

Card Configuration Mode Commands

Command Modes

Use the Card configuration mode to create and manage the physical cards in the chassis.

Exec > Global Configuration > Card Configuration

configure > card *card_number*

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-card- slot_number)#
```

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

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aps

Configures the parameters for the automatic protection switching (APS) feature for SONET CLC2 and OLC2 line cards or for multiplexed section (or switching) protection (MSP) type APS for SDH CLC2 and OLC2 line cards.

Important This command should only be used **after** APS has been enabled with the **aps-mode** keyword of the command.

Product

SGSN

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Card Configuration

configure > card *card_number*

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-card- slot_number)#
```

Syntax Description

```
aps [ 1+1 ] [ 1:n ] [ uni-directional ] [ non-revertive ] [ -noconfirm ]
no aps
default aps
```

1+1

Selects 1+1 line (linear) protection. Traffic is carried simultaneously by the working line and the protection line. GR-253 and ITU-T G.783 require the bridging to be done at the electrical level; therefore, the same payloads are transmitted over the working and protection lines.

1:n

Selects 1:n linear APS type.

no

This keyword has been deprecated for releases 14.0 and higher. To disable APS, enter **redundancy port-mode** in this command mode.

For releases prior to 14.0, this keyword disables APS.

default

This option is equivalent to: **aps 1+1 uni-directional non-revertive**. This option is only available in releases 14.0 and higher.

uni-directional

Enables protection on one end of the connection.

non-revertive

Prevents the network from automatically reverting to the original working line/port when the the original working line/port is recovered/restored.

-noconfirm

Executes the command without additional prompting for command confirmation.

Usage Guidelines



Important At this time, it is not necessary to use the **aps** command to configure parameters as all of these parameters are enabled by default when the APS feature is enabled with the **aps-mode** keyword of the command.

Use this command to configure feature parameters for the APS function for SONET CLC2 and OLC2 line cards or to configure MSP-type APS for SDH CLC2 and OLC2 line cards. Based on the card framing configuration (SONET or SDH), the system automatically knows whether the feature is APS or MSP.

Example

As all parameters are included by default it is only necessary to enter the command:

```
aps
```

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.

framing

Configures the type of framing to be used for the signaling generated on a specific line card.

Product All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Card Configuration

configure > card *card_number*

Entering the above command sequence results in the following prompt:

`[local]host_name(config-card- slot_number)#`

Syntax Description

```
framing { ethernet | sdh [ ds1 | e1 ] [ ss-bits ] | sonet [ ds1 | e1 ] |
 unspecified } [ -noconfirm ]
default framing [ -noconfirm ]
```

default

Resets the framing generated by the card to the default for the particular card type.

ethernet

Configures the system to use Ethernet framing for this line card. This type of framing can only be used on an Ethernet card.

Default: Ethernet framing type is the default for an Ethernet line card.

Important Using this keyword with an OLC/OLC2 or CLC/CLC2 takes the card offline.

sdh [ds1 | e1] [ss-bits]

Configures the system to use SDH signal framing for either an OLC/OLC2 or CLC/CLC2 line card in an SGSN.

Important Using this keyword with an Ethernet line card takes the line card offline.

In releases 8.1 and higher, you can also set the type of signaling path for a CLC2.

ds1 - configures the card to support a DS1/T1.

e1 - configures the card to support an E1. This is the default for SDH.

ss-bits - enables/disables use of ss-bits (per ITU 1997 G.783 specification) for SDH configured line card.

sonet [ds1 | e1]

Configures the system to use SONET signal framing for either an OLC/OLC2 or CLC/CLC2 line card in an SGSN.

Default: SONET is the default framing type for an OLC/OLC2 or CLC/CLC2 line card.

Important Using this keyword with an Ethernet line card takes the line card offline.

In releases 8.1 and higher, you can also set the type of signaling path for a CLC2.

ds1 - configures the card to support a DS1/T. This is the default for SONET.

e1 - configures the card to support an E1.

unspecified

Configures the system to use the default framing type for the particular line card resident in the identified slot.

-noconfirm

Instructs the system to execute the command without additional prompting for command confirmation.

Usage Guidelines

Use the **framing** command to identify the type of signal framing to be used by the line card in the identified slot.

Note that each type of line card uses a different type of signal framing. If you configure the wrong framing type for a line card, the line card is taken offline.



Important This command is not supported on all platforms.

Example

Use the following command to configure SDH signal framing on a CLC2. If you do not include the path-type, the default of **e1** is automatically included in the card's framing configuration:

```
framing sdh
```

header-type

Defines the size of the header frame for Frame Relay transmissions over a CLC or CLC2 channelized line card. (ASR 5000 only)

Product

SGSN

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Card Configuration

configure > card *card_number*

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-card- slot_number)#
```

Syntax Description

```
header-type header_size [ -noconfirm ]
default header-type [ -noconfirm ]
```

default

Resets the configuration to the default header size of 2-bytes.

header_size

Sets the size for the header frame. *header_size* must be either 2-bytes or 4-bytes.

-noconfirm

Executes the command without additional prompting for command confirmation.

Usage Guidelines Use this command to set the size of the header frame for Frame Relay messages emanating from the line card. The size (2-bytes or 4-bytes) determines the amount of information that can be transmitted in that first information frame.

Important Not supported on all platforms

Example

Set the header to the smallest size.

