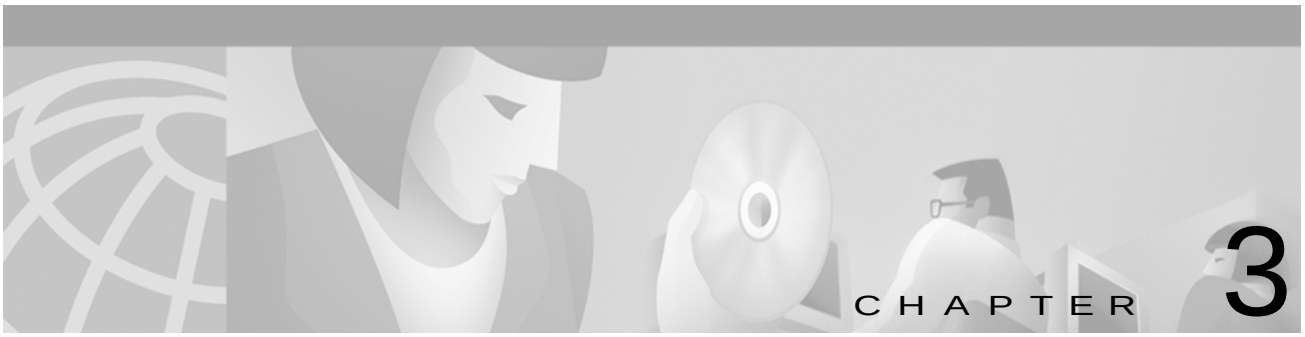

B Commands

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.

background-routes-enable

To enable background route computation and to specify how often the switch polls for a significant change that activates a new computation of the background routes, use the **background-routes-enable** ATM router PNNI configuration command. To disable background route computation, use the **no** form of this command.

background-routes-enable [**insignificant-threshold** *number*] [**poll-interval** *seconds*]

no background-routes-enable

Syntax Description

number	Specifies the number of insignificant changes necessary to trigger a new computation of the background routes, from 1 to 100. The default is 32.
seconds	Specifies the poll interval in seconds, from 1 to 60. The default is 10 seconds.

Defaults

Disabled

Command Modes

ATM router PNNI configuration

Command History

Release	Modification
11.2(5)	New command

Usage Guidelines

The ATM switch router supports the following two route selection modes:

- On-demand (no background routes)—Separate route computation is performed for each SETUP or ADD PARTY message received over a UNI or IISP interface. In this mode, the most recent topology information received by this node is always used for each setup request.
- Background routes—Most calls are routed using precomputed routing trees. In this mode, multiple background trees are precomputed for several service categories and QoS metrics. If no route is found in the background trees that satisfies the QoS requirements of a particular setup request, route selection reverts to on-demand route computation.

The background routes mode should be enabled in large networks, where it could exhibit less stringent processing requirements and better scalability.

The **poll-interval** is used to throttle background route computation. Route computation is performed at most every **poll-interval** *seconds*, when a significant change in the topology of the network is reported, or when a specified **insignificant-threshold** *number* of changes has occurred since the last route computation.

Caution Decreasing the **poll-interval** increases the load on the switch processor.

For more information, refer to the *ATM Switch Router Software Configuration Guide*.

Examples

The following example shows how to enable background routes with a **poll-interval** of 15 seconds using **the background-routes-enable** ATM router PNNI configuration command.

```
Switch# configure terminal
Switch(config)# atm router pnni
Switch(config-atm-router)# background-routes-enable poll-interval 15
```

Related Commands

Command	Description
show atm pnni background routes	Used to show the precalculated background route table to other PNNI nodes.
show atm pnni background status	Used to show the status of background route computation activity.

bert (Catalyst 8510 MSR and LightStream 1010)

To check the bit errors on a line for a particular interval, use the **bert** interface configuration command. To deactivate the test, use the **no** form of this command. The test also terminates automatically when the interval expires.

bert pattern {**2^15** | **2^20** | **2^23** | **0s** | **1s** | **2^11** | **2^20-QRSS** | **alt-0-1**} **interval** *minutes*

no bert

Syntax Description

2^15	2^15 test pattern.
2^20	2^20 test pattern.
2^23	2^23 test pattern.
0s	All 0's test pattern.
1s	All 1's test pattern.
2^11	2^11-1 test pattern.
2^20-QRSS	2^20-1 QRSS O.151 test pattern.
alt-0-1	Alternating 0's and 1's test pattern.
interval *minutes*	Time in minutes (from 1 to 14400) of the testing interval.

