

# 12 ATM Commands for Uplink Ports

The following chapter contains information on Text-Based ATM port configuration commands. Topics include:

- Configuring port traffic parameters
- Creating virtual connections and ATM addresses
- Viewing basic information on ASM/FCSM ports
- Configuring ATM profiles

Refer to the command task list below to find the page number for a specific task. If you would like to reference configuration tasks based on traditional UI commands, refer to Appendix A.

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## ATM Port Configuration Commands

### atm port type pvc

#### Command Usage

Change a port connection to a PVC (Permanent Virtual Circuit) connection.

#### Syntax Options

**atm port <*slot/port*> type pvc**

##### Definitions:

*slot/port* = specifies the slot/port of the port you want to change to a PVC connection

##### Examples:

**atm port 4/2 type pvc**  
**type pvc**

#### Corresponding UI Command

map

#### Remarks

PVC information is stored in flash memory on the MPM module; if you restart the switch, the PVC would be restored.

**atm port type svc****Command Usage**

Change a port connection to an SVC (Switched Virtual Circuit) connection.

**Syntax Options**

**atm port <slot/port> type svc**

Definitions:

*slot/port* = specifies the slot/port of the port you want to change to an SVC connection

Examples:

**atm port 4/2 type svc**  
**type svc**

**Corresponding UI Command**

map

**Remarks**

SVCs are learned by the switch through communication with the ATM attached devices. SVCs are built up and taken down based on demands for virtual connections by ATM end devices. If an SVC is lost or the switch is restarted, then the circuit is lost and the source device must request the connection again.

### atm port vci bits

#### Command Usage

Modify the number of bits that can be used for Virtual Channel Identifiers (VCIs) created on a port.

#### Syntax Options

**atm port <slot/port> vci bits <bits#>**

##### Definitions:

*slot/port* = specifies the slot/port of the port you want to modify

*bits#* = specifies the number of bits that can be used for VCIs created on this port (value must be between 1 and 10)

##### Examples:

**atm port 4/2 vci bits 2**  
**vci bits 2**

#### Corresponding UI Command

map

**atm port signaling version****Command Usage**

Modify the version of the User-to-Network Interface (UNI) used on this port.

**Syntax Options**

**atm port <slot/port> signaling version {3.0 | 3.1}**

Definitions:

*slot/port* = specifies the slot/port of the port you want to modify

**3.0** = UNI signaling version 3.0

**3.1** = UNI signaling version 3.1

Switch Default:

signaling version = **3.0**

Examples:

**atm port 4/2 signaling version 3.0**

**signaling version 3.0**

**Corresponding UI Command**

**map**

**Remarks**

The switch is compliant with ATM Forum UNI specifications version 3.0 and 3.1. You select which version your ATM network supports. The signaling version you use must match the signaling version used on the network.

**♦ Important Note ♦**

If you change the signaling version from UNI 3.0 to UNI 3.1 (or vice versa), then you *must* reboot the switch

### atm port signaling vci

#### Command Usage

Modify the Virtual Channel Identifier (VCI) used for signaling.

#### Syntax Options

```
atm port <slot/port> signaling vci <vci#>
```

##### Definitions:

*slot/port* = specifies the slot/port of the port you want to modify

*vci#* = the VCI used for signaling.

##### Examples:

```
atm port 4/2 signaling vci 5
```

```
signaling vci 5
```

#### Corresponding UI Command

map

#### Remarks

For ATM access ports, this VCI is typically set to 5.



**atm port ilmi****Command Usage**

Configure the status of the Integrated Management Interface (ILMI).

**Syntax Options**

```
atm port <slot/port> ilmi {enable | disable | on | off}
```

Definitions:

*slot/port* = specifies the slot/port of the port you want to modify

**enable** = enables ILMI

**disable** = disables ILMI

**on** = enables ILMI

**off** = disables ILMI

Examples:

```
atm port 4/2 ilmi enable
```

```
ilmi enable
```

**Corresponding UI Command**

map

### atm port esi

#### Command Usage

Modify the 6-byte End Station Identifier (ESI) for a port.

#### Syntax Options

```
atm port <slot/port> esi <esi_address>
```

##### Definitions:

*slot/port* = specifies the slot/port of the port you want to modify

*esi\_address* = the 6-byte, 12 hex-characters End Station Identifier (ESI) for this port

##### Examples:

```
atm port 4/2 esi 0020da79efbf  
esi 0020da79efbf
```

#### Corresponding UI Command

map

#### Remarks

This value, which functions like a MAC address for this port, is used by the ATM switch to identify this particular ATM.

**atm port ilmi vci****Command Usage**

Modify the Virtual Channel Identifier (VCI) that will be reserved for ILMI management signaling on a port.

**Syntax Options**

**atm port** <slot/port> **ilmi vci** <vci#>

Definitions:

*slot/port* = specifies the slot/port of the port you want to modify

*vci#* = the VCI that will be reserved for ILMI management signaling on this port.

Examples:

**atm port 4/2 ilmi vci 16**

**ilmi vci 16**

**Corresponding UI Command**

map

**Remarks**

For ATM access ports, this VCI is typically set to 16.

### atm port physical media

#### Command Usage

Configure the type of physical media standard used for a port.

#### Syntax Options

```
atm port <slot/port> physical media {SONET | SDH}
```

##### Definitions:

*slot/port* = specifies the slot/port of the port you want to modify

**SONET** = Synchronous Optical Network

**SDH** = Synchronous Transfer Mode

##### Examples:

```
atm port 4/2 physical media SONET
```

```
atm port 4/2 physical media SDH  
physical media SDH
```

#### Corresponding UI Command

map

#### Remarks

In North America, ATM broadband services are delivered over Synchronous Optical Network (SONET) facilities. SONET is a high speed fiber optic system that uses Synchronous Transfer Signal Level 1 (STS-1).

Outside North America, ATM broadband services use Synchronous Digital Hierarchy (SDH). SDH is a high-speed fiber optic system that users Synchronous Transfer Mode (STM-1). The switch supports both SONET and SDH fiber systems. You select the system with which you want this port to be compatible.

**atm port description****Command Usage**

Modify the textual description for an ASM or FCSM port. This identifier is used in displays for other software commands.

**Syntax Options**

**atm port** *<slot/port>* **description** *<string>*

Definitions:

*slot/port* = specifies the slot/port of the port you want to modify

*string* = a textual description (can be up to 30 characters long) of this port (e.g., **ATMPORT**). Description strings with spaces must be enclosed in quotations (e.g., **"ATM PORT"**)

Examples:

**atm port 4/2 description "ATM PORT"**  
**description ATMPORT**

**Corresponding UI Command**

**map**

### atm port tx SAR buffer

#### Command Usage

Modify the size of the segmentation cell buffer on the UNI that a specified port supports.

#### Syntax Options

```
atm port <slot/port> tx SAR buffer <size#>
```

##### Definitions:

*slot/port* = specifies the slot/port of the port you want to modify

*size#* = specifies the size of the segmentation cell buffer (the value must be between 2048 and 131072)

##### Examples:

```
atm port 4/2 tx SAR buffer 16384
```

```
tx SAR buffer 16384
```

#### Corresponding UI Command

map

#### Remarks

If you change a SAR buffer size, you need to reboot the switch for the change to take effect.

**atm port rx SAR buffer****Command Usage**

Modify the size of the reassembly cell buffer size on the UNI that a port supports.

**Syntax Options**

**atm port *<slot/port>* rx SAR buffer *<size#>***

Definitions:

*slot/port* = specifies the slot/port of the port you want to modify

*size#* = the size of the reassembly cell buffer (the value must be between 2048 and 131072)

Examples:

**atm port 4/2 rx SAR buffer 16384**

**rx SAR buffer 16384**

**Corresponding UI Command**

map

**Remarks**

If you change a SAR buffer size, you need to reboot the switch for the change to take effect.

### atm port tx frame buffer

#### Command Usage

Modify the size of the transmit frame buffer, or the maximum size of packets that can be transmitted from ATM to the switch backplane.

#### Syntax Options

```
atm port <slot/port> tx frame buffer <size#>
```

##### Definitions:

*slot/port* = specifies the slot/port of the port you want to modify

*size#* = the size of the transmit buffer (the value can range from 1800 to 16,384 bytes)

##### Examples:

```
atm port 4/2 tx frame buffer 4600
```

```
tx frame buffer 4600
```

#### Corresponding UI Command

map

#### Remarks

This value must be less than or equal to the Tx SAR Buffer Size and greater than or equal to the Tx Maximum Frame Size of all connections on this port.



**atm port rx frame buffer****Command Usage**

Modify the size of the receive frame buffer on this UNI, or the maximum size of packets that can be received from the switch backplane.

**Syntax Options**

**atm port <slot/port> rx frame buffer <size#>**

Definitions:

*slot/port* = specifies the slot/port of the port you want to modify

*size#* = the size of the receive frame buffer (this value can range from 1800 to 16,384 bytes)

Examples:

**atm port 4/2 rx frame buffer 4600**

**rx frame buffer 4600**

**Corresponding UI Command**

map

**Remarks**

This value must be less than or equal to the Rx SAR Buffer Size and should be greater than or equal to the Rx Maximum Frame Size of all connections on the port.

### atm port payload scramble

#### Command Usage

Configure whether chip hardware on a module will perform cell scrambling/descrambling which randomizes cell payloads.

#### Syntax Options

```
atm port <slot/port> payload scramble {enable | disable | on | off}
```

##### Definitions:

*slot/port* = specifies the slot/port of the port you want to modify

**enable** = enables chip hardware on the module to perform cell scrambling/descrambling

**disable** = disables chip hardware on the module from performing cell scrambling/descrambling

**on** = enables chip hardware on the module to perform cell scrambling/descrambling

**off** = disables chip hardware on the module from performing cell scrambling/descrambling

##### Switch Defaults:

**enable**

**on**

##### Examples:

**atm port 4/2 payload scramble enable**

**payload scramble enable**

#### Corresponding UI Command

map

#### Remarks

Payload scrambling helps avoid continuous non-variable bit patterns and improves cell delineation. Cell delineation is the process used to determine cell boundaries by finding the Header Error Control (HEC) in cell headers.

**atm port timing****Command Usage**

Configure which clock the switch will use for a specified port.

**Syntax Options**

```
atm port <slot/port> timing [mode] {loop | local}
```

Definitions:

*slot/port* = specifies the slot/port of the port you want to modify

**mode** = optional command syntax

**loop** = the receive, or external, clock

**local** = the transmit, or internal, clock

Examples:

```
atm port 4/2 timing mode local
```

```
timing local
```

**Corresponding UI Command**

**map**

**Remarks**

If you set a CSM port to loop *and* you are connecting it to an ATM uplink or access port, the ATM uplink or access port must be on an OmniSwitch module.

### atm port loopback

#### Command Usage

Configure the loopback configuration for a port.

#### Syntax Options

**atm port <slot/port> loopback [configuration] {no | Diagnostic | Line} [loop]**

##### Definitions:

*slot/port* = specifies the slot/port of the port you want to modify

**configuration** = optional command syntax

**no** = no loopback occurs between receive and transmission paths

**Diagnostic** = the interface transmission path is connected to the receive path at the connectors

**Line** = the interface receive path is looped to the transmission path at the connectors

**loop** = optional command syntax

##### Switch Default:

loopback configuration = **no**

##### Examples:

**atm port 4/2 loopback configuration no loop**

**atm port 4/2 loopback configuration Line loop**

**atm port 4/2 loopback Line**

**loopback Line**

#### Corresponding UI Command

map

**atm port ilmi polling****Command Usage**

Configure whether ILMI status messages will be sent out at regular intervals (about every 3-5 seconds) from a specified port.

