11 ATM Service Commands

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

- LANE Client (Ethernet and Token Ring) - enables devices on legacy Ethernet- and Token Ring-based LANs to communicate over ATM networks. FDDI services can be supported over either topology by performing appropriate packet translations.
- ATM Trunking - enables Groups and VLANs to be extended across an ATM backbone network.
- Classical IP Routing (RFC 1577) - provides connectivity between IP-based networks via an ATM backbone network.
- Point to Point Bridging - enables two groups to communicate across an ATM network using a single virtual circuit (VC).
- VLAN Clusters - enables mesh-interconnection of point-to-point and point-to-multipoint virtual circuits.

♦ Syntax Note ♦

All ATM service command prefixes include a service ID that you must enter in order for the command to work properly.

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.

PTOP Service Commands

Point-to-point bridging is an ATM service that enables two groups to communicate across an ATM network using a single virtual circuit (VC). The VC can be configured to be a Switch Virtual Circuit (SVC) or a Permanent Virtual Circuit (PVC).

atm service ptop

Command Usage

Create a PTOP (Point-to-Point) Bridging Service.

Syntax Options

atm service <*slot/port***> <***servId***> ptop [member [of] [group] <***group#***> [pvc] <***connId***>**

atm service <*slot/port***> <***servId***> ptop [member [of] [group] <***group#***> [svc] <***atmAddr***>**

Definitions:
slot/port = specifies the slot/port for the service you want to create
servId = specifies the description or number (4-30 characters) for the service (e.g., **PTOP1**). Service description strings with spaces must be enclosed in quotations (e.g., **"PTOP Bridging Service 1"**)

♦ Syntax Note ♦
You must enter a service ID in order for the command to work properly.

member of group = optional command syntax
group# = specifies the number of the group that is to be a part of the PTOP service
pvc = optional command syntax, specifies PVC (Permanent Virtual Circuit) connection type
connId = specifies connection id (0 to 1024) for the PVC service
svc = optional command syntax, specifies SVC (Switched Virtual Circuit) connection type
atmAddr = specifies an ATM address (40 hex characters) for the the SVC service

Command Examples:
atm service 3/1 "Ptop Bridging Service 1" ptop member of group 1 pvc 50
atm service 3/1 "Ptop Bridging Service 1" ptop member of 1 pvc 50
atm service 3/1 "Ptop Bridging Service 1" ptop member 1 pvc 50
atm service 3/1 "Ptop Bridging Service 1" ptop 1 pvc 50
atm service 5/2 PTOP5 ptop 2 svc 47007900000000000000000000A03E00000100

Corresponding UI Command

cas

no atm service

Command Usage

Remove a PTOP Bridging service.

Syntax Options

no atm service <*slot/port*> <*servId*>

Definitions:
slot/port = specifies the slot/port for the service you want to remove
servId = specifies the service description or number for the PTOP service you want to remove (e.g., **"PTOP Bridging Service 1"**)

Examples:
no atm service 3/1 "PTOP Bridging Service 1"
no atm service 3/1 PTOP5

Corresponding UI Command

das

atm service bandwidth

Command Usage

Modify a bandwidth group for a PTOP service.

Syntax Options

atm service <*slot/port*> <*servId*> bandwidth [group] <*group*>

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the PTOP service you want to modify (e.g., **"PTOP Bridging Service 1"**)
group = optional command syntax
group = specifies the group number of the PTOP service you want to modify

Examples:
atm service 3/1 PTOP5 bandwidth group 5
atm service 3/1 PTOP5 bandwidth 5
bandwidth 5

Corresponding UI Command

mas

atm service member

Command Usage

Modify a group member for a PTOP service.

Syntax Options

atm service <*slot/port*> <*servId*> member [of] [group] <*group*>

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the PTOP service you want to modify (e.g., **"PTOP Bridging Service 1"**)
of group = optional command syntax
group = the group number to which the member you want to modify belongs

Examples:
atm service 3/1 "PTOP Bridging Service 1" member of group 1
atm service 3/1 "PTOP Bridging Service 1" member 1
member 1

Corresponding UI Command

mas

atm service pvc

Command Usage

Modify the PVC (Permanent Virtual Circuit) connection for a PTOP service.