```
header-type 2-byte
```

initial-e1-framing

Configures the type of framing mode that will initially be available at the time the line card boots. (ASR 5000 only)

Product SGSN

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Card Configuration

configure > **card** *card_number*

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-card- slot_number)#
```

Syntax Description

```
initial-e1-framing [ crc4 | standard ]
default initial-e1-framing
```

default

Returns the configuration to CRC4 as the default type.

crc4

Accepts the default CRC4, in the configuration, as the initial at-boot framing mode.

standard

Accepts the **standard** mode as the initialization framing mode.

Usage Guidelines

For a CLC-type line card, the default E1 framing mode is CRC4. When a card reboots, all E1s are initialized with CRC4 framing mode and then switch to the configured framing mode. With this keyword, you have the option to choose the initialization framing mode.



Important Only supported on CLC/CLC2

Example

```
initial-e1-framing standard
```

link-aggregation

Configures system priority and toggle link settings for Link Aggregation. These parameters are usually changed to match the feature requirements of the remote Ethernet switch.

Product

WiMAX

PDSN

HA

FA

GGSN

SGSN

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Card Configuration

configure > **card** *card_number*

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-card- slot_number)#
```

Syntax Description

link-aggregation { system-priority *priority* **| toggle-link } [-noconfirm] { default | no } link-aggregation { system-priority | toggle-link } [-noconfirm]**

default

Resets the configuration to the default.

link-aggregation system-priority *priority*

This command sets the system priority used by Link Aggregation Control Protocol (LACP) to form the system ID.

priority is a hexadecimal value from 0x0000 through 0xFFFF. Default is 0x8000 (32768).

toggle-link

Sets the system to toggle link on port switch.

-noconfirm

Executes the command without additional prompting for command confirmation.

Usage Guidelines

The system MAC address (6 bytes) and system priority (2 bytes) combine to form the system ID. A system consists of a packet processing card and its associated ASR 5500 MIO traffic ports. The highest system ID priority (the lowest number) handles dynamic changes.

For additional usage and configuration information for the link aggregation feature, refer to the *System Administration Guide*.



Important Not supported on all platforms

Example

The following command configures the link aggregation system-priority to 10640 (*0x2990*):

```
link-aggregation system-priority 0x2990
```

mode

Sets the application processor card's current administrative state to active or standby.

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Card Configuration

configure > **card** *card_number*

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-card- slot_number)#
```

Syntax Description

```
mode { active | standby } [ -noconfirm ]
default mode [ -noconfirm ]
```

default

Returns the mode to the default value appropriate to the card type.

The default administrative mode for line cards affects a single card and its mated line card. The default state for line cards in the top shelf is active. The default for line cards in the bottom shelf is standby.

The default administrative state for the SPIO in slot 24 is active and the SPIO in slot 25 is standby.

The default administrative mode for packet processing cards is standby.

Important This command results in a migration of processes if the default mode for a card is different than the current state of the card.

active

Defines which card type is to be switched from standby to active state. If a card is present in the slot, the packet processing card is automatically selected depending upon the type of card. If no card is present in the slot, a packet processing card is assumed.

standby

Sets the packet processing card in the slot to standby mode.

Caution Switching an active packet processing card to standby deletes all port configurations, including bindings, for the attached line cards.

-noconfirm

Executes the command without additional prompting for command confirmation.

Usage Guidelines

Set the desired mode of mated cards. The card targeted for maintenance is placed in the standby state first.

The setting of the mode determines which packet processing cards are to be active and which are to be the standby cards for redundancy. Use this command to configure the set of active and standby packet processing cards. The application processor card's standby priority is then used in conjunction with the set of standby packet processing cards to determine the order in which the standby cards are used for redundancy support.

Important Not supported on all platforms

Important This command results in a migration of processes if the mode specified for the card is different than the current state of the card.

Example

The following commands set the state of a card to active and standby, respectively.

```
mode active
mode standby
```

redundancy

Configures the type of redundancy for a line card or SPIO. (ASR 5000 only)

Product

PDSN

FA

HA

GGSN

SSGN

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Card Configuration

configure > card *card_number*

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-card- slot_number)#
```

Syntax Description