**Syntax Options**

**`atm port <slot/port> ilmi polling {enable | disable | on | off}`**

Definitions:

*slot/port* = specifies the slot/port of the port you want to modify

**enable** = enables ilmi polling

**disable** = disables ilmi polling

**on** = enables ilmi polling

**off** = disables ilmi polling

Switch Defaults:

ilmi polling = **no** or **disable**

Examples:

**atm port 4/2 ilmi polling enable**

**atm port 4/2 ilmi polling disable**

**atm port 4/2 ilmi polling on**

**ilmi polling on**

**Corresponding UI Command**

map

# ATM PVC Connection Commands

## atm connection

### Command Usage

Create a single Permanent Virtual Circuit (PVC) connection for a physical port and logical VCI that you specify.

### Syntax Options

```
atm connection <slot/port> <vci#> <description>
```

#### Definitions:

*slot/port* = specifies the slot/port of the port for which you want to create a PVC

*vci#* = specifies the logical vci for which you want to create a PVC

*description* = specifies a textual description (can be up to 30 characters) for this virtual circuit (e.g., **ConnectionA**). Description strings with spaces must be enclosed in quotations (e.g., **"Connection A"**)

#### Examples:

```
atm connection 5/1 100 ConnectionA
```

```
atm connection 5/1 100 "Connection A"
```

### Corresponding UI Command

**cvc**

**atm connection profile****Command Usage**

Create a virtual connection using an ATM profile.

**Syntax Options**

**atm connection** *<slot/port>* *<vci1-vci2>* **profile** *<profile\_name>*

Definitions:

*slot/port* = specifies the slot/port of the port where you want to create a virtual connection

*vci1-vci2* = the range of Virtual Channel Identifiers where this connection will be created

*profile\_name* = specifies the name of the profile to be used for this virtual connection

Examples:

**atm connection 4/2 100-200 profile "Video traffic"**

**Corresponding UI Command**

**cvc**

**Remarks**

For more information on ATM profiles, see *ATM Profile Commands* on page 5-82.

### atm connection best effort requested

#### Command Usage

Configure whether you want a specified virtual connection to transmit and receive traffic on a “best effort” basis or to use a Peak Cell Rate (PCR) parameter to transmit traffic.

#### Syntax Options

**atm connection <slot/port> <vci#> best effort [tx] requested {enable | disable | on | off}**

##### Definitions:

*slot/port* = specifies the slot/port of the connection you want to modify

*vci#* = specifies the logical virtual channel identifier of the circuit

**tx** = optional command syntax

**enable** = enables this virtual connection to transmit and receive traffic on a “best effort” basis

**disable** = disables this virtual connection from transmitting and receiving traffic on a “best effort basis.”

**on** = enables this virtual connection to transmit and receive traffic on a “best effort” basis

**off** = disables this virtual connection from transmitting and receiving traffic on a “best effort basis.”

##### Examples:

**atm connection 5/1 100 best effort requested enable**

**atm connection 5/1 100 best effort requested disable**

**best effort requested on**

#### Corresponding UI Command

**mvc**

#### Remarks

If you enable this parameter, then the port will transmit and receive traffic if any bandwidth is available on the port. If you disable this parameter, then the Peak Cell Rate (PCR) parameter will be used to transmit traffic on this VCC.



**atm connection pcr tx requested****Command Usage**

Modify the Peak Cell Rate (PCR), in cells per second, allowed for traffic transmitted on a specified VCC.

**Syntax Options**

**atm connection** *<slot/port>* *<vci#>* **pcr** [CLP01] **tx requested** *<pcr#>*

Definitions:

*slot/port* = specifies the slot/port of the connection you want to modify

*vci#* = specifies the logical virtual channel identifier of the circuit

**CLP01** = optional command syntax

*pcr#* = the PCR, in cells per second, allowed for traffic transmitted on this VCC

Examples:

**atm connection 5/1 pcr CLP01 tx requested 353208**

**atm connection 5/1 pcr tx requested 353208**

**tx requested 353208**

**Corresponding UI Command**

**mvc**

**Remarks**

This value is only relevant if you entered **disable** or **off** for Requested Best Effort (configured through the **atm connection best effort requested** command page 12-24).

### atm connection pcr rx requested

#### Command Usage

Modify the Peak Cell Rate (PCR), in cells per second, allowed for traffic received on a specified virtual connection.

#### Syntax Options

```
atm connection <slot/port> <vci#> pcr [CLP01] rx requested <pcr#>
```

##### Definitions:

*slot/port* = specifies the slot/port of the connection you want to modify

*vci#* = specifies the logical virtual channel identifier of the circuit

**CLP01** = optional command syntax

*pcr#* = the PCR, in cells per second, allowed for traffic received on this VCC

##### Examples:

```
atm connection 5/1 pcr CLP01 rx requested 353208
```

```
atm connection 5/1 pcr rx requested 353208
```

```
pcr rx requested 353208
```

#### Corresponding UI Command

**mvc**

#### Remarks

This value is only relevant if you entered **disable** or **off** for Requested Best Effort (configured through the **atm connection best effort requested** command on page 12-24).

## atm connection best effort acceptable

### Command Usage

Configure whether or not you want a specified port to transmit and receive traffic on a “best effort acceptable” basis, or minimum acceptable threshold.

### Syntax Options

**atm connection** <slot/port> <vci#> **best effort acceptable** [tx] {enable | disable | on | off}

#### Definitions:

*slot/port* = specifies the slot/port of the connection you want to modify

*vci#* = specifies the logical virtual channel identifier of the circuit

**tx** = optional command syntax

**enable** = enables best effort acceptable

**disable** = disables best effort acceptable

**on** = enables best effort acceptable

**off** = disables best effort acceptable

#### Examples:

**atm connection 5/1 100 best effort acceptable enable**

**atm connection 5/1 100 best effort acceptable on**

**atm connection best effort acceptable enable**

**atm connection 5/1 100 best effort acceptable off**

**best effort acceptable disable**

### Corresponding UI Command

**mvc**

### Remarks

If you enable this parameter, the ATM software will determine whether or not your acceptable values can be met. If not, the VCC will not be operational.

### atm connection pcr tx acceptable

#### Command Usage

Modify the minimum Peak Cell Rate (PCR), in cells per second, that is acceptable for traffic transmitted on a connection.

#### Syntax Options

```
atm connection <slot/port> <vci#> pcr [CLP01] tx acceptable <pcr#>
```

##### Definitions:

*slot/port* = specifies the slot/port of the connection you want to modify

*vci#* = specifies the logical virtual channel identifier of the circuit

**CLP01** = optional command syntax

*pcr#* = specifies the minimum PCR, in cells per second, acceptable for traffic transmitted on this VCC

##### Examples:

```
atm connection 5/1 100 pcr CLP01 tx acceptable 12200
```

```
atm connection 5/1 100 pcr tx acceptable 12200
```

```
pcr tx acceptable 12200
```

#### Corresponding UI Command

**mvc**

#### Remarks

This value is only relevant if you entered **disable** or **off** for Best Effort Acceptable (configured through the **atm connection best effort acceptable** command on page 12-27). If the ATM software determines that your acceptable values cannot be met, the VCC will not be operational.

**atm connection pcr rx acceptable****Command Usage**

Modify the minimum Peak Cell Rate (PCR), in cells per second, that is acceptable for traffic received on a connection.

**Syntax Options**

```
atm connection <slot/port> <vci#> pcr [CLP01] rx acceptable <pcr#>
```

Definitions:

*slot/port* = specifies the slot/port of the connection you want to modify

*vci#* = specifies the logical virtual channel identifier of the circuit

**CLP01** = optional command syntax

*pcr#* = specifies the minimum PCR, in cells per second, acceptable for traffic received on this VCC

Examples:

```
atm connection 5/1 100 pcr CLP01 rx acceptable 12200
```

```
atm connection 5/1 100 pcr rx acceptable 12200
```

```
pcr rx acceptable 12200
```

**Corresponding UI Command**

**mvc**

**Remarks**

This value is only relevant if you entered **disable** or **off** for Best Effort Acceptable (configured through the **atm connection best effort acceptable** command on page 12-27). If the ATM software determines that your acceptable values cannot be met, the VCC will not be operational.

### atm connection maximum tx

#### Command Usage

Modify the maximum frame size (in bytes) for traffic transmitted on a specified virtual connection.

#### Syntax Options

**atm connection** <slot/port> <vci#> **maximum tx** [frame size] <size#>

##### Definitions:

*slot/port* = specifies the slot/port of the connection you want to modify

*vci#* = specifies the logical virtual channel identifier of the circuit

**frame size** = optional command syntax

*size#* = the maximum frame size (in bytes) transmitted from this VCC

##### Examples:

**atm connection 5/1 100 maximum tx frame size 4520**

**atm connection 5/1 100 maximum tx 4520**

**maximum tx 4520**

#### Corresponding UI Command

**mvc**

#### Remarks

If a frame exceeds the the maximum frame size value, it will be discarded and counted as an error on statistics tables.

**atm connection maximum rx****Command Usage**

Modify the maximum frame size (in bytes) for traffic received on a specified virtual connection.

**Syntax Options**

**atm connection** <slot/port> <vci#> **maximum rx** [frame size] <size#>

Definitions:

*slot/port* = specifies the slot/port of the connection you want to modify

*vci#* = specifies the logical virtual channel identifier of the circuit

**frame size** = optional command syntax

*size#* = the maximum frame size (in bytes) for traffic received at this VCC

Examples:

**atm connection 5/1 100 maximum rx frame size 4520**

**atm connection 5/1 100 maximum rx 4520**

**maximum rx 4520**

**Corresponding UI Command**

**mvc**

**Remarks**

If a frame exceeds the the maximum frame size value, it will be discarded and counted as an error on statistics tables.

### atm connection description

#### Command Usage

Modify the textual description (up to 30 characters) for a virtual circuit.

#### Syntax Options

```
atm connection <slot/port> <vci#> description <string>
```

##### Definitions:

*slot/port* = specifies the slot/port of the connection you want to modify

*vci#* = specifies the logical virtual channel identifier of the circuit

*string* = specifies the new textual description (up to 30 characters) for this virtual circuit (e.g., **ConnectionA** or "Connection A")

##### Examples:

```
atm connection 5/1 100 description ConnectionA
```

```
description ConnectionA
```

#### Corresponding UI Command

**mvc**



**no atm connection****Command Usage**

Delete a virtual channel connection.

**Syntax Options**

**no atm connection** *<slot/port>* *<vci#>*

Definitions:

*slot/port* = specifies the slot/port of the virtual channel you want to delete

*vci#* = specifies the logical virtual channel identifier for this virtual channel

Examples:

**no atm connection 5/1 100**

**no atm connection**

**Corresponding UI Command**

**dvc**

# ATM Virtual Address Commands

## atm address

### Command Usage

Create a virtual ATM address in the switch.

### Syntax Options

```
atm address <address> <description>
```

#### Definitions:

*address* = specifies the 40-character ATM address

*description* = specifies a textual description (can be up to 30 characters) for this virtual ATM address (e.g., **Address2**). Description strings with spaces must be enclosed in quotations (e.g., **"Address 2"**)

#### Examples:

```
atm address 390348001bc900001017 "Address 2"
```

### Corresponding UI Command

**cva**

**no atm address****Command Usage**

Delete a virtual ATM address.

