



# ALCAP 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 ALCAP Service Configuration Mode is used to create, provide, and manage the Access Link Control Application Part (ALCAP) on HNB-GW to support IuCS-over-ATM connectivity to HNB subscriber in a 3G UMTS networks towards CS core network.

## Command Modes

Exec > Global Configuration > Context Configuration > ALCAP Service Configuration

**configure** > **context** *context\_name* > **alcap-service** *service\_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-alcap-service-service_name)#
```



## Important

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

- [aal2-node](#), on page 1
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## aal2-node

This command creates/configures AAL2 node configuration to defined AAL2 node properties for IuCS-over-ATM function.

<b>Product</b>	HNB-GW
<b>Privilege</b>	Security Administrator, Administrator
<b>Command Modes</b>	Exec > Global Configuration > Context Configuration > ALCAP Service Configuration <b>configure</b> > <b>context</b> <i>context_name</i> > <b>alcap-service</b> <i>service_name</i> Entering the above command sequence results in the following prompt: [ <i>context_name</i> ]host_name(config-alcap-service- <i>service_name</i> )#

<b>Syntax Description</b>	<b>aal2-node</b> <i>aal2_node_name</i> [ <b>-noconfirm</b> ] <b>no aal2-node</b> <i>aal2_node_name</i>
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**no**

Removes the configured AAL2 node from ALCAP service configuration.

***aal2\_node\_name***

Identifies the name of the AAL2 node name to configure the AAL2 node parameters.

The *aal2\_node\_name* must be an alphanumeric string from 1 through 63 characters.

<b>Usage Guidelines</b>	Use this command to create/configure the AAL2 node configuration and switch to AAL2 Node Configuration mode. Entering this command results in the following prompt: [ <i>context_name</i> ]hostname(config-aal2-node- <i>aal2_node_name</i> )# A maximum of <i>TBD</i> AAL2 node can be configured in one ALCAP service.
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<b>Important</b>	The AAL2 Node configured here will be used to bind with ATM port in PVC Configuration sub-mode of ATM Configuration mode for IuCS-over-ATM functionality.
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<b>Important</b>	For more information on AAL2 node configuration, refer <i>AAL2 Node Configuration Mode Commands</i> .
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**Example**

Following command creates AAL2 node configuration mode named *aal2\_1* within the specific ALCAP service for IuCS-over-ATM support towards CS core networks and switch the user to AAL2 Node Configuration Mode named *aal2\_1*:

```
aal2-node aal2_node_name -noconfirm
```

# aal2-route

This command defines a route for each ATM Endpoint Service Address (AESA) with which it can have transport layer communication. This route actually maps an AESA to one or more AAL2 paths which will be used to setup an end to end communication path.

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**Product**

HNB-GW

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**Privilege**

Security Administrator, Administrator

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**Command Modes**

Exec &gt; Global Configuration &gt; Context Configuration &gt; ALCAP Service Configuration

**configure** > **context** *context\_name* > **alcap-service** *service\_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-alcap-service-service_name)#
```

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**Syntax Description**

**aal2-route end-point** {*AESA\_address* | **default**} **aal2-node** *aal2\_node\_name*  
**no aal2-route end-point** {*AESA\_address* | **default**} [**aal2-node** *aal2\_node\_name*]

**no**

Removes defined AAL2 route from ALCAP service configuration.

**end-point** [*AESA\_address* | **default**]

Specifies the AESA address in an ATM (or AAL2) network to map with adjacent AAL2 node. The AESA is based on the generic network service access point (NSAP) format. The ATM connection from HNB-GW terminates at this point.

The *AESA\_address* must be an alpha/numeric string from 1 through 63 characters.

The **default** keyword is used to configure a default AAL2 route which will match any AESA received from MSC and for which AESA specific route is not configured. When a connection is established an AESA specific route will have higher priority than **default** route.

**aal2-node** *aal2\_node\_name*

Identifies the name of the AAL2 node name to configure in AAL2 route.

The *aal2\_node\_name* must be an alphanumerical string from 1 through 63 characters.

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**Usage Guidelines**

Use this command to create a mapping between ATM endpoint and adjacent node for AAL2 connection routing purposes.

It defines a route for each ATM Endpoint Service Address (AESA) with which it can have transport layer communication. This route actually maps an AESA to one or more AAL2 paths which will be used to setup an end to end communication path.