Syntax Options

atm service <*slot/port***> <***servId***> pvc <***connId***>**

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the PTOP service you want to modify (e.g., **"PTOP Bridging Service 1"**)
connId = specifies the connection ID for the PVC service

Examples:
atm service 3/1 "PTOP Bridging Service 1" pvc 50
pvc 50

Corresponding UI Command

mas

atm service svc

Command Usage

Modify the SVC (Switched Virtual Circuit) connection for a PTOP service.

Syntax Options

atm service <*slot/port*> <*servId*> svc <*atmAddress*>

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the PTOP service you want to modify (e.g., **"PTOP Bridging Service 1"**)
atmAddress = specifies the ATM address for the SVC service

Examples:
atm service 3/1 PTOP5 svc 47007900000000000000000000000A03E00000100
svc 47007900000000000000000000000A03E00000100

Corresponding UI Command

mas

atm service encapsulation

Command Usage

Modify the encapsulation type for a PTOP service.

Syntax Options

atm service <*slot/port*> <*servId*> encapsulation {private | rfc1483}

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the PTOP service you want to modify (e.g., **"PTOP Bridging Service 1"**)
private = a vendor-specific encapsulation format for ATM PTOP Bridging
rfc1483 = an encapsulation format that enables interoperability with other vendor switches

Examples:
atm service 3/1 "PTOP Bridging Service 1" encapsulation private
atm service 3/1 "PTOP Bridging Service 1" encapsulation rfc1483
encapsulation private

Corresponding UI Command

mas

Remarks

If you select rfc1483 encapsulation, you can only multiplex a single group across the switches in a cluster. A private encapsulation allows you to multiplex groups across switches in this cluster service.

atm service status

Command Usage

Modify the administrative status for a PTOP service.

Syntax Options

atm service <*slot/port*> <*servId*> status {enable | disable}

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the PTOP service you want to modify (e.g., **"PTOP Bridging Service 1"**)
enable = enables the Administrative Status and puts the port online
disable = disables the Administrative Status and takes the port offline

Switch Default:
enable

Examples:
atm service 3/1 "PTOP Bridging Service 1" status enable
status enable

Corresponding UI Command

mas

atm service description

Command Usage

Modify the description for a PTOP service.

Syntax Options

atm service <*slot/port*> <*servId*> description <*descString*>

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the PTOP service you want to modify (e.g., **PTOP1**)
descString = specifies the new service description or number (must be at least 4 characters). Service description strings with spaces must be enclosed in quotations (e.g., **"PTOP Bridging Service 1"**)

Examples:
atm service 3/1 "PTOP Bridging Service 1" description PTOP5
description PTOP5

Corresponding UI Command

mas

LANE Client Services Commands

In a LANE configuration, ATM stations become LECs to allow non-ATM devices on legacy Ethernet- and Token Ring-based LANs to communicate over ATM networks and support existing applications. Such a configuration is called an Emulated LAN, or ELAN. This ability to work with existing networking infrastructure makes it possible to plan for a gradual transition from legacy networks to an ATM-based network.

Because ATM is a connection-oriented technology, and Token Ring and Ethernet LANs are connectionless (i.e., based upon MAC addresses), you need some way of correlating ATM addresses to MAC addresses. This is one of the functions that LANE services provides. The ASM module supplies a LAN Emulation Client (LEC) function, not LANE Services (LES). The MSM of the switch provides LES.

An ELAN consists of the following components:

- LANE Client (LEC): An LEC is responsible for forwarding data and address resolution. This function is provided by an end-station ASM configured as a LANE Client.
- LAN Emulation Configuration Server (LECS): An LECS assigns clients to particular ELAN services. This function is usually provided by an MSS (Multiprotocol Switching Services)-type device.
- LAN Emulation Server (LES): The LES uses Address Resolution Protocol (ARP) to translate and map MAC addresses to ATM addresses. This service can be provided either by the LES functionality of the switch MPM, or an MSS-type device.

Broadcast and Unknown Server (BUS): The BUS handles initial unicast, multicast and broadcast traffic sent to it by the LEC. This service can be provided either by the BUS functionality of the switch MSM, or an MSS-type device.

