



E Commands

The commands shown in this chapter apply to the Catalyst 8540 MSR, Catalyst 8510 MSR, and LightStream 1010 ATM switch routers. Where an entire command or certain attributes of a command have values specific to a particular switch or switch router, an exception is indicated by the following callouts:

- Catalyst 8540 MSR
- Catalyst 8510 MSR and LightStream 1010



Note

Commands that are identical to those documented in the Cisco IOS software documentation have been removed from this chapter.



Note

Commands that no longer function as expected in ATM environments have also been removed from this chapter.

Refer to Appendix D of this command reference for a detailed list of commands that have been removed, changed or replaced.

e164 address

To configure an entry in the ATM E.164 translation table, use the **e164 address** ATM E.164 translation table configuration command.

e164 address *e164-address* **nsap-address** *nsap-address*

Syntax Description

<i>e164-address</i>	Specifies the E.164 address for an entry in the ATM E.164 translation table. The address consists of 7 to 15 decimal digits. See the ITU-T Recommendation E.164 for details on the syntax and semantics of native E.164 addresses.
<i>nsap-address</i>	Specifies the NSAP-encoded ATM end-system address for an entry in the ATM E.164 translation table. The address is specified as 40 hexadecimal digits.

Command Modes

ATM E.164 translation table configuration

Command History

Release	Modification
11.2(5)	New command

Usage Guidelines

Each entry in the ATM E.164 translation table specifies a one-to-one correspondence between a native E.164 address and an NSAP-encoded ATM end system-address. Refer to the **atm e164 translation** command for more information and usage guidelines about the ATM E.164 translation feature.

The **e164 address** command is a subcommand of the **atm e164 translation-table** global configuration command.

Examples

The following example shows setting an entry in the ATM E.164 translation table.

```
Switch# configure terminal
Switch(config)# atm e164 translation-table
Switch(config-atm-e164)# e164 address 1112222 nsap-address
11.111122223333444455556666.112233445566.11
```

election

To configure the PNNI peer group leader election, use the **election** PNNI node configuration command. To set the election parameters to their defaults, use the **no** form of this command.

```
election [leadership-priority number] [override-unanimity-timer secs] [pgl-init-timer secs]
[relection-timer secs]
```

```
no election [leadership-priority] [override-unanimity-timer] [pgl-init-timer]
[relection-timer]
```

Syntax Description		
	<i>number</i>	Peer group leadership priority that this node should advertise, in the range of 0 to 205. The default is 0.
	override-unanimity-timer	Specifies the amount of time, in seconds, a node waits to be declared the preferred PGL by unanimous agreement among its peers. This timer is used to prevent nodes from waiting forever for unanimity. The default is 30 seconds.
	pgl-init-timer	Specifies the amount of time, in seconds, allowed to initialize the PGL before starting the election process. This timer is used to ensure that every node casts a vote only after waiting for topology information to propagate across the group. The default is 15 seconds.
	relection-timer	Specifies the amount of time, in seconds, to wait before the reelection process is restarted after connectivity to the PGL is lost. This timer is used to delay each node in the peer group from voting for the PGL upon loss of connectivity until the nodes in the peer group have received updated topology information. The default is 15 seconds.
	<i>secs</i>	The number of seconds for each timer, in the range of 1 to 120.

Defaults See “Syntax Description.”

Command Modes PNNI node configuration

Command History	Release	Modification
	11.3(3a)	New command

Usage Guidelines The node with the highest configured leadership priority in the peer group is normally elected to become the peer group leader. The timers are defined in the PNNI PGL election state machine.