Defaults

Disabled

Command Modes

Interface configuration

Command History

Release	Modification
12.0(4a)W5(11a)	New command

Usage Guidelines

The bert test checks the bit errors on a line for a specified (in minutes) interval of time. The test starts at the interface configuration level, and stops automatically when the time interval expires. The **no** form of the **bert** command also deactivates the test.

Examples

The following example activates the **bert** command for a testing interval of 1 minute with an all 0's test pattern on ATM 3/1/0.

```
Switch(config)# interface atm 3/1/0
Switch(config-if)# bert pattern 0s interval 1
```

The following example displays the test results of the **bert** command on ATM 3/1/0 by using the **show controllers** command.

```
Switch# show controller atm 3/1/0
<information deleted>
Bert Information:
        state      : OFF, pattern     : all zeros
        interval   : 0,   result      : OUT_OF SYNC
        sync count : 1536,   bit errors  : 17600
        kbit count : 0
        bit errors since last sync    : 0
        kbit count since last sync    : 0
<information deleted>
```

Related Commands

Command	Description
show controllers	Displays information about a physical port device.

boot config

To specify the device and filename of the configuration file from which the switch configures itself during initialization, use the **boot config** global configuration command. To remove this specification, use the **no** form of the command.

boot config *device***:***filename*

no boot config

Syntax Description

*device***:**	Device containing the configuration file. The colon (**:**) is required. Valid devices are as follows: • **bootflash:** is the internal Flash memory. • **sec-bootflash:** is the secondary internal Flash memory on the redundant route processor. (Catalyst 8540 MSR) • **slot0:** is the first PC slot on the route processor card and is the initial default device. • **sec-slot0:** is the first PC slot on the redundant route processor card. (Catalyst 8540 MSR) • **slot1:** is the second PC slot on the route processor card. • **sec-slot1:** is the second PC slot on the redundant route processor card. (Catalyst 8540 MSR)
filename	Name of the configuration file. The configuration file must be an ASCII file. The maximum filename length is 63 characters.

Defaults

No device and filename are specified.

Command Modes

Global configuration

Command History

Release	Modification
11.1(4)	New command

Usage Guidelines

The **boot config** command is used to set or modify the *config_file* environment variable in the current running memory. This variable specifies the configuration file used for initialization.

Note When you use this global configuration command, you affect only the running configuration. You must save the environment variable setting to your startup configuration to place the information under ROM monitor control and to have the environment variable function as expected. Use the **copy running-config** command to save the environment variable from your running configuration to your startup configuration.

boot system

To specify the system image that the switch loads at startup, use one of the following **boot system** global configuration commands. To remove the startup system image specification, use the **no** form of this command.

boot system {[*device***:**]*filename* [*hostname*] | **flash** [*device***:**][*filename*] | **mop** *filename* [*if-type*] [*card/subcard/port*] | **rcp** *filename* [*ip-address*] | **rom** | **tftp** [*hostname*]}

no boot system [[*device***:**]*filename* [*hostname*] | **flash** [[*device***:**]*filename*] | **mop** *filename* [*if-type*] [*card/subcard/port*] | **rcp** *filename* [*ip-address*] | **rom** | **tftp** [*hostname*]]