```
redundancy { aps-mode | card-mode | port-mode } [ -noconfirm ]
default redundancy [ -noconfirm ]
```

default

Restores redundancy to **port-mode** type redundancy.

aps-mode

Important This keyword works with SGSN only.

Enables automatic protection switching (APS), if the card is either a CLC2 or an OLC2 line card with card framing set to SONET. (Refer to the **framing** command.)

Enables multiplexed section (or switching) protection (MSP) type APS, if the card is a CLC2 line card with card framing set to SDH. (Refer to the **framing** command.)

Important Using this keyword with any card type other than a CLC2 or an OLC2 will take the card offline.

Related parameters: You should consider setting appropriate SDSF BER (signal degrade/signal failure bit error rate) threshold settings. Access the hopath-sdsf, lopath-sdsf, and toh-sdsf commands via the port channelized configuration mode -- for a CLC2 line card refer to the *Channelized Port Configuration Mode Commands* chapter and for an OLC2 line card refer to the *ATM Port Configuration Mode Commands* chapter.

card-mode

Specifies no port redundancy is used. This is used mostly for legacy products.



Important This keyword has been deprecated beginning with Release 14.0.

port-mode

Enables port redundancy on line cards or on SPIO cards.

This is the default setting used by the system.



Important Port-type redundancy does not affect line card failover/redundancy operations.

pseudo-aps-mode



Important This keyword has been deprecated.

-noconfirm

Instructs the system to execute the command without additional prompting for command confirmation.

Usage Guidelines

Use this command to configure redundancy on a line card (LC) or a SPIO card. With **port-mode** enabled, if an external network device or cable failure occurs that causes a link down failure on the port, the redundant port is used.



Important Not supported on all platforms



Important You do not need to enter this command for each line card or SPIO card, as the system intuitively understands that if the command is entered for an active line card or SPIO card, the standby line card or SPIO card switches to operate in the same mode. For example, if you enter the **port-mode** command for an LC in slot 17, you automatically enable a redundant line card in slot 33 for port redundant operation.



Important **asp-mode** and **port-mode** are mutually exclusive.

Example

The following command sets the redundancy mode to port redundancy.

```
redundancy port-mode
```

The following sets APS/MSP 1+1 inter-card redundancy for the specified OLC2 or CLC2 line card:

```
redundancy aps-mode
```

redundant with

Enables side-by-side (SBS) redundancy for XGLCs. (ASR 5000 only)

Product

All

Privilege

Security Administrator, Administrator

Command Modes

Exec > Global Configuration > Card Configuration

configure > card *card_number*

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-card- slot_number)#
```

Syntax Description

redundant with *card_number*

card_number

Identifies the neighboring top slot number of the card to pair with the XGLC being configured. *card_number* is an integer between 1 and 48.



Important Attempting to use this command with any card other than an XGLC takes the card offline.

Usage Guidelines

Use this command during configuration to identify the slot holding the XGLC card that will be used to provide redundancy to the XGLC you are configuring. Entering this command enables SBS redundancy when the two XGLCs occupy two upper (top) slots in a chassis.

Example

Pair the card in slot 30 with the card being configured:

```
redundant with 30
```

service-type

Configures the type of service that the CLC or CLC2 line card will support. (ASR 5000 only)



Important Supported in software releases 8.1 and higher.

Product SGSN

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Card Configuration

configure > card *card_number*

Entering the above command sequence results in the following prompt:

`[local]host_name(config-card- slot_number)#`

Syntax Description

```
service-type { frame-relay | mtp2| multi-service | pwe3-cesopsn |
unspecified } [ -noconfirm ]
default service-type [ -noconfirm ]
```

default

Returns the card configuration to *unspecified*.

frame-relay

Configures the card to operate in Frame Relay service mode.

mtp2



Important MTP2 functionality is not yet supported.

Enables MTP2 type service to support narrowband transmissions.

multi-service

Enables path-level service for multiple simultaneous services (such as frame-relay and mtp2) to run over a single port. For additional information, see the *Channelized Port Configuration Mode Commands* chapter

pwe3-cesopsn



Important **pwe3-cesopsn** functionality has been replaced by **mtp2**.

unspecified

This is the default mode for a CLC or CLC2.

Important You must configure the line card to one of the available service types or the card will not function.

-noconfirm

Executes the command without additional prompting for user input.

Usage Guidelines Use this command to configure the operational service mode for the channelized line card (CLC or CLC2). Once you select the service-type, refer to the *Channelized Port Configuration Mode Commands* chapter to review the commands needed to configure the parameters for the port.

Example

```
service-type frame-relay
```

shutdown

Configures a card for active service or terminates all processes on the card.

Product All

Privilege Security Administrator, Administrator

Command Modes Exec > Global Configuration > Card Configuration

configure > card *card_number*

Entering the above command sequence results in the following prompt:

```
[local]host_name(config-card- slot_number)#
```

Syntax Description **[no] shutdown**

no

no shutdown enables the card.

Enter only the **shutdown** keyword to shut the card down.

Usage Guidelines Shut down a card to remove it from service or to enable a card to put it into service.

Important Do not use this command to remove a card from service for maintenance. Use the command **card halt** to remove a card for service to avoid changing or deleting the active-mode configuration. See the Exec Mode chapter.

Important Not supported on all platforms

Example

The following command shuts down the card:

```
shutdown
```

The following command switches the card to online:

```
no shutdown
```