Examples

The following example shows how to enter PNNI node configuration mode and specify a node.

```
Switch# configure terminal
Switch(config)# atm router pnni
Switch(config-atm-router)# node 1
Switch(config-pnni-node)#
```

The following example specifies the peer group leadership priority for this node using the default timers.

```
Switch(config-pnni-node)# election leadership-priority 1
```

Related Commands

Command	Description
show atm pnni election	Displays information relevant to the PNNI peer group leader election process.

encapsulation frame-relay

Before you can use a serial port for Frame Relay, use the **encapsulation frame-relay** interface configuration command to enable encapsulation on the Frame Relay interface. To disable configuration, use the **no** form of this command.

encapsulation frame-relay ietf

no encapsulation frame-relay ietf

Syntax Description	ietf Sets the encapsulation method to comply with the IETF standard RFC 1490.				
Defaults	None				
Command Modes	Interface configuration				
Command History	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Release</th> <th style="text-align: left;">Modification</th> </tr> </thead> <tbody> <tr> <td>12.0(1a)W5(5b)</td> <td>New command</td> </tr> </tbody> </table>	Release	Modification	12.0(1a)W5(5b)	New command
Release	Modification				
12.0(1a)W5(5b)	New command				
Usage Guidelines	To correctly support Frame Relay-to-ATM service interworking connections that use translation mode, the Frame Relay interface on the adjacent router must also be configured with IETF encapsulation.				
Examples	<p>The following example configures a serial interface for Frame Relay encapsulation type IETF.</p> <pre>Switch# configure terminal Switch(config)# interface serial 11/0/0:1Switch(con</pre>				
Related Commands	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Command</th> <th style="text-align: left;">Description</th> </tr> </thead> <tbody> <tr> <td>show ima interface</td> <td>Displays the IMA interface, IMA group, and ATM layer hardware configuration.</td> </tr> </tbody> </table>	Command	Description	show ima interface	Displays the IMA interface, IMA group, and ATM layer hardware configuration.
Command	Description				
show ima interface	Displays the IMA interface, IMA group, and ATM layer hardware configuration.				

epc port-reload

To indicate whether a stuck port should be shut down, or reset and reloaded, use the **epc port-reload** interface configuration command. To restore the default, use the **no** form of this command.

epc port-reload

no epc port-reload

Syntax Description This command has no arguments or keywords.

Defaults Shutdown mode.

Command Modes Interface configuration

Command History	Release	Modification
	12.0(10)W5(18)	New command
	12.0((7)W5(15c)	Command first documented in Release Notes for the Catalyst 8540 MSR.

Usage Guidelines The **epc port-reload** command is used in conjunction with the **epc portstuck-wait** command for the configuration of stuck port detection and recovery. The **epc port-reload** command enables automatic resetting and reloading of the Ethernet interface module microcode after detecting a port stuck failure.

The **epc portstuck-wait** command specifies the delay before signalling a port stuck failure (from the time the failure is detected). The default is 180 seconds. The valid range is 0 to 1200 seconds inclusive. A value of 0 seconds causes a port stuck failure to *not* be detected.

Together, these two commands provide a mechanism to troubleshoot and recover from port stuck failures. The port-stuck detection mechanism detects a stuck port, and prints a message indicating which port is stuck. The mechanism checks for responses sent by the port to the CPU requests. When the port stops responding to the messages sent by the CPU within a certain time (measured in seconds and configured by the user), it is identified as stuck. If it is only a port stuck failure, the port is isolated from the other functional ports, and Cisco IOS is informed that the line is down/down.

Then, depending on the configuration option for reset of the stuck port, the following action will be taken:

- **Default Behavior**

If the switch router is not configured to reset the port upon detecting a port stuck failure, the port will be isolated, thus preserving the integrity of the switch router.

- **Nondefault Behavior**

If the switch router is configured to reset the port upon detection of a port stuck failure, the switch router will isolate the port from the rest of the functioning ports, and reset the port. This might affect up to three other ports in the case of Fast Ethernet 10/100 modules.

**Note**

If you configure the switch router as described in the nondefault behavior after a port stuck failure is detected, the switch router will *not* reset the Ethernet ports. The Ethernet interface must be configured to reset before the port stuck failure occurs. Also, the default behavior is to *not* reset the port if a port stuck failure is detected. If the Ethernet interface is not configured to reset when a port stuck failure is detected, schedule the switch router for downtime to remove and reinsert the module.