The **default** keyword can be used to configure a default **aal2-route** which will match any AESA received from MSC and for which AESA specific route is not configured. When a connection is established an AESA specific route will have higher priority than default route.




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**Important** The default route shall not be used when AESA specific route exists.

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If an HNB-GW configured with a route for *MGWI* which consists of *AAL2\_path\_A* and *AAL2\_path\_B* for **AAL2 switch-A** and **AAL2 switch-B** switch respectively then similarly **AAL2 switch-A** and **AAL2 switch-B** need to be configured with routes for *MGWI*.

A maximum of *TBD* AAL2 routes can be configured in one ALCAP service.

### Example

Following command create a mapping between ATM endpoint *MGWI* and AAL2 node *aal2\_1* for AAL2 connection routing purposes:

```
aal2-route end-point MGWI aal2-node aal2_1
```

## associate

This command associates a previously configured SS7 routing domain with this ALCAP service on HNB-GW node which will be used to define the SS7 routing domain in 3G UMTS networks.

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### Product

HNB-GW

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### Privilege

Security Administrator, Administrator

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### Command Modes

Exec > Global Configuration > Context Configuration > ALCAP Service Configuration

**configure** > **context** *context\_name* > **alcap-service** *service\_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-alcap-service-service_name)#
```

---

### Syntax Description

```
associate ss7-routing-domain ss7_rd_id  
no associate ss7-routing-domain
```

### no

Removes the associated SS7 routing domain ID from this ALCAP service configuration.

### *ss7\_rd\_id*

Identifies the SS7 routing domain index configured in Global configuration mode to associate with ALCAP service for IuCS-over-ATM support.

The *ss7\_rd\_id* must be an integer from 1 through 12.




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**Important** For SS7 routing domain configuration, refer *SS7 Routing Domain Configuration Commands Mode* chapter.

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**Usage Guidelines**

Use this command to associate a pre-configured SS7 routing domain index to provide IuCS-over-ATM support towards CS core network for HNB subscriber.

A maximum of *TBD* SS7 routing domains can be configured in one ALCAP service.

**Example**

Following command associates a predefined SS7 routing domain id 3 with ALCAP service to define routing domain for IuCS-over-ATM support towards CS core networks:

```
associate ss7-routing-domain 3
```

**end**

Exits the current mode and returns to the Exec Mode.

**Product**

All

**Privilege**

Security Administrator, Administrator

**Syntax Description**

**end**

**Usage Guidelines**

Change the mode back to the Exec mode.

**exit**

Exits the current mode and returns to the previous mode.

**Product**

All

**Privilege**

Security Administrator, Administrator

**Syntax Description**

**exit**

**Usage Guidelines**

Return to the previous mode.

**maximum reset-retransmission**

This command sets the maximum number of retries allowed for transmission of RESET message to reset the AAL2 path.

**Product**

HNB-GW

**Privilege**

Security Administrator, Administrator

**Command Modes**

Exec > Global Configuration > Context Configuration > ALCAP Service Configuration

```
configure > context context_name > alcap-service service_name
```

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-alcap-service-service_name)#
```

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**Syntax Description**

**maximum reset-retransmissions** *retries*  
**default maximum reset-retransmissions**

**default**

Sets the number of RESET message retries to default value of 1.

**retries**

Sets the maximum number of retries allowed for transmission of RESET message to reset the AAL2 path by ALCAP service.

*retries* must be an integer value from 0 through 4. When 0 is used retransmission will be disabled.

Default: 1

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**Usage Guidelines**

Use this command to sets the maximum number of retries allowed for transmission of RESET message by ALCAP service to reset the AAL2 path when **Timer\_RES** expires. Once the maximum number of RESET retries have been performed the ALCAP service shall stop the RESET procedure for the affected path and path will become available for connections.

**Example**

The following command configures ALCAP service to send maximum number of 2 RESET messages after expiry of RESET timer for AAL2 path RESET procedure:

```
maximum reset-retransmissions 2
```

## self-point-code

This command specifies the SS7 point code address for ALCAP service.

