ATM Commands

This chapter describes the function and displays the syntax of each ATM command. For more information about defaults and usage guidelines, see the corresponding chapter of the *Router Products Command Reference* publication.

atm aal aal3/4

To enable support for ATM adaptation layer 3/4 (AAL3/4) on an ATM interface, use the **atm aal aal3/4** interface configuration command.

atm backward-max-burst-size-clp0 *cell-count*
no atm backward-max-burst-size-clp0

To change the maximum number of high-priority cells coming from the destination router to the source router at the burst level on the switched virtual circuit (SVC), use the **atm backward-max-burst-size-clp0** map-class configuration command. The **no** form of this command restores the default.

    cell-count   Maximum number of high-priority cells coming from the destination router at the burst level. The default is –1.

atm backward-max-burst-size-clp1 *cell-count*
no atm backward-max-burst-size-clp1

To change the maximum number of low-priority cells coming from the destination router to the source router at the burst level on the SVC, use the **atm backward-max-burst-size-clp1** map-class configuration command. The **no** form of this command restores the default value.

    cell-count   Maximum number of low-priority cells coming from the destination router at the burst level. The default is –1.

atm backward-peak-cell-rate-clp0 *rate*
no atm backward-peak-cell-rate-clp0

To change the peak rate of high-priority cells coming from the destination router to the source router on the SVC, use the **atm backward-peak-cell-rate-clp0** map-class configuration command. The **no** form of this command restores the default.

> *rate*   Maximum rate in kilobits per second (kbps) that this SVC can receive high-priority cells from the destination router. The default is –1. Maximum value is 155,000 kbps.

atm backward-peak-cell-rate-clp1 *rate*
no atm backward-peak-cell-rate-clp1

To change the peak rate of low-priority cells coming from the destination router to the source router on the SVC, use the **atm backward-peak-cell-rate-clp1** map-class configuration command. The **no** form of this command restores the default.

> *rate*   Maximum rate in kilobits per second (kbps) that this SVC can receive low-priority cells from the destination router. The default is –1. Maximum value is 155,000 kbps.

atm backward-sustainable-cell-rate-clp0 *rate*
no atm backward-sustainable-cell-rate-clp0

To change the sustainable rate of high-priority cells coming from the destination router to the source router on the SVC, use the **atm backward-sustainable-cell-rate-clp0** map-class configuration command. The **no** form of this command restores the default.

> *rate*   Sustainable rate in kilobits per second (kbps) that this SVC can receive high-priority cells from the destination router. The default is –1. Maximum value is 155,000 kbps.

atm backward-sustainable-cell-rate-clp1 *rate*
no atm backward-sustainable-cell-rate-clp1

To change the sustainable rate of low-priority cells coming from the destination router to the source router on the SVC, use the **atm backward-sustainable-cell-rate-clp1** map-class configuration command. The **no** form of this command restores the default value.

> *rate*   Sustainable rate in kilobits per second (kbps) that this SVC can receive low-priority cells from the destination router. The default is –1. Maximum value is 155,000 kbps.

[no] atm clock internal

To cause the AIP to generate the transmit clock internally, use the **atm clock internal** interface configuration command. The **no** form of this command restores the default value.

atm exception-queue *number*
no atm exception-queue

To set the exception-queue length, use the **atm exception-queue** interface configuration command. The **no** form of this command restores the default value.

> *number*   Number of entries in the range of 8 to 256. The default is 32 entries.

atm forward-max-burst-size-clp0 *cell-count*
no atm forward-max-burst-size-clp0

To change the maximum number of high-priority cells going from the source router to the destination router at the burst level on the SVC, use the **atm forward-max-burst-size-clp0** map-class configuration command. The **no** form of this command restores the default value.

> *cell-count*   Maximum number of high-priority cells going from the source router at the burst level. The default is –1.

atm forward-max-burst-size-clp1 *cell-count*
no atm forward-max-burst-size-clp1

To change the maximum number of low-priority cells going from the source router to the destination router at the burst level on the SVC, use the **atm forward-max-burst-size-clp1** map-class configuration command. The **no** form of this command restores the default value.

> *cell-count*   Maximum number of low-priority cells going from the source router at the burst level. The default is –1.

atm forward-peak-cell-rate-clp0 *rate*
no atm forward-peak-cell-rate-clp0

To change the peak rate of high-priority cells going from the source router to the destination router on the SVC, use the **atm forward-peak-cell-rate-clp0** map-class configuration command. The **no** form of this command restores the default value.

