HNB-GW Global 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 3G UMTS Home-NodeB Gateway Global Configuration Mode provides the global configurations for multiple HNB-GW services on a chassis to manage the access to the UMTS core network in a 3G UMTS network through a Femto node. This configuration mode is supported from StarOS 14.0 onward.

Command Modes Exec > Global Configuration > HNB-GW Global Configuration

configure > hnbgw-global

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-hnggw-global)#
```

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

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access-control-db

Configures the access control database parameters in HNB-GW Global configuration mode to control HNB and UE access to the HNB-GW node.

Product HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > HNB-GW Global Configuration

configure > hnbgw-global

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-hnggw-global)#
```

Syntax Description

access-control-db imsi-purge-timeout { immediate | *dur* }
default access-control-db imsi-purge-timeout

default

Sets the default value to HNB-UE access control database on a chassis for HNB-GW Global configuration instance.

The default timeout duration for purging of the IMSI White List from the HNB-GW Access Control database is 24 hours. The HNB-GW service waits for 24 hours after all referenced HNBs have de-registered before purging the records.

immediate

Sets the HNB-GW Global configuration instance to purge the HNB-UE access control database immediately after all referenced HNBs have de-registered.

imsi-purge-timeout *dur*

Sets the timeout duration (in minutes) for the access control database to wait before purging the IMSI values received as a White List from HMS/BAC.

After all HNBs have de-registered, the Access Control database on HNB-GW maintains the IMSI White List received from HMS/BAC during HNB registration procedure for the configured durations before purging the list.

dur is an integer from 1 through 1440.

Usage Guidelines

Use this command to configure the HNB-UE access control database parameters on a chassis for HNB-GW Global configuration instance.

This command sets the timeout duration to maintain the IMSI White List received from HMS/BAC during HNB registration procedure in HNB-GW Global configuration instance for the configured *dur* in minutes after de-registration of all referenced HNBs from HNB-GW node and then purge the database.

Example

Following command sets the HNB-GW Global configuration instance to purge all IMSI records from HNB-UE access control database immediately after all referenced HNBs de-registered from HNB-GW service instance.

access-control-db imsi-purge-timeout immediate

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.

paging hybrid-hnb

Configures paging optimization parameters for hybrid HNBs connected through Hybrid Access mode in the HNB-GW Global parameter.

Product HNB-GW

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > HNB-GW Global Configuration

configure > hnbgw-global

Entering the above command sequence results in the following prompt:

`[local]`*`host_name`*`(config-hnggw-global)#`

Syntax Description

```
paging hybrid-hnb always
paging hybrid-hnb hnb-where-ue-registered [ hnbs-having-imsi-in-whitelist
 ] fallback { always | never |only-if-with-paging-area }
paging hybrid-hnb hnbs-having-imsi-in-whitelist fallback { always | never
 | only-if-with-paging-area }
paging hybrid-hnb never
```

```
paging hybrid-hnb only-if-with-paging-area
default paging hybrid-hnb
```

default

Sets the default behavior of paging optimization configuration for a hybrid HNB while using Hybrid Access mode support.

By default the HNB-GW pages hybrid HNBs only if paging-area IE is received in the paging message.

{ always | never | only-if-with-paging-area }

Sets the HNB-GW Global parameter to page hybrid HNB for a paging message.

always: Sets the system to ALWAYS page the hybrid HNBs irrespective of **paging-area** IE is received in paging messages.

never: Sets the system to NEVER page any hybrid HNB.

only-if-with-paging-area: Sets the system to page the hybrid HNBs only when **paging-area** IE is received in paging messages.

hnb-where-ue-registered fallback {always | never | only-if-with-paging-area}

Sets the HNB-GW Global parameter to page hybrid HNB from where the UE is registered.

always: Sets the system to ALWAYS page the hybrid HNBs from where the UE is registered. If the UE is not registered then it pages the hybrid HNBs irrespective of **paging-area** IE is received in paging messages.

never: Sets the system to page the hybrid HNBs from where the UE is registered. If the UE is not registered then it NEVER pages any hybrid HNB.

only-if-with-paging-area: Sets the system to ALWAYS page the hybrid HNBs from where the UE is registered. If the UE is not registered then it pages the hybrid HNBs only when **paging-area** IE is received in paging messages.

hnbs-having-imsi-in-whitelist fallback {always | never | only-if-with-paging-area}

