

oam-pvc

To enable end-to-end F5 OAM loopback cell generation and OAM management for an ATM PVC or VC class, use the **oam-pvc** command in the appropriate command mode. Use the **no** form of this command to disable generation of OAM loopback cells and OAM management.

oam-pvc [**manage**] [*frequency*]

no oam-pvc [**manage**] [*frequency*]

Syntax Description	
manage	(Optional) Enable OAM management.
<i>frequency</i>	(Optional) Time delay (0 to 600 seconds) between transmitting OAM loopback cells.

Defaults	
	10 seconds

Command Modes	
	Interface-ATM-VC configuration (for an ATM PVC). VC-class configuration (for a VC class)

Command History	Release	Modification
	11.3	This command was introduced.

Usage Guidelines	
	<p>If OAM management is enabled, further control of OAM management is configured using the oam retry command.</p> <p>If the oam-pvc command is not explicitly configured on an ATM PVC, the PVC inherits the following default configuration (listed in order of next highest precedence):</p> <ul style="list-style-type: none"> • Configuration of the oam-pvc command in a VC class assigned to the PVC itself. • Configuration of the oam-pvc command in a VC class assigned to the PVC's ATM subinterface. • Configuration of the oam-pvc command in a VC class assigned to the PVC's ATM main interface. • Global default: End-to-end F5 OAM loopback cell generation and OAM management are disabled, but if OAM cells are received, they are looped back. The default value for the <i>frequency</i> is 10 seconds.

Examples	
	<p>The following example enables end-to-end F5 OAM loopback cell transmission and OAM management on an ATM PVC with a transmission frequency of 3 seconds:</p>

```
oam-pvc manage 3
```

Related Commands	Command	Description
	ilmi manage	Enables ILMI management on an ATM PVC.
	oam retry	Configures parameters related to OAM management for ATM PVC, SVC, or VC class.

oam retry

To configure parameters related to OAM management for an ATM PVC, SVC, or VC class, use the **oam retry** command in the appropriate command mode. Use the **no** form of this command to remove OAM management parameters.

oam retry *up-count down-count retry-frequency*

no oam retry *up-count down-count retry-frequency*

Syntax Description

<i>up-count</i>	Number of consecutive end-to-end F5 OAM loopback cell responses that must be received to change a PVC connection state to up. This does not apply to SVCs.
<i>down-count</i>	Number of consecutive end-to-end F5 OAM loopback cell responses that are not received in order to change a PVC state to down or tear down an SVC connection.
<i>retry-frequency</i>	The frequency (in seconds) that end-to-end F5 OAM loopback cells are transmitted when a change in UP/DOWN state of a PVC or SVC is being verified. For example, if a PVC is up and a loopback cell response is not received after the <i>frequency</i> (in seconds) specified using the oam-pvc command, then loopback cells are sent at the <i>retry-frequency</i> to verify whether or not the PVC is down.

Defaults

up-count is 3, down-count is 5, retry-frequency is 1 second. This assumes that OAM management is enabled.

Command Modes

Interface-ATM-VC configuration (for an ATM PVC or SVC) or VC-class configuration (for a VC class)

Command History

Release	Modification
11.3	This command was introduced.

Usage Guidelines

If the **oam retry** command is not explicitly configured on an ATM PVC or SVC, the VC inherits the following default configuration (listed in order of next highest precedence):

- Configuration of the **oam retry** command in a VC class assigned to the PVC or SVC itself.
- Configuration of the **oam retry** command in a VC class assigned to the PVC's or SVC's ATM subinterface.
- Configuration of the **oam retry** command in a VC class assigned to the PVC's or SVC's ATM main interface.
- The *up-count* and *retry-frequency* arguments do not apply to SVCs.

Examples

The following example configures the OAM management parameters with *up-count* 3, *down-count* 3, and the *retry-frequency* at 10 seconds:

```
oam retry 3 3 10
```

Related Commands	Command	Description
	oam-pvc	Enables end-to-end F5 OAM loopback cell generation and OAM management for an ATM PVC or VC class.
	oam-svc	Enables end-to-end F5 OAM loopback cell generation and OAM management for an ATM SVC or VC class.

oam-svc

To enable end-to-end F5 OAM loopback cell generation and OAM management for an ATM SVC or VC class, use the **oam-svc** command in the appropriate command mode. Use the **no** form of this command to disable generation of OAM loopback cells and OAM management.

oam-svc [**manage**] [*frequency*]

no oam-svc [**manage**] [*frequency*]

Syntax Description

manage	(Optional) Enable OAM management.
<i>frequency</i>	(Optional) Time delay (0 to 600 seconds) between transmitting OAM loopback cells.

Defaults

10 seconds.

Command Modes

Interface-ATM-VC configuration (for an ATM SVC) or VC-class configuration (for a VC class)

Command History

Release	Modification
11.3	This command was introduced.

Usage Guidelines

If OAM management is enabled, further control of OAM management is configured using the **oam retry** command.



Note

Generally, ATM signaling manages ATM SVCs. Configuring the **oam-svc** command on an SVC verifies the inband integrity of the SVC.

If the **oam-svc** command is not explicitly configured on an ATM SVC, the SVC inherits the following default configuration (listed in order of next highest precedence):

- Configuration of the **oam-svc** command in a VC class assigned to the SVC itself.
- Configuration of the **oam-svc** command in a VC class assigned to the SVC's ATM subinterface.
- Configuration of the **oam-svc** command in a VC class assigned to the SVC's ATM main interface.
- Global default: End-to-end F5 OAM loopback cell generation and OAM management are disabled, but if OAM cells are received, they are looped back. The default value for the *frequency* is 10 seconds.

Examples

The following example enables end-to-end F5 OAM loopback cell transmission and OAM management on an ATM SVC with a transmission frequency of 3 seconds:

```
oam-svc manage 3
```

Related Commands	Command	Description
	oam retry	Configures parameters related to OAM management for an ATM PVC, SVC, or VC class.

protocol

To configure a static map for an ATM PVC, SVC, or VC class; or enable Inverse ARP or Inverse ARP broadcasts on an ATM PVC, use the **protocol** command in the appropriate command mode. To remove a static map or disable Inverse ARP, use the **no** form of this command.

```
protocol protocol [protocol-address | inarp] [[no] broadcast]
```

```
no protocol protocol [protocol-address | inarp] [[no] broadcast]
```

Syntax Description

protocol

Choose one of the following keywords:

aarp—AppleTalk ARP

apollo—Apollo domain

appletalk—AppleTalk

arp—IP ARP

bridge—bridging

bstun—block serial tunnel

cdp—Cisco Discovery Protocol

clns—ISO CLNS

clns_es—ISO CLNS end system

clns_is—ISO CLNS intermediate system

cmns—ISO CMNS

compressedtcp—Compressed TCP

decnet—DECnet

decnet_node—DECnet node

decnet_prime_router—DECnet prime router

decnet_router-l1—DECnet router L1

decnet_router-l2—DECnet router L2

dlsw—data-link switching

ip—IP

ipx—Novell IPX

llc2—llc2

pad—PAD links

qllc—Qualified Logical Link Control protocol

rsrb—remote source-route bridging

snapshot—snapshot routing support

stun—serial tunnel

vines—Banyan VINES

xns—Xerox Network Systems protocol

<i>protocol-address</i>	Destination address that is being mapped to a PVC.
inarp	(Only valid for IP and IPX protocols on PVCs) Use this keyword to enable Inverse ARP on an ATM PVC. If you specify a <i>protocol-address</i> instead of inarp , Inverse ARP is automatically disabled for that protocol.
[no] broadcast	(Optional) broadcast indicates that this map entry is used when the corresponding protocol sends broadcast packets to the interface, for example, IGRP updates. Pseudobroadcasting is supported. The broadcast keyword of the protocol command takes precedence if you previously configured the broadcast command on the ATM PVC or SVC.

