



L 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.

lane auto-config-atm-address

To specify that the configuration server ATM address is computed by the ATM switch router automatic method, use the **lane auto-config-atm-address** interface configuration command.

To remove the previously assigned ATM address, use the **no** form of this command.

lane [config] auto-config-atm-address

no lane [config] auto-config-atm-address

Syntax Description	config Specifies the configuration server's ATM address.
---------------------------	---

Defaults	No specific ATM address is set.
-----------------	---------------------------------

Command Modes	Interface configuration
----------------------	-------------------------

Command History	Release	Modification
	11.1(4)	New command

Usage Guidelines	<p>This command only applies to the route processor interface ATM 0.</p> <p>When the config keyword is not present, this command causes the LANE server and LANE client on the subinterface to use the automatically assigned ATM address for the configuration server.</p> <p>When the config keyword is present, this command assigns the automatically generated ATM address to the configuration server (LECS) configured on the interface. Multiple commands that assign ATM addresses to the LANE configuration server can be issued on the same interface to assign different ATM addresses to the configuration server. These commands include lane auto-config-atm-address, lane config-atm-address, and lane le-arp.</p>
-------------------------	---

Examples	<p>The following example associates the LANE configuration server with the database named <i>network1</i>, and specifies that the configuration server's ATM address is assigned by the automatic method.</p>
-----------------	---

```
Switch# configure terminal
Switch(config)# interface atm 0
Switch(config-if)# lane database network1
Switch(config-if)# name eng server-atm-address 39.0000014155551211.0800.AA00.1001.02
Switch(config-if)# name mkt server-atm-address 39.0000014155551211.0800.AA00.4001.01
Switch(config-if)# lane config database network1
Switch(config-if)# lane config auto-config-atm-address
```

Related Commands	Command	Description
	lane config-atm-address	Specifies a configuration server's ATM address explicitly.

Command	Description
lane database	Cisco IOS command removed from this manual.
lane le-arp	Specifies that the fixed-configuration server ATM address assigned by the ATM Forum is used.

lane bus-atm-address

To specify an ATM address—and override the automatic ATM address assignment—for the broadcast-and-unknown server on the specified subinterface, use the **lane bus-atm-address** interface configuration command. To remove the ATM address previously specified for the broadcast-and-unknown server on the specified subinterface and thus revert to the automatic address assignment, use the **no** form of this command.

lane bus-atm-address *atm-address-template*

no lane bus-atm-address [*atm-address-template*]

Syntax Description

atm-address-template	ATM address or a template in which wildcard characters are replaced by any nibble or group of nibbles of the prefix bytes, ESI bytes, or selector byte of the automatically assigned ATM address.
----------------------	---

Defaults

Automatic ATM address assignment

Command Modes

Interface configuration

Command History

Release	Modification
11.1(4)	New command

Usage Guidelines

This command only applies to the route processor interface.

This command gives the client the ATM address of the broadcast-and-unknown server. The client will use this address rather than sending LE_ARP requests for the broadcast address.

When applied to a selected interface but with a different ATM address than used previously, this command replaces the broadcast-and-unknown server's ATM address.

ATM Addresses. A LANE ATM address has the same syntax as an NSAP (but it is not a network-level address):

- A 13-byte prefix that includes the following fields defined by the ATM Forum: AFI field (1 byte), DCC or ICD field (2 bytes), DFI field (1 byte), Administrative Authority field (3 bytes), Reserved field (2 bytes), Routing Domain field (2 bytes), and the Area field (2 bytes).
- A 6-byte ESI.
- A 1-byte Selector field.

Address Templates. LANE ATM address templates can use two types of wildcards: an asterisk (*) to match any single character, and an ellipsis (...) to match any number of leading or trailing characters.

The values of the digits that are replaced by wildcards come from the automatic ATM assignment method.

In LANE, a *prefix template* explicitly matches the prefix, but uses wildcards for the ESI and selector fields. An *ESI template* explicitly matches the ESI field, but uses wildcards for the prefix and selector.

In the Cisco implementation of LANE, the prefix corresponds to the switch router, the ESI corresponds to the ATM interface, and the Selector field corresponds to the specific subinterface of the interface.