Token Ring vs. Ethernet Networks

Token Ring 802.5 LE clients perform the same functions as Ethernet 802.3 clients, with the following exceptions:

- For Token Ring LECs, MAC data frames are transmitted within an 802.5 ELAN type frame using an 802.5 frame format. For Ethernet LECs, MAC data frames are transmitted within an 802.3 ELAN type frame using an 802.3 frame format.
- Token Ring LE_ARPs use a non-canonical MAC address format (i.e., the most significant bit of each address byte is transmitted first), whereas Ethernet LEC clients use a canonical format.
- Source-routed traffic is supported by Token Ring, but not by Ethernet LEC clients.

Source-Routed Traffic

Source-routed traffic is handled by assigning a ring number to the ELAN and adding intelligence to the forwarding decision of the Token Ring LEC. The LEC examines frames for the next hop after the ELAN of which it is a member. With this information, the LEC can forward the frame to the correct next hop LEC. Knowledge of the next hop allows a LEC to avoid forwarding frames to all LECs on the ring—an action that would typically occur in traditional Token Ring networks.

From the perspective of the source routing logic and AutoTracker, a Token Ring LEC is treated like another Token Ring interface. For this reason, source routing commands, such as **STS** (Spanning Tree Statistics) and **stc** (Spanning Tree Configuration), may be used with Token Ring LECs.

Ethernet and Token Ring LECs cannot be directly connected. However, ELANs to which dissimilar LECs belong can be connected through the switch via translational bridging or routing.

atm service

Command Usage

Create a LANE Client service.

Syntax Options

atm service <*slot/port*> <*servId*> lane [member [of] [group]] <*group#*> [elan [name]] <*elan_name*> [802.3 | 802.5]

Definitions:
slot/port = specifies the slot/port for the service you want to create
servId = specifies the description or number (between 4 and 30 characters) for the service (e.g., **LANE1**). Service description strings with spaces must be enclosed in quotations (e.g., **"LANE Client Service 1"**)

♦ Syntax Note ♦
You must enter a service id in order for the command to work properly.

member of group = optional command syntax
group# = specifies the number of the group that is to be a part of the LANE service
elan name = optional command syntax
elan_name = specifies the name (up to 32 characters) for the emulated LAN that the LEC either wants to join or has last joined
802.3 = the elan type for ethernet
802.5 = the elan type for token ring

Switch Default:
elan type = **802.3**

Examples:
atm service 5/1 "LAN Emulation Service 1" lane member of group 2 elan name ELAN1 802.5
atm service 5/1 "LAN Emulation Service 1" lane member of 2 elan ELAN1 802.3
atm service 5/1 "LAN Emulation Service 1" lane member 2 elan ELAN1 802.3
atm service 5/1 "LAN Emulation Service 1" lane 2 ELAN1 802.5

Corresponding UI Command

cas

no atm service

Command Usage

Remove a LANE Client Service.

Syntax Options

no atm service <*slot/port***> <***servId***>**

Definitions:
slot/port = specifies the slot/port for the service you want to remove
servId = specifies the service description or number for the LANE Client service you want to remove (e.g., **"LAN Emulation Service 1"**)

Examples:
no atm service 5/1 "LAN Emulation Service 1"

Corresponding UI Command

das

atm service member

Command Usage

Modify a group member in a LANE Client Service.

Syntax Options

atm service <*slot/port*> <*servId*> member [of] [group] <*group#*>

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 1"**)
of group = optional command syntax
group# = specifies the group number to which the member you want to modify belongs

Examples:
atm service 5/1 "LAN Emulation Service 1" member of group 6
atm service 5/1 "LAN Emulation Service 1" member 6
member 6

Corresponding UI Command

mas

atm service lan type

Command Usage

Modify the type of LAN supported by the Lane Client.

Syntax Options

atm service <*slot/port*> <*servId*> lan type [802.3 | 802.5]

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the LANE Client service you want to modify (e.g.,**"LAN Emulation Service 1"**)
802.3 = lan type for Ethernet clients
802.5 = lan type for Token Ring clients

Switch Default:
lan type = **802.3**

Examples:
atm service 5/1 "LAN Emulation Service 1" lan type 802.5
lan type

Corresponding UI Command

mas

atm service lecs

Command Usage

Modify whether you want to enable the default address or specify another address for the LECS (LAN Emulation Configuration Server).