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**Product**

HNB-GW

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**Privilege**

Security Administrator, Administrator

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**Command Modes**

Exec > Global Configuration > Context Configuration > ALCAP Service Configuration

**configure > context** *context\_name* > **alcap-service** *service\_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-alcap-service-service_name)#
```

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**Syntax Description**

**self-point-code** *point\_code*  
**no self-point-code**

**no**

Deletes the configured self point code for this ALCAP service.

**point\_code**

Defines the point code to assign to this ALCAP service.

*point\_code*: value entered must adhere to the point code variant selected when the ALCAP service instance was defined:

- ITU Range 0.0.1 to 7.255.7
- ANSI Range 0.0.1 to 255.255.255
- TTC Range 0.0.1 to 15.31.255
- a string of 1 to 11 combined digits and period.

**Usage Guidelines**

Use this command to assign the self point code to use for this ALCAP service.

**Example**

The following command sets an ITU-based point code for this ALCAP service:

```
self-pointcode 4.121.5
```

The following command removes the configured self-point code:

```
no self-pointcode
```

## timeout alcap

This command configures the timeout duration for various ALCAP procedure timers in ALCAP service.

**Product**

HNB-GW

**Privilege**

Security Administrator, Administrator

**Command Modes**

Exec > Global Configuration > Context Configuration > ALCAP Service Configuration

```
configure > context context_name > alcap-service service_name
```

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-alcap-service-service_name)#
```

**Syntax Description**

```
timeout alcap {blo blo_timer_value | erq erq_timer_value | mod mod_timer_value | rel
rel_timer_value | res res_timer_value | ubl ubl_timer_value}
default timeout alcap {blo | erq | mod | rel | res | ubl}
```

**default**

Sets the timer values to default duration for specific ALCAP procedure in an ALCAP service.

**blo blo\_timer\_value**

Specifies the maximum time, in seconds, the system waits for response from adjacent AAL2 node before reporting the failure of AAL2 Path Block procedure. When a request to block a particular AAL2 path is

received by ALCAP service, the ALCAP service sends ALCAP-BLOCK-REQUEST message to AAL2 node/peer ALCAP Manager and starts **Timer\_BLO** timer. The timer waits for specified timeout duration *blo\_timer\_value* for ALCAP-BLOCK-CONFIRM message before reporting error in procedure.

If AAL2 Node responds with ALCAP-BLOCK-CONFIRM message the timer will stop before the expiry of timeout duration and system reports the successful completion of the procedure.

*blo\_timer\_value* must be an integer value from 2 through 60.

Default: 5

#### **erq erq\_timer\_value**

Specifies the maximum time, in seconds, the system waits for response from adjacent AAL2 node before reporting the failure of AAL2 Establish Request procedure. When a request to establish a connection through ALCAP-ESTABLISH-REQUEST message is sent to AAL2 node the system starts the **Timer\_ERQ** timer. The timer waits for specified timeout duration *erq\_timer\_value* for ALCAP-ESTABLISH-CONFIRM message before reporting error in procedure and system requests ALCAP Manager to free the AAL2-channel used for connection and also indicates to start the RESET procedure for this channel.

If AAL2 Node responds with ALCAP-ESTABLISH-CONFIRM message the timer will stop before the expiry of timeout duration and system reports the successful completion of the procedure.

*erq\_timer\_value* must be an integer value from 5 through 30.

Default: 5

#### **mod mod\_timer\_value**

Specifies the maximum time, in seconds, the system waits for response from adjacent AAL2 node before reporting the failure of AAL2 Modify Request procedure. When a request to modify a connection or channel through ALCAP-MODIFY-REQUEST message is sent to AAL2 node the system starts the **Timer\_MOD** timer. The timer waits for specified timeout duration *mod\_timer\_value* for ALCAP-MODIFY-CONFIRM message before reporting error in procedure and system requests ALCAP Manager to initiate the RESET or any other appropriate procedure for this channel and HNB-GW shall release the RUA connection towards HNB and SCCP connection towards CN.

If AAL2 Node responds with ALCAP-MODIFY-CONFIRM message the timer will stop before the expiry of timeout duration and system reports the successful completion of the procedure.

*mod\_timer\_value* must be an integer value from 5 through 30.

Default: 5

#### **rel rel\_timer\_value**

Specifies the maximum time, in seconds, the system waits for response from adjacent AAL2 node before reporting the failure of AAL2 Release Request procedure. When a request to release a connection or channel through ALCAP-RELEASE-REQUEST message is sent to AAL2 node the system starts the **Timer\_REL** timer and sends RAB-ASST-REQ to HNB. The timer waits for specified timeout duration *rel\_timer\_value* for ALCAP-RELEASE-CONFIRM message before reporting error in procedure and system requests ALCAP Manager to release the AAL2 channel. System also indicates to start RESET procedure for this channel.