**Syntax Options**

**no atm address** *<address>*

Definitions:

*address* = specifies the ATM address of the virtual ATM you want to remove

Examples:

**no atm address 390348001bc900001017**

**Corresponding UI Command**

dva

### atm address best effort requested

#### Command Usage

Configure whether or not you want a specified virtual ATM to transmit and receive traffic on a “best effort” basis.

#### Syntax Options

**atm address <address> best effort requested {enable | disable | on | off}**

##### Definitions:

*address* = specifies the 40-character ATM address

**enable** = enables this virtual ATM to transmit and receive traffic on a “best effort” basis

**disable** = disables this virtual ATM to transmit and receive traffic on a “best effort” basis

**on** = enables this virtual ATM to transmit and receive traffic on a “best effort” basis

**off** = disables this virtual ATM to transmit and receive traffic on a “best effort” basis

##### Examples:

**atm address 390348001bc900001017 best effort requested enable**

**atm address 390348001bc900001017 best effort requested disable**

**best effort requested on**

#### Corresponding UI Command

**mva**

#### Remarks

If you enable this parameter, then the virtual ATM will transmit and receive traffic if any bandwidth is available on the port. If you disable this parameter, then the Peak Cell Rate (PCR) parameter will be used to transmit and receive traffic from this virtual ATM.

**atm address pcr tx requested****Command Usage**

Modify the Peak Cell Rate (PCR), in cells per second, allowed for traffic transmitted from a specified virtual ATM address.

**Syntax Options**

```
atm address <address> pcr [CLP01] tx requested <pcr#>
```

Definitions:

*address* = specifies the ATM address

**CLP01** = optional command syntax

*pcr#* = the PCR, in cells per second, allowed for traffic transmitted from this virtual ATM address

Examples:

```
atm address 390348001bc900001017 pcr CLP01 tx requested 353208
```

```
atm address 390348001bc900001017 pcr tx requested 353208
```

```
pcr tx requested 353208
```

**Corresponding UI Command**

**mva**

**Remarks**

This value is only relevant if you entered **disable** or **off** for Requested Best Effort (configured through the **atm address best effort requested** command on page 12-36).

### atm address pcr rx requested

#### Command Usage

Modify the Peak Cell Rate (PCR), in cells per second, allowed for traffic received from a specified virtual ATM address.

#### Syntax Options

```
atm address <address> pcr [CLP01] rx requested <pcr#>
```

##### Definitions:

*address* = specifies the ATM address

**CLP01** = optional command syntax

*pcr#* = the PCR, in cells per second, allowed for traffic received from this virtual ATM address

##### Examples:

```
atm address 390348001bc900001017 pcr CLP01 rx requested 353208
```

```
atm address 390348001bc900001017 pcr rx requested 353208
```

```
pcr rx requested 353208
```

#### Corresponding UI Command

mva

#### Remarks

This value is only relevant if you entered **disable** or **off** for Best Effort Requested (configured through the **atm address best effort requested** command page 12-36).

**atm address best effort acceptable****Command Usage**

Configure whether or not you want a specified virtual ATM address to transmit and receive traffic on a “best effort acceptable” basis or a minimum acceptable threshold.

**Syntax Options**

**atm address <address> best effort acceptable requested {enable | disable | on | off}**

Definitions:

*address* = specifies the ATM address

**enable** = enables best effort acceptable

**disable** = disables best effort acceptable

**on** = enables best effort acceptable

**off** = disables best effort acceptable

Examples:

**atm address 390348001bc900001017 best effort acceptable requested enable**

**atm address 390348001bc900001017 best effort acceptable requested disable**

**atm address 390348001bc900001017 best effort acceptable requested on**

**atm address 390348001bc900001017 best effort acceptable requested off**

**best effort acceptable requested enable**

**Corresponding UI Command**

**mva**

**Remarks**

If you enable this parameter, the ATM software will determine whether or not your acceptable values can be met. If not, the virtual ATM will not be operational.

### atm address pcr tx acceptable

#### Command Usage

Modify the minimum Peak Cell Rate (PCR), in cells per second, that is acceptable for traffic transmitted from a specified virtual ATM address.

#### Syntax Options

```
atm address <address> pcr [CLP01] tx acceptable <pcr#>
```

##### Definitions:

*address* = specifies the ATM address

**CLP01** = optional command syntax

*pcr#* = the PCR, in cells per second, allowed for traffic transmitted from this virtual ATM address

##### Examples:

```
atm address 390348001bc900001017 pcr CLP01 tx acceptable 12200
```

```
atm address 390348001bc900001017 pcr tx acceptable 12200
```

```
pcr tx acceptable 12200
```

#### Corresponding UI Command

mva

#### Remarks

This value is only relevant if you entered **disable** or **off** for Best Effort Acceptable (configured through the **atm address best effort acceptable** command on page 12-39). If the ATM software determines that your acceptable values cannot be met, the virtual ATM will not be operational.



atm address pcr rx acceptable

Command Usage

Command Usage

Modify the minimum Peak Cell Rate (PCR), in cells per second, that is acceptable for traffic received from a specified virtual ATM address.

Syntax Options

**atm address** *<address>* **pcr** [CLP01] **rx acceptable** *<pcr#>*

Definitions:

*address* = specifies the ATM address

**CLP01** = optional command syntax

*pcr#* = the PCR, in cells per second, allowed for traffic transmitted from this virtual ATM address

Examples:

**atm address 390348001bc900001017 pcr CLP01 rx acceptable 12200**

**atm address 390348001bc900001017 pcr rx acceptable 12200**

**pcr rx acceptable 12200**

Corresponding UI Command

mva

Remarks

This value is only relevant if you entered **disable** or **off** for Best Effort Acceptable (configured through the **atm address best effort acceptable** command on page 12-39). If the ATM software determines that your acceptable values cannot be met, the virtual ATM will not be operational.

### atm address maximum tx

#### Command Usage

Modify the maximum frame size (in bytes) for traffic transmitted from a specified virtual ATM address.

#### Syntax Options

**atm address** <address> **maximum tx** [frame size] <size#>

##### Definitions:

*address* = specifies the ATM address

**frame size** = optional command syntax

*size#* = specifies the maximum frame size for traffic transmitted from this ATM address

##### Examples:

**atm address 390348001bc900001017 maximum tx frame size 4520**

**atm address 390348001bc900001017 maximum tx 4520**

**maximum tx 4520**

#### Corresponding UI Command

**mva**

#### Remarks

If a frame exceeds the the maximum frame size value, it will be discarded and counted as an error on statistics tables.

**atm address maximum rx****Command Usage**

Modify the maximum frame size (in bytes) for traffic received at a specified atm address.

**Syntax Options**

**atm address** *<address>* **maximum rx** [frame size] *<size#>*

Definitions:

*address* = specifies the ATM address

**frame size** = optional command syntax

*size#* = specifies the maximum frame size for traffic received at this virtual ATM address

Examples:

**atm address 390348001bc900001017 maximum rx frame size 4520**

**atm address 390348001bc900001017 maximum rx 4520**

**maximum rx 4520**

**Corresponding UI Command**

**mva**

**Remarks**

If a frame exceeds the maximum frame size value, it will be discarded and counted as an error on statistics tables.

### atm address description

#### Command Usage

Modify the textual description (up to 30 characters) for a virtual ATM address.

#### Syntax Options

**atm address** *<address>* **description** *<serviceDescription>*

##### Definitions:

*address* = specifies the ATM address

*serviceDescription* = specifies the new service description or number for this virtual ATM (e.g., “Address B” or AddressB)

##### Examples:

**atm address** 390348001bc900001017 **description** “Address B”  
**description** AddressB

#### Corresponding UI Command

mva

## Static ATM ARP Entry CIP Commands

### atm arp static

#### Command Usage

Add a static entry to the CIP ARP table.

#### Syntax Options

```
atm arp <slot/port> <serviceDescription> <ipAddress> <vci#>
```

#### Definitions:

*slot/port* = specifies the slot/port where you want to create this static entry

*serviceDescription* = specifies the CIP service number or description where you want to create this static entry

*ipAddress* = the IP address of the CIP ARP entry you want to create

*vci#* = the Virtual Channel Identifier for the CIP ARP entry you want to create

#### Examples:

```
atm arp 3/1 4 186.207.183.15 0
```

#### Corresponding UI Command

aat

### no atm arp static

#### Command Usage

Delete a static entry from the CIP ARP table.

#### Syntax Options

```
no atm arp <slot/port> <serviceDescription> <ipAddress> <vci#>
```

##### Definitions:

*slot/port* = specifies the slot/port where you want to delete this static entry

*serviceDescription* = specifies the CIP service number or description where you want to delete this static entry

*ipAddress* = the IP address of the CIP ARP entry you want to delete

*vci#* = the Virtual Channel Identifier for the CIP ARP entry you want to delete

##### Examples:

```
no atm arp 3/1 4 186.207.183.15 0
```

#### Corresponding UI Command

dat

# Bandwidth Group Table Commands

## atm bandwidth best effort

### Command Usage

Modify the “best effort” parameter of transmit traffic for a specified bandwidth group.

### Syntax Options

**atm bandwidth** *<slot/port>* *<bwgGroupId#>* **best effort** {enable | disable | on | off}

#### Definitions:

*slot/port* = specifies the slot/port of the bandwidth group you want to modify

**enable** = enables “best effort”

**disable** = disables “best effort”

**on** = enables “best effort”

**off** = disables “best effort”

#### Examples:

**atm bandwidth 4/1 1 best effort enable**

**atm bandwidth 4/1 1 best effort disable**

**atm bandwidth 4/1 1 best effort on**

**atm bandwidth 4/1 1 best effort off**

**best effort off**

### Corresponding UI Command

**mbwg**

### Remarks

If you enable “best effort,” then traffic will be transmitted on this bandwidth group on a “best effort” basis and you will not be able to configure traffic parameters.

### atm bandwidth peak cell rate

#### Command Usage

Modify the maximum Peak Cell Rate (in kilobits per second) allowed on a specified bandwidth group.

#### Syntax Options

**atm bandwidth** <slot/port> <bwgGroupId#> **peak cell rate** <pcr#>

##### Definitions:

*slot/port* = specifies the slot/port of the bandwidth group you want to modify

*bwgGroupId#* = the Id number of the bandwidth group

*pcr#* = the peak cell rate, the maximum number of kilobits per second allowed on this bandwidth group

##### Examples:

**atm bandwidth 4/1 1 peak cell rate 50**

**peak cell rate 50**

#### Corresponding UI Command

**mbwg**



**atm bandwidth sustained cell rate****Command Usage**

Modify the maximum Sustained Cell Rate (in kilobits per second) allowed for traffic on a specified bandwidth group.

**Syntax Options**

**atm bandwidth <slot/port> <bwgGroupId#> sustained cell rate <scr#>**

Definitions:

*slot/port* = specifies the slot/port of the bandwidth group you want to modify

*bwgGroupId#* = the Id number of the bandwidth group

*scr#* = the sustained cell rate, which is the maximum average cell rate (in kbps) allowed for traffic on this bandwidth group

Examples:

**atm bandwidth 4/1 1 sustained cell rate 50**

**sustained cell rate 50**

**Corresponding UI Command**

**mbwg**

### atm bandwidth maximum burst size

#### Command Usage

Modify the maximum number of cells that can be sent in a burst at Peak Cell Rate on this bandwidth group.