> *rate*   Maximum rate in kilobits per second (kbps) that this SVC can send high-priority cells from the source router. The default is –1. The maximum value is 155,000 kbps.

atm forward-peak-cell-rate-clp1 *rate*
no atm forward-peak-cell-rate-clp1

To change the peak rate of low-priority cells coming from the source router to the destination router on the SVC, use the **atm forward-peak-cell-rate-clp1** map-class configuration command. The **no** form of this command restores the default value.

> *rate*   Maximum rate in kilobits per second (kbps) that this SVC can send low-priority cells from the source router. The default is –1. The maximum value is 155,000 kbps.

atm forward-sustainable-cell-rate-clp0 *rate*
no atm forward-sustainable-cell-rate-clp0

To change the sustainable rate of high-priority cells coming from the source router to the destination router on the SVC, use the **atm forward-sustainable-cell-rate-clp0** map-class configuration command. The **no** form of this command restores the default value.

> *rate*   Sustainable rate in kilobits per second (kbps) that this SVC can send high-priority cells from the source router. The default is –1. The maximum value is 155,000 kbps.

atm forward-sustainable-cell-rate-clp1 *rate*
no atm forward-sustainable-cell-rate-clp1

To change the sustainable rate of low-priority cells coming from the source router to the destination router on the SVC, use the **atm forward-sustainable-cell-rate-clp1** map-class configuration command. The **no** form of this command restores the default value.

> *rate*   Sustainable rate in kilobits per second (kbps) that this SVC can send low-priority cells from the source router. The default is –1. Maximum value is 155,000 kbps.

atm maxvc *number*
no atm maxvc

To set the maximum number of virtual circuits the AIP will support, use the **atm maxvc** interface configuration command. The **no** form of this command restores the default value.

> *number*   Maximum number of supported virtual circuits. Valid values are 256, 512, 1024, 2048, or 4096. The default is 4096.

atm mid-per-vc *maximum*

To limit the number of message identifier (MID) numbers allowed on each virtual circuit, use the **atm mid-per-vc** interface configuration command.

> *maximum*   Number of MIDs allowed per virtual circuit on this interface. The values allowed are 16, 32, 64, 128, 256, 512, and 1024. The default is 16 MIDs per virtual circuit.

atm multicast *address*

To assign an SMDS E.164 multicast address to the ATM subinterface that supports AAL3/4 and SMDS encapsulation, use the **atm multicast** interface configuration command.

> *address*   Multicast E.164 address assigned to the subinterface

atm nsap-address *nsap-address*
no atm nsap-address

To set the NSAP address for an ATM interface using SVC mode, use the **atm nsap-address** interface configuration command. The **no** form of this command removes any configured address for the interface.

> *nsap-address*   40-digit (hexadecimal) NSAP address of this interface (the source address)

[**no**] **atm pvc** *vcd vpi vci aal-encap* [[*midlow midhigh*] [*peak average burst*]]

To create a permanent virtual circuit (PVC) on the AIP interface, use the **atm pvc** interface configuration command. The **no** form of this command removes the specified PVC.

vcd	Virtual circuit descriptor. Unique number per AIP that identifies to the AIP which VPI/VCI to use for a particular packet. Valid values range from 1 to the value set with the **atm maxvc** command. The AIP requires this feature to manage packet transmission. The *vcd* is not associated with the VPI/VCI used for the ATM network cells.
vpi	ATM network virtual path identifier (VPI) of this PVC, in the range from 0 through 255. The VPI is an 8-bit field in the header of the ATM cell. The VPI value is unique only on a single interface, not throughout the ATM network (it has local significance only). Both *vpi* and *vci* cannot be specified as 0; if one is 0, the other cannot be 0.
vci	ATM network virtual channel identifier (VCI) of this PVC, in the range of 0 through 65535. The VCI is a 16-bit field in the header of the ATM cell. The VCI value is unique only on a single interface, not throughout the ATM network (it has local significance only). Both *vpi* and *vci* cannot be specified as 0; if one is 0, the other cannot be 0.

aal-encap	ATM adaptation layer (AAL) and encapsulation type. When **aal5mux** is specified, a protocol is also required. Possible values are as follows:

- **aal34smds** (encapsulation for SMDS networks)
- **aal5nlpid** (encapsulation that allows ATM interfaces to interoperate with HSSI interfaces that are using an ADSU and running ATM-DXI)
- **aal5mux decnet** (a MUX-type virtual circuit)
- **aal5mux ip** (a MUX-type virtual circuit)
- **aal5mux novell** (a MUX-type virtual circuit)
- **aal5mux vines** (a MUX-type virtual circuit)
- **aal5mux xns** (a MUX-type virtual circuit)
- **aal5snap** (LLC/SNAP precedes the protocol datagram)
- **qsaal** (a signaling-type PVC used for setting up or tearing down SVCs)

midlow	(Optional) Starting message identifier (MID) number for this PVC. The default is 0. If you set the *peak*, *average*, and *burst* values, you must also set the *midlow* and *midhigh* values.
midhigh	(Optional) Ending MID number for this PVC. The default is 0. If you set the *peak*, *average*, and *burst* values, you must also set the *midlow* and *midhigh* values.
peak	(Optional) Maximum rate (in kbps) at which this virtual circuit can transmit. Valid values are in the range from 1 to the maximum rate set for a rate queue. If you set this value, you must also specify a value for the *average*, *burst*, *midlow* and *midhigh* arguments.

average	(Optional) Average rate (in kbps) at which this virtual circuit will transmit. Valid values are in the range from 1 to the maximum rate set for a rate queue. If you set this value, you must also specify a value for the *peak*, *burst*, *midlow* and *midhigh* arguments.
burst	(Optional) Value (in the range 1 through 2047) that relates to the maximum number of ATM cells the virtual circuit can transmit to the network at the *peak* rate of the PVC. The actual burst cells equals *burst* * 32 cells, thereby allowing for a burst size of 32 cells to 65535 cells. The largest practical value of *burst* is the MTU size of the AIP card. If you set this value, you must also specify a value for the *average*, *peak*, *midlow* and *midhigh* arguments.

atm rate-queue *queue-number speed*
no atm rate-queue

To create a rate queue for the AIP, use the **atm rate-queue** interface configuration command. The **no** form of this command removes the rate queue.

queue-number	Queue number in the range 0 through 7.
speed	Speed in Mbps in the range from 1 through 155. The maximum speed is determined by the detected PLIM type on the AIP: 　34 Mbps for E3 　45 Mbps for DS3 (when available) 　100 Mbps for TAXI 　155 Mbps for SONET

atm rawq-size *number*
no atm rawq-size

To define the AIP raw queue size, use the **atm rawq-size** interface configuration command. The **no** form of this command restores the default value.

> *number*   Maximum number of cells in the raw queue simultaneously, in the range 8 through 256. The default is 32.

atm rxbuff *number*
no atm rxbuff

To set the maximum number of Receive buffers for simultaneous packet reassembly, use the **atm rxbuff** interface configuration command. The **no** form of this command restores the default value.

> *number*   Maximum number of packet reassemblies that the AIP can perform simultaneously, in the range 0 through 512. The default is 256.

atm smds-address *address*

To assign a unicast E.164 address to the ATM subinterface that supports AAL3/4 and SMDS encapsulation, use the **atm smds-address** interface configuration command.

> *address*   Unicast E.164 address assigned to the subinterface

[**no**] **atm sonet stm-1**

To set the proper mode of operation for the SONET PLIM, use the **atm sonet stm-1** interface configuration command. The **no** form of this command restores the default (STS-3C).

atm txbuff *number*
no atm txbuff

To set the maximum number of Transmit buffers for simultaneous packet fragmentation, use the **atm txbuff** interface configuration command. The **no** form of this command restores the default value.

> *number*   Maximum number of packet fragmentations that the AIP can perform simultaneously, in the range 0 through 512. The default is 256.

atm vc-per-vp *number*
no atm vc-per-vp

To set the maximum number of VCIs to support per VPI, use the **atm vc-per-vp** interface configuration command. The **no** form of this command restores the default value.

> *number*   Maximum number of VCIs to support per VPI. Valid values are 32, 64, 128, 256, 512, 1024, 2048, or 4096. The default is 1024.

atm vp-filter *hexvalue*
no atm vp-filter

To set the AIP filter register, use the **atm vp-filter** interface configuration command. The **no** form of this command restores the default value.

> *hexvalue*   Value in hexadecimal format. The default is 0x7B.

[**no**] *protocol protocol-address* **atm-nsap** *atm-nsap-address*
  [**class** *class-name*] [**broadcast**]

To define an ATM map statement for an SVC, use the **atm-nsap** map-list configuration command in conjunction with the **map-list** global configuration command. The **no** form of this command removes the address.

protocol	One of the following keywords: **appletalk**, **apollo**, **bridge**, **clns**, **decnet**, **ip**, **ipx**, **vines**, **xns**.
protocol-address	Destination address that is being mapped to this SVC.
atm-nsap-address	Destination ATM NSAP address. Must be exactly 40 hexadecimal digits long and in the correct dotted-decimal format.
class	(Optional) Keyword.
class-name	(Optional) Name of a table that contains encapsulation-specific parameters. Such a table can be shared between maps that have the same encapsulation.
broadcast	(Optional) Indicates this map entry is to be used when the corresponding *protocol* sends broadcast packets to the interface (for example, IGRP updates).