Defaults

Inverse ARP is enabled for IP and IPX if the protocol is running on the interface and no static map is configured.

Command Modes

Interface-ATM-VC configuration (for an ATM PVC or SVC)
VC-class configuration (for a VC class)

Command History

Release	Modification
11.3	This command was introduced.

Usage Guidelines**Command Application**

Use this command to perform either of the following tasks:

- Configure a static map for an ATM PVC, SVC, or VC class.
- Enable Inverse ARP or Inverse ARP broadcasts on an ATM PVC by either configuring Inverse ARP directly on the PVC or in a VC class (applies to IP and IPX protocols only).

Default Configurations

If the **protocol** command is not explicitly configured on an ATM PVC or SVC, the VC inherits the following default configuration (listed in order of next highest precedence):

- Configuration of the **protocol ip inarp** or **protocol ipx inarp** command in a VC class assigned to the PVC or SVC itself.
- Configuration of the **protocol ip inarp** or **protocol ipx inarp** command in a VC class assigned to the ATM subinterface of the PVC or SVC.
- Configuration of the **protocol ip inarp** or **protocol ipx inarp** command in a VC class assigned to the ATM main interface of the PVC or SVC.
- Global default: Inverse ARP is enabled for IP and IPX if the protocol is running on the interface and no static map is configured.

Examples

The following example creates a static map on a VC, indicates that 192.68.34.237 is connected to this VC, and sends ATM pseudobroadcasts:

```
protocol ip 192.68.34.237 broadcast
```

The following example enables Inverse ARP for IPX and does not send ATM pseudobroadcasts:

```
protocol ipx inarp no broadcast
```

The following example removes a static map from a VC and restores the default behavior for Inverse ARP (See the “Defaults” section of this command):

```
no protocol ip 192.68.34.237
```

pvc

To create or assign a name to an ATM PVC, specify the encapsulation type on an ATM PVC, or enter interface-ATM-VC configuration mode, use the **pvc** command in interface configuration mode. To remove an ATM PVC, use the **no** form of this command.

```
pvc [name] vpi/vci [ilmi | qsaal | smds]
```

```
no pvc [name] vpi/vci [ilmi | qsaal | smds]
```

Syntax Description

<i>name</i>	(Optional) The name of the PVC or map. The name can be up to 15 characters long.
<i>vpi</i>	ATM network virtual path identifier (VPI) for this PVC. The absence of the “/” and a <i>vpi</i> value defaults the <i>vpi</i> value to 0. On the Cisco 7200 and 7500 series routers, this value ranges from 0 to 255; on the Cisco 4500 and 4700 routers, this value ranges from 0 to 1 less than the quotient of 8192 divided by the value set by the atm vc-per-vp command. A value that is out of range is interpreted as a string and is treated as the connection ID. The <i>vpi</i> and <i>vci</i> arguments cannot both be set to 0; if one is 0, the other cannot be 0.
<i>vci</i>	ATM network virtual channel identifier (VCI) for this PVC. This value ranges from 0 to 1 less than the maximum value set for this interface by the atm vc-per-vp command. Typically, lower values 0 to 31 are reserved for specific traffic (for example, F4 OAM, SVC signalling, ILMI, and so on) and should not be used. The VCI is a 16-bit field in the header of the ATM cell. The VCI value is unique only on a single link, not throughout the ATM network, because it has local significance only. A value that is out of range causes an “unrecognized command” error message. The <i>vpi</i> and <i>vci</i> arguments cannot both be set to 0; if one is 0, the other cannot be 0.
ilmi	(Optional) Used to set up communication with the ILMI; the associated <i>vpi</i> and <i>vci</i> values are ordinarily 0 and 16, respectively.
qsaal	(Optional) A signalling-type PVC used for setting up or tearing down SVCs; the associated <i>vpi</i> and <i>vci</i> values are ordinarily 0 and 5, respectively.
smds	(Optional) Encapsulation for SMDS networks. If you are configuring an ATM PVC on the ATM Interface Processor (AIP), you must configure AAL3/4 SMDS using the atm aal aal3/4 command before specifying smds encapsulation. If you are configuring an ATM network processor module (NPM), the atm aal aal3/4 command is not required. SMDS encapsulation is not supported on the ATM port adapter.

Defaults

No PVC is defined. When a PVC is defined, the global default of the **encapsulation** command applies (*aal-encap* = **aal5snap**).

Command Modes

Interface configuration

Command History

Release	Modification
11.3	This command was introduced.

Usage Guidelines**Rate Queues**

The Cisco IOS software dynamically creates rate queues as necessary to satisfy the requests of the **pvc** commands.

Creating and Configuring PVCs

The **pvc** command creates a PVC and attaches it to the VPI and VCI specified. Both the *vpi* and *vci* arguments cannot be simultaneously specified as 0; if one is 0, the other cannot be 0.

When configuring an SVC, use the **pvc** command to configure the PVC that handles SVC call setup and termination. In this case, specify the **qsaal** keyword. See the second example that follows.

ATM PVC Names

Once you specify a *name* for a PVC, you can reenter interface-ATM-VC configuration mode by simply entering the **pvc name** command. You can remove a PVC and any associated parameters by entering **no pvc name** or **no pvc vpi/vci**.

**Note**

After configuring the parameters for an ATM PVC, you must exit the interface-ATM-VC configuration mode in order to create the PVC and enable the settings.

Encapsulation Types on ATM PVCs

Specify ILMI, QSAAL, or SMDS as the encapsulation type on an ATM PVC. (To configure other encapsulations types, see the **encapsulation** command).

Default Configurations

If **ilmi**, **qsaal**, or **smds** encapsulation is not explicitly configured on the ATM PVC, the PVC inherits the following default configuration (listed in order of next highest precedence):

- Configuration of the **encapsulation** command in a VC class assigned to the PVC itself.
- Configuration of the **encapsulation** command in a VC class assigned to the ATM subinterface of the PVC.
- Configuration of the **encapsulation** command in a VC class assigned to the ATM main interface of the PVC.
- Global default: The global default of the **encapsulation** command applies (*aal-encap* = **aal5snap**).

Examples

The following example creates a PVC with VPI 0 and VCI 16, and communication is set up with the ILMI:

```
pvc cisco 0/16 ilmi
exit
```

The following example creates a PVC used for ATM signalling for an SVC. It specifies VPI 0 and VCI 5.

```
pvc cisco 0/5 qsaal
exit
```

Related Commands

Command	Description
atm vc-per-vp	Sets the maximum number of VCIs to support per VPI.

show atm arp-server

To display the ATM ARP server's information about one specific interface or all interfaces, use the **show atm arp-server** user EXEC command.