Examples

The following example uses an ESI template to specify the part of the ATM address corresponding to the interface; the remaining values in the ATM address come from automatic assignment.

```
Switch(config-if)# lane bus-atm-address ...0800.200C.1001.**
```

The following example uses a prefix template to specify the part of the ATM address corresponding to the switch; the remaining values in the ATM address come from automatic assignment.

```
Switch# configure terminal
Switch(config)# interface atm 0
Switch(config-if)# lane bus-atm-address 45.000014155551212f.00.00...
```

Related Commands

Command	Description
lane	Specifies an ATM address, and overrides the automatic ATM address assignment, for the LANE server on the specified subinterface.
server-atm-address	

lane client

To activate a LANE client on the specified subinterface, use the **lane client** interface configuration command. To remove a previously activated LANE client on the subinterface, use the **no** form of this command.

lane client { **ethernet** | **tokenring** } [*elan-name*]

no lane client { **ethernet** | **tokenring** } [*elan-name*]

Syntax Description

ethernet	Identifies the type of emulated LAN attached to this subinterface as Ethernet.
tokenring	Identifies the type of emulated LAN attached to this subinterface as Token Ring.
<i>elan-name</i>	Name of the emulated LAN. This argument is optional because the client obtains its emulated LAN name from the configuration server. Maximum length is 32 characters.

Defaults

No LANE clients are enabled on the interface.

Command Modes

Interface configuration

Command History

Release	Modification
11.1(4)	New command

Usage Guidelines

This command only applies to the route processor interface.

If a **lane client** command has already been entered on the subinterface for a different emulated LAN, the client initiates termination procedures for that emulated LAN and joins the new emulated LAN.

If you do not provide an *elan-name* value, the client contacts the server to find which emulated LAN to join. If you do provide an emulated LAN name, the client consults the configuration server to ensure that no conflicting bindings exist.

Examples

The following example shows how to enable a Token Ring LANE client on a subinterface.

```
Switch(config)# interface atm 0.1
Switch(config-subif)# lane client tokenring
```

Related Commands

Command	Description
lane server-atm-address	Specifies an ATM address, and overrides the automatic ATM address assignment for the LANE server on the specified subinterface.

lane client-atm-address

To specify an ATM address—and override the automatic ATM address assignment—for the LANE client on the specified subinterface, use the **lane client-atm-address** interface configuration command. To remove the ATM address previously specified for the LANE client on the specified subinterface and revert to the automatic address assignment, use the **no** form of this command.

lane client-atm-address *atm-address-template*

no client-atm-address [*atm-address-template*]

Syntax Description	atm-address-template	ATM address or a template in which wildcard characters are replaced by any nibble or group of nibbles of the prefix bytes, ESI bytes, or selector byte of the automatically assigned ATM address.
---------------------------	----------------------	---

Defaults	Automatic ATM address assignment
-----------------	----------------------------------

Command Modes	Interface configuration
----------------------	-------------------------

Command History	Release	Modification
	11.1(4)	New command

Usage Guidelines	<p>This command only applies to the route processor interface.</p> <p>Use of this command on a selected subinterface, but with a different ATM address than used previously, replaces the LANE client's ATM address.</p>
-------------------------	--

ATM Addresses. A LANE ATM address has the same syntax as an NSAP (but it is not a network-level address):

- A 13-byte prefix that includes the following fields defined by the ATM Forum: AFI field (1 byte), DCC or ICD field (2 bytes), DFI field (1 byte), Administrative Authority field (3 bytes), Reserved field (2 bytes), Routing Domain field (2 bytes), and the Area field (2 bytes).
- A 6-byte ESI.
- A 1-byte Selector field.

Address Templates. LANE ATM address templates can use two types of wildcards: an asterisk (*) to match any single character, and an ellipsis (...) to match any number of leading or trailing characters. The wildcard characters come from the automatically assigned ATM address.

In LANE, a *prefix template* explicitly matches the ATM address prefix, but uses wildcards for the ESI and selector fields. An *ESI template* explicitly matches the ESI field, but uses wildcards for the prefix and selector.

In the ATM switch router implementation of LANE, the prefix corresponds to the switch router, the ESI corresponds to the ATM interface, and the Selector field corresponds to the specific subinterface of the interface.

For a discussion of the Cisco method for automatically assigning ATM addresses, refer to the “Configuring LAN Emulation” chapter in the *Router Products Configuration Guide*.

