



# HeNB-GW Access Service Configuration Mode Commands



**Important** In Release 20, 21.0 and 21.1, HeNBGW is not supported. Commands in this configuration mode must not be used in these releases. For more information, contact your Cisco account representative.

A new service "henbgw-access-service" is defined under Context Configuration Mode to initialize HeNB-GW functionality. This service configuration controls the S1-MME interface for communication between HeNB-GW to HeNB(s). HeNBs connect to the S1-MME bind address configured in this service.

## Command Modes

Exec > Global Configuration > Context Configuration > HeNBGW-Access Service Configuration

**configure** > **context** *context\_name* > **henbgw-access-service** *service\_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-henbgw-access-service)#
```



**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 hcnbgw-network-service

Associates a previously configured HeNB-GW Network service to this HeNB-GW Access service. An HeNB-GW Network service must be configured in Context Configuration mode before using this configuration.

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### Product

HeNB-GW

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### Privilege

Security Administrator, Administrator

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### Command Modes

Exec > Global Configuration > Context Configuration > HeNB-GW-Access Service Configuration

**configure** > **context** *context\_name* > **hcnbgw-access-service** *service\_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-hcnbgw-access-service)#
```

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### Syntax Description

**associate hcnbgw-network-service** *svc\_name* [ **context** *contxt\_name* ]  
**no associate hcnbgw-network-service**

**no**

Removes the associated HeNB-GW Network service from this HeNB-GW Access service configuration.

**svc\_name**

Identifies the name of the pre-configured HeNB-GW Network service to associate with this HeNB-GW Access service.

*svc\_name* is an alphanumeric string of 1 through 63 characters.

**context contxt\_name**

Identifies the name of the context to which the HeNB-GW service belongs.

*contxt\_name* is an alphanumeric string of 1 through 79 characters.

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### Usage Guidelines

Use this command to bind/associate a pre-configured HeNB-GW Network service to the this HeNB-GW Access service. The HeNB-GW Network service can be configured in Context configuration mode. The associate configuration is used to establish associations with other helper services in general.

### Example

Following command associates an HeNB-GW Network service named *hcnb-network* with specific HeNB-GW Access service.

```
associate hcnbgw-network-service hcnb-network
```

## associate sctp-param-template

Associates a previously configured SCTP Parameter Template to this HeNB-GW Access service. An SCTP Parameter Template must be configured globally before using this configuration.

**Product** HeNB-GW

**Privilege** Security Administrator, Administrator

**Command Modes** Exec > Global Configuration > Context Configuration > HeNBGW-Access Service Configuration

**configure > context** *context\_name* > **henbgw-access-service** *service\_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-henbgw-access-service)#
```

**Syntax Description** **associate sctp-param-template** *template\_name*  
**no associate sctp-param-template**

**no**

Removes the associated SCTP Parameter Template from this HeNB-GW Access service configuration.

***template\_name***

Identifies the name of the pre-configured SCTP Parameter Template to associate with this HeNB-GW Access service.

*template\_name* is an alphanumeric string of 1 through 63 characters.

**Usage Guidelines** Use this command to bind/associate a pre-configured SCTP Parameter Template to the this HeNB-GW Access service. The SCTP Parameter Template can be configured global mode. The associate configuration is used to establish associations with other helper services in general.

### Example

Following command associates an SCTP Parameter Template named *sctp\_tmpl* with specific HeNB-GW Access service.

```
associate sctp-param-template sctp_tmpl
```

## associate x2gw-service

This command Configures x2gw-service for this HENBGW ACCESS service.

**Product** HeNB-GW

**Privilege** Security Administrator, Administrator

**Command Modes**

Exec > Global Configuration > Context Configuration > HeNBGW-Access Service Configuration

**configure** > **context** *context\_name* > **henbgw-access-service** *service\_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-henbgw-access-service)#
```

**Syntax Description**

**associate x2gw-service** *associate\_x2gw-service\_name* **context** *context\_name*  
**no associate x2gw-service**

**no**

Removes the association of x2gw-service interface from this HeNB-GW Access service configuration.

**associate\_x2gw-service\_name**

Name of the service that will be used by this HENBGW ACCESS service to associate with. Name of the string is an alphanumeric, 1 through 63 characters.