AIP on Cisco 7500 series with AIP; Cisco 7200 series with ATM, ATM-CES, and enhanced ATM port adapters; Cisco 2600 and 3600 series with 1-port ATM-25 network module

```
show atm arp-server [atm slot/port[.subinterface-number]]
```

Cisco 7500 series with ATM and enhanced ATM port adapters

```
show atm arp-server [atm slot/port-adapter/port[.subinterface-number]]
```

Cisco 4500 and 4700 series with NPM

```
show atm arp-server [atm number[.subinterface-number]]
```

Syntax Description		
atm slot/port	(Optional) ATM slot and port numbers. Use this format for the following platform configurations:	<ul style="list-style-type: none"> AIP on Cisco 7500 series routers. ATM port adapter, ATM-CES port adapter, and enhanced ATM port adapter on Cisco 7200 series routers. 1-port ATM-25 network module on Cisco 2600 and 3600 series routers.
atm slot/port-adapter/port	(Optional) ATM slot, port adapter, and port numbers. Use this format for the ATM port adapter or enhanced ATM port adapter on Cisco 7500 series routers.	
atm number	(Optional) ATM network processor module (NPM) number on Cisco 4500 and 4700 routers.	
.subinterface-number	(Optional) Subinterface number.	

Command Modes User EXEC

Command History	Release	Modification
	11.1	This command was introduced.

show atm class-links

To display VC parameter configurations and where the parameter values are inherited from, use the **show atm class-links** privileged EXEC command.

```
show atm class-links {vpi/vci | name}
```

Syntax Description	
<i>vpi/vci</i>	The ATM VPI and VCI numbers. The absence of the slash character (<i>/</i>) and a <i>vpi</i> value defaults the <i>vpi</i> value to 0.
<i>name</i>	Name of the VC.

Command Modes	
	Privileged EXEC

Command History	Release	Modification
	11.3	This command was introduced.

Examples

The following is sample output from the **show atm class-links** command for VPI 0 and VCI 66:

```
Router# show atm class-links 0/66
```

```
Displaying vc-class inheritance for ATM2/0.3, vc 0/66:
broadcast - VC-class configured on main-interface
encapsulation aal5mux ip - VC-class configured on subinterface
no ilmi manage - Not configured - using default
oam-pvc manage 3 - VC-class configured on vc
oam retry 3 5 1 - Not configured - using default
ubr 10000 - Configured on vc directly
```

show atm ilmi-configuration

To display ILMI configuration information, use the **show atm ilmi-configuration** command in privileged EXEC mode.

show atm ilmi-configuration

Syntax Description This command has no arguments or keywords.

Defaults No default behavior or values.

Command Modes Privileged EXEC

Command History	Release	Modification
	12.0	This command was introduced prior to Cisco IOS Release 12.0.

Examples The following example shows sample output for the **show atm ilmi-configuration** command:

```
Router# show atm ilmi-configuration

LECS Address(s) :
1122334455667788990011223344556677889900
```

Table 29 describes the fields shown in the display.

Table 29 *show atm ilmi-configuration Field Descriptions*

Field	Description
LECS Address(s)	Current ATM LAN Emulation Clients (LECs) addresses.

Related Commands	Command	Description
	show atm ilmi-status	Displays ILMI-related status information.

show atm ilmi-status

To display ILMI-related status information, use the **show atm ilmi-status** command in privileged EXEC configuration mode.

```
show atm ilmi-status [atm interface-number]
```

Syntax Description

atm	ATM interface.
<i>interface-number</i>	Number of the ATM interface.

Defaults

No default behavior or values.

Command Modes

Privileged EXEC

Command History

Release	Modification
12.0	This command was introduced in a release prior to Cisco IOS Release 12.0.

Usage Guidelines

Entering the **show atm ilmi-status** command without specifying an interface will display ILMI-related status information for all of the ATM interfaces.

Examples

The following example is sample output for the **show atm ilmi-status** command:

```
Router# show atm ilmi-status

Interface :ATM2/0 Interface Type :Unknown
ILMI VCC :(0, 16) ILMI Keepalive :Disabled
ILMI State:      Restarting

Interface :ATM5/0 Interface Type :Private UNI (User-side)
ILMI VCC :(0, 16) ILMI Keepalive :Disabled
ILMI State:      UpAndNormal
Peer IP Addr:    10.0.52.17      Peer IF Name:    ATM1/1/0
Peer MaxVPIbits: 8              Peer MaxVCIBits: 14
Active Prefix(s) :
47.0091.8100.0000.0040.0b0a.2501
End-System Registered Address(s) :
47.0091.8100.0000.0040.0b0a.2501.bbbb.cdd.eeff.12(Confirmed)
```

Table 30 describes the fields shown in the display.

Table 30 show atm ilmi-status Field Descriptions

Field	Description
interface	ATM interface.
Interface Type	Type of ATM interface.

Table 30 *show atm ilmi-status Field Descriptions (continued)*

Field	Description
ILMI VCC	Number of the current ILMI VCC for the interface.
ILMI Keepalive	Status of ILMI keepalive packets.
ILMI State	Status of ILMI for the interface.
Peer IP Addr	IP address of the peer.
Peer IF Name	Name of the peer interface.
Peer Max VPIbits	Maximum number of bits allowed for VPIs on the peer interface.
Peer Max VCibits	Maximum number of bits allowed for VCIs on the peer interface.
Active Prefix	Network prefix that is registered from the switch side and is active and valid.
End-System Registered Address(s)	Address that the router registers back to the switch. The router combines the network prefix of the switch with the end-system identifier to form the end-system registered address.

Related Commands

Command	Description
show atm ilmi-configuration	Displays ILMI configuration information.

show atm interface atm

To display ATM-specific information about an ATM interface, use the **show atm interface atm** privileged EXEC command.

Cisco 7500 series with AIP; Cisco 7200 series with ATM, ATM-CES, and enhanced ATM port adapters; Cisco 2600 and 3600 series with 1-port ATM-25 network module

```
show atm interface atm slot/port
```

Cisco 7500 series with ATM and enhanced ATM port adapters

```
show atm interface atm slot/port-adapter/port
```

Cisco 4500 and 4700 series with NPM

```
show atm interface atm number
```

Syntax Description

<i>slot/port</i>	ATM slot number and port number. Use this format on the following platform configurations: <ul style="list-style-type: none"> The AIP on Cisco 7500 series routers. The ATM port adapter, ATM-CES port adapter, or enhanced ATM port adapter on Cisco 7200 series routers. The 1-port ATM-25 network module on Cisco 2600 and 3600 series routers.
<i>slot/port-adapter/port</i>	ATM slot, port adapter, and port number. Use this format on the ATM port adapter or ATM-CES port adapter on Cisco 7500 series routers.
<i>number</i>	NPM number for Cisco 4500 and 4700 routers.

Command Modes

Privileged EXEC

Command History

Release	Modification
10.0	This command was introduced.
11.0	The <i>number</i> argument was added.
11.2	The <i>slot/port-adapter/port</i> arguments were added.