Examples

The following example uses an ESI template to specify the part of the ATM address corresponding to the interface; the remaining parts of the ATM address come from automatic assignment.

```
Switch# configure terminal
Switch(config)# interface atm 0
Switch(config-if)# lane client-atm-address ...0800.200C.1001.**
```

The following example uses a prefix template to specify the part of the ATM address corresponding to the switch router; the remaining parts of the ATM address come from automatic assignment.

```
Switch(config)# interface atm 0
Switch(config-if)# lane client-atm-address 47.000014155551212f.00.00...
```

Related Commands

Command	Description
lane client	Activates a LANE client on the specified subinterface.

lane config-atm-address

To specify a configuration server's ATM address explicitly, use the **lane config-atm-address** interface configuration command. To remove an assigned ATM address, use the **no** form of this command.

lane [**config**] **config-atm-address** *atm-address-template*

no lane [**config**] **config-atm-address** *atm-address-template*

Syntax Description	atm-address-template	ATM address or a template in which wildcard characters are replaced by any nibble or group of nibbles of the prefix bytes, ESI bytes, or selector byte of the automatically assigned ATM address.
	config	Used to specify the configuration server ATM address.

Defaults No specific ATM address or method is set.

Command Modes Interface configuration

Command History	Release	Modification
	11.1(4)	New command. Originally lane fixed-config-atm-address .
	11.2(5)	Modified: Command name changed to lane config-atm-address .

Usage Guidelines This command only applies to the route processor interface.

If the **config** keyword is not present, this command causes the LANE server and LANE client on the subinterface to use the specified ATM address for the configuration server.

When the **config** keyword is present, this command adds an ATM address to the configuration server configured on the interface. A LANE configuration server can listen on multiple ATM addresses. Multiple commands that assign ATM addresses to the LANE configuration server can be issued on the same interface to assign different ATM addresses to the LANE configuration server.

ATM Addresses. A LANE ATM address has the same syntax as an NSAP (but it is not a network-level address) and consists of the following:

- A 13-byte prefix that includes the following fields defined by the ATM Forum:
AFI field (1 byte) DCC or ICD field (2 bytes) DFI field (1 byte) Administrative Authority field (3 bytes) Reserved field (2 bytes) Routing Domain field (2 bytes) Area field (2 bytes)
- A 6-byte ESI
- A 1-byte Selector field

Address Templates. LANE ATM address templates can use two types of wildcards: an asterisk (*) to match any single character (nibble), and an ellipsis (...) to match any number of leading, middle, or trailing characters. The values of the characters replaced by wildcards come from the automatically assigned ATM address.

In LANE, a *prefix template* explicitly matches the ATM address prefix, but uses wildcards for the ESI and selector fields. An *ESI template* explicitly matches the ESI field, but uses wildcards for the prefix and selector.

In the Cisco implementation of LANE, the prefix corresponds to the switch prefix, the ESI corresponds to a function of ATM interface's MAC address, and the Selector field corresponds to the specific subinterface of the interface.

For a discussion of the Cisco method of automatically assigning ATM addresses, refer to the "Configuring LAN Emulation" chapter in the *Cisco IOS Switching Services Configuration Guide*.

Related Commands

Command	Description
lane auto-config-atm-address	Specifies that the configuration server ATM address is computed by the ATM switch router automatic method.
lane config database	Associates a named configuration table (database) with the configuration server on the selected ATM interface.
lane database	Cisco IOS command removed from this manual.
lane le-arp	Specifies that the fixed-configuration server ATM address assigned by the ATM Forum is used.

lane config database

To associate a named configuration table (database) with the configuration server on the selected ATM interface, use the **lane config database** interface configuration command. To remove the association between a named database and the configuration server on the specified interface, use the **no** form of this command.

lane config database *database-name*

no lane config database

Syntax Description	database-name Name of the LANE database.
---------------------------	---

Defaults	No configuration server is defined, and no database name is provided.
-----------------	---

Command Modes	Interface configuration
----------------------	-------------------------

Command History	Release	Modification
	11.2(5)	New command

Usage Guidelines	<p>This command only applies to the route processor interface.</p> <p>This command is not available on a subinterface, because only one LANE configuration server can exist per interface.</p> <p>The named database must exist before the lane config database command is entered. Refer to the lane database command for more information.</p> <p>Multiple lane config database commands cannot be entered multiple times on the same interface. You must delete an existing association by using the no form of this command before you create a new association on the specified interface.</p> <p>To activate a LANE configuration server, you need to use the lane config database command and one of the following commands:</p> <ul style="list-style-type: none"> • lane auto-config-atm-address • lane config-atm-address • lane le-arp
-------------------------	---

Related Commands	Command	Description
	lane auto-config-atm-address	Specifies that the configuration server ATM address is computed by the ATM switch router automatic method.
	lane config-atm-address	Explicitly specifies a configuration server's ATM address.