#### Syntax Options

```
atm bandwidth <slot/port> <bwgGroupId#> maximum burst size <mbs#>
```

#### Definitions:

*slot/port* = specifies the slot/port of the bandwidth group you want to modify

*bwgGroupId#* = the Id number of the bandwidth group

*mbs#* = the maximum burst size in cells

#### Examples:

```
atm bandwidth 4/1 1 maximum burst size 50
```

```
maximum burst size 50
```

#### Corresponding UI Command

**mbwg**

#### Remarks

If most of the traffic in a bandwidth group consists of very small packets (i.e., 64 bytes), then the actual speed achieved will be less than the values you configure for PCR, SCR, and MBS.

# ATM View Commands

## view atm connection

### Command Usage

View information on a specified virtual channel connection.

### Syntax Options

**view atm connection** *<slot/port>* *<vci#>*

#### Definitions:

*slot/port* = specifies the slot/port of the connection you want to view

*vci#* = specifies the Virtual Channel Identifier of the virtual channel connection you want to view

#### Examples:

**view atm connection 7/1 100**

### Corresponding UI Command

**vvc**

## Screen Output

A screen similar to the following will be displayed:

ATM Connections									
Slot	Port	VPI	VCI	Connection Description	ConnType	CircuitType	Operational Status		
7	1	0	100	Connection 100	VCC	PVC	LocalDown		
Slot	Port	VPI	VCI	Up Time	Down Time	Tx Max Frame Sz	Rx Max Frame Sz		
7	1	0	100	THU JAN 01 00:00:00		4600	4600		
Actual Tx Traffic Information									
Slot	Port	VPI	VCI	Tx Traffic Description	Type	Peak Cell Rate	Tx QoS	Best Effort	
7	1	0	100	NoCLP NoSCR		0	Uns	True	
Actual Rx Traffic Information									
Slot	Port	VPI	VCI	Rx Traffic Description	Type	Peak Cell Rate	Rx QoS	Best Effort	
7	1	0	100	NoCLP NoSCR		0	Uns	True	

## Table Description

**VPI.** The virtual path identifier for this virtual channel. This virtual path defaults to **0** for ATM access connections.

**VCI.** The virtual channel identifier for this virtual channel.

**Connection Description.** A textual description of up to 30 characters for this virtual connection.

**Connection Type.** Indicates whether this connection is a virtual path or a virtual channel. All ATM access connections, or uplink connections, are virtual channels. Therefore, this column will always display as **VCC** (Virtual Channel Connection).

**Circuit Type.** All circuit types on a single ATM port will be the same. The circuit type can be either **PVC** (Permanent Virtual Circuit) or **SVC** (Switched Virtual Circuit).

**Operational Status.** The current operational status of this virtual connection. This status will display as one of the following:

<b>Unknown</b>	The switch cannot tell if either the local or remote end of this connection is operational.
<b>End2endUp</b>	Remote end is operational. This value displays only if the end-to-end status of this connection is known.
<b>End2endDown</b>	Remote end is not operational. This value displays only if the end-to-end status of this connection is known.
<b>LocalUp, End2endUnknown</b>	Only local information is known. The local end of the connection is operational, but the switch cannot tell if the remote end is up or down.
<b>LocalDown</b>	Only local information is known. The local end of the connection is not operational.

## ◆ Note ◆

PVCs will always have an operational status in which the remote end status is unknown (i.e., **LocalUp,End2endUnknown** or **LocalDown**).

**Up Time.** The time and date when this virtual channel became active.

**Down Time.** The time and date when this virtual channel became inactive.

**TX Max Frame Sz.** The maximum frame size for traffic transmitted on this connection. Frames are composed of ATM cells. You can specify the largest possible frame size, in bytes, in the field. If a frame exceeds this size, it will be discarded and counted as an error in statistics tables. The value in this field must be greater than zero (0), but less than the **Tx Frame buffer size**.

**Rx Max Frame Sz.** The maximum frame size for traffic received on this connection. Frames are composed of ATM cells. You specify the largest possible frame size, in bytes, in the field. If a frame exceeds this size it will be discarded and counted as an error in statistics tables. The value in this field must be greater than zero (0), but less than the **Rx Frame Buffer Size**.

**Tx Traffic Descriptor Type.** The traffic descriptor used for traffic transmitted on this connection. If you selected **enable** or **on** through the **atm connection best effort requested** command on page 12-24, then the PCR will not be used to determine traffic flow, and traffic will be transmitted on a best effort basis.

**Peak Cell Rate.** The Peak Cell Rate (PCR), in cells per second, allowed for traffic transmitted on this VCC. The PCR is the fastest cell rate allowed on the connection. When using Peak Cell Rate, the bandwidth of an ATM uplink port can be partitioned among multiple connections each with a dedicated bandwidth. The ATM driver calculates the best rate nearest to the requested rate that the ATM hardware can support. The CLP=0+1 in this field means that both high priority (CLP=0) and low priority (CLP=1) cells is checked for PCR.

**Tx QoS Class.** The Quality of Service (QoS) for cells transmitted (from source to destination) on this virtual circuit. For ATM uplink connections to an ATM switch only the Unspecified QoS is supported. This QoS transmits data on a best effort basis; bandwidth is not guaranteed, but as much data as possible will be transmitted as long as bandwidth is available.

**Tx Best Effort.** Indicates whether this port transmits traffic on a “best effort” basis or uses a Peak Cell Rate (PCR) parameter to transmit traffic. If the value in this field is **True**, then the port transmits traffic if any bandwidth is available on the port. If the value in this field is **False**, then the Peak Cell Rate (PCR) parameter is used to transmit traffic on this VCC. If data cannot be sent at the PCR specified, then no data will be sent on the VCC.

**RX Traffic Descriptor.** The traffic descriptor used for traffic received on this connection. If you selected **enable** or **on** through the **atm connection best effort requested** command on **page 12-24**, then the PCR will not be used to determine traffic flow, and traffic will be received on a best effort basis.

**Peak Cell Rate.** The Peak Cell Rate (PCR), in cells per second, allowed for traffic received on this VCC. The PCR is the fastest cell rate allowed on the connection. When using PCR, the bandwidth of an ATM uplink port can be partitioned among multiple connections each with dedicated bandwidth. The ATM driver calculates the best rate nearest to the requested rate that the ATM hardware can support. The CLP=0+1 in this field means that both high priority (CLP=0) and low priority (CLP=1) cells is checked for PCR.

**Requested Rx Qos Class.** The Quality of Service (QoS) for cells received (from destination to source) on this virtual circuit. For ATM uplink connections to an ATM switch only the **Unspecified** QoS is supported. This QoS receives data on a best effort basis; bandwidth is not guaranteed, but as much data as possible will be received as long as bandwidth is available.

**Rx Best Effort.** Indicates whether this port receives traffic on a “best effort” basis or uses a Peak Cell Rate (PCR) parameter to receive traffic. If the value in this field is **True**, then the port receives traffic if any bandwidth is available on the port. If the value in this field is **False**, then the PCR parameter will be used. If data cannot be received at the PCR specified, then this VCC will not be operational.

**view atm address****Command Usage**

View information on all virtual ATM addresses in the switch.

**Syntax Options**

**view atm address** (No additional syntax options are used.)

**Corresponding UI Command**

vva

**Screen Output**

A screen similar to the following will be displayed:

```

                                ATM Addresses
Addr
Indx      ATM Address      Description
=====
1  1234567890987654321234567890987654321234  Address 1
2  1234342525675845624198645276452354672486  Address 2

Addr      Conn  VC   TxMax  Rx Max
Indx VPI VCI  Type Type  SDU   SDU   Arp Server
=====
1      0   0000 VCC  SVC   4520  4520   False
2      0   0000 VCC  SVC   4520  4520   False

                Requested Tx Traffic Information

Addr Tx Traffic      Peak   Tx   Best
Indx Descriptor Type   Rate   QoS  Effort
=====
1      NoCLP NoSCR    353208 Uns  True
2      NoCLP NoSCR    353208 Uns  True

                Requested Rx Traffic Information

Addr Rx Traffic      Peak   Rx   Best
Indx Descriptor Type   Rate   QoS  Effort
=====
1      NoCLP NoSCR    353208 Uns  True
2      NoCLP NoSCR    353208 Uns  True

```

— Output continues on next page —

## Acceptable Tx Traffic Information

Addr Indx	Tx Traffic Descriptor Type	Peak Rate	Tx QoS	Best Effort
====	=====	=====	===	=====
1	NoCLP NoSCR	353208	Uns	True
2	NoCLP NoSCR	353208	Uns	True

## Acceptable Rx Traffic Information

Addr Indx	Rx Traffic Descriptor Type	Peak Rate	Rx QoS	Best Effort
====	=====	=====	===	=====
1	NoCLP NoSCR	353208	Uns	True
2	NoCLP NoSCR	353208	Uns	True

## Table Description

**Addr Indx.** An index that you can use to identify ATM addresses in this display. The index numbers are consistent throughout the rows in this display.

**ATM Address.** The ATM address for which QoS parameters were configured.

**Description.** A textual description of up to 30 characters for this virtual connection.

**VPI.** The virtual path identifier for this ATM address. This virtual path defaults to **0** for ATM access connections.

**VCI.** The virtual channel identifier for this ATM address.

**Conn Type.** Connection Type. Indicates whether this connection is a virtual path or a virtual channel. All ATM access connections, or uplink connections, are virtual channels. Therefore, this column will always display as **VCC** (Virtual Channel Connection).

**VC Type.** The virtual channel type. All circuit types for each ATM port will be the same. The circuit type can be either **PVC** (Permanent Virtual Circuit) or **SVC** (Switched Virtual Circuit).

**Tx Max SDU.** The maximum frame size for traffic transmitted on this connection.

**Rx Max SDU.** The maximum frame size for traffic received on this connection.

**Arp Server.** Indicates whether this address is an ARP server.

**Tx/Rx Traffic Descriptor Type.** The traffic descriptor used for traffic transmitted or received on this connection. If you selected **enable** or **on** through the **atm connection best effort requested** command page 12-24, then the PCR will not be used to determine traffic flow, and traffic will be transmitted on a best effort basis.

**Tx/Rx Peak Rate.** The Peak Cell Rate (PCR), in cells per second, allowed for traffic transmitted or received on this VCC. The PCR is the fastest cell rate allowed on the connection. When using Peak Cell Rate, the bandwidth of an ATM uplink port can be partitioned among multiple connections each with a dedicated bandwidth. The ATM driver calculates the best rate nearest to the requested rate that the ATM hardware can support. The CLP=0+1 in this field means that both high priority (CLP=0) and low priority (CLP=1) cells is checked for PCR.

**Tx/Rx QoS.** The Quality of Service (QoS) for cells transmitted or received on this virtual circuit. For ATM uplink connections to an ATM switch only the Unspecified QoS is supported. This QoS transmits data on a best effort basis; bandwidth is not guaranteed, but as much data as possible will be transmitted as long as bandwidth is available.



**Tx/Rx Best Effort.** Indicates whether this port transmits or receives traffic on a “best effort” basis or uses a Peak Cell Rate (PCR) parameter to transmit traffic. If the value in this field is **True**, then the port transmits traffic if any bandwidth is available on the port. If the value in this field is **False**, then the Peak Cell Rate (PCR) parameter is used to transmit traffic on this VCC. If data cannot be sent at the PCR specified, then no data will be sent on the VCC.

**view atm lane arp****Command Usage**

View the ATM LANE LE\_ARP table. This command is useful for showing MAC to ATM identifier mappings.