If AAL2 Node responds with ALCAP-RELEASE-CONFIRM message the timer will stop before the expiry of timeout duration and system reports the successful completion of the procedure.

*rel\_timer\_value* must be an integer value from 2 through 60.



Default: 2

#### **res res\_timer\_value**

Specifies the maximum time, in seconds, the system waits for response from adjacent AAL2 node before reporting the failure of AAL2 Reset Request procedure. When a request to reset a connection or channel through ALCAP-RESET-REQUEST message is sent to AAL2 node the system starts the **Timer\_RES** timer. The timer waits for specified timeout duration *res\_timer\_value* for ALCAP-RESET-CONFRIM message before retrying the RESET procedure. The system will retry the RESET procedure for configured number of times and on completion of retry limit the stops the RESET procedure for the affected path and path will become available for connections.

If AAL2 Node responds with ALCAP-RESET-CONFRIM message the timer will stop before the expiry of timeout duration and system reports the successful completion of the procedure.

*res\_timer\_value* must be an integer value from 2 through 60.

Default: 2

#### **ubl ubl\_timer\_value**

Specifies the maximum time, in seconds, the system waits for response from adjacent AAL2 node before reporting the failure of AAL2 Path Unblock procedure. When a request to unblock a particular AAL2 path is received by ALCAP service, the ALCAP service sends ALCAP-UNBLOCK-REQUEST message to AAL2 node/peer ALCAP Manager and start **Timer\_BLO** timer. The timer waits for specified timeout duration *ubl\_timer\_value* for ALCAP-UNBLOCK-CONFRIM message before reporting error in procedure.

If AAL2 node/peer ALCAP Manager responds with ALCAP-BLOCK-CONFRIM message the timer will stop before the expiry of timeout duration and system reports the successful completion of the procedure.

*ubl\_timer\_value* must be an integer value from 2 through 60.

Default: 2

### Usage Guidelines

Use this command to configure the timeout duration for various ALCAP procedures in ALCAP service.

### Example

The following command sets the timeout duration of 10 seconds for ALCAP-MODIFY-REQUEST procedure:

```
timeout alcap mod 10
```

## timeout stc

This command configures the timeout duration for STC long (T30) and STC short (T29) timers used in congestion indication procedure at Signaling Transport Converter (STC) layer in ALCAP service.

### Product

HNB-GW

### Privilege

Security Administrator, Administrator

### Command Modes

Exec > Global Configuration > Context Configuration > ALCAP Service Configuration

**configure > context** *context\_name* > **alcap-service** *service\_name*

Entering the above command sequence results in the following prompt:

```
[context_name]host_name(config-alcap-service-service_name)#
```

### Syntax Description

**timeout stc** {**long** *long\_timer\_value* | **short** *short\_timer\_value*}  
**default timeout stc** {**long** | **short**}

#### default

Sets the timer values to default duration for specific STC procedure in an ALCAP service.

#### long *long\_timer\_value*

Specifies the duration in milliseconds for STC long timer. This timer is used by the congestion indication procedure. Receipt of a repeated congestion indication from MTP3B before the expiry of this timer is interpreted as the congestion situation. On the other hand, if no congestion indication is received from MTP3B before expiry of this timer, the congestion situation is considered to have improved.

*long\_timer\_value* must be an integer value from 5000 through 10000.

Default: 5000

#### short *short\_timer\_value*

Specifies the duration in milliseconds for STC short timer. This timer is used by the congestion indication procedure. The role of this timer is to avoid overreacting if multiple congestion indications are received from MTP3B in quick succession.

*short\_timer\_value* must be an integer value from 300 through 600.

Default: 300

### Usage Guidelines

Use this command to configure the long (T30) and short (T29) timer for congestion indication procedure in ALCAP service.

When the first congestion indication is received by, the traffic load into the affected destination point code is reduced and the same time two timers STC short timer (T29) and STC long timer (T30) are started. During STC short timer, all received congestion indications for the same destination point code are ignored in order not to reduce traffic too rapidly. Reception of a congestion indication after the expiry of STC short timer, but still during STC long timer, will decrease the traffic load by one more step and restart both the timers again.

If STC long timer expires (i.e. no congestion indications having been received during the STC long timer period), traffic will be increased by one step and STC long timer will be restarted unless full traffic load has been resumed.

#### Example

The following command sets the timeout duration of 5000 milliseconds for STC long timer:

```
default timeout stc long
```

The following command sets the timeout duration of 300 milliseconds for STC short timer:

```
default timeout stc short
```