HNB-GW

**Privilege**

Security Administrator, Administrator

## Command Modes

Exec > Global Configuration > HNB-CS Network Configuration

**configure > cs-network** *cs_instance*

Entering the above command sequence results in the following prompt:

`[local]host_name(config-cs-network-instance_id)#`

## Syntax Description

**`[ default | no ] sccp calling-party-address`**

### default

Restores the configuration to its default setting. By default, the calling party address is not included in the outgoing SCCP CR message.

### no

If previously enabled, removes the configuration and restores the default setting.

### calling-party-address

Specifies to include the optional calling-party-address IE in the outgoing SCCP CR message.

## Usage Guidelines

Use this command to enable HNB-GW to include the optional calling party address in the outgoing Signaling Connection Control Part (SCCP) Connection Request (CR) message on the circuit switched network.

### Example

The following command enables the calling party address to be sent in the SCCP CR message:

**`sccp calling-party-address`**