The following example puts the port in reload mode:

```
Switch(config)# epc port-reload
```

The following example restores the default (shutdown mode):

```
Switch(config)# no epc port-reload
```

This command is NOVRAM writeable, and can be verified using the **show running-config** command.

Related Commands

Command	Description
epc portstuck-wait	Determines the length of time a port-stuck detection mechanism waits until declaring a stuck port.
show running-config	Displays the configuration information currently running on the terminal.

epc portstuck-wait

To specify the amount of time before signalling a port stuck failure from the time of detection, use the **epc portstuck-wait** interface configuration command. To restore the default value, use the **no** form of this command.

epc portstuck-wait [*value*]

no epc portstuc-wait

Syntax Description

<i>value</i>	The amount of time, expressed in seconds, that the port-stuck mechanism waits after the port has stopped r esponding to th e CPU requests. The valid range is 0 to 1200 seconds inclusive (20 minutes).
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Defaults

Default is 180 seconds (3 minutes).

Command Modes

Interface configuration

Command History

Release	Modification
12.0(8)W5(18)	Command introduced into this manual.
12.0((7)W5(15c)	Command first documented in Release Notes for the Catalyst 8540 MSR.

Usage Guidelines

This command is used to configure the amount of time that the port-stuck detection mechanism will wait after the port has stopped responding to the CPU requests, and prior to actually declaring the port to be stuck. The valid range is from 0 to 1200 seconds (20 minutes), with the default value at 180 seconds (3 minutes). A port can be declared stuck only after there is no response to any of the requests made by the CPU within this pre-configured period of time



Caution

Due to the nature of microcode architecture, do not configure low values for the wait time in the **epc portstuck-wait** command. The default value of 180 seconds has been carefully chosen, allowing for the hello intervals of protocols such as HSRP, EIGRP, OSPF. Configuring a low value might lead to incorrectly detecting *temporary* port stuck failures as real port stuck failures, and could likely cause temporary connectivity loss. It is highly recommended to keep this value at least at 60 seconds. Lower values are provided to allow for some specific network designs when you can absolutely rule out temporary port stuck failure scenarios, and also as a debugging aid. For most networks, 180 seconds should work very well.

Examples

The following example configures the portstuck-wait time to 240 seconds:

```
Switch(config)# epc portstuck-wait 240
```

The following example restores the portstuck-wait time to the default of 180 seconds:

```
Switch(config)# no pec portstuck-wait
```

Related Commands

Command	Description
epc port-reload	Used to specify whether a stuck port should be shut down, or reset and reloaded.
show running-config	Displays the configuration information currently running on the terminal.

erase

To erase flash or configuration memory, use one of the **erase** privileged EXEC commands. The **erase startup-config** command replaces the **write erase** command.

erase {flash | startup-config}

Syntax Description	flash	Erases internal Flash memory.
	startup-config	Erases the startup configuration in memory.

Command Modes Privileged EXEC

Command History	Release	Modification
	11.1(4)	New command

Usage Guidelines When you use the **erase startup-config** command, the switch router erases or deletes the configuration pointed to by the *config_file* environment variable. The *config_file* environment variable specifies the configuration file used for initialization. If the *config_file* environment variable specifies a Flash memory device and configuration filename, the switch router deletes the configuration file. That is, the switch router marks the file as “deleted.”

If you attempt to erase the configuration file specified by the *config_file* or BOOTLDR environment variables, the system prompts you to confirm the deletion. Also, if you attempt to erase the last valid system image specified in the BOOT environment variable, the system prompts you to confirm the deletion.