**Syntax Options**

```
view atm lane arp <slot/port> <serviceId>
```

Definitions:

*slot/port* = specifies the slot/port for the LANE service you want to view

*serviceId* = specifies the service number for the LANE service

Examples:

```
view atm lane arp 5/1 2
```

**Corresponding UI Command**

vlat

**Screen Output**

A screen similar to the following will be displayed:

ATM LANE LE\_ARP Table

MAC Address	ATM Network Prefix	ESI	SEL	VPI/VCI	Age	Remote
=====	=====	=====	==	=====	====	=====
0020da0210e0	39000000000000000000000000000000	0020da0210e0	00	101/153	5	True
0020da021210	39000000000000000000000000000000	0020da021210	00	181/106	59	True
0020da05f674	39000000000000000000000000000000	0020da05f674	00	166/138	226	False
0020da220053	39000000000000000000000000000000	0020da220053	00	185/146	233	True
0020da0204b0	39000000000000000000000000000000	0020da0204b0	00	169/108	257	True

**Table Description**

**MAC Address:** The MAC addresses of learned stations attached to the emulated LAN.

**ATM Network Prefix:** The first 13 bytes of the ATM address.

**ESI:** End station identifier, consisting of the next 6 bytes of the ATM address.

**SEL:** The last byte of the ATM address.

**VPI:** Virtual Path Identifier.

**VCI:** Virtual Channel Identifier.

**Age:** The time since the MAC has been seen by this service.

**Remotes:** This field will read **True** if the MAC was learned via the LE-ARP response from the ATM end station. This field will read **False** if the LE-ARP response came from the LES (i.e., the entry was already in the LES database).

Token Ring 802.5 LECs contain an additional display that maps source route descriptor to ATM address. The following table is an example of the **view atm lane arp** command issued for a Token Ring LEC:

**ATM LANE LE\_ARP Table**

MAC Address	ATM Network Prefix	ESI	SEL	VPI/VCI	Age	Remote
=====	=====	=====	==	=====	=====	=====
0020af0133d3	47000580ffe1000000f215120b0020da6fc640	02	0/ 47	191	True	
0020af0136af	47000580ffe1000000f215120b0020da6d2b4002	02	0/ 48	95	True	

**ATM 802.5 LANE (SR RD to ATM\_ADDRESS) LE\_ARP Table**

SR RD	ATM Network Prefix	ESI	SEL	VPI/VCI	Age	Remote
=====	=====	=====	=====	=====	=====	=====
00e1	47000580ffe1000000f21512	0b0020da6d2760	02	0/ 41	161	False
00a1	47000580ffe1000000f21512	0b0020da6d2760	02	0/ 41	267	False

The top table is the same as a standard **view atm lane arp** display. The second table shows how the source route descriptor maps to the ATM address. The SR RD field displays the source route descriptor, consisting of 4 hex nibbles. The left 3 nibbles represent the ring number; the right-most nibble represents the bridge number.

**view atm cip arp****Command Usage**

View the ATM Classical IP ARP table.

**Syntax Options**

**view atm cip arp** (No additional syntax options are used.)

**Corresponding UI Command**

vat

**Screen Output**

A screen similar to the following will be displayed:

IP Address	ATM Address	VCI	TTL	Type
=====	=====	===	====	=====
186.207.183.15	470000580ffe10000000f215120b00204815120b	0	15	static
186.207.182.11	470000580ffe10000000f215120b0020416ad721	16	11	dynamic

**Table Description**

**IP Address:** The IP Address for this entry.

**ATM Address:** The ATM address to which the IP address maps.

**VCI:** The Virtual Circuit Identifier for this ATM address.

**TTL:** The Time To Live counter for this address entry expressed in minutes. The entry ages out after the number of minutes indicated in this column.

**Type:** Indicates whether this address was entered by the user (static) or created by the system (dynamic).

## view atm service statistics

### Command Usage

View statistics for a specified ATM service.

### Syntax Options

```
view atm service statistics <slot/port> <serviceId>
```

#### Definitions:

*slot/port* = specifies the slot/port for the service you want to view

*serviceId* = specifies the service number for the ATM service

#### Examples:

```
view atm service 5/1 2
```

### Corresponding UI Command

vss

### Screen Output

The following is a sample display of the service statistics for a specific LANE Client:

#### Service: LAN Emulation Service 2

```
LEC status      : Operational
ELAN Name       : Test.1
ELAN Type       : 802.3
LEC ID          : 1024
LES address     : 47000580ffe10000000f215120b00204815120b02 (learned)
BUS address     : 47000580ffe10000000f215120b00204815120b02
LECS address    : 4700790000000000000000000000a03e00000100 (use Well Known LECS ad)
```

```
BUS
MC Forward VPC/VCC : 0/ 237    MC Send VPC/VCC      : 0/ 152
Echo suppress      :          0
```

```
LES
Control Direct VPC/VCC : 0/ 151    Cntl Distribute VPC/VCC : 0: 238
Control Frames Sent    :          3    Control Frames Rcvd     :          3
LE arps Sent           :          1    LE arps Received        :          0
```

```
LECS
Configuration VPC/VCC :          0/ 0
Packets Sent          :          0    Packet Received         :          0
```

### Table Description

Token Ring LECs display two additional fields after the **LEC ID** field. These additional fields are **Bridge Num** and **Ring Num**.

The following section describes the fields displayed by the **view atm service** command for a LANE Client service.

**Service:** The name of the service.

**LEC Status:** The current status of the LEC. The LEC may be either **Operational** or **Non-Operational**.

**ELAN Name:** The name of the Emulated LAN.

**ELAN Type:** The Emulated LAN type. Possible options are 802.3 (Ethernet) or 802.5 (Token Ring).

**LEC ID:** The LAN emulation client identifier.

**Bridge Num:** A unique number used to identify the source routing bridge. This field displays only for 802.5 Token Ring clients.

**Ring Num:** The ring number assigned to the Token Ring for participation in source routing. This field displays only for 802.5 Token Ring clients.

**LES address:** The address of the LAN Emulation Server.

**BUS address:** The address of the Broadcast Unknown Server.

**LECS address:** The address of the LAN Emulation Configuration Server.

### **BUS:**

**MC Forward VPC/VCC:** VPC contains the VPI that identifies the VPC where it connects to this LE Client. VCC contains the VCI that identifies the VCC where it connects to this LE Client.

**MC Send VPC/VCC:** VPC contains the VPI that identifies the VPC where it connects to this LE Client. VCC contains the VCI that identifies the VCC where it connects to this LE Client.

**Echo Suppress:** The number of packets received with the client's LEC-ID.

### **LES:**

**Control Direct VPC/VCC:** VPC contains the VPI that identifies the VPC where it connects to this LE Client. VCC contains the VCI that identifies the VCC where it connects to this LE Client.

**Cntl Distribute VPC/VCC:** VPC contains the VPI that identifies the VPC where it connects to this LE Client. VCC contains the VCI that identifies the VCC where it connects to this LE Client.

**Cntl Frames Sent:** The number of control frames sent to the LES.

**Cntl Frames Rcvd:** The number of control frames received from the LES.

**LE arps Sent:** The number of LE ARPs sent to the LES.

**LE arps Received:** The number of LE ARPs received from the LES.

### **LECS:**

**Configuration VPC/VCC:** VPC contains the VPI that identifies the VPC where it connects to this LE Client. VCC contains the VCI that identifies the VCC where it connects to this LE Client.

**Packets Sent:** The number of packets sent to the LAN Emulation Configuration Server.

**Packets Received:** The number of packets received from the LAN Emulation Configuration Server.

## view atm layer statistics

### Command Usage

View the ATM Layer Statistics Table.

### Syntax Options

**view atm layer [statistics]**

#### Definitions:

**statistics** = optional command syntax

#### Command Examples:

**view atm layer**

**view atm layer statistics**

### Corresponding UI Command

**vls**

### Screen Output

A screen similar to the following will be displayed:

**ATM Layer Statistics**

Slot	Port	Rx SDUs	Tx SDUs	Rx Cells	Tx Cells	Rx Octets	Tx Octets
====	====	=====	=====	=====	=====	=====	=====
2	1	0	6716	0	15775	0	757200
2	2	4104	13108	6945	18357	333360	881136
5	1	0	0	0	0	0	0
5	2	0	0	0	0	0	0

### Table Description

**Rx SDUs.** The number of Service Data Units received on this port. (Information for SDUs, which are composed of cells, are directly related to statistics for cells. When an SDU is counted, the cells in that SDU are counted and then added to the corresponding cell count.)

**Tx SDUs.** The number of Service Data Units transmitted on this port.

**Rx Cells.** The number of cells received on this port. The value is derived from the **Rx SDUs** statistic. Once an SDU is received on the port, the cells in the SDU are counted and added to this statistic.

**Tx Cells.** The number of cells transmitted on this port. The value is derived from the **Tx SDUs** statistic. Once an SDU is transmitted on the port, the cells in the SDU are counted and added to this statistic.

**Rx Octets.** The number of octets, or bytes, received in the form of SDUs on this port.

**Tx Octets.** The number of octets, or bytes, transmitted in the form of SDUs on this port.

**view atm layer rx****Command Usage**

View the ATM Layer Rx (Receive) Error Statistics Table for each ATM access port.

**Syntax Options**

```
view atm layer rx [error] [statistics]
```

Definitions:

**error** = optional command syntax

**statistics** = optional command syntax

Command Examples:

```
view atm layer rx
```

```
view atm layer rx error
```

```
view atm layer rx statistics
```

**Corresponding UI Command**

vlrs

**Screen Output**

A screen similar to the following will be displayed:

**ATM Layer Rx SDU Error Statistics**

Slot	Port	Discards	Errors	Invalid Sz	No Buffers	Trash	CRC Errors
3	1	0	0	0	0	0	0
3	2	0	0	0	0	0	0
7	1	0	0	0	0	0	0
7	2	0	0	0	0	0	0

**ATM Layer Rx Cell Error Statistics**

Slot	Port	Discards	Errors	No Buffers	Trash	CRC Errors
3	1	0	0	0	0	0
3	2	0	0	0	0	0
7	1	0	0	0	0	0
7	2	0	0	0	0	0

**Table Description**

**SDU Discards.** The number of Service Data Units (SDU), or frames, that have been discarded due to one of the following reasons: an invalid size error, CRC error, invalid format error, the frame was larger than the receive SAR buffer, or the frame was larger than the maximum size allowed on this port. Invalid size and CRC errors are also displayed in this table and described below. An invalid format error occurs when a frame is received in the wrong format. For example, a PTOp frame may be received that should be in 1483 format but instead is in Private encapsulation.



## ◆ Note ◆

Statistics for SDUs, which are composed of cells, are directly related to statistics for cells. When an SDU error or discard is counted, the cells in that SDU are counted and then added to the corresponding cell discard or error statistic for each port.

**SDU Errors.** The number of Service Data Units that had one or more of the following errors: invalid size, invalid format, frame larger than SAR buffer size, CRC error, or the frame was larger than that allowed on this port. This error statistic will typically match the **SDU Discards** statistic.

**SDU Invalid Size.** The number of Service Data Units, or frames, received that are either larger than the receive frame buffer or had an AAL5 length mismatch. One cell in an SDU contains an AAL trailer that includes a length field; an AAL5 mismatch error occurs when that length field is incorrect.

**SDU No Buffers.** The number of SDUs that were discarded because there was no room in the receive frame buffer.

**SDU Trash.** The number of Service Data Units that were discarded at the ATM physical layer. These SDUs were discarded by the Segmentation and Reassembly (SAR) due to a lack of reassembly buffer space.

**SDU CRC Errors.** The number of SDUs received with errors in the CRC (cyclical redundancy check) header. This error is counted in the **Rx SDU Discards** and **Errors** columns of the display.