Command	Description
lane database	Cisco IOS command removed from this manual. See Appendix D.
lane le-arp	Specifies that you use the fixed-configuration server ATM address assigned by the ATM Forum.

lane le-arp

To add a static entry to the LE_ARP table of the LANE client configured on the specified subinterface, use the **lane le-arp** interface configuration command. To remove a static entry from the LE_ARP table of the LANE client on the specified subinterface, use the **no** form of this command.

lane le-arp {*mac-address* | **route-desc segment** *seg-num* **bridge** *bridge-num*} *atm-address*

no lane le-arp {*mac-address* | **route-desc segment** *seg-num* **bridge** *bridge-num*} *atm-address*

Syntax Description

mac-address	MAC address to bind to the specified ATM address.
atm-address	ATM address.
seg-num	Segment number of the next-hop route descriptor. The segment number ranges from 1 to 4095.
bridge-num	Bridge number of the next-hop route descriptor. The bridge number ranges from 1 to 15.

Defaults

No static address bindings are provided.

Command Modes

Interface configuration

Command History

Release	Modification
11.1(4)	New command

Usage Guidelines

This command only applies to the route processor interface.

This command only adds or removes a static entry binding a MAC address or next-hop route descriptor (for Token Ring) to an ATM address. It does not add or remove dynamic entries. Removing the static entry for a specified ATM address from an LE_ARP table does not release the data-direct VCC established to that ATM address. However, clearing a static entry clears any fast-cache entries that were created from the MAC address-to-ATM address binding.

Static LE_ARP entries are not aged and are not removed automatically.

To remove dynamic entries from the LE_ARP table of the LANE client on the specified subinterface, use the **clear lane le-arp** command.

Examples

The following example shows how to add a static entry to the LE_ARP table on the route processor main ATM interface 0.

```
Switch# configure terminal
Switch(config)# interface atm 0
Switch(config-if)# lane le-arp 0800.aa00.0101 47.000014155551212f.00.00.0800.200c.1001.01
```

Related Commands	Command	Description
	clear lane le-arp	Used to clear the dynamic LE_ARP table or a single LE_ARP entry of the LANE client configured on the specified subinterface or emulated LAN.

lane server-atm-address

To specify an ATM address—and override the automatic ATM address assignment—for the LANE server on the specified subinterface, use the **lane server-atm-address** interface configuration command. To remove the ATM address previously specified for the LANE server on the specified subinterface and revert to the automatic address assignment, use the **no** form of this command.

lane server-atm-address *atm-address-template*

no server-atm-address [*atm-address-template*]

Syntax Description	<table border="0"> <tr> <td style="padding-right: 10px;">atm-address-template</td> <td>ATM address or a template in which wildcard characters are replaced by any nibble or group of nibbles of the prefix bytes, ESI bytes, or selector byte of the automatically assigned ATM address.</td> </tr> </table>	atm-address-template	ATM address or a template in which wildcard characters are replaced by any nibble or group of nibbles of the prefix bytes, ESI bytes, or selector byte of the automatically assigned ATM address.		
atm-address-template	ATM address or a template in which wildcard characters are replaced by any nibble or group of nibbles of the prefix bytes, ESI bytes, or selector byte of the automatically assigned ATM address.				
Defaults	The LANE client finds the LANE server by consulting the configuration server.				
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>11.1(4)</td> <td>New command</td> </tr> </tbody> </table>	Release	Modification	11.1(4)	New command
Release	Modification				
11.1(4)	New command				
Usage Guidelines	<p>This command only applies to the route processor interface.</p> <p>This command also instructs the LANE client configured on this subinterface to reach the LANE server by using the specified ATM address instead of the ATM address provided by the configuration server.</p> <p>When used on a selected subinterface, but with a different ATM address than was used previously, this command replaces the LANE server's ATM address.</p> <p>ATM Addresses. A LANE ATM address has the same syntax as an NSAP (but it is not a network-level address):</p> <ul style="list-style-type: none"> • A 13-byte prefix that includes the following fields defined by the ATM Forum: AFI field (1 byte), DCC or ICD field (2 bytes), DFI field (1 byte), Administrative Authority field (3 bytes), Reserved field (2 bytes), Routing Domain field (2 bytes), and the Area field (2 bytes). • A 6-byte ESI. • A 1-byte selector field. <p>Address Templates. LANE ATM address templates can use two types of wildcards: an asterisk (*) to match any single character, and an ellipsis (...) to match any number of leading or trailing characters. The values of characters replaced by wildcards come from automatic ATM address assignment.</p> <p>In LANE, a <i>prefix template</i> explicitly matches the prefix, but uses wildcards for the ESI and selector fields. An <i>ESI template</i> explicitly matches the ESI field, but uses wildcards for the prefix and selector.</p>				