Examples

The following is sample output for the ATM-CES port adapter to display statistics on slot 4, port 0:

```
Router# show atm interface atm 4/0

ATM interface ATM4/0:
AAL enabled: AAL5, Maximum VCs: 1024, Current VCs: 6
Tx buffers 256, Rx buffers 256, Exception Queue: 32, Raw Queue: 32
VP Filter: 0x7B, VCIs per VPI: 1024, Max Datagram Size:4496, MIDs/VC:16
PLIM Type:4B5B - 100Mbps, No Framing, TX clocking: LINE
4897 input, 2900 output, 0 IN fast, 0 OUT fast
Rate-Queue 1 set to 100Mbps, reg=0x4EA DYNAMIC, 1 VCCs
ATM4/0.1:AAL3/4-SMDS address c111.1111.1111 Multicast e222.2222.222
Config. is ACTIVE
```

The following is sample output for the enhanced ATM port adapter to display statistics on slot 6, port 0:

```
Router# show atm interface atm 6/0

ATM interface ATM6/0
AAL enabled: AAL5, Maximum VCs: 2048, Current VCs: 3
Maximum Transmit Channels: 64
Tx buffers: 256, Rx buffers 256, Exception Queue: 32, Raw Queue: 32
VP Filter: 0x7B, VCIs per VPI: 1024, Max Datagram Size: 4496
PLIM Type: SONET - 155Mbps, TX clocking: INTERNAL
0 input, 59 output, 0 IN fast, 0 OUT fast
ABR parameters, rif: 16 rdf: 16
Config. is ACTIVE
```

Table 31 describes the fields shown in the display.

Table 31 show atm interface atm Field Descriptions

Field	Description
ATM interface	Slot and port number of the interface.
AAL enabled	Type of AAL. If both AAL5 and AAL3/4 are enabled on the interface, the output will include both AAL5 and AAL3/4.
Maximum VCs	Maximum number of virtual circuits this interface can support.
Current VCs	Number of active virtual circuits.
Tx buffers, Rx buffers	Number of transmit and receive buffers.
Exception Queue	Number of exception buffers.
Raw Queue	Queue size.
VP Filter	Hexadecimal value of the VP filter.
VCIs per VPI	Maximum number of VCIs to support per VPI.,
Max Datagram Size	The configured maximum number of bytes in the largest datagram.
MIDs/VC	The configured maximum number of message identifiers allowed per virtual circuit on this interface.
PLIM Type	Physical Layer Interface Module (PLIM) type (E3, 4B/5B, or SONET).
Framing	For E3, this might be G.804; otherwise, no framing.

Table 31 *show atm interface atm Field Descriptions (continued)*

Field	Description
TX clocking	Clocking on the router. For E3 or SONET, this might be INTERNAL, meaning the AIP or NPM generates the clock. Otherwise, LINE indicates that the ATM switch provides the clocking.
input	Number of packets received and process-switched.
output	Number of packets sent from process switch.
IN fast	Number of input packets fast-switched.
OUT fast	Number of output packets fast-switched.
ABR parameters, rif rdf	The amount that the cell transmission rate increases or decreases in response to flow control information from the network or destination for Available Bit Rate PVCs. The rate increase factor (RIF) and rate decrease factor (RDF) in this example are 16, the default.
Rate-Queue	List of configured rate queues.
reg=	Actual register value passed to the AIP to define a specific rate queue (AIP only).
DYNAMIC	Indicates that the rate queue is dynamic and was created automatically by the software. Dynamic rate queues are created when an atm pvc command specifies a peak or average rate that does not match any user configured rate queue. The value PERMANENT indicates that the rate queue was user-configured.
VCCs	Number of virtual channel connections (VCCs) dynamically attached to this rate queue.
ATM4/0.1	Indicates that the subinterface supports ATM adaptation layer AAL3/4 and displays the SMDS E.164 unicast address and the SMDS E.164 multicast address assigned to the subinterface.
Config. is	ACTIVE or VALID in <i>n</i> SECONDS. ACTIVE indicates that the current AIP or NPM configuration has been loaded into the AIP and is being used. There is a 5-second window when a user changes a configuration and the configuration is sent to the AIP.

Related Commands

Command	Description
pvc	Configures the PVC interface.

show atm map

To display a list of all configured ATM static maps to remote hosts on an ATM network, use the **show atm map** privileged EXEC command.

show atm map

Syntax Description This command has no arguments or keywords.

Command Modes Privileged EXEC

Command History	Release	Modification
	10.0	This command was introduced.

Examples

The following is sample output from the **show atm map** command for an ATM-CES port adapter on the Cisco 7200 series router.

```
Router# show atm map
Map list alien: PERMANENT
ip 128.1.1.1 maps to VC 6
ip 128.1.1.2 maps to VC 6
```

The following is sample output from the **show atm map** command:

```
Router# show atm map
Map list atm:
vines 3004B310:0001 maps to VC 4, broadcast
ip 172.21.168.110 maps to VC 1, broadcast
clns 47.0004.0001.0000.0c00.6e26.00 maps to VC 6, broadcast
appletalk 10.1 maps to VC 7, broadcast
decnet 10.1 maps to VC 2, broadcast
```

The following is sample output from the **show atm map** command for a multipoint connection.

```
Router# show atm map
Map list atm_pri: PERMANENT
ip 4.4.4.4 maps to NSAP CD.CDEF.01.234567.890A.BCDE.F012.3456.7890.1234.12, broadcast,
aal5mux, multipoint connection up, VC 6
ip 4.4.4.6 maps to NSAP DE.CDEF.01.234567.890A.BCDE.F012.3456.7890.1234.12, broadcast,
aal5mux, connection up, VC 15, multipoint connection up, VC 6

Map list atm_ipx: PERMANENT
ipx 1004.dddd.dddd.dddd maps to NSAP DE.CDEF.01.234567.890A.BCDE.F012.3456.7890.1234.12,
broadcast, aal5mux, multipoint connection up, VC 8
ipx 1004.cccc.cccc.cccc maps to NSAP CD.CDEF.01.234567.890A.BCDE.F012.3456.7890.1234.12,
broadcast, aal5mux, multipoint connection up, VC 8

Map list atm_apple: PERMANENT
appletalk 62000.5 maps to NSAP CD.CDEF.01.234567.890A.BCDE.F012.3456.7890.1234.12,
broadcast, aal5mux, multipoint connection up, VC 4
appletalk 62000.6 maps to NSAP DE.CDEF.01.234567.890A.BCDE.F012.3456.7890.1234.12,
broadcast, aal5mux, multipoint connection up, VC 4
```

The following is sample output from the **show atm map** command if you configure an ATM PVC using the **pvc** command:

```
Router# show atm map
Map list endA: PERMANENT
ip 148.11.11.1 maps to VC 4, VPI 0, VCI 60, ATM0.2
```

Table 32 describes the fields shown in the display.