Syntax Options

atm service <*slot/port*> <*servId*> lecs [address] {default | *address*}

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 1"**)
address = optional command syntax
default = enables default address for the LECS
address = specifies the 40-character hex address for the LECS

Examples:
atm service 5/1 "LAN Emulation Service 1" lecs address 47007900000000000000000000A03E00000100
atm service 5/1 "LAN Emulation Service 1" lecs 47007900000000000000000000A03E00000100
lecs 47007900000000000000000000A03E00000100
atm service 5/1 "LAN Emulation Service 1" lecs address default
atm service 5/1 "LAN Emulation Service 1" lecs 49345678900000000095

Corresponding UI Command

mas

atm service description

Command Usage

Modify the description for a LANE Client service.

Syntax Options

atm service <*slot/port*> <*servId*> description <*descString*>

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 1"**)
descString = specifies the new service description or number for the LANE Client service

Examples:
atm service 5/1 "LAN Emulation Service 1" description LANE2
description LANE2

Corresponding UI Command

mas

atm service status

Command Usage

Modify the administrative status for a LANE Client service.

Syntax Options

atm service <*slot/port*> <*servId*> status [enable | disable]

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId= specifies the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 1"**)
enable = enables the Administrative Status and puts the port online.
disable = disables the Administrative Status and takes the port offline

Switch Default:
admin. status = **enable**

Examples:
atm service 5/1 "LAN Emulation Service 1" status disable
status disable
status enable

Corresponding UI Command

mas

atm service bandwidth

Command Usage

Modify a bandwidth group for a LANE Client service.

Syntax Options

atm service <*slot/port*> <*servId*> bandwidth [group] <*group*>

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 2"** or **Lane2**)
group = optional command syntax
group = specifies the group number for the LANE Client service you want to modify

Examples:
atm service 5/1 "LAN Emulation Service 1" bandwidth group 1
atm service 5/1 "LAN Emulation Service 1" bandwidth 1
bandwidth 1

Corresponding UI Command

mas

atm service elan name

Command Usage

Modify the emulated LAN name for a LANE Client service.

Syntax Options

atm service <*slot/port*> <*servId*> elan name <*name*>

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 2"** or **Lane2**)
name = specifies the new emulated LAN name (up to 32 characters) for the LANE Client service

Examples:
atm service 3/2 "LAN Emulation Service 2" elan name ELAN2
elan name ELAN2

Corresponding UI Command

mas

atm service selector

Command Usage

Modify the last byte of the ATM address for a LANE Client service.

Syntax Options

atm service <*slot/port*> <*servId*> selector <*selector*>

Definitions:
slot/port = the slot/port for the service you want to modify
servId = the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 2"** or **Lane2**)
selector = specifies the new value for the last byte of the ATM address

Examples:
atm service 5/1 LANE2 selector 02
selector 02

Corresponding UI Command

mas

atm service proxy

Command Usage

Modify the proxy status for a LANE Client.

Syntax Options

atm service <*slot/port*> <*servId*> proxy [enable | disable]

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 2"** or **Lane2**)
enable = enables the proxy
disable = disables the proxy

Switch Default:
proxy status = **enable**

Examples:
atm service 3/2 LANE2 proxy enable
proxy enable

Corresponding UI Command

mas

atm service mtu

Command Usage

Modify the MTU (Maximum Transmission Unit) size for a LANE Client.

Syntax Options

atm service <*slot/port*> <*servId*> mtu {1516 | 4544 | 9234 | 18190}

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 2"** or **Lane2**)
1516 = specifies 1516 frames
4544 = specifies 4544 frames
9234 = specifies 9234 frames
18190 = specifies 18190 frames

Examples:
atm service 3/2 "LAN Emulation Service 2" mtu 1516
mtu 4544

Corresponding UI Command

mas

Remarks

The MTU is a data frame that the LANE Client will send over the Multicast Send VCC, or receive on either the Multicast Send VCC or the Multicast Forward VCC.

atm service translation options

Command Usage

Modify the translation status for a LANE Client.

Syntax Options

atm service <*slot/port*> <*servId*> translation options {enable | disable | on | off}

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 2"** or **Lane2**)
enable = frame translations offered through the Switch menu will be used for this LANE Client
disable = Ethertype frames will be used for this LANE Client (for 802.3 clients only)
on = frame translations offered through the Switch menu will be used for this LANE Client
off = Ethertype frames will be used for this LANE Client (for 802.3 clients only)

Examples:
atm service 5/1 LANE2 translation options enable
atm service 5/1 LANE2 translation options off
translation options off

Corresponding UI Command

mas

atm service forward delay time

Command Usage

Modify the status of the forward delay time for the LANE Client.