Syntax Description

device:	Device containing the system image to load at startup. A colon (**:**) is required as part of the device specification. Valid devices are as follows: • **bootflash:** is the internal Flash memory. • **sec-bootflash:** is the secondary internal Flash memory on the redundant route processor. (Catalyst 8540 MSR) • **slot0:** is the first PC slot on the route processor card and is the initial default device. • **sec-slot0:** is the first PC slot on the redundant route processor card. (Catalyst 8540 MSR) • **slot1:** is the second PC slot on the route processor card. • **sec-slot1:** is the second PC slot on the redundant route processor card. (Catalyst 8540 MSR)
filename	Name of the system image to load at startup. The filename is case sensitive. If you do not specify a *filename* for **flash**, the switch loads the first valid file in the specified Flash device, the specified partition of Flash memory, or the default Flash device (if you omit the *device***:** argument).
hostname	Name or IP address of the host that stores the system image.
flash	Boots the switch from internal Flash memory. If you omit all arguments that follow this keyword, the system searches internal Flash for the first bootable image. This keyword boots the switch from a Flash device, as specified by the *device* argument. When you omit all arguments that follow this keyword, this system searches the PC slot 0 for the first bootable image.
mop	Boots the switch from a DecNet MOP server.
if-type	Interface type, specified as **atm**, **atm-p**, **cbr**, **ethernet**, **null**, or the MAC layer address of the host to boot from.
card/subcard/port	Interface identifier for the specified interface type.
rcp	Boots the switch from a system image stored on a network server using rcp. If you omit this keyword, the transport mechanism defaults to **tftp**.
ip-address	IP address of the TFTP server containing the system image file. If omitted, this value defaults to the IP broadcast address of 255.255.255.255.

rom	Boots the switch from the system image stored in ROM.
tftp	Boots the switch from a system image stored on a TFTP server. This is the default when you do not specify any keyword (**flash**, **tftp**, or **rcp**).

Defaults

If you do not specify a system image file with the **boot system** command, the switch uses the configuration register settings to determine the default system image filename for booting from a network server. The switch forms the default boot filename by starting with the word *cisco* and then appending the octal equivalent of the boot field number in the configuration register, followed by a hyphen (-) and the processor type name (cisco*nn-cpu*). See the appropriate hardware installation guide for details on the configuration register and default filename. See also the command **config-register**. See also the "Syntax Description" section.

If you omit a keyword (**flash**, **rcp**, or **tftp**) from the **boot system** command, the system defaults to booting from a system image stored on a TFTP server.

Command Modes

Global configuration

Command History

Release	Modification
11.1(4)	New command

Usage Guidelines

For this command to work, the **config-register** command must be set properly.

Enter several **boot system** commands to provide a fail-safe method for booting your switch. The switch stores and executes the **boot system** commands in the order in which you enter them in the configuration file. If you enter multiple boot commands of the same type—for example, if you enter two commands that instruct the switch to boot from different network servers—then the switch tries them in the order in which they appear in the configuration file.

Each time you write a new software image to Flash memory, you must delete the existing filename in the configuration file with the **no boot system** *filename* command. Then add a new line in the configuration file with the **boot system** *filename* command.

Note The **no boot system** global configuration command disables all **boot system** configuration commands regardless of argument. Specifying the **flash** device name or the *filename* argument with the **no boot system** command disables only the command specified by these arguments.

You can boot the switch from a compressed image on a network server. When a network server boots software, both the image being booted and the running image must fit into memory. Use compressed images to ensure that enough memory is available to boot the switch. You can compress a software image on any UNIX platform using the **compress** command. Refer to your UNIX platform's documentation for the exact usage of the **compress** command. (You can also decompress data with the UNIX **uncompress** command.)

The rcp protocol requires that a client send the remote username in an rcp request to a server. When the switch executes the **boot system rcp** command, by default the switch software sends the switch host name as both the remote and local usernames. The rcp software searches for the system image to boot from the remote server relative to the directory of the remote username (if the server has a directory structure as UNIX systems do, for example).

The **boot system** command modifies the BOOT environment variable in the running configuration. The BOOT environment variable specifies a list of bootable images on various devices.