**context\_name**

Name of the context that will be used by this HENBGW ACCESS service to associate with. Name of the string is an alphanumeric, 1 through 79 characters.

**Usage Guidelines**

Use this command to associate x2gw-service with HeNBGW Access service.

**Example**

Following command associates an x2gw-service with specific HeNB-GW Access service with name *gate123*:

```
associate x2gw-service gate123 context ctx1
```

## bind s1-mme

Binds the pre configured HeNB-GW Access Service to the IP address of the S1-MME interface.

**Product**

HeNB-GW

**Privilege**

Security Administrator, Administrator

**Command Modes**

Exec > Global Configuration > Context Configuration > HeNBGW-Access Service Configuration

**configure** > **context** *context\_name* > **henbgw-access-service** *service\_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-henbgw-access-service)#
```

**Syntax Description**

**bind s1-mme** { **ipv4-address** *ipv4\_addr* [ **ipv6-address** *ipv6\_addr* ] | **ipv6-address** *ipv6\_addr* [ **ipv4-address** *ipv4\_addr* ] } **max-subscribers** *max\_sub*

**no bind s1-mme**

**no**

Removes the binding of S1-MME interface from this HeNB-GW Access service configuration.

**ipv4-address | ipv6-address**

Identifies the IPv4 and/or IPv6 address of the S1-MME interface to associate with this HeNB-GW Access service.

*ipv4\_addr* must be an IPv4 (dotted decimal notation) address.

*ipv6\_addr* must be an IPv6 (colon-separated) address.

**max-subscribers max\_sub**

Configures the maximum number of subscribers HENBGW ACCESS service can support.

*max\_sub* is an integer ranging from 0 through 4000000.

**Usage Guidelines**

Use this command to bind the pre configured IPv4 address of the S1-MME interface to the HeNB-GW Access Service.

**Example**

Following command binds the S1-MME interface having 209.165.202.128 IP address with specific HeNB-GW Access service.

```
bind s1-mme ipv4-address 209.165.202.128 max-subscribers 20
```

## csg-optimized-paging

Configures the support for Paging Optimization Function on this HeNB-GW Access service based on the CSG-ID in the Paging message

**Product**

HeNB-GW

**Privilege**

Security Administrator, Administrator

**Command Modes**

Exec > Global Configuration > Context Configuration > HeNBGW-Access Service Configuration

```
configure > context context_name > henbgw-access-service service_name
```

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-henbgw-access-service)#
```

**Syntax Description**

```
[ no ] csg-optimized-paging
```

**no**

Removes the paging optimization function from this HeNB-GW Access service configuration.

**Usage Guidelines**

Use this command to enable the CSG-ID based paging optimization function to the HeNB-GW Access Service.

**end****Example**

Following command enables the CSG-ID based paging optimization on a specific HeNB-GW Access service.

```
csg-optimized-paging
```

## end

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

<b>Product</b>	All
<b>Privilege</b>	Security Administrator, Administrator
<b>Syntax Description</b>	<b>end</b>
<b>Usage Guidelines</b>	Use this command to return to the Exec mode.

## exit

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

<b>Product</b>	All
<b>Privilege</b>	Security Administrator, Administrator
<b>Syntax Description</b>	<b>exit</b>
<b>Usage Guidelines</b>	Use this command to return to the parent configuration mode.

## mme-id

Configures the MME ID for this HeNB-GW Access service. For this configuration, MME Group ID and MME Code has to be configured.

<b>Product</b>	HeNB-GW
<b>Privilege</b>	Security Administrator, Administrator
<b>Command Modes</b>	Exec > Global Configuration > Context Configuration > HeNBGW-Access Service Configuration <b>configure &gt; context <i>context_name</i> &gt; henbgw-access-service <i>service_name</i></b> Entering the above command sequence results in the following prompt: <pre>[<i>context_name</i>]<i>host_name</i>(config-henbgw-access-service)#</pre>

**Syntax Description** `mme-id group-id mme_group_id mme-code mme_code`  
`no mme-id`

**no**

Removes the configured MME ID from this HeNB-GW Access service configuration.