Syntax Options

atm service <*slot/port*> <*servId*> forward delay time {enable | disable | on | off}

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 2"** or **Lane2**)
enable = enables the LE Client to maintain, for the maximum time (in seconds), an entry for a non-local MAC address in its MAC table without verification
disable =disables the LE Client from maintaining, for the maximum time (in seconds), an entry for a non-local MAC address in its MAC table without verification
on = enables the LE Client to maintain, for the maximum time (in seconds), an entry for a non-local MAC address in its MAC table without verification
off = disables the LE Client from maintaining, for the maximum time (in seconds), an entry for a non-local MAC address in its MAC table without verification

Switch Default:
forward delay time status = **disable** or **off**

Examples:
atm service 5/1 "LAN Emulation Service 2" forward delay time enable
atm service 5/1 "LAN Emulation Service 2" forward delay time on
atm service 5/1 "LAN Emulation Service 2" forward delay time off
forward delay time on

Corresponding UI Command

mas

Remarks

The forward delay time is the time (in seconds) that a LANE Client will maintain an entry for a non-local MAC address in its MAC table without verification.

atm service use Lecs

Command Usage

Modify whether or not to use the LECS (LANE Emulation Configuration Server) for a LANE Client.

Syntax Options

atm service <*slot/port*> <*servId*> use Lecs {enable | disable | on | off}

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 2"** or **Lane2**)
enable = enables the LANE Client to use the LANE Configuration Server
disable = disables the LANE Client from using the LANE Configuration Server
on = enables the LANE Client to use the LANE Configuration Server
off = disables the LANE Client from using the LANE Configuration Server

Switch Defaults:
use Lecs = **enable** or **on**

Examples:
atm service 5/1 LANE2 use Lecs disable
atm service 5/1 LANE2 use Lecs on
atm service 5/1 LANE2 use Lecs off
use Lecs off

Corresponding UI Command

mas

atm service control timeout

Command Usage

Modify the timeout period (in seconds) used for most request/response control frame interactions within a LANE Client.

Syntax Options

atm service <*slot/port*> <*servId*> control timeout <*time*>

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 2"** or **Lane2**)
time = specifies the timeout period in seconds (can be between 20 and 300)

Switch Default:
time = **120**

Examples:
atm service 3/1 "LAN Emulation Service 2" control timeout 150
control timeout 150

Corresponding UI Command

mas

atm service maximum unknown frame count

Command Usage

Modify the maximum number of frames the LANE Client can send to the BUS for a given unicast LAN Destination.

Syntax Options

atm service <*slot/port*> <*servId*> maximum unknown frame count <*count*>

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 2"** or **Lane2**)
count = specifies the the maximum number of frames within the Maximum Unknown Frame Time

Examples:
atm service 3/1 "LAN Emulation Service 2" maximum unknown frame count 1
maximum unknown frame count 1

Corresponding UI Command

mas

Remarks

The maximum number of frames is for the length of time within the Maximum Unknown Frame Time (configured through the **atm service maximum unknown frame time** command on page 11-32).

atm service maximum unknown frame time

Command Usage

Modify the length of time (in seconds) during which the LANE Client will send no more than the number of frames specified in Maximum Unknown Frame Count to the Bus for a given unicast LAN Destination. Also the maximum time the LANE Client will wait before it must initiate an ARP frame to resolve that LAN Destination.

Syntax Options

atm service <*slot/port*> <*servId*> maximum unknown frame time <*time*>

Definitions:
slot/port = the slot/port for the service you want to modify
servId = the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 2"** or **Lane2**)
time = specifies the time (in seconds) for the maximum unknown frame time (value must be between 1 and 60)

Switch Default:
time = **1**

Examples:
atm service 3/1 "LAN Emulation Service 2" maximum unknown frame time 50
maximum unknown frame time 50

Corresponding UI Command

mas

atm service vcc timeout period

Command Usage

Modify the maximum length of time (in minutes) that a LANE Client will keep a Data Direct VCC after it has not been used to transmit or receive frames.