Sets the HNB-GW Global parameter to page hybrid HNB where HNB have IMSI in white-list.

always: Sets the system to ALWAYS page Hybrid HNB which have requested IMSI in whitelist. If no such Hybrid HNB is found, then system will page Hybrid HNBs irrespective of presence or absence of **paging-area** IE in paging messages.

never: Sets the system to ALWAYS page Hybrid HNB which have requested IMSI in whitelist. If no such Hybrid HNB is found, then system will NEVER page Hybrid HNBs irrespective of presence or absence of **paging-area** IE in paging messages.

only-if-with-paging-area: Sets the system to ALWAYS page Hybrid HNB which have requested IMSI in whitelist. If no such Hybrid HNB is found, then system will page hybrid HNB only when **paging-area** IE is found in paging messages.

Usage Guidelines

Use this command to configure the paging optimization parameters for hybrid HNBs connected through Hybrid Access mode in HNB-GW Global parameter.

Example

The following command configures the HNB-GW Global parameter to page an hybrid HNB from where the UE is registered and **paging-area** IE is received in paging message:

```
paging hybrid-hnb hnb-where-ue-registered fallback only-if-with-paging-area
```

paging open-hnb

Configures paging optimization parameters for open HNBs connected through Hybrid Access mode in the HNB-GW Global parameter.

Important This command is deprecated from release 16.0.

Product HNB-GW

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > HNB-GW Global Configuration

configure > hnbgw-global

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-hnggw-global)#
```

Syntax Description

```
paging open-hnb [hnb-where-ue-registered fallback] {always | never |
only-if-with-paging-area}
default paging open-hnb
```

default

Sets the default behavior of paging optimization configuration for an open HNB while using Open Access mode support.

By default the HNB-GW pages open HNBs only if paging-area IE is received in the paging message.

{always | never | only-if-with-paging-area}

Sets the HNB-GW Global configuration instance to page open HNB for a paging message.

always: Sets the system to ALWAYS page the open HNBs irrespective of **paging-area** IE is received in paging messages.

never: Sets the system to NEVER page any open HNB.

only-if-with-paging-area: Sets the system to page the open HNBs only when **paging-area** IE is received in paging messages.

hnb-where-ue-registered fallback {always | never | only-if-with-paging-area}

Sets the HNB-GW Global configuration instance to page open HNB from where the UE is registered.

always: Sets the system to ALWAYS page the open HNBs from where the UE is registered. If the UE is not registered then it pages the open HNBs irrespective of **paging-area** IE is received in paging messages.

never: Sets the system to page the open HNBs from where the UE is registered. If the UE is not registered then it NEVER pages any open HNB.

only-if-with-paging-area: Sets the system to ALWAYS page the open HNBs from where the UE is registered. If the UE is not registered then it pages the open HNBs only when **paging-area** IE is received in paging messages.

Usage Guidelines

Use this command to configure the paging optimization parameters for open HNBs connected through Open Access mode in HNB-GW Global configuration instance.

Example

The following command configures the HNB-GW Global configuration instance to page an open HNB from where the UE is registered and **paging-area** IE is received in paging message:

```
paging open-hnb hnb-where-ue-registered fallback only-if-with-paging-area
```

sctp

Configures the SCTP-related parameters like timeout duration for various timers and cookie life over an IuH interface on a chassis for HNB-GW Global configuration instance.

Product

HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > HNB-GW Global Configuration

configure > hnbgw-global

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-hnggw-global)#
```

Syntax Description

```
sctp { alpha-rto alpha_rto_dur | beta-rto beta_rto_dur | max-in-strms in_strms
 | max-out-strms out_strms | max-retx { assoc | init | path } max_retry }
default sctp { alpha-rto | beta-rto | max-in-strms | max-out-strms |
max-retx { assoc | init | path } }
```

default

Restores the SCTP parameters to default value in HNB-GW Global configuration instance. Default values for all parameters are as follows:

- **alpha-rto**: 5 seconds
- **beta-rto**: 10 seconds
- **max-in-strms**: 4

- **max-out-strms**: 4
- **max-retx assoc**: 10 retries
- **max-retx init**: 5 retries
- **max-retx path**: 5 retries

alpha-rto *alpha_rto_dur*

Sets the alpha retransmission timeout duration (in seconds) for SCTP association between HNB and HNB-GW as an integer from 0 through 65535. A "zero" value disables the timer in this configuration. Default: 5

beta-rto *beta_rto_dur*

Sets the beta retransmission timeout duration (in seconds) for SCTP association between HNB and HNB-GW an integer from 0 through 65535. A "zero" value disables the timer in this configuration. Default: 10

max-retx { assoc | init | path } *max_retry*

Sets the maximum number of retries allowed in SCTP states for SCTP association between HNB and HNB-GW.

assoc: Sets the maximum number of consecutive retransmissions to its peer is allowed. If the value of this counter exceeds the limit configured with this keyword the HNB-GW considers the peer HNB unreachable and stop transmitting any more data to it. The SCTP association is automatically closed when the peer endpoint becomes unreachable. Default number of attempts *max_retry* for this state is 10.

init: Sets the maximum attempts allowed after T1-init timer expires. If the T1-init timer expires then the HNB-GW retransmits INIT chunk and re-start the T1-init timer without changing state. This is repeated up to the configured times with this configuration. After that, the HNB-GW aborts the initialization process. Default number of attempts *max_retry* for this state is 5.

path: Sets the maximum attempts allowed after T3-rtx timer expires. Each time the T3-rtx timer expires on any address, or when a HEARTBEAT sent to an idle address is not acknowledged within a RTO, the error counter of that destination address incremented. When the value in the error counter exceeds this protocol parameter of that HNB address, the HNB-GW marks the destination transport address as inactive. Default number of attempts *max_retry* for this state is 5.

max_retry is an integer from 0 through 255.

max-in-strms *in_strms*

Sets the maximum number of inward SCTP streams allowed on HNB-GW for an associated HNB in an SCTP association as an integer from 1 through 16. Default: 4

max-out-strms *out_strms*

Sets the maximum number of outgoing SCTP streams allowed from HNB-GW for an associated HNB in an SCTP association as an integer from 1 through 16. Default: 4

Usage Guidelines

Use this command to configure the SCTP protocol messaging and session management parameters in SCTP association between HNB and HNB-GW.

Example

The following command sets the maximum number of inward SCTP streams allowed to *4* on HNB-GW for the SCTP association:

```
default max-in-strms
```

session-collocation

This command is used to enable / disable iu and hnb in same session manager.

Product

HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > HNB-GW Global Configuration

configure > hnbgw-global

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-hnggw-global)#
```

Syntax Description

```
[ no | default ] session-collocation { both | iucs | iups }
```

no

Does not allow the enable / disable of the iu and hnb in same session manager.

default

Sets the timer value for enable / disable of the iu and hnb in same session manager.

both

Enables / disables both the iucs and iups with HNB in same session manager .

iucs

Enables / disables both the iucs with HNB in same session manager .

iups

Enables / disables both the iups with HNB in same session manager .

Usage Guidelines

Use this command to enable / disable iu and hnb in same session manager.

Example

The following command enables iucs and hnb in same session manager.

```
session-collocation iucs
```

tnnsf-timer

Configures the NAS Node Selection Function (NNSF) timer (T-NNSF) which is used by the HNB-GW to store the IMSI and the relevant Global-CN-ID in the short term after Paging. This timer is used for Iu-Flex feature support.

Product

HNB-GW

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > HNB-GW Global Configuration

configure > hnbgw-global

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-hnggw-global)#
```

Syntax Description

tnnsf-timer *dur*
[no | default] tnnsf-timer

no

Disables/removes the configured timer value of NNSF timer (T-NNSF) for HNB-GW Global configuration instance.

default

Sets the timer value of NNSF timer (T-NNSF) for HNB-GW Global configuration instance to default value of 30 seconds.

tnnsf-timer *dur*

Configures the NNSF timer (in seconds) which is used by the HNB-GW to store the IMSI and the relevant Global-CN-ID as an integer from 10 through 60. Default: 30

Usage Guidelines

Use this command to configure the NNSF timer value in seconds for Iu-Flex support.

Whenever the MSC sends the paging request with IMSI, the HNB-GW stores the Global_CN_ID of the node which issued the paging request message for the given IMSI and HNB-GW starts the **tnnsf-timer**. HNBGW stores the mapping of IMSI to Global_CN_ID until the **tnnsf-timer** expires

Example

The following command sets the NNSF timer value to *30* seconds on a chassis for HNB-GW Global configuration instance:

default tnssf-timer