***mme\_group\_id***

Identifies the MME Group ID which must be entered as an integer between 32768 and 65535.

***mme\_code***

Identifies the MME code which is again an integer value between 0 and 255.

**Usage Guidelines** Use this command to configure the MME Identifier which includes the MME Group ID and MME Code for this HeNB-GW Access service. MME ID configuration is required, because it is the same ID which HeNB-GW sends in response messages to HeNBs.



**Caution** Changing the MME ID is a disruptive operation. HeNB-GW service is restarted on any change.

### Example

Following command configures 32770 as the MME Group ID and 105 as MME code on a specific HeNB-GW Access service.

```
mme-id group-id 32770 mme-code 105
```

## nas-node-selection

This command configures the selection of logical eNodeB/ MME based on TAI or Global eNodeB id.

**Product** HeNB-GW

**Privilege** Security Administrator, Administrator

**Command Modes** Exec > Global Configuration > Context Configuration > HeNBGW-Access Service Configuration

```
configure > context context_name > henbgw-access-service service_name
```

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-henbgw-access-service) #
```

**Syntax Description** `nas-node-selection { global-eNodeB-id-based | tai-based }`



**Important** This command is functional for 8 logical eNodeBs only.

**global-eNodeB-id-based**

Specifies the Global eNodeB id Based selection.

**tai-based**

Specifies the TAI based selection. This is the default option.

**Usage Guidelines**

Use this command to configure the selection of logical eNodeB/ MME based on TAI or Global eNodeB id.

**Example**

Following command configures the selection of logical eNodeB/ MME based on Global eNodeB id.

```
nas-node-selection global-eNodeB-id-based
```

# plmn

Configures the PLMN identifier for this HeNB-GW Access service. Other identifiers that are configured along with the PLMN include the MCC and MNC values too.

**Product**

HeNB-GW

**Privilege**

Security Administrator, Administrator

**Command Modes**

Exec > Global Configuration > Context Configuration > HeNBGW-Access Service Configuration

```
configure > context context_name > henbgw-access-service service_name
```

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-henbgw-access-service)#
```

**Syntax Description**

```
[ no ] plmn id mcc mcc_val mnc mnc_val
```

**no**

Removes the existing PLMN configuration from this HeNB-GW Access service configuration.

**mcc\_val**

Identifies the mobile country code for the IMSI which must be entered between 100 and 999 as a string of size 3.

**mnc\_val**

Identifies the Mobile Network Code which is a value between 00 and 999, as a string of size 2 to 3.

**Usage Guidelines**

Use this command to configure the PLMN related configuration for this HeNB-GW Access service.



**Example**

Following command configures 123 as the MCC value and 456 as the MNC value as part of the PLMN configuration for this HeNB-GW Access service.

```
plmn id mcc 123 mnc 456
```

## s1-mme ip qos-dscp

This command configures the quality of service (QoS) differentiated service code point (DSCP) marking for IP packets sent out on the S1-MME interface, from the HeNB-GW to the HeNB(s).

<b>Product</b>	HeNB-GW
<b>Privilege</b>	Security Administrator, Administrator
<b>Command Modes</b>	Exec > Global Configuration > Context Configuration > HeNBGW-Access Service Configuration <b>configure &gt; context</b> <i>context_name</i> > <b>henbgw-access-service</b> <i>service_name</i> Entering the above command sequence results in the following prompt: <pre>[context_name]host_name(config-henbgw-access-service)#</pre>
<b>Syntax Description</b>	<pre>s1-mme ip qos-dscp { af11   af12   af13   af21   af22   af23   af31   af32   af33   af41   af42   af43   be   cs0   cs1   cs2   cs3   cs4   cs5   cs6   cs7   ef } default s1-mme ip qos-dscp</pre> <pre>qos-dscp { af11   af12   af13   af21   af22   af23   af31   af32   af33   af41   af42   af43   be   cs0   cs1   cs2   cs3   cs4   cs5   cs6   cs7   ef }</pre> <p>Default: <b>af11</b></p> <p>Specifies the DSCP for the specified QoS traffic pattern. <b>qos-dscp</b> can be configured to any one of the following:</p> <ul style="list-style-type: none"> <li><b>af11</b>: Assured Forwarding 11 per-hop-behavior (PHB)</li> <li><b>af12</b>: Assured Forwarding 12 PHB</li> <li><b>af13</b>: Assured Forwarding 13 PHB</li> <li><b>af21</b>: Assured Forwarding 21 PHB</li> <li><b>af22</b>: Assured Forwarding 22 PHB</li> <li><b>af23</b>: Assured Forwarding 23 PHB</li> <li><b>af31</b>: Assured Forwarding 31 PHB</li> <li><b>af32</b>: Assured Forwarding 32 PHB</li> <li><b>af33</b>: Assured Forwarding 33 PHB</li> <li><b>af41</b>: Assured Forwarding 41 PHB</li> </ul>