Table 32 show atm map Field Descriptions

Field	Description
Map list	Name of map list.
PERMANENT	This map entry was entered from configuration; it was not entered automatically by a process.
<i>protocol address</i> maps to VC <i>x</i> or <i>protocol address</i> maps to NSAP...	Name of protocol, the protocol address, and the VCD or NSAP that the address is mapped to (for ATM VCs configured with the atm pvc command).
broadcast	Indicates pseudobroadcasting.
<i>protocol address</i> maps to VPI <i>x</i> , VCI <i>x</i> , ATM <i>x.x</i> or <i>protocol address</i> maps to NSAP...	Name of protocol, the protocol address, the VPI number, the VCI number, and the ATM interface or subinterface (for ATM PVCs configured using the pvc command). or Name of the protocol, the protocol address, and the NSAP that the address is mapped to (for ATM SVCs configured using the svc command).
aal5mux	Indicates the encapsulation used, a multipoint or point-to-point virtual circuit, and the number of the virtual circuit.
multipoint connection up	Indicates that this is a multipoint virtual circuit.
VC 6	Number of the virtual circuit.
connection up	Indicates a point-to-point virtual circuit.
VPI	Virtual path identifier for the VC.
VCI	Virtual channel identifier for the VC.
ATM <i>x.x</i>	ATM interface or subinterface number.

Related Commands

Command	Description
protocol	Configures the selected protocol type.
pvc	Configures the PVC interface.
svc	Creates an ATM SVC and specifies the destination NSAP address on a main interface or subinterface.

show atm pvc

To display all ATM PVCs and traffic information, use the **show atm pvc** privileged EXEC command.

```
show atm pvc [vpilvci | name | interface atm interface-number]
```

Syntax Description	
<i>vpilvci</i>	(Optional) The ATM VPI and VCI numbers. The absence of the slash character (/) and a <i>vpi</i> value defaults the <i>vpi</i> value to 0.
<i>name</i>	(Optional) Name of the PVC.
interface atm <i>interface-number</i>	(Optional) Interface number or subinterface number of the PVC. Displays all PVCs on the specified interface or subinterface. The <i>interface-number</i> uses one of the following formats, depending on what router platform you are using: <ul style="list-style-type: none"> For the AIP on Cisco 7500 series routers; For the ATM port adapter, ATM-CES port adapter, and enhanced ATM port adapter on Cisco 7200 series routers; For the 1-port ATM-25 network module on Cisco 2600 and 3600 series routers: <i>slot/0[.subinterface-number multipoint]</i> For the ATM port adapter and enhanced ATM port adapter on Cisco 7500 series routers: <i>slot/port-adapter/0[.subinterface-number multipoint]</i> For the NPM on Cisco 4500 and 4700 routers: <i>number[.subinterface-number multipoint]</i> For a description of these arguments, refer to the interface atm command.

Command Modes	Privileged EXEC
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Command History	Release	Modification
	11.3	This command was introduced.

Usage Guidelines

If the *vpilvci* or *name* is not specified, the output of this command is the same as that of the **show atm vc** command but only the configured PVCs are displayed. See the first sample output below.

If the *vpilvci* or *name* is specified, the output of this command is the same as the **show atm vc vcd** command, plus extra information related to PVC management including connection name, detailed states, and OAM counters. See the second sample output below.

If the **interface atm** *interface-number* option is included in the command, all PVCs under that interface or subinterface are displayed. See the third sample output below.

Examples

The following is sample output from the **show atm pvc** command:

```
Router# show atm pvc
```

Interface	VCD/ Name	VPI	VCI	Type	Encaps	Peak Kbps	Avg/Min Kbps	Burst Cells	Sts
2/0	1	0	5	PVC	SAAL	155000	155000		UP
2/0	2	0	16	PVC	ILMI	155000	155000		UP
2/0.2	101	0	50	PVC	SNAP	155000	155000		UP
2/0.2	102	0	60	PVC	SNAP	155000	155000		DOWN
2/0.2	104	0	80	PVC	SNAP	155000	155000		UP
2/0	hello	0	99	PVC	SNAP	1000			UP

The following is sample output from the **show atm pvc** command with the *vpi/vci* specified:

```
Router# show atm pvc 0/99
```

```
ATM 2/0.2: VCD 102, VPI: 0, VCI: 60
UBR, PeakRate: 155000
AAL5-LLC/SNAP, etype:0x0, Flags: 0xC20, VCmode: 0x1
OAM frequency: 3 second(s), OAM retry frequency: 1 second(s)
OAM up retry count: 3, OAM down retry count: 5
OAM Loopback status: OAM Sent
OAM VC state: Not Verified
ILMI VC state: Not Managed
VC is managed by OAM
InARP frequency: 15 minute(s)
InPkts: 1, OutPkts: 1, InBytes: 32, OutBytes: 32
InPRoc: 1, OutPRoc: 0, Broadcasts: 0
InFast: 0, OutFast:0, InAS: 0, OutAS: 0
OAM cells received: 14
F5 InEndloop: 14, F5 InSegloop: 0, F5 InAIS: 0, F5 InRDI: 0
F4 InEndloop: 0, F4 InSegloop: 0, F4 InAIS: 0, F4 InRDI: 0
OAM cells sent: 25
F5 OutEndloop: 25, F5 OutSegloop: 0, F5 OutRDI: 0
OAM cell drops: 0
PVC Discovery: NOT_VERIFIED
Status: DOWN, State: NOT_VERIFIED
```

The following is sample output from the **show atm pvc** command with the ATM subinterface specified:

```
Router# show atm pvc interface atm 2/0.2
```

Interface	VCD/ Name	VPI	VCI	Type	Encaps	Peak Kbps	Avg/Min Kbps	Burst Cells	Sts
2/0.2	101	0	50	PVC	SNAP	155000	155000		UP
2/0.2	102	0	60	PVC	SNAP	155000	155000		DOWN
2/0.2	104	0	80	PVC	SNAP	155000	155000		UP

Table 33 describes significant fields shown in the displays.

Table 33 show atm pvc Field Descriptions

Field	Description
Interface	Interface and subinterface slot and port.
VCD/Name	Virtual circuit descriptor (virtual circuit number). The connection name is displayed if a name for the VC was configured using the pvc command.
VPI	Virtual path identifier.
VCI	Virtual channel identifier.

Table 33 *show atm pvc Field Descriptions (continued)*

Field	Description
Type	Type of PVC detected from PVC discovery, either PVC-D, PVC-L, or PVC-M. <ul style="list-style-type: none"> • PVC-D indicates a PVC created due to PVC discovery. • PVC-L indicates that the corresponding peer of this PVC could not be found on the switch. • PVC-M indicates that some or all of the QOS parameters of this PVC mismatch that of the corresponding peer on the switch.
Encaps	Type of ATM adaptation layer (AAL) and encapsulation.
Peak or PeakRate	Kilobits per second transmitted at the peak rate.
Avg/Min or Average Rate	Kilobits per second transmitted at the average rate.
Burst Cells	Value that equals the maximum number of ATM cells the virtual circuit can transmit at peak rate.
Sts or Status	Status of the VC connection. <ul style="list-style-type: none"> • UP indicates that the connection is enabled for data traffic. • DOWN indicates that the connection is not ready for data traffic. When the Status field is DOWN, a State field is shown. See a description of the different values for this field listed later in this table. • INACTIVE indicates that the interface is down.
Connection Name	The name of the PVC.
UBR, UBR+, or VBR-NRT	UBR—Unspecified Bit Rate QOS is specified for this PVC. See the ubr command for further information. UBR+—Unspecified Bit Rate QOS is specified for this PVC. See the ubr+ command for further information. VBR-NRT—Variable Bit Rate–Non Real Time QOS rates are specified for this PVC. See the vbr-nrt command for further information.
etype	Encapsulation type.