Examples The following example deletes the startup configuration file.

```
Switch# erase startup-config
```

Related Commands	Command	Description
	bert (Catalyst 8510 MSR and LightStream 1010)	Checks the bit errors on a line for a particular interval.
	cd	Cisco IOS command removed from this manual.
	dialer-list list	This command or some of its parameters might not function as expected in an ATM environment.
	show bootflash:	Displays information about the bootflash: file system.
	show startup-config	Shows the configuration file pointed to by the <i>config_file</i> environment variable.
	undelete	Cisco IOS command removed from this manual.

exclude-node

To specify a node to exclude from all segments of a partially specified ATM PNNI explicit path, use the **exclude-node** PNNI explicit path configuration command.

```
exclude-node {name-string | node-id | node-id-prefix} [port hex-port-id | agg-token
hex-agg-token-id]
```

Syntax Description	
<i>name-string</i>	Name of the PNNI node to be excluded from all segments of the ATM PNNI explicit path.
<i>node-id</i>	Full 22-byte node ID for a PNNI node.
<i>node-id-prefix</i>	The first 15 or more bytes of a node ID for a PNNI node.
port <i>hex-port-id</i>	Specifies an exit port to exclude for a PNNI node, specified as a hexadecimal port ID.
agg-token <i>hex-agg-token-id</i>	Optionally specifies the exit aggregation token, which is used in place of the port ID for higher-level PNNI LGNs. The default is to allow any valid exit port.

Defaults None

Command Modes PNNI explicit-path configuration

Command History	Release	Modification
	12.0(3c)W5(9)	New command

Usage Guidelines



Note

See the **atm pnni explicit-path** command for a description of how to edit or delete an existing **exclude-node** path entry.

Unlike other explicit-path entries, **exclude-node** entries do not need to appear in any order. They apply to all segments on the path.

Node IDs can be entered with either the full 22-byte length address, or as a node ID prefix with a length of 15 bytes or more. To specify routes that include higher level nodes (parent LGNs) for other peer groups, we recommend that you enter exactly 15 bytes so that the address remains valid in the event of a PGL update.

Node IDs appear in the following format:

```
dec: dec: 13-20 hex digits
```

**Note**

To display the node IDs that correspond to named nodes in a network, use either the **show atm pnni identifiers** command or the **show atm pnni topology** command with the **node** keyword.

Node names can be entered instead of node IDs. If names are used to identify higher-level LGNs, the resulting explicit paths are not guaranteed to remain valid if the PGL changes in the neighboring peer group. To prevent invalid paths, configure all parent LGNs (for all potential PGL nodes) with the same node name.

An exit port can be specified for any entry. The port should be specified as a hexadecimal port ID rather than as a port name. For excluded entries, only this port is excluded from the path.

**Note**

To display the corresponding *hex-port-ids* for a node, use either the **show atm pnni identifiers** command with the **port** keyword, or the **show atm pnni topology** command with the **node** and **hex-port-id** keywords.

Normally, **aggregation tokens** are used in place of port IDs for nodes that are higher level LGNs. However, aggregation tokens are not allowed for excluded tokens.

Examples

The following example shows how to perform the following PNNI explicit path configuration tasks.

- Enter PNNI explicit-path configuration mode
- Add two segment-target nodes
- Specify a node to be excluded from all path segments
- Exit PNNI explicit-path configuration mode

```
Switch# configure terminal
Switch(config)# atm pnni explicit-path name boston_2.path1
Switch(cfg-pnni-expl-path)# segment-target dallas_4
Switch(cfg-pnni-expl-path)# segment-target 40:72:47.009181000000106000000000
Switch(cfg-pnni-expl-path)# exclude-node st_louis_2
```

Related Commands

Command	Description
atm pnni explicit-path	Used to enter PNNI explicit path configuration mode, or to create or modify PNNI explicit paths.
next-node	Specifies the next adjacent entry in a fully-specified ATM PNNI explicit path.
segment-target	Specifies a target entry in a partially specified PNNI explicit-path.
show atm pnni explicit-paths	Displays a summary of explicit paths that have been configured.