**af42:** Assured Forwarding 42 PHB

**af43:** Assured Forwarding 43 PHB

**be:** Best effort forwarding PHB

**cs0:** Designates use of Class Selector 0 PHB. This is same as DSCP Value BE

**cs1:** Designates use of Class Selector 1 PHB

**cs2:** Designates use of Class Selector 2 PHB

**cs3:** Designates use of Class Selector 3 PHB

**cs4:** Designates use of Class Selector 4 PHB

**cs5:** Designates use of Class Selector 5 PHB

**cs6:** Designates use of Class Selector 6 PHB

**cs7:** Designates use of Class Selector 7 PHB

**ef:** Expedited forwarding PHB

#### default

Specifies the default DSCP for the specified QoS traffic pattern. The default value of DSCP is af11.

#### Usage Guidelines

DSCP levels can be assigned to specific traffic patterns to ensure that data packets are delivered according to the precedence with which they are tagged. The diffserv markings are applied to the IP header of every subscriber data packet transmitted over the S1-MME interface(s).

#### Example

The following command sets the DSCP-level for data traffic sent over the S1-MME interface to **af12**:

```
s1-mme ip qos-dscp af12
```

## s1-mme sctp port

This command configures the local Stream Control Transmission Protocol (SCTP) port used for binding the SCTP socket to communicate with the HeNBs over S1-MME interface.

#### Product

HeNB-GW

#### Privilege

Security Administrator, Administrator

#### Command Modes

Exec > Global Configuration > Context Configuration > HeNBGW-Access Service Configuration

```
configure > context context_name > henbgw-access-service service_name
```

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-henbgw-access-service)#
```

#### Syntax Description

```
s1-mme sctp port port_num
default s1-mme sctp port
```

**default**

Sets the SCTP port to the default value of 36412 to communicate with the HeNBs using S1-MME interface.

**port\_num**

Specifies the SCTP port number to communicate with the HeNBs using S1-MME interface as an integer from 1 through 65535. Default: 36412

**Usage Guidelines**

Use this command to assign the SCTP port with SCTP socket to communicate with the HeNB using S1AP. Only one SCTP port can be associated with one MME service.

**Example**

The following command sets the default SCTP port number 699 for to interact with Home eNodeB using S1AP on S1-MME interface:

```
default s1-mme sctp port
```

## s1u-relay

This command configures the S1-U Relay service for the HeNB-GW Access service. The user enters in the S1-U Relay configuration mode using this command.

**Product**

HeNB-GW

**Privilege**

Security Administrator, Administrator

**Command Modes**

Exec > Global Configuration > Context Configuration > HeNBGW-Access Service Configuration

```
configure > context context_name > henbgw-access-service service_name
```

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-henbgw-access-service) #
```

**Syntax Description**

```
[ no ] s1u-relay
```

**no**

Removes the S1-U Relay service function from this HeNB-GW Access service configuration.

**Usage Guidelines**

Use this command to enable the S1-U Relay service function to the HeNB-GW Access Service. S1-U relay service is disabled by default.

**Example**

Following command enables the S-U Relay service on a specific HeNB-GW Access service.

```
s1u-relay
```

# security-gateway bind

This command configuration defines the IPv4 or IPv6 address to be used as the connection point for establishing IKEv2 sessions, and to specify the crypto template for the security gateway (SecGW) for the HeNB-GW Access service.