Table 33 show atm pvc Field Descriptions (continued)

Field	Description
Flags	<p>Bit mask describing virtual circuit information. The flag values are summed to result in the displayed value.</p> <p>0x40—SVC 0x20—PVC 0x10—ACTIVE 0x0—AAL5-SNAP 0x1—AAL5-NLPID 0x2—AAL5-FRNLPID 0x3—AAL5-MUX 0x4—AAL3/4-SMDS 0x5—QSAAL 0x6—ILMI 0x7—AAL5-LANE 0x9—AAL5-CISCOPPP</p>
virtual-access	Virtual access interface identifier.
virtual-template	Virtual template identifier.
VCmode	AIP-specific or NPM-specific register describing the usage of the virtual circuit. This register contains values such as rate queue, peak rate, and AAL mode, which are also displayed in other fields.
OAM frequency	Number of seconds between sending OAM loopback cells.
OAM retry frequency	The frequency (in seconds) that end-to-end F5 loopback cells should be transmitted when a change in UP/DOWN state is being verified. For example, if a PVC is up and a loopback cell response is not received after the <i>frequency</i> (in seconds) specified using the oam-pvc command, then loopback cells are sent at the <i>retry-frequency</i> to verify whether or not the PVC is down.
OAM up retry count	Number of consecutive end-to-end F5 OAM loopback cell responses that must be received in order to change a PVC state to up. Does not apply to SVCs.
OAM down retry count	Number of consecutive end-to-end F5 OAM loopback cell responses that are not received in order to change a PVC state to down or tear down an SVC.
OAM Loopback status	<p>Status of end-to-end F5 OAM loopback cell generation for this VC. This field will have one of the following values:</p> <ul style="list-style-type: none"> • OAM Disabled—End-to-End F5 OAM loopback cell generation is disabled. • OAM Sent—OAM cell was sent. • OAM Received—OAM cell was received. • OAM Failed—OAM reply was not received within the frequency period or contained bad correlation tag.ssss.

Table 33 *show atm pvc Field Descriptions (continued)*

Field	Description
OAM VC state	This field will have one of the following states for this VC: <ul style="list-style-type: none"> • AIS/RDI—The VC received AIS/RDI cells. End-to-end F5 OAM loopback cells are not sent in this state. • Down Retry—An OAM loopback failed. End-to-end F5 OAM loopback cells are sent at retry frequency to verify the VC is really down. After down-count unsuccessful retries, the VC goes to the Not Verified state. • Not Managed—VC is not being managed by OAM. • Not Verified—VC has not been verified by end-to-end F5 OAM loopback cells. AIS and RDI conditions are cleared. • Up Retry—An OAM loopback was successful. End-to-end F5 OAM loopback cells are sent at retry frequency to verify the VC is really up. After up-count successive and successful loopback retries, the VC goes to the Verified state. • Verified—Loopbacks are successful. AIS/RDI cell was not received.
ILMI VC state	This field will have one of the following states for this VC: <ul style="list-style-type: none"> • Not Managed—VC is not being managed by ILMI. • Not Verified—VC has not been verified by ILMI. • Verified—VC has been verified by ILMI.
VC is managed by OAM/ILMI	VC is managed by OAM and/or ILMI.
InARP frequency	Number of minutes for the Inverse ARP time period.
InPkts	Total number of packets received on this virtual circuit. This number includes all fast-switched and process-switched packets.
OutPkts	Total number of packets sent on this virtual circuit. This number includes all fast-switched and process-switched packets.
InBytes	Total number of bytes received on this virtual circuit. This number includes all fast-switched and process-switched bytes.
OutBytes	Total number of bytes sent on this virtual circuit. This number includes all fast-switched and process-switched bytes.
InPRoc	Number of process-switched input packets.
OutPRoc	Number of process-switched output packets.
Broadcasts	Number of process-switched broadcast packets.
InFast	Number of fast-switched input packets.
OutFast	Number of fast-switched output packets.
InAS	Number of autonomous-switched or silicon-switched input packets.
OutAS	Number of autonomous-switched or silicon-switched output packets.
OAM cells received	Total number of OAM cells received on this virtual circuit.
F5 InEndloop	Number of end-to-end F5 OAM loopback cells received.
F5 InSegloop	Number of segment F5 OAM loopback cells received.

Table 33 *show atm pvc Field Descriptions (continued)*

Field	Description
F5 InAIS	Number of F5 OAM AIS cells received.
F5 InRDI	Number of F5 OAM RDI cells received.
F4 InEndloop	Number of end-to-end F4 OAM loopback cells received.
F4 InSegloop	Number of segment F4 OAM loopback cells received.
F4 InAIS	Number of F4 OAM AIS cells received.
F4 InRDI	Number of F4 OAM RDI cells received.
OAM cells sent	Total number of OAM cells sent on this virtual circuit.
F5 OutEndloop	Number of end-to-end F5 OAM loopback cells sent.
F5 OutSegloop	Number of segment F5 OAM loopback cells sent.
F5 OutRDI	Number of F5 OAM RDI cells sent.
OAM cell drops	Number of OAM cells dropped (or flushed).
PVC Discovery	<p>NOT_VERIFIED—This PVC is manually configured on the router and not yet verified with the attached adjacent switch.</p> <p>WELL_KNOWN—This PVC has a VCI value of 0 through 31.</p> <p>DISCOVERED—This PVC is learned from the attached adjacent switch via ILMI.</p> <p>MIXED—Some of the traffic parameters for this PVC were learned from the switch via ILMI.</p> <p>MATCHED—This PVC is manually configured on the router and the local traffic shaping parameters match the parameters learned from the switch.</p> <p>MISMATCHED—This PVC is manually configured on the router and the local traffic shaping parameters do not match the parameters learned from the switch.</p> <p>LOCAL_ONLY—This PVC is configured locally on the router and not on the remote switch.</p>
State	<p>When the Status field is UP, this field does not appear. When the Status field is DOWN or INACTIVE, the State field will appear with one of the following values:</p> <p>NOT_VERIFIED—The VC has been established successfully; Waiting for OAM (if enabled) and ILMI (if enabled) to verify that the VC is up.</p> <p>NOT_EXIST—VC has not been created.</p> <p>HASHING_IN—VC has been hashed into a hash table.</p> <p>ESTABLISHING—Ready to establish VC connection.</p> <p>MODIFYING—VC parameters have been modified.</p> <p>DELETING—VC is being deleted.</p> <p>DELETED—VC has been deleted.</p> <p>NOT_IN_SERVICE—ATM interface is shut down.</p>

show atm svc

To display all ATM SVCs and traffic information, use the **show atm svc** privileged EXEC command.

```
show atm svc [vpi/vci | name | interface atm interface-number]
```

Syntax Description	
<i>vpi/vci</i>	(Optional) The ATM VPI and VCI numbers. The absence of the slash character (/) and a <i>vpi</i> value defaults the <i>vpi</i> value to 0.
<i>name</i>	(Optional) Name of the SVC.
interface atm <i>interface-number</i>	(Optional) Interface number or subinterface number of the SVC. Displays all SVCs on the specified interface or subinterface. The <i>interface-number</i> uses one of the following formats, depending on what router platform you are using: <ul style="list-style-type: none"> For the AIP on Cisco 7500 series routers; For the ATM port adapter, ATM-CES port adapter, and enhanced ATM port adapter on Cisco 7200 series routers; For the 1-port ATM-25 network module on Cisco 2600 and 3600 series routers: <i>slot0</i>[.<i>subinterface-number</i> multipoint] For the ATM port adapter and enhanced ATM port adapter on Cisco 7500 series routers: <i>slot/port-adapter/0</i>[.<i>subinterface-number</i> multipoint] For the NPM on Cisco 4500 and 4700 routers: <i>number</i>[.<i>subinterface-number</i> multipoint] For a description of these arguments, refer to the interface atm command.