**Cell Discards.** The total number of cells discarded as a result of SDU Discards. SDUs are discarded due to invalid size, CRC errors, invalid format, frame size larger than SAR buffer, or frame size larger than allowed on this port. For each SDU discarded, the number of cells within that SDU are counted and then added to this statistic.

**Cell Errors.** The total number of cells within SDUs that had one or more of the following errors: invalid size, invalid format, frame larger than SAR buffer size, CRC error, or the frame was larger than that allowed on this port. For each errored SDU, the number of cells within that SDU are counted and then added to this statistic.

**Cell No Buffers.** The total number of cells that were discarded because there was no room in the receive frame buffer.

**Cell Trash.** The total number of cells that were discarded at the ATM physical layer. These cells were discarded by the Segmentation and Reassembly (SAR) due to a lack of reassembly buffer space.

**Cell CRC Errors.** The number of cells received with errors in the CRC (cyclical redundancy check) header.

**view atm layer tx****Command Usage**

View the ATM Layer Tx (Transmit) Error Statistics Table for each port.

**Syntax Options**

**view atm layer tx [error] [statistics]**

Definitions:

**error** = optional command syntax

**statistics** = optional command syntax

Examples:

**view atm layer tx error statistics**

**view atm layer tx error**

**view atm layer tx statistics**

**view atm layer tx**

**Corresponding UI Command**

vlts

**Screen Output**

A screen similar to the following will be displayed:

ATM Layer Tx Error Statistics							
Slot	Port	Tx SDU Discards	Tx SDU Errors	Tx SDU No Buffers	Tx Cell Discards	Tx Cell Errors	Tx Cell No Buffers
2	1	0	0	0	0	0	0
2	2	0	0	0	0	0	0
5	1	0	0	0	0	0	0
5	2	0	0	0	0	0	0

## Table Description

**Tx SDU Discards.** The number of Service Data Units discarded because there was no room in the transmit SAR buffer or the SDU was larger than the transmit frame buffer.

### ◆ Note ◆

Statistics for SDUs, which are composed of cells, are directly related to statistics for cells. When an SDU error or discard is counted, the cells in that SDU are counted and then added to the corresponding cell discard or error statistic.

**Tx SDU Errors.** The number of Service Data Units that were received from the switch back-plane in an invalid format.

**Tx SDU No Buffers.** The number of SDUs that were discarded because there was no room in the transmit frame buffer to dequeue and attempt to transmit frames. Note that the SDUs counted in this statistic are not included in the **Tx SDU Discards** statistic.

**Tx Cell Discards.** The total number of cells discarded as a result of SDU Discards. SDUs are discarded because there is no room in the transmit SAR buffer, or the SDU was larger than the transmit frame buffer. For each SDU discarded, the number of cells within that SDU are counted and then added to this statistic.

**Tx Cell Errors.** The total number of cells within SDUs that were received from the switch back-plane in an invalid format.

**Tx Cell No Buffers.** The total number of cells within SDUs that were discarded because there was no room in the transmit frame buffer. Note that the cells counted in this statistic are not included in the **Tx Cell Discards** statistic.

## view atm statistics

### Command Usage

View the ATM Connection Statistics Table for each virtual channel.

### Syntax Options

**view atm [connection] statistics** <slot/port> <vpi#> <vci#>

#### Definitions:

**connection** = optional command syntax

*slot/port* = specifies the slot/port for the virtual channel you want to view

*vpi#* = specifies the Virtual Path Identifier for the virtual channel you want to view

*vci#* = specifies the Virtual Channel Identifier for the virtual channel you want to view

#### Examples:

**view atm connection statistics 4/1 1 100**

**view atm statistics 4/1 1 100**

**view atm connection statistics**

### Corresponding UI Command

**vcs**

### Screen Output

A screen similar to the following will be displayed:

ATM Connection Statistics								
Slot	Port	VCI	Rx SDUs	Tx SDUs	Rx Cells	Tx Cells	Rx Octets	Tx Octets
====	====	====	=====	=====	=====	=====	=====	=====
2	1	100	0	6769	0	15892	0	762816
2	2	1002	0	349	0	1047	0	50256
2	2	1004	0	2445	0	2445	0	117360
2	2	1005	0	350	0	1050	0	50400
2	2	1007	0	2445	0	2445	0	117360
2	2	1008	350	350	1050	1050	50400	50400
2	2	1010	679	679	679	679	32592	32592
2	2	101	375	353	1142	1056	54816	50688
2	2	1013	679	681	679	681	32592	32688
2	2	1014	350	352	1050	1055	50400	50640
2	2	1016	681	682	681	682	32688	32736
2	2	1017	354	367	1058	1112	50784	53376
2	2	1019	679	679	679	679	32592	32592
2	2	1021	0	1052	0	2104	0	100992
2	2	1022	0	2452	0	2452	0	117696
7	1	5	6650	6671	6650	6921	319200	332208
7	1	16	462	472	924	944	44352	45312
7	2	1015	462	464	924	928	44352	44544
7	2	1016	6650	6651	6900	6651	331200	319248
7	2	1017	318	346	959	1027	46032	49296
7	2	1019	5212	5213	5212	5213	250176	250224
7	2	1022	6319	6321	6319	6321	303312	303408

**◆ Note ◆**

Information is displayed for a virtual channel only if that channel has been used for data transmission. If a virtual channel has been configured, but not used, then it will not be displayed.

**Table Description**

**Rx SDUs.** The number of Service Data Units received on this virtual channel. (Information for SDUs, which are composed of cells, are directly related to statistics for cells. When an SDU is counted, the cells in that SDU are counted and then added to the corresponding cell count.)

**Tx SDUs.** The number of Service Data Units transmitted on this virtual channel.

**Rx Cells.** The number of cells received on this virtual channel. The value is derived from the **Rx SDUs** statistic. Once an SDU is received on the virtual channel, the cells in the SDU are counted and added to this statistic.

**Tx Cells.** The number of cells transmitted on this virtual channel. The value is derived from the **Tx SDUs** statistic. Once an SDU is transmitted on the virtual channel, the cells in the SDU are counted and added to this statistic.

**Rx Octets.** The number of octets, or bytes, received as SDUs on this virtual channel.

**Tx Octets.** The number of octets, or bytes, transmitted as SDUs on this virtual channel.

**view atm rx****Command Usage**

View the ATM Connection Rx (Receive) Error Statistics Table.

**Syntax Options**

```
view atm connection rx [error] [statistics]
```

Definitions:

**connection** = optional command syntax

**error** = optional command syntax

**statistics** = optional command syntax

Examples:

```
view atm connection rx error statistics
```

```
view atm connection rx error
```

```
view atm connection rx statistics
```

```
view atm connection rx
```

**Corresponding UI Command**

vcrs

**Screen Output**

A screen similar to the following will be displayed:

**ATM Connection Rx SDU Error Statistics**

Slot	Port	VCI	Discards	Errors	Invalid Sz	No Buffers	Trash	CRC Errors
====	====	====	=====	=====	=====	=====	=====	=====
2	1	100	0	0	0	0	0	0

**ATM Connection Rx Cell Error Statistics**

Slot	Port	VCI	Discards	Errors	No Buffers	Trash	CRC Errors
====	====	====	=====	=====	=====	=====	=====
2	1	100	0	0	0	0	0

**Table Description**

**SDU Discards.** The number of Service Data Units (SDU), or frames, that have been discarded due to one of the following reasons: an invalid size error, CRC error, invalid format error, the frame was larger than the receive SAR buffer, or the frame was larger than the maximum size allowed on this virtual channel. Invalid size and CRC errors are also displayed in this table and described below. An invalid format error occurs when a frame is received in the wrong format. For example, a PTOP frame may be received that should be in 1483 format but instead is in Private encapsulation.

## ◆ Note ◆

Statistics for SDUs, which are composed of cells, are directly related to statistics for cells. When an SDU error or discard is counted, the cells in that SDU are counted and then added to the corresponding cell discard or error statistic.

**SDU Errors.** The number of Service Data Units that had one or more of the following errors: invalid size, invalid format, frame larger than SAR buffer size, CRC error, or the frame was larger than that allowed on this virtual channel. This Error statistic will typically match the **SDU Discards** statistic.

**SDU Invalid Size.** The number of Service Data Units, or frames, received that are either larger than the receive frame buffer or had an AAL5 length mismatch. One cell in an SDU contains an AAL trailer that includes a length field; an AAL5 mismatch error occurs when that length field is incorrect.

**SDU No Buffers.** The number of SDUs that were discarded because there was no room in the receive frame buffer.

**SDU Trash.** The number of Service Data Units that were discarded at the ATM physical layer. These SDUs were discarded by the Segmentation and Reassembly (SAR) due to a lack of reassembly buffer space.

**SDU CRC Errors.** The number of SDUs received with errors in the CRC (cyclical redundancy check) header.

**Cell Discards.** The total number of cells discarded as a result of SDU discards. SDUs are discarded due to invalid size, CRC errors, invalid format, frame size larger than SAR buffer, or frame size larger than allowed on this virtual channel. For each SDU discarded, the number of cells within that SDU are counted and then added to this statistic.

**Cell Errors.** The total number of cells within SDUs that had one or more of the following errors: invalid size, invalid format, frame larger than SAR buffer size, CRC error, or the frame was larger than that allowed on this virtual channel. For each errored SDU, the number of cells within that SDU are counted and then added to this statistic.

**Cell No Buffers.** The total number of cells that were discarded because there was no room in the receive frame buffer.

**Cell Trash.** The total number of cells that were discarded at the ATM physical layer. These cells were discarded by the Segmentation and Reassembly (SAR) due to a lack of reassembly buffer space.

**Cell CRC Errors.** The number of cells received with errors in the CRC (cyclical redundancy check) header.

**view atm tx****Command Usage**

View the ATM Connection Tx (Transmit) Error Statistics Table.

**Syntax Options**

```
view atm connection tx [error] [statistics]
```

Definitions:

**error** = optional command syntax

**statistics** = optional command syntax

Examples:

```
view atm connection tx error statistics
```

```
view atm connection tx statistics
```

```
view atm connection tx
```

**Corresponding UI Command**

vcts

**Screen Output**

A screen similar to the following will be displayed:

**ATM Connection Tx Error Statistics**

Slot	Port	VCI	Tx SDU Discards	Tx SDU Errors	Tx SDU No Buffers	Tx Cell Discards	Tx Cell Errors	Tx Cell No Buffers
=====	=====	=====	=====	=====	=====	=====	=====	=====
2	1	5	0	0	0	0	0	0
2	1	16	0	0	0	0	0	0
2	1	730	0	0	0	0	0	0
2	1	737	0	0	0	0	0	0

**Table Description**

**Tx SDU Discards.** The number of Service Data Units discarded because there was no room in the transmit SAR buffer or the SDU was larger than the transmit frame buffer.

**◆ Note ◆**

Statistics for SDUs, which are composed of cells, are directly related to statistics for cells. When an SDU error or discard is counted, the cells in that SDU are counted and then added to the corresponding cell discard or error statistic.

**Tx SDU Errors.** The number of Service Data Units that were received from the switch back-plane in an invalid format.



**Tx SDU No Buffers.** The number of SDUs that were discarded because there was no room in the transmit frame buffer to dequeue and attempt to transmit frames. Note that the SDUs counted in this statistic are not included in the **Tx SDU Discards** statistic.

**Tx Cell Discards.** The total number of cells discarded as a result of SDU Discards. SDUs are discarded because there is no room in the transmit SAR buffer, or the SDU was larger than the transmit frame buffer. For each SDU discarded, the number of cells within that SDU are counted and then added to this statistic.