**Product** HeNB-GW

**Privilege** Security Administrator, Administrator

**Command Modes** Exec > Global Configuration > Context Configuration > HeNBGW-Access Service Configuration

**configure > context** *context\_name* > **henbgw-access-service** *service\_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-henbgw-access-service)#
```

**Syntax Description** **security-gateway bind** { **ipv4-address** | **ipv6-address** } *ip\_addr*  
**crypto-template** *template\_name* [ **context** *ctxt\_name* ]  
**no security-gateway bind**

**no**

Removes the security gateway related configuration associated with this HeNB-GW Access service configuration.

***ip\_addr***

Identifies the security gateway address used for this HeNB-GW Access service.

For **ipv4-address** , *ip\_addr* must be an IPv4 address in dotted decimal notation.

For **ipv6-address** , *ip\_addr* must be an IPv6 address in colon-separated hexa-decimal notation.

***template\_name***

Identifies the crypto template name for security gateway for this HeNB-GW Access service. It must be entered a string of size 0 to 127.

***ctxt\_name***

Identifies the context name where crypto template is defined for this HeNB-GW Access service. It must be entered a string of size 1 to 79.

**Usage Guidelines**

Use this command to configure the IPv4 or IPv6 address to be used as the connection point for establishing IKEv2 sessions for this HeNB-GW Access service, and the crypto template for the SecGW . The SecGW configuration includes crypto template configuration as part of IPSec settings. Therefore, if the crypto-template is defined in a different context than the current HeNB-GW Access service, the context name has to be specified.

**Example**

Following command configures 209.165.201.15 as the SecGW address and crypto-temp as the crypto template name on a specific HeNB-GW Access service.

```
security gateway bind ipv4-address 209.165.201.15 crypto-template crypto-temp
```

## security-gateway ip

Configures the behavior of IP allocation when HeNB requests for a dual IP.

**Product**

HeNB-GW

**Privilege**

Security Administrator, Administrator

**Command Modes**

Exec > Global Configuration > Context Configuration > HeNBGW-Access Service Configuration

```
configure > context context_name > hcnbgw-access-service service_name
```

Entering the above command sequence results in the following prompt:

```
[context_name] host_name (config-hcnbgw-access-service) #
```

**Syntax Description**

```
security-gateway ip alloc-mode { single | dual }
```

```
default security-gateway ip alloc-mode
```

**default**

Restores the configuration to its default value.

**Default:** single

**alloc-mode { single | dual }**

Specifies to allocate a single or dual IP address.

**single:** On receiving a request for dual IP, the HeNB-GW access service will try to allocate an IPv6 address to HeNB. If the IPv6 address is unavailable, an IPv4 address will be allocated. This is the default behaviour.

**dual:** On receiving a request for dual IP, the HeNB-GW access service will allocate both IPv6 and IPv4 addresses to HeNB based on availability.

**Usage Guidelines**

Use this command to configure the behavior of IP allocation when HeNB requests for a dual IP.

**Example**

Following command allocates both IPv4 and IPv6 addresses when a dual IP request comes from HeNB:

```
security gateway ip alloc-mode dual
```

# timeout

Configures the the maximum duration of the session for this HeNB-GW Access service, in seconds, before system automatically reports/terminates the session.

**Product** HeNB-GW

**Privilege** Security Administrator, Administrator

**Command Modes** Exec > Global Configuration > Context Configuration > HeNBGW-Access Service Configuration

**configure > context** *context\_name* > **henbgw-access-service** *service\_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-henbgw-access-service)#
```

**Syntax Description** **timeout long-duration** *dur* **action { detection | disconnect }**  
**no timeout long-duration**

**no**

Removes the currently setup maximum duration of session.

**dur**

Specifies the number of seconds for the session's timeout duration, before system automatically terminates the session or a defined action is to be taken.

*dur* is an integer from 1 through 2147483647. Default: 0

**Usage Guidelines** Use this command to configure the maximum duration of the session, in seconds, before system automatically reports/terminates the session of this HeNB-GW Access service.

## Example

The following command sets the timeout duration of 60 seconds for a particular HeNB-GW Access service and disconnect the session:

```
timeout long-duration 60 action disconnect
```