In the LightStream 1010 ATM switch implementation of LANE, the prefix corresponds to the switch, the ESI corresponds to the ATM interface, and the Selector field corresponds to the specific subinterface of the interface.

For a discussion of the Cisco method for automatically assigning ATM addresses, refer to the “Configuring LAN Emulation” chapter of the *Router Products Configuration Guide*.

Examples

The following example uses an ESI template to specify the part of the ATM address corresponding to the interface; the remaining parts of the ATM address come from automatic assignment.

```
Switch# configure terminal
Switch(config)# interface atm 0
Switch(config-if)# lane server-atm-address ...0800.200C.1001.**
```

The following example uses a prefix template to specify the part of the ATM address corresponding to the switch; the remaining parts of the ATM address come from automatic assignment.

```
Switch(config)# interface atm 0
Switch(config-if)# lane server-atm-address 45.000014155551212f.00.00...

lane client-atm-address
```


lane server-bus

To enable a LANE server and a broadcast-and-unknown server on the specified subinterface, use the **lane server-bus** interface configuration command. To disable a LANE server and broadcast-and-unknown server on the specified subinterface, use the **no** form of this command.

lane server-bus { **ethernet** | **tokenring** } *elan-name*

no lane server-bus [**ethernet** | **tokenring**] *elan-name*

Syntax Description

ethernet	Identifies the type of emulated LAN attached to this subinterface as Ethernet.
tokenring	Identifies the type of emulated LAN attached to this subinterface as Token Ring.
<i>elan-name</i>	Name of the emulated LAN. Maximum length is 32 characters.

Defaults

No LAN type and emulated LAN name are provided.

Command Modes

Interface configuration

Command History

Release	Modification
11.1(5)	New command

Usage Guidelines

The LANE server and the broadcast-and-unknown server are located on the same switch.

If a **lane server-bus** command was entered on the subinterface for a different emulated LAN, the server initiates termination procedures with all clients and comes up as the server for the new emulated LAN.

Use of the **no** form of this command removes a previously configured LANE server and broadcast-and-unknown server on the subinterface.

Examples

The following example enables a LANE server and broadcast-and unknown server for a Token Ring ELAN.

```
Switch# configure terminal
Switch(config)# interface atm 0.1
Switch(config-subif)# lane server-bus tokenring
```

Related Commands

Command	Description
lane server-atm-address	Used to specify an ATM address—and override the automatic ATM address assignment—for the LANE server on the specified subinterface.

lbo

To set the line build-out to various lengths, use the **lbo** interface configuration command. To restore the default in all instances, use the **no** form of this command.

For the channelized DS3 port adapter the syntax is:

```
lbo [short | long]
```

```
no lbo
```

For the channelized E1 and T1 port adapter the syntax is:

```
lbo [0_110 | 110_220 | 220_330 | 330_440 | 440_550 | 550_660 | gt_600]
```

For the T1 IMA port adapter the syntax is:

```
lbo {{long {gain26 | gain36} {-15db | -22.5db | -7.5db | 0db}} | {short {133ft | 266ft | 399ft | 533ft | 655ft}}}}
```

For the E1 IMA port adapter the syntax is:

```
lbo {{long gain43 {120db | 75db}} | {short gain12 22db}}
```