Syntax Options

atm service <*slot/port***> <***servId***> vcc timeout period <***vcc_timeout***>**

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 2"** or **Lane2**)
vcc_timeout = specifies the time (in minutes)

Switch Default:
vcc_timeout = **20**

Examples:
atm service 3/1 "LAN Emulation Service 2" vcc timeout period 100
vcc timeout period 100

Corresponding UI Command

mas

Remarks

This parameter is used only for SVC Data Direct VCCs.

atm service maximum retry count

Command Usage

Modify the maximum number of times a LANE Client may retry an LE_ARP_REQUEST for a given frame's LAN Destination.

Syntax Options

atm service <*slot/port*> <*servId*> maximum retry count <*count*>

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 2"** or **Lane2**)
count = specifies the number of times an LE Client may retry an LE_ARP_REQUEST (value must be between 0 and 2).

Switch Default:
count = **1**

Examples:
atm service 3/1 LANE2 maximum retry count 2
maximum retry count 2

Corresponding UI Command

mas

atm service aging time

Command Usage

Modify the maximum time (in seconds) that a LANE Client will maintain an entry in its LE_ARP cache.

Syntax Options

atm service <*slot/port*> <*servId*> aging time <*time*>

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 2"** or **Lane2**)
time = specifies the maximum time (in seconds) the LE Client will maintain an entry in its LE_ARP cache

Switch Default:
time = **300**

Examples:
atm service 3/1 LANE2 aging time 250
aging time 250

Corresponding UI Command

mas

Remarks

If you set the Forward Delay Time (through the **atm service forward delay time** command on page 11-28) to **enable** or **on**, then the aging time must be between 4 and 30 seconds. If Forward Delay Time is set to **disable** or **off**, then the aging time can be between 10 and 300 seconds.

If the address is not resolved within the aging time period, the entry is deleted from the LE_ARP cache.

atm service expected learp response time

Command Usage

Modify the maximum time (in seconds) the LANE Client expects an ARP request/response cycle to take. This parameter is used for retries and verifies.

Syntax Options

atm service <*slot/port*> <*servId*> expected learp response time <*time*>

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 2"** or **Lane2**)
time = specifies the maximum time (in seconds) the LE Client expects an ARP request/response cycle to take (the value must be between 1 and 30)

Switch Default:
time = **30**

Examples:
atm service 3/1 LANE2 expected learp response time 15
expected learp response time 15

Corresponding UI Command

mas

atm service flush timeout

Command Usage

Modify the length of time (in seconds) a LANE Client will wait for an LE_FLUSH_RESPONSE after sending an LE_FLUSH_REQUEST, after which it will begin taking recovery action.

Syntax Options

atm service <*slot/port*> <*servId*> flush timeout <*time*>

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 2"** or **Lane2**)
time = specifies the maximum time (in seconds) the LE Client will wait for an LE_FLUSH_RESPONSE (value must be between 1 and 4)

Switch Default:
time = **4**

Examples:
atm service 3/1 "LAN Emulation Service 2" flush timeout 3
flush timeout 3

Corresponding UI Command

mas

atm service path switching delay

Command Usage

Modify the length of time (in seconds) the LANE Client will wait (after sending a frame to the BUS) before assuming the frame has either been delivered to the client or has been discarded.

Syntax Options

atm service <*slot/port*> <*servId*> path switching delay <*time*>

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 2"** or **Lane2**)
time = specifies the maximum time (in seconds) the LE Client will wait before assuming the frame has either been delivered or discarded (value must be between 1 and 8)

Switch Default:
time = **6**

Examples:
atm service 3/1 "LAN Emulation Service 2" path switching delay 8
path switching delay 8

Corresponding UI Command

mas

atm service initial control timeout

Command Usage

Modify the initial timeout value of all outstanding control request frames.

Syntax Options

atm service <*slot/port*> <*servId*> initial control timeout <*time*>

Definitions:
slot/port = the slot/port for the service you want to modify
servId = the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 2"** or **Lane2**)
time = specifies the initial timeout value of all outstanding control request frames (value must be between 1 and 10 seconds)

Switch Default:
time = **5**

Examples:
atm service 3/1 LANE2 initial control timeout 9
initial control timeout 9

Corresponding UI Command

mas

atm service control timeout multiplier

Command Usage

Modify the time by which control timeout increases each iteration of any control timeout activity.