Command Modes	
	Privileged EXEC

Command History	Release	Modification
	11.3	This command was introduced.

Usage Guidelines

If the *vpi/vci* or *name* is not specified, the output of this command is the same as that of the **show atm vc** command but only the configured SVCs are displayed. See the first sample output below.

If the *vpi/vci* or *name* is specified, the output of this command is the same as the **show atm vc vcd** command, plus extra information related to SVC management including connection name, detailed states, and OAM counters. See the second sample output below.

If the **interface atm** *interface-number* option is included in the command, all SVCs under that interface or subinterface are displayed. See the third sample output below.

Examples

The following is sample output from the **show atm svc** command:

```
Router# show atm svc
```

Interface	VCD/ Name	VPI	VCI	Type	Encaps	Peak Kbps	Avg/Min Kbps	Burst Cells	Sts
2/0.2	4	0	32	SVC	SNAP	155000	155000		UP
2/0.2	3	0	33	SVC	SNAP	155000	155000		UP
2/0.1	5	0	34	SVC	SNAP	155000			UP
2/0.2	6	0	35	SVC	SNAP	155000	155000		UP

The following is sample output from the **show atm svc** command with VPI 0 and VCI 34 specified:

```
Router# show atm svc 0/34
```

```
ATM2/0.1: VCD: 5, VPI: 0, VCI: 34
UBR, PeakRate: 155000
AAL5-LLC/SNAP, etype: 0x0, Flags 0x440, VCmode: 0xE000
OAM frequency: 0 second(s), OAM retry frequency: 1 second(s)
OAM up retry count: 3, OAM down retry count: 5
OAM Loopback status: OAM Disabled
OAM VC state: Not Managed
ILMI VC state: Not Managed
InARP DISABLED
InPkts: 4, OutPkts: 4, InBytes: 432, OutBytes: 432
InPRoc: 4, OutPRoc: 4, Broadcasts: 0
InFast: 0, OutFast: 0, InAS: 0, OutAS: 0
OAM cells received: 0
F5 InEndloop: 0, F5 InSegloop: 0, F5 InAIS: 0, F5 InRDI:0
F4 InEndloop: 0, F4 InSegloop: 0, F4 InAIS: 0, F4 InRDI:0
OAM cells sent: 0
F5 OutEndloop: 0, F5 OutSegloop: 0, F5 OutRDI: 0
OAM cell drops: 0
Status: UP
TTL: 3
interface = ATM2/0.2, call locally initiated, call reference = 8388610
vcnum = 5, vpi = 0, vci = 34, state = Active(U10), point-to-point call
Retry count: Current = 0
timer currently inactive, timer value = 00:00:00
Remote Atm Nsap address:47.00918100000000400B0A2501.0060837B4743.00, VCowner:Static Map
```

The following is sample output from the **show atm svc interface atm interface_number** command:

```
Router# show atm svc interface atm 2/0.2
```

Interface	VCD/ Name	VPI	VCI	Type	Encaps	Peak Kbps	Avg/Min Kbps	Burst Cells	Sts
2/0.2	4	0	32	SVC	SNAP	155000	155000		UP
2/0.2	3	0	33	SVC	SNAP	155000	155000		UP
2/0.2	6	0	35	SVC	SNAP	155000	155000		UP

Table 34 describes significant fields shown in the displays.

Table 34 show atm svc Field Descriptions

Field	Description
Interface	Interface and subinterface slot and port.
VCD/Name	Virtual circuit descriptor (virtual circuit number). The connection name is displayed if a name for the VC was configured using the svc command.
VPI	Virtual path identifier.

Table 34 *show atm svc Field Descriptions (continued)*

Field	Description
VCI	Virtual channel identifier.
Type	Type of virtual circuit, either SVC or MSVC (multipoint SVC). <ul style="list-style-type: none"> MSVC (with no -x) indicates that VCD is a leaf of some other router's multipoint VC. MSVC-x indicates there are x leaf routers for that multipoint VC opened by the root.
Encaps	Type of ATM adaptation layer (AAL) and encapsulation.
Peak or PeakRate	Kilobits per second transmitted at the peak rate.
Avg/Min or Average Rate	Kilobits per second transmitted at the average rate.
Burst Cells	Value that equals the maximum number of ATM cells the virtual circuit can transmit at peak rate.
Sts or Status	Status of the VC connection. <ul style="list-style-type: none"> UP indicates that the connection is enabled for data traffic. DOWN indicates that the connection is not ready for data traffic. When the Status field is DOWN, a State field is shown. See a description of the different values for this field listed later in this table. INACTIVE indicates that the interface is down.
Connection Name	The name of the SVC.
UBR, UBR+, or VBR-NRT	UBR—Unspecified Bit Rate QOS is specified for this SVC. See the ubr command for further information. UBR+—Unspecified Bit Rate QOS is specified for this SVC. See the ubr+ command for further information. VBR-NRT—Variable Bit Rate–Non Real Time QOS rates are specified for this SVC. See the vbr-nrt command for further information.
etype	Encapsulation type.

Table 34 show atm svc Field Descriptions (continued)

Field	Description
Flags	<p>Bit mask describing virtual circuit information. The flag values are summed to result in the displayed value.</p> <p>0x40—SVC</p> <p>0x20—PVC</p> <p>0x10—ACTIVE</p> <p>0x0—AAL5-SNAP</p> <p>0x1—AAL5-NLPID</p> <p>0x2—AAL5-FRNLPID</p> <p>0x3—AAL5-MUX</p> <p>0x4—AAL3/4-SMDS</p> <p>0x5—QSAAL</p> <p>0x6—ILMI</p> <p>0x7—AAL5-LANE</p> <p>0x9—AAL5-CISCOPPP</p>
VCmode	AIP-specific or NPM-specific register describing the usage of the virtual circuit. This register contains values such as rate queue, peak rate, and AAL mode, which are also displayed in other fields.
OAM frequency	Number of seconds between sending OAM loopback cells.
OAM retry frequency	The frequency (in seconds) that end-to-end F5 loopback cells should be transmitted when a change in UP/DOWN state is being verified. For example, if an SVC is up and a loopback cell response is not received after the <i>frequency</i> (in seconds) specified using the oam-svc command, then loopback cells are sent at the <i>retry-frequency</i> to verify whether or not the SVC is down.
OAM up retry count	Number of consecutive end-to-end F5 OAM loopback cell responses that must be received in order to change a PVC state to up. Does not apply to SVCs.
OAM down retry count	Number of consecutive end-to-end F5 OAM loopback cell responses that are not received in order to change a PVC state to down or tear down an SVC.
OAM Loopback status	<p>Status of end-to-end F5 OAM loopback cell generation for this VC. This field will have one of the following values:</p> <ul style="list-style-type: none"> • OAM Disabled—End-to-End F5 OAM loopback cell generation is disabled. • OAM Sent—OAM cell was sent. • OAM Received—OAM cell was received. • OAM Failed—OAM reply was not received within the frequency period or contained bad correlation tag.ssss.