Syntax Description

short	Cable length under 225 feet.
long	Cable length over 225 feet.
0_110	Cable length is 0 to 100 feet.
110_220	Cable length is 110 to 220 feet.
220_330	Cable length is 220 to 330 feet.
330_440	Cable length is 330 to 440 feet.
440_550	Cable length is 440 to 550 feet.
550_660	Cable length is 550 to 660 feet.
gt_600	Cable length is over 600 feet.
gain26	26db gain.
gain36	36db gain.
-15db	-15 db pulse.
-22.5db	-22.5 db pulse.
-7.5db	-7.5 db pulse.
0db	0 db pulse.
133ft	Cable length is 0 to 133 feet.
266ft	Cable length is 134 to 266 feet.
399ft	Cable length is 267 to 399 feet.
533ft	Cable length is 400 to 533 feet.
655ft	Cable length is 534 to 655 feet.
gain43	43 db gain.
120db	120 db gain.

75db	75 db gain.
gain12	12 db gain.
22db	22 db gain.

Defaults

For DS3 interfaces: **short**

For T1 and E1 interfaces: **110_220**

For T1 IMA interfaces: **short 133**

For E1 IMA interfaces: **short gain 12 22db**

Command Modes

Interface configuration

Command History

Release	Modification
TBD	

Usage Guidelines

The **lbo** command applies on T1, E1, T1 IMA, E1 IMA, and DS3 interfaces.

Examples

The following example illustrates how to set the line build-out for an E1 port adapter to 110.

```
Switch# configure terminal
Switch(config)# interface atm 3/1/0
Switch(config-if)# lbo 110
```

Related Commands

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

linecode

To select the linecode type for the T1 or E1 line, use the **linecode** interface configuration command. To revert to the default, use the **no** form of this command.

linecode { **ami** | **b8zs** | **hdb3** }

no linecode { **ami** | **b8zs** | **hdb3** }

Syntax Description

ami	Specifies AMI as the linecode type. Valid for T1 or E1 interfaces.
b8zs	Specifies B8ZS as the linecode type. Valid for T1 interfaces only.
hdb3	Specifies HDB3 as the linecode type. Valid for E1 interfaces only.

Defaults

For T1 lines: **b8zs**
For E1 lines: **hdb3**

Command Modes

Interface configuration

Command History

Release	Modification
11.2(5)	New command

Usage Guidelines

Use this command in configurations where the switch router or access server must communicate with T1 fractional data lines.

The T1 service provider determines which linecode type, either **ami** or **b8zs**, is required for your T1 circuit.

The E1 service provider determines which linecode type, either **ami** or **hdb3**, is required for your E1 circuit.

Examples

The following example specifies AMI as the linecode type.

```
Switch# configure terminal
Switch(config)# interface atm 3/0/0
Switch(config-if)# linecode ami
```

Related Commands

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

load-interval

To change the length of time for which data is used to compute load statistics, use the **load-interval** interface configuration command. To revert to the default setting, use the **no** form of this command.

load-interval *seconds*

no load-interval

Syntax Description	<code>seconds</code> Length of time for which data is used to compute load statistics; a value that is a multiple of 30, and between 30 and 600 (30, 60, 90, 120, and so on).				
Defaults	300 seconds (or 5 minutes)				
Command Modes	Interface configuration				
Command History	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>11.1(4)</td> <td>New command</td> </tr> </tbody> </table>	Release	Modification	11.1(4)	New command
Release	Modification				
11.1(4)	New command				

Usage Guidelines

This command only applies to the interfaces on the route processor card: Ethernet 0 or ATM 0. To load computations to be more reactive to short bursts of traffic rather than to those averaged over 5-minute periods, shorten the length of time over which load averages are computed.

If the load interval is set to 30 seconds, new data is used for load calculations over a 30-second period. This data is used to compute load statistics, including input rate in bits and packets per second, output rate in bits and packets per second, load, and reliability.

Load data is gathered every 5 seconds on the switch. This data is used for a weighted average calculation in which more recent load data has more weight in the computation than older load data. If the load interval is set to 30 seconds, the average is computed for the last 30 seconds of load data.

The **load-interval** command enables you to change the default interval of 5 minutes to a shorter or longer period of time. If you change it to a shorter period of time, the input and output statistics that are displayed when you use the **show interfaces** command are more current and are based on instantaneous data, rather than reflecting an average load over a longer period of time.

This command is often used for dial backup purposes to increase or decrease the likelihood of a backup interface being implemented, but it can be used on any interface.