Syntax Options

atm service <*slot/port*> <*servId*> control timeout multiplier <*number*>

Definitions:
slot/port = the slot/port for the service you want to modify
servId = the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 2"** or **Lane2**)
number = the control timeout multiplier value in seconds (value must be between 2 and 5 seconds)

Switch Default:
number = 2

Examples:
atm service 3/1 LANE2 control timeout multiplier 2
control timeout multiplier 2

Corresponding UI Command

mas

atm service v2

Command Usage

Modify whether or not to enable LUNI V2.0 capability.

Syntax Options

atm service <*slot/port*> <*servId*> v2 {enable |disable}

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 2"** or **Lane2**)
enable = enables the capability of LUNI V2.0
disable = disables LUNI V2.0

Examples:
atm service 3/1 LANE2 v2 enable
v2 enable

Corresponding UI Command

mas

atm service ring no

Command Usage

Modify the ring number assigned to the Token Ring for participation in source routing.

Syntax Options

atm service <*slot/port***> <***servId***> ring no<***number***>**

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 2"** or **Lane2**)
number = specifies the ring number assigned to the Token Ring for participation in source routing (value must be between 0 and 4095)

Examples:
atm service 3/1 LAN Emulation Service 2 ring no 3
ring no 3

Corresponding UI Command

mas

Remarks

Note that this command is used only for 802.5 Token Ring clients (not for 802.3 Ethernet clients).

atm service bridge no

Command Usage

Modify the number used to identify the source routing bridge.

Syntax Options

atm service <*slot/port*> <*servId*> bridge no <*number*>

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 2"** or **Lane2**)
number = specifies the number used to identify the source routing bridge (value must be between 1 and 15)

Examples:

```
atm service 3/1 "LAN Emulation Service 2" bridge no 5 \
bridge no 5
```

Corresponding UI Command

mas

Remarks

Note that this command is used only for 802.5 Token Ring clients (not for 802.3 Ethernet clients).

atm service explorer frame exclude

Command Usage

Modify whether or not a specified LANE Client Service will receive token ring explorer frames other than those directed to one of its registered MAC addresses.

Syntax Options

atm service <*slot/port*> <*servId*> explorer frame exclude {enable | disable}

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the LANE Client service you want to modify (e.g., **"LAN Emulation Service 2"** or **Lane2**)
enable = enables this LANE Client to receive token ring explorer frames other than those directed to one of its registered MAC addresses
disable = disables this LANE Client from receiving token ring explorer frames other than those directed to one of its registered MAC addresses

Examples:
atm service 3/1 "LAN Emulation Service 2" explorer frame exclude enable
explorer frame exclude enable

Corresponding UI Command

mas

Remarks

The explorer frame exclude parameter only applies to token-ring ELANs.

CIP (Classical IP) Service Commands

In classical IP (CIP) routing, ATM is used to interconnect ATM switches with IP-based ATM devices in a routed environment. ATM networks are configured as Logical IP Subnetworks (LISs). Communication between LIS-configured ATM networks is accomplished through the routing of Groups. A Group is created for routing CIP only. Each Group consists of a router port and its associated ATM CIP service.

atm service cip

Command Usage

Create a Classical IP service.

Syntax Options

atm service cip <*slot/port***> <***servId***> cip [member [of] [group]] <***group***> [pvc] <***connId***>**

atm service cip <*slot/port***> <***servId***> cip [member [of] [group]] <***group***> [svc] <***atmAddr***>**

Definitions:
slot/port = specifies the slot/port for the service you want to create
servId = specifies the service description or number (must be at least 4 characters) for the CIP service you want to create (e.g., **"Classical IP Service 2"** or **Classical2**)
member of group = optional command syntax
group = specifies the number of the group that is to be a part of the CIP service
pvc = optional command syntax, sets up a Permanent Virtual Connection for this CIP service
connId = specifies connection id (0 to 1024) for the PVC service
svc = optional command syntax, sets up a Switched Virtual Connection for this CIP service
atmAddr = specifies an ATM address (40 hex characters) for the the SVC service

Examples:
atm service 5/1 Classical2 cip member of group 4 pvc 5
atm service 5/1 Classical2 cip member 4 pvc 5
atm service 5/1 "Classical IP Service 2" cip 4 svc 47007900000000000000000000A03E00000100

Corresponding UI Command

cas

no atm service

Command Usage

Remove a CIP service.