[**no**] *protocol protocol-address* **atm-vc** *vcd* [**broadcast**]

To define an ATM map statement for a PVC, use the **atm-vc** map-list configuration command in conjunction with the **map-list** global configuration command. The **no** form of this command removes the address.

protocol	One of the following keywords: **appletalk**, **apollo**, **bridge**, **clns**, **decnet**, **ip**, **ipx**, **vines**, **xns**.
protocol-address	Destination address that is being mapped to this PVC.

vcd	Virtual circuit descriptor of the PVC.
broadcast	(Optional) Keyword that indicates this map entry is to be used when the corresponding *protocol* wants to send broadcast packets (such as IGRP updates) to the interface. Provides pseudo-broadcasting support.

atmsig close atm*slot***/0** *vcd*

To disconnect an SVC, use the **atmsig close** EXEC command.

slot	Slot of the SVC to close.
vcd	Virtual circuit descriptor of the signaling PVC to close.

[**no**] **loopback plim**

To place the AIP into loopback mode, use the **loopback plim** interface configuration command. The **no** form of this command removes the loopback.

[**no**] **map-class** *encapsulation class-name*

To define quality of service (QOS) parameters that are associated with a static map for an SVC, use the **map-class** global configuration command. The **no** form of this command deletes this class.

encapsulation	Encapsulation type. One of the following: **atm**, **dialer**, **frame-relay**, **smds**, or **x25**.
class-name	User-assigned name of the QOS parameters table.

[**no**] **map-group** *name*

To associate an ATM map list to an interface or subinterface for either a PVC or SVC, use the **map-group** interface configuration command. The **no** form of this command removes the reference to the map list.

    name   Name of the map list identified by a
                       map-list command

[**no**] **map-list** *name*

To define an ATM map statement for either a PVC or SVC, use the **map-list** global configuration command. The **no** form of this command deletes this list and all associated map statements.

    name   Name of the map list

show atm interface atm *slot*/**0**

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

    slot   Slot number of the AIP

show atm map

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

show atm traffic

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

show atm vc [*vcd*]

To display all active ATM virtual circuits (PVCs and SVCs) and traffic information, use the **show atm vc** privileged EXEC command.

vcd   (Optional) Specifies which virtual circuit to display information about.

show sscop

To show SSCOP details for all ATM interfaces, use the **show sscop** EXEC command.

sscop cc-timer *seconds*
no sscop cc-timer

To change the connection control timer, use the **sscop cc-timer** interface configuration command. The **no** form of this command restores the default value.

seconds   Number of seconds between BGN messages. The default is 10 seconds.

[**no**] **sscop keepalive-timer** *seconds*

To change the keepalive timer, use the **sscop keepalive-timer** interface configuration command. The **no** form of this command restores the default value.

seconds   Number of seconds the router waits between transmission of POLL PDUs when no SD or SDP PDUs are queued for transmission or are outstanding pending acknowledgments. The default is 30 seconds.

sscop max-cc *retries*
no sscop max-cc

To change the retry count of connection control, use the **sscop max-cc** interface configuration command. The **no** form of this command restores the default value.

    retries   Number of times that SSCOP will retry to transmit BGN, END, or RS PDUs as long as an acknowledgment has not been received. Valid range is 1 to 6000. The default is 10 retries.

sscop poll-timer *seconds*
no sscop poll-timer

To change the poll timer, use the **sscop poll-timer** interface configuration command. The **no** form of this command restores the default value.

    seconds   Number of seconds the router waits between transmissions of POLL PDUs. The default is 10 seconds.

sscop rcv-window *packets*
no sscop rcv-window

To change the receiver window, use the **sscop rcv-window** interface configuration command. The **no** form of this command restores the default value.

    packets   Number of packets the interface can receive before it must send an acknowledgment to the ATM switch. Valid range is 1 to 6000. The default is 7 packets.

sscop send-window *packets*
no sscop send-window

To change the transmitter window, use the **sscop send-window** interface configuration command. The **no** form of this command restores the default value.

packets	Number of packets the interface can send before it must receive an acknowledgment from the ATM switch. Valid range is 1 to 6000. The default is 7 packets.