Examples

In the following example, the default 5-minute average is set to a 30-second average. A burst in traffic that does not trigger a dial backup for an interface configured with the default 5-minute interval might trigger a dial backup for this interface that is set for a shorter, 30-second interval.

```
Switch# configure terminal
Switch(config)# interface atm 0
Switch(config-if)# load-interval 30
```

logging event link-status

Configure logging for interface link-status event, use the **logging event link-status** interface configuration command. To disable logging, use the **no** form of this command.

logging event link-status

no logging event link-status

Syntax Description This command has no arguments or keywords.

Defaults Disabled

Command Modes Interface Configuration

Command History	Release	Modification
	12.0(1a)W5(5b)	New command

Examples The following example shows how to enable logging link-status events on serial interface 11/0/0:1.

```
Switch# configure terminal
Switch(config)# interface serial 11/0/0:1
Switch(config-if)# logging event link-status
```

Related Commands	Command	Description
	show logging	Displays the state of logging to the syslog.

loopback (controller)

To enable controller loopback for the channelized DS3 (CDS3) and channelized E1 (CE1) Frame Relay port adapters, use the **loopback** controller configuration command. To disable loopback, use the **no** form of this command.

For the CDS3 Frame Relay port adapter, use the following syntax:

```
loopback { diagnostic | line | dual / pif }
```

```
no loopback { diagnostic | line | dual | pif }
```

For the CE1 Frame Relay port adapter, use the following syntax:

```
loopback { diagnostic | line }
```

```
no loopback { diagnostic | line }
```

Syntax Description	
diagnostic	The transmit frames are looped back to the switch at the Frame Relay port adapter as receive frames.
line	The frames that are received by the ports on the Frame Relay port adapter in the receive direction are passed to the switch router and are looped back in the transmit direction. The transmit direction of the Frame Relay port adapter transmits only the frames that it received on its port.
dual	This option is similar to a combination of the line and diagnostic loopback options. The frames sent from the switch fabric to the Frame Relay port adapter are looped back and sent back to the switch as the receive frames. The frames received by the port on the Frame Relay port adapter in the receive direction are looped back out of the port as transmit frames. This option is not available for the CE1 Frame Relay port adapter.
pif	The cells being sent to the Frame Relay port adapter are looped back towards the switch at the PIF. This option is not available for the CE1 Frame Relay port adapter.

Defaults	No loopback
-----------------	-------------

Command Modes	Controller configuration
----------------------	--------------------------

Command History	Release	Modification
	12.0(1a)W5(5b)	New command

Usage Guidelines	Use this command for testing, diagnostics, and troubleshooting.
-------------------------	---

loopback (controller)**Examples**

The following example configures the E1 interface to line loopback mode.

```
Switch# configure terminal  
Switch(config)# controller e1 11/0/0  
Switch(config-controller)# loopback line
```

Related Commands

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

loopback (interface)

To enable a loopback on the physical device associated with a port, use the **loopback** interface configuration command. To remove the loop, use the **no** form of this command.

loopback *looptype*

no loopback

Syntax Description	<p>looptype Specifies the loopback type as one of the following:</p> <ul style="list-style-type: none"> • diagnostic—Transmit data is looped to receive data at the PHY layer. • diagnostic-path—Transmit payload is sent to the receive path overhead processor. • line—Receive signal is looped to transmit at the PHY device. • cell—Cells received by PHY are sent out through the transmit cell in first-in-first-out order. • payload—Received payload stream is looped through the transmit stream. • pif—Transmit is looped to receive before the cells enter the PHY device. 				
Defaults	No loopback				
Command Modes	Interface configuration				
Command History	<table border="1"> <thead> <tr> <th>Release</th> <th>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	<p>The cell and payload loopbacks are only available on DS1/E1 and DS3/E3 interfaces. The diagnostic-path loopback is only available for the OC-12 interface to loop the payload.</p> <p>To show interfaces currently in loopback operation, use the show ima interface EXEC command. To isolate problems in the field, use the diagnostic or line options.</p>				
Examples	<p>The following example shows how to configure diagnostic loopback on the ATM 3/1/0 line.</p> <pre>Switch# configure terminal Switch(config)# interface atm 3/1/0 Switch(config-if)# loopback diagnostic</pre>				

■ loopback (interface)

Related Commands	Command	Description
	show controllers	Displays information about a physical port device.
	show ima interface	Displays the IMA interface, IMA group, and ATM layer hardware configuration.