Syntax Options

no atm service <*slot/port*> <*servId*>

Definitions:
slot/port = specifies the slot/port for the service you want to remove
servId = specifies the service description or number for the PTOP service you want to remove (e.g., **Classical2**)

Examples:
no atm service 5/1 Classical2

Corresponding UI Command

das

atm service bandwidth

Command Usage

Modify a bandwidth group for a Classical IP Client service.

Syntax Options

atm service <*slot/port*> <*servId*> bandwidth [group] <*group#*>

Definitions:
slot/port = the slot/port for the service you want to modify
servId = the service description or number for the LANE Client service you want to modify (e.g., **"Classical IP Service 2"** or **Classical2**)
group = optional command syntax
group# = specifies the group number of the CIP service you want to modify

Examples:
atm service 4/2 Classical2 bandwidth group 1
bandwidth group 1

Corresponding UI Command

mas

atm service member

Command Usage

Modify a group member for a CIP service.

Syntax Options

atm service <*slot/port*> <*servId*> member [of] [group] <*group#*>

Definitions:
slot/port = the slot/port for the service you want to modify
servId = the service description or number for the LANE Client service you want to modify (e.g., **"Classical IP Service 2"** or **Classical2**)
of group = optional command syntax
group# = the group number to which the member you want to modify belongs

Examples:
atm service 4/2 Classical2 member of group 2
atm service 4/2 Classical2 member 2
member 2

Corresponding UI Command

mas

atm service pvc

Command Usage

Modify the PVC (Permanent Virtual Circuit) connection for a CIP service.

Syntax Options

atm service <*slot/port***> <***servId***> pvc <***connId***>**

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the CIP service you want to modify (e.g., **"Classical IP Service 2"** or **Classical2**)
connId = specifies the connection ID for the PVC service

Examples:
atm service 4/2 Classical2 pvc 50
pvc 50

Corresponding UI Command

mas

Remarks

Multiple connections can be added to a CIP service. The following is an example:

```
atm service 4/2 Classical2 pvc 50
atm service 4/2 Classical2 pvc 55
atm service 4/2 Classical2 pvc 60
```

The following is an example of how to remove one of the multiple connections from a CIP service:

```
atm service 4/2 Classical2 no pvc 60
```

atm service svc

Command Usage

Modify the SVC (Switched Virtual Circuit) connection for a CIP service.

Syntax Options

view bridge <*slot/port***> <***servId***> svc <***atmAddress***>**

Definitions:
slot/port = the slot/port for the service you want to modify
servId = the service description or number for the CIP service you want to modify (e.g., **"Classical IP Service 2"** or **Classical2**)
atmAddress = specifies the ATM address for the SVC service

Examples:
atm service 4/2 Classical2 svc 47007900000000000000000000A03E00000100
svc 47007900000000000000000000A03E00000100

Corresponding UI Command

mas

Remarks

Multiple connections can be added to a CIP service. The following is an example:

atm service 4/2 Classical2 svc 47007900000000000000000000A03E00000100
atm service 4/2 Classical2 svc 11220000000000000000000000000000000000
atm service 4/2 Classical2 svc 44440000000000000000000000000000000000

The following is an example of how to remove one of the multiple connections from a CIP service:

atm service 4/2 Classical2 no svc 44440000000000000000000000000000000000

atm service status

Command Usage

Modify the administrative status for a CIP service.

Syntax Options

view bridge <*slot/port*> <*servId*> status {enable | disable}

Definitions:
slot/port = the slot/port for the service you want to modify
servId = the service description or number for the CIP Client service you want to modify (e.g., **"Classical IP Service 2"** or **Classical2**)
enable = enables the Administrative Status and puts the port online
disable = disables the Administrative Status and takes the port offline

Switch Default:
admin. status = **enable**

Examples:
atm service 4/2 Classical2 status enable
status enable

Corresponding UI Command

mas

atm service description

Command Usage

Modify the description for a CIP service.

Syntax Options

view bridge <*slot/port***> <***servId***> description <***descString