Table 34 *show atm svc Field Descriptions (continued)*

Field	Description
OAM VC state	This field will have one of the following states for this VC: <ul style="list-style-type: none"> • AIS/RDI—The VC received AIS/RDI cells. End-to-end F5 OAM loopback cells are not sent in this state. • Down Retry—An OAM loopback failed. End-to-end F5 OAM loopback cells are sent at retry frequency to verify the VC is really down. After down-count unsuccessful retries, the VC goes to the Not Verified state. • Not Managed—VC is not being managed by OAM. • Not Verified—VC has not been verified by end-to-end F5 OAM loopback cells. AIS and RDI conditions are cleared. • Up Retry—An OAM loopback was successful. End-to-end F5 OAM loopback cells are sent at retry frequency to verify the VC is really up. After up-count successive and successful loopback retries, the VC goes to the Verified state. • Verified—Loopbacks are successful. AIS/RDI cell was not received.
ILMI VC state	This field will have one of the following states for this VC: <ul style="list-style-type: none"> • Not Managed—VC is not being managed by ILMI. • Not Verified—VC has not been verified by ILMI. • Verified—VC has been verified by ILMI.
VC is managed by OAM/ILMI	VC is managed by OAM and/or ILMI.
InARP frequency	Number of minutes for the Inverse ARP time period.
InPkts	Total number of packets received on this virtual circuit. This number includes all fast-switched and process-switched packets.
OutPkts	Total number of packets sent on this virtual circuit. This number includes all fast-switched and process-switched packets.
InBytes	Total number of bytes received on this virtual circuit. This number includes all fast-switched and process-switched bytes.
OutBytes	Total number of bytes sent on this virtual circuit. This number includes all fast-switched and process-switched bytes.
InPRoc	Number of process-switched input packets.
OutPRoc	Number of process-switched output packets.
Broadcasts	Number of process-switched broadcast packets.
InFast	Number of fast-switched input packets.
OutFast	Number of fast-switched output packets.
InAS	Number of autonomous-switched or silicon-switched input packets.
OutAS	Number of autonomous-switched or silicon-switched output packets.
OAM cells received	Total number of OAM cells received on this virtual circuit.
F5 InEndloop	Number of end-to-end F5 OAM loopback cells received.
F5 InSegloop	Number of segment F5 OAM loopback cells received.

Table 34 *show atm svc Field Descriptions (continued)*

Field	Description
F5 InAIS	Number of F5 OAM AIS cells received.
F5 InRDI	Number of F5 OAM RDI cells received.
F4 InEndloop	Number of end-to-end F4 OAM loopback cells received.
F4 InSegloop	Number of segment F4 OAM loopback cells received.
F4 InAIS	Number of F4 OAM AIS cells received.
F4 InRDI	Number of F4 OAM RDI cells received.
OAM cells sent	Total number of OAM cells sent on this virtual circuit.
F5 OutEndloop	Number of end-to-end F5 OAM loopback cells sent.
F5 OutSegloop	Number of segment F5 OAM loopback cells sent.
F5 OutRDI	Number of F5 OAM RDI cells sent.
OAM cell drops	Number of OAM cells dropped (or flushed).
State	<p>When the Status field is DOWN or INACTIVE, the State field will appear with one of the following values:</p> <p>NOT_VERIFIED—The VC has been established successfully; Waiting for OAM (if enabled) and ILMI (if enabled) to verify that the VC is up.</p> <p>NOT_EXIST—VC has not been created.</p> <p>HASHING_IN—VC has been hashed into a hash table.</p> <p>ESTABLISHING—Ready to establish VC connection.</p> <p>MODIFYING—VC parameters have been modified.</p> <p>DELETING—VC is being deleted.</p> <p>DELETED—VC has been deleted.</p> <p>NOT_IN_SERVICE—ATM interface is shut down.</p>
TTL	Time-to-live in ATM hops across the VC.
VC owner	IP Multicast address of group.

show atm traffic

To display current, global ATM traffic information to and from all ATM networks connected to the router, use the **show atm traffic** privileged EXEC command.

show atm traffic

Syntax Description This command has no arguments or keywords.

Command Modes Privileged EXEC

Command History	Release	Modification
	10.0	This command was introduced.

Examples The following is sample output from the **show atm traffic** command for the ATM-CES port adapter on a Cisco 7200 series router.

```
Router# show atm traffic

0 Input packets
1044 Output packets
1021 Broadcast packets
0 Packets received on non-existent VC
0 Packets attempted to send on non-existent VC
0 OAM cells received
0 OAM cells sent
```

The following is sample output from the **show atm traffic** command for the AIP on a Cisco 7500 series router:

```
Router# show atm traffic

276875 Input packets
272965 Output packets
2 Broadcast packets
0 Packets received on non-existent VC
6 Packets attempted to send on non-existent VC
272523 OAM cells received
F5 InEndloop: 272523, F5 InSegloop: 0, F5 InAIS: 0, F5 InRDI: 0
F4 InEndloop: 0, F4 InSegloop: 0, F4 InAIS: 0, F4 InRDI: 0
272963 OAM cells sent
F5 OutEndloop: 272963, F5 OutSegloop: 0, F5 OutRDI: 0
0 OAM cell drops
```

Table 35 describes the fields shown in the display.

Table 35 *show atm traffic Field Descriptions*

Field	Description
Input packets	Total packets input.
Output packets	Total packets output.
Broadcast packets	Total broadcast packets output.
Packets received on nonexistent VC	Number of packets sent to virtual circuits not configured.
Packets attempted to send on non-existent VC	Number of packets attempted to be sent on a virtual circuit that were not configured.
OAM cells received	Total Operation, Administration, and Maintenance (OAM) cells received.
F5 InEndloop	Number of end-to-end F5 OAM loopback cells received.
F5 InSegloop	Number of segment F5 OAM loopback cells received.
F5 InAIS	Number of F5 OAM AIS cells received.
F5 InRDI	Number of F5 OAM RDI cells received.
F4 InEndloop	Number of end-to-end F4 OAM loopback cells received.
F4 InSegloop	Number of segment F4 OAM loopback cells received.
F4 InAIS	Number of F4 OAM AIS cells received.
F4 InRDI	Number of F4 OAM RDI cells received.
OAM cells sent	Total number of OAM cells sent on this VC.
F5 OutEndloop	Number of end-to-end F5 OAM loopback cells sent.
F5OutSegloop	Number of segment F5 OAM loopback cells sent.
F5 OutRDI	Number of F5 OAM RDI cells sent.
OAM cell drops	Number of OAM cells dropped (or flushed).

Related Commands

Command	Description
pvc	Configures the PVC interface.
svc	Creates an ATM SVC and specifies the destination NSAP address on a main interface or subinterface.