**Tx Cell Errors.** The total number of cells within SDUs that were received from the switch back-plane in an invalid format.

**Tx Cell No Buffers.** The total number of cells within SDUs that were discarded because there was no room in the transmit frame buffer. Note that the cells counted in this statistic are not included in the **Tx Cell Discards** statistic.

**view atm bandwidth****Command Usage**

View the traffic descriptor parameters for a specified ATM bandwidth group.

**Syntax Options**

```
view atm bandwidth [group] <slot/port> <bwgGroup>
```

Definitions:

**group** = optional command syntax

*slot/port* = specifies the slot/port for the bandwidth group

*bwgGroup* = specifies the number of the bandwidth group you want to view

Examples:

```
view atm bandwidth group 4/1 2
```

```
view atm bandwidth 4/1 2
```

**Corresponding UI Command**

vbwg

**Screen Output**

A screen similar to the following will be displayed:

Slot	Port	Bwg	Best Effort	PCR (kbps)	SCR (kbps)	MBS (cells)	Dependent Active Service Numbers
4	1	2	False	20000	20000	200	2

**Table Description**

**Slot.** The slot in the switch where this ASM2 module resides.

**Port.** The port on the ASM2 module for which information is supplied.

**Bwg.** The bandwidth group. Bandwidth groups are ranked by priority with bandwidth group 1 having the highest priority and bandwidth group 8 having the lowest.

**Best Effort.** Indicates whether or not traffic will be transmitted from this port on a “best effort” basis. When set to **False**, data transmission will be based on the traffic descriptor parameters—PCR, SCR, and MBS—specified through the **atm bandwidth best effort** command page 12-47. When set to **True**, traffic is transferred on a “Best Effort” basis.

**PCR (kbps).** The Peak Cell Rate, which is the maximum number of kilobits per second allowed on this bandwidth group.

**SCR (kbps).** The Sustained Cell Rate, which is the maximum average cell rate (in kilobits per second) allowed for traffic in this bandwidth group. The SCR is always less than or equal to the Peak Cell Rate.

**MBS (cells).** The Maximum Burst Size, which is the maximum number of cells that can be sent in a burst at the Peak Cell Rate.

**Dependent Active Service Numbers.** The number for the active ATM service to which this bandwidth group belongs. Only services that are currently active are displayed.

view atm port

Command Usage

View basic information for a specified ASM/FCSM port.

Syntax Options

view atm port <slot/port>

Definitions:  
slot/port = specifies the slot/port for the ASM/FCSM port

Examples:  
view atm port 4/1  
view atm port

Corresponding UI Command

vap

Screen Output

A screen similar to the following will be displayed:

ATM Port Table

Slot	Port	ATM Port Description	Conn Type	Tran Type	Media Type	UNI Type	Max VCC	VCI bits
3	1	ATM PORT	SVC	STS3c	Multi	Pri	1023	10

Slot	Port	Loopback Cfg	Tx Clk Source
3	1	NoLoop	LocalTiming

Slot	Port	ATM Network Prefix	End System Identifier	System Ver	Sig VCI	Sig Enable	ILMI	ILMI VCI	ILMI Poll
3	1	00000000000000000000000000000000	0020da8e5160	3.0	5	True	16	Off	

— Output continues on next page —

Status						
=====						
Slot	Port	Sscop Up		Sscop Down		Up Dn Status
=====						
3	1	-----		-----		0 0 Down
Slot	Port	Ilmi Up		Ilmi Down		Up Dn Status
=====						
3	1	-----		-----		0 0 Down
Slot	Port	Phy Up		Phy Down		Up Dn Status
=====						
3	1	-----		-----		0 0 Dis(R)
Slot	Port	Tx Seg Sz	Rx Seg Sz	Tx Buff Sz	Rx Buff Sz	
=====						
3	1	16384	16384	4600	4600	

### Table Description

**Description.** A textual description of this ASM or FCSM port. This identifier is used in displays for other software commands.

**Conn Type** (Connection type). Indicates whether connections established on this port are Permanent Virtual Circuits (PVCs) or Switched Virtual Circuits (SVCs). PVC information is stored in flash memory on the MPM module; if you restart the switch, the PVC would be restored.

Switched Virtual Circuits, or SVCs, are learned by the OmniSwitch through communication with the ATM attached devices. SVCs are built up and taken down based on demands for virtual connections by ATM end devices. If an SVC connection is lost or the switch is restarted, then the circuit is lost and the source device must request the connection again.

The type of connection can affect the type of ATM services you can set up on a port. For example, LANE requires SVC connections, and VLAN clusters requires PVC connections.

**Tran Type.** The transmission, or connection, type. Possible transmission types are **STS3c** (OC-3), **STS12c** (OC-12), **DS3**, **E3**, and -- (unknown type).

**Media Type.** The physical connector type used on this port. Possible types in this column are **Multi** (multimode fiber), **Single** (single mode fiber), **STP** (shielded twisted pair), **UTP** (unshielded twisted pair), **Coax** (coaxial cable), and -- (unknown connector).

**UNI Typ** (UNI type). The type of User-to-Network Interface (UNI) that this port supports. ATM supports both Private and Public UNI connections, but typically Private is used for ATM uplink, or access, connections to an ATM switch. Only **Private** is supported on this port.

**Max VCC.** The maximum number of Virtual Channel Connections (VCCs) allowed on this port. This parameter is not configurable and will always read **1023**. Each port can support up to 1023 virtual connections.

**VCI Bits** (maximum VCI bits). The maximum number of bits that can be used for Virtual Channel Identifiers (VCIs) created on this port. This parameter is not configurable and will always read **10**. ASM and FCSM ports support up to 10 bits per Virtual Path. The maximum number of Virtual Channels is  $2^n - 1$  where  $n$  is the maximum VCI bits.

**Loopback Cfg.** The loopback configuration for this port.

<b>NoLoop</b>	No loopback occurs between receive and transmission paths.
<b>DiagLoop</b>	Interface transmission path is connected to receive path at the connectors. The port receives its own transmission rather than the signal coming over the cable.
<b>LineLoop</b>	The interface receive path is looped to the transmission path at the connectors. The signal on the receive connector is not passed into the UNI and processed.

**Tx Clk Source** (timing mode). The clock the switch uses for this port. The possibilities are **Local** and **Loop**. Local is the transmit, or internal, clock. The local clock is generated by this switch; this is the default setting for ATM access ports. Loop is the receive, or external, clock. In a loop configuration, this port derives clocking from a remote device, such as an ATM switch or another OmniSwitch ASM port.

The timing mode may be determined by the device to which this port is connected. Some ATM switches require uplink ports to generate their own clock. Other ATM switches require uplink ports to use their clock.

**ATM Network Prefix.** The network prefix portion of the ATM address.

**End Station Identifier.** The end station identifier (ESI) portion of the ATM address.

The following column headings fall under the table heading labeled **Status**.

**SSCOP.** The current state of the Service-Specific Connection Oriented Protocol (SSCOP). SSCOP operates on the ATM control plane and is a peer-to-peer protocol that helps set up connections and provides a reliable transport mechanism for signaling. The **Sscop Up** and **Sscop Down** columns will indicate the last time SSCOP last came up and went down, respectively. The **Up** and **Down** columns will indicate the number of times SSCOP came up and went down, respectively. The SSCOP **Status** column will indicate Up or Down. This value will always indicate **Down** if the Connection Type configured on this port is PVC.

**ILMI.** The Integrated Local Management Interface (ILMI) enabled on this port. The **Ilmi Up** and **Ilmi Down** columns will indicate the last time ILMI last came up and went down, respectively. The **Up** and **Down** columns will indicate the number of times ILMI came up and went down, respectively. The ILMI **Status** column will indicate Up or Down. This value will always indicate **Down** if the Connection Type configured on this port is PVC.

**PHY.** The operational status of the port. The **Phy Up** and **Phy Down** columns will indicate the last time PHY last came up and went down, respectively. The **Up** and **Down** columns will indicate the number of times PHY came up and went down, respectively. The PHY **Status** column will indicate whether the port is **Enabled** or **Disabled** and provides information on upper service layers. The port will be enabled if the port is connected on this end and the far end. If there is a disconnection at either end, then the operational status will be **Disabled**. Possible values are as follows:

<b>Enb (PVC)</b>	Port is enabled to support PVCs.
<b>Enb (SVC)</b>	Port is enabled to support SVCs.
<b>Enb (CTL)</b>	Port is enabled to pass control signals.
<b>Dis (R)</b>	The receive is disabled on this port.
<b>Dis (T/R)</b>	Both the transmit and receive are disabled.
<b>Dis (T)</b>	Disabled transmit on this port.

**Sig Ver.** The version of the User-to-Network Interface (UNI) used on this port. The OmniSwitch is compliant with ATM Forum UNI specifications versions 3.0 and 3.1. You select which version your ATM network supports. (The signaling version you are using must match the signaling version being used on the network.)

**Sig VCI.** The Virtual Channel Identifier (VCI) used for signaling. For ATM access ports, this VCI is typically set to 5.

**ILMI Enable.** Indicates whether Integrated Local Management Interface (ILMI) is enabled. Normally ILMI should be enabled. The only reasons not to enable ILMI are if the ATM network switch does not support ILMI or if the ATM network switch is unable to register the network prefix with the OmniSwitch in a timely manner. The disadvantage of disabling ILMI is that the ATM network switch needs to have a static route configuration to map the ATM address of the OmniSwitch port to its port configuration.

**ILMI VCI.** The Virtual Channel Identifier (VCI) that will be reserved for ILMI management signaling on this port. For ATM access ports, this VCI is typically set to 16.

**Tx Seg Sz** (transmit SAR buffer size) and **Rx Seg Sz** (receive SAR buffer size). The size of the segmentation cell buffer (**Tx SAR Buffer Size**) and the reassembly cell buffer (**Rx SAR Buffer Size**) on this UNI. These buffers comprise the entire Segmentation and Reassembly (SAR) buffer for this ATM access port. Their sizes can range from 4,096 to 131,072 bytes.

SAR buffers are located in memory on the ATM board. This memory can be factory-configured to either 512K or 2MB. On 512K boards, SAR buffer sizes are by default set to 8K. On 2MB boards, SAR buffer sizes are by default set to 16K. If you swap a 512k board for a 2 MB board, then you may need to reconfigure these buffer sizes. In addition, if the board swap changes the port type (e.g., single mode to multimode, OC-3 to DS-3) or the SAR type (ASM to an ASM2 module), then the switch will automatically detect the change and reset the segment size to the default for the new board.

A SAR buffer size of 8K should be sufficient for Ethernet-only connections. Connections to interfaces that use larger packets, such as FDDI and LAN Emulation services, require SAR buffer sizes of at least 16K and probably 32K for best performance.

The number of virtual circuits required should also be considered when choosing the SAR buffer size. The number of virtual connections possible depends on two things:

The size of available SRAM (512K or 2 MB). The more memory available, the more connections can be supported.

The size of the Segmentation and Reassembly (SAR) cell buffer (i.e, the value indicated in this field). As the SAR buffer size increases, the number of virtual circuits that can be supported decreases.

**Tx Buff Sz** (transmit frame buffer size). The size of the transmit frame buffer, or the maximum size of packets that can be transmitted from ATM to the switch backplane. This value can range from 1800 to 131,072 bytes, but must be less than or equal to the **Tx SAR Buffer Size**. This value should be greater than or equal to the **Tx Maximum Frame Size** of all connections on this port.

**Rx Buff Sz** (receive frame buffer size). The size of the receive frame buffer on this, or the maximum size of packets that can be received from the switch backplane. This value can range from 1800 to 131,072 bytes, but must be less than or equal to the **Rx SAR Buffer Size** and should be greater than or equal to the **Rx Maximum Frame Size** of all connections on this port.

**view atm service****Command Usage**

View the current ATM services.

**Syntax Options**

**view atm service** [*slot/port*]

Definitions:

*slot/port* = ATM services for only the specified slot and port will be displayed

**♦ Syntax Note ♦**

If you do not specify a slot and port, information for *all* ports will be displayed.

Examples:

**view atm service**  
**view atm service 3/1**

**Corresponding UI Command**

vas

**Screen Output**

A screen similar to the following will display:

ATM Services				
Slot	Port	Serv Num	Service Description	Service Type
====	====	====	=====	=====
3	1	1	PTOP Bridging Service 1	PTOP Priv
3	1	2	Trunking Service 2	Trunking
3	1	3	LAN Emulation Service 3	802.3 LEC
3	1	4	LAN Emulation Service 4	802.5 LEC

ATM Services							
Slot	Port	Serv Num	VC Typ	Oper Status	SEL	Groups	Conn VCI's/Addresses
====	====	====	===	=====		=====	=====
3	1	1	PVC	Disabled	N/A	1	100
3	1	2	PVC	Disabled	N/A	1	500
3	1	3	SVC	Initial	03	1	
3	1	4	SVC	Initial	04	1	

**Table Description**

**Slot.** The slot number of the ATM service.

**Port.** The port number of the ATM service.



**Serv Num.** The ATM service number.

**Service Description.** A textual description of the service.

**Service Type.** The Service Type column for Ethernet LECs reads **802.3 LEC**. For Token Ring LECs, this column reads **802.5 LEC**. All ports on a newly-installed switch will automatically configure as 802.3 LECs.

**VC Type.** The virtual circuit type, which can be PVC (Permanent Virtual Circuit) or SVC (Switched Virtual Circuit).

**Oper Status.** The operational status of the ATM service, which can be **Enabled**, **Disabled**, or **Initial** (in an initializing mode).

**SEL.** The last byte of the ATM address.

**Groups.** The VLAN group number(s) associated with this service.

**Conn VCI's.** The Virtual Circuit Identifier (VCI) number used in this service.

**Addresses.** The MAC address(es) mapped to this service.

# ATM Profile Commands

An ATM profile is used to create a template for multiple ATM connections. While the UI requires that you individually configure each connection—even those with the same parameter values—the CLI's Profile feature allows you to create and store aggregate connection information.

Any ATM connection associated with a profile can still be configured on an individual basis.

When a profile is first created, it contains default values for all parameters. Subsequent commands can be used to modify the content of a profile. Modifying a profile that has already been used to create ATM connections will not automatically modify associated connections if the **profile mode** is set to **manual**.

atm profile

Command Usage

Create an ATM profile.

Syntax Options

atm profile <description>

Definitions:  
*description* = specifies the textual description (up to 30 characters) for this ATM profile. Description strings with spaces must be enclosed in quotations (e.g., "Audio traffic")

Examples:  
atm profile video\_traffic  
atm profile "Audio traffic"

**atm profile best effort requested****Command Usage**

Configure whether you want a ATM profile to transmit and receive traffic on a “best effort” basis or to use a Peak Cell Rate (PCR) parameter to transmit traffic.

**Syntax Options**

**atm profile <description> best effort requested [tx] {enable | disable | on | off}**

Definitions:

*description* = specifies the textual description (up to 30 characters) for this ATM profile

**tx** = optional command syntax

**enable** = enables this port to transmit traffic on a “best effort” basis

**disable** = disables this port to transmit traffic on a “best effort basis.”

**on** = enables this port to transmit traffic on a “best effort” basis

**off** = disables this port to transmit traffic on a “best effort basis.”

Examples:

**atm profile video\_traffic best effort tx requested enable**

**atm profile video\_traffic best effort requested disable**

**best effort requested on**

### atm profile pcr tx requested

#### Command Usage

Modify the Peak Cell Rate (PCR), in cells per second, allowed for traffic transmitted on a specified ATM profile.

#### Syntax Options

```
atm profile <description> pcr [Clp01] tx requested <pcr#>
```

##### Definitions:

*description* = specifies the textual description (up to 30 characters) for this ATM profile

**Clp01** = optional command syntax

*pcr#* = specifies the PCR, in cells per second, allowed for traffic transmitted on this VCC

##### Examples:

```
atm profile audio_profile pcr Clp01 tx requested 353208
```

```
atm profile audio_profile pcr tx requested 353208
```

```
pcr tx requested 353208
```

#### Remarks

This value is only relevant if you entered **disable** or **off** for Requested Best Effort (configured through the **atm profile best effort requested** command on page 12-83).

**atm profile pcr rx requested****Command Usage**

Modify the Peak Cell Rate (PCR), in cells per second, allowed for traffic received on a specified ATM profile.

**Syntax Options**

```
atm profile <description> pcr [Clp01] rx requested <pcr#>
```

Definitions:

*description* = specifies the textual description (up to 30 characters) for this ATM profile

**Clp01** = optional command syntax

*pcr#* = the PCR, in cells per second, allowed for traffic received on this VCC

Examples:

```
atm profile "Audio traffic" pcr Clp01 rx requested 353208
```

```
atm profile "Audio traffic" pcr rx requested 353208
```

```
pcr rx requested 353208
```

**Remarks**

This value is only relevant if you entered **disable** or **off** for Requested Best Effort (configured through the **atm profile best effort requested** command on page 12-83).

### atm profile best effort acceptable

#### Command Usage

Configure whether or not you want a specified ATM profile to transmit and receive traffic on a “best effort acceptable” basis, or minimum acceptable threshold.

#### Syntax Options

**atm profile <description> best effort [tx]acceptable {enable | disable | on | off}**

##### Definitions:

*description* = specifies the textual description (up to 30 characters) for this ATM profile

**tx** = optional command syntax

**enable** = enables best effort acceptable

**disable** = disables best effort acceptable

**on** = enables best effort acceptable

**off** = disables best effort acceptable

##### Examples:

**atm profile video\_traffic best effort acceptable enable**

**atm profile video\_traffic best effort acceptable off**

**best effort acceptable requested enable**

**atm profile pcr tx acceptable****Command Usage**

Modify the minimum Peak Cell Rate (PCR), in cells per second, that is acceptable for traffic transmitted on a connection.

**Syntax Options**

```
atm profile <description> pcr [Clp01] tx acceptable <pcr#>
```

Definitions:

*description* = specifies the textual description (up to 30 characters) for this ATM profile

**Clp01** = optional command syntax

*pcr#* = specifies the minimum PCR, in cells per second, acceptable for traffic transmitted on this VCC

Examples:

```
atm profile video_traffic pcr Clp01 tx acceptable 12200
```

```
atm profile video_traffic pcr tx acceptable 12200
```

```
pcr tx acceptable 12200
```

**Remarks**

This value is only relevant if you entered **disable** or **off** for Best Effort Acceptable (configured through the **atm profile best effort acceptable** command on page 12-86).

### atm profile pcr rx acceptable

#### Command Usage

Modify the minimum Peak Cell Rate (PCR), in cells per second, that is acceptable for traffic received on a connection.

#### Syntax Options

```
atm profile <description> pcr [Clp01] rx acceptable <pcr#>
```

##### Definitions:

*description* = specifies the textual description (up to 30 characters) for this ATM profile

**Clp01** = optional command syntax

*pcr#* = specifies the minimum PCR, in cells per second, acceptable for traffic received on this VCC

##### Examples:

```
atm profile video_traffic pcr Clp01 rx acceptable 12200
```

```
atm profile video_traffic pcr rx acceptable 12200
```

```
pcr rx acceptable 12200
```

#### Remarks

This value is only relevant if you entered **disable** or **off** for Best Effort Acceptable (configured through the **atm profile best effort acceptable** command page 12-86).



**atm profile maximum tx****Command Usage**

Modify the maximum frame size (in bytes) for traffic transmitted on a connection.

**Syntax Options**

**atm profile** *<description>* **maximum tx** [frame size] *<size#>*

Definitions:

*description* = specifies the textual description (up to 30 characters) for this ATM profile

**frame size** = optional command syntax

*size#* = specifies the maximum frame size (in bytes) transmitted on this port

Examples:

**atm profile video\_traffic maximum tx frame size 4520**

**atm profile video\_traffic maximum tx 4520**

**maximum tx 4520**

### atm profile maximum rx

#### Command Usage

Modify the maximum frame size (in bytes) for traffic received on a connection.

#### Syntax Options

**atm profile** *<description>* **maximum rx** [frame size] *<size#>*

##### Definitions:

*description* = specifies the textual description (up to 30 characters) for this ATM profile

**frame size** = optional command syntax

*size#* = specifies the maximum frame size (in bytes) for traffic received on this port (this value must be greater than zero, but less than the Tx Frame Size)

##### Examples:

**atm profile video\_traffic maximum rx frame size 4520**

**atm profile video\_traffic maximum rx 4520**

**maximum rx 4520**

**no atm profile****Command Usage**

Remove an ATM profile.

**Syntax Options**

**no atm profile** <*description*>

Definitions:

*description* = specifies the textual description (up to 30 characters) for the ATM profile you want to remove

Examples:

**no atm profile video\_traffic**

**◆ Important Note ◆**

An ATM profile cannot be deleted if there are existing connections associated with the profile.

### atm profile update

#### Command Usage

Update the profile mode for a specified ATM profile.

#### Syntax Options

**atm profile <description> update {manual | automatic}**

##### Definitions:

*description* = specifies the textual description (up to 30 characters) for this ATM profile

**manual** = connections will not be updated when an associated profile is modified

**automatic** = automatically updates all connections associated with a modified CSM profile

##### Examples:

**atm profile video\_traffic update manual**

**update automatic**

**atm profile apply****Command Usage**

Modify the trigger profile updates to be applied to services.

**Syntax Options**

**atm profile <*description*> apply**

Definitions:

*description* = specifies the textual description (up to 30 characters) for this ATM profile

Examples:

**atm profile video\_traffic apply  
apply**

### view atm profile

#### Command Usage

View all ATM profiles or a specific ATM profile.

#### Syntax Options

**view atm profile** <*description*> (No additional syntax options are used.)

#### Screen Output

A screen similar to the following will be displayed:

ATM Connection Profile					
Tx Traffic Information					
Description =====	Requested Parm		Acceptable Parm		
	Cell Rate	Best Effort	Cell Rate	Best Effort	Max Frame Size
=====	=====	=====	=====	=====	=====
video_data	353208	True	12200	TRUE	4520
Rx Traffic Information					
Description =====	Requested Parm		Acceptable Parm		
	Cell Rate	Best Effort	Cell Rate	Best Effort	Max Frame Size
=====	=====	=====	=====	=====	=====
video_data	353208	True	12200	TRUE	4520

view atm profile connection

Command Usage

View all connections associated with a specific ATM profile.

Syntax Options

view atm profile connection {profile name}

Definitions:  
profile name = specifies the textual description for the ATM profile you want to view

Examples:  
view atm profile connection video\_traffic

Screen Output

A screen similar to the following will be displayed:

PROFILE: video_traffic							
-----							
CSM Connections							
Incoming				Outgoing			
-----				-----			
Slot	Port	VPI	VCI	Slot	Port	VPI	VCI
====	====	====	====	====	=====	====	=====
3	1	0	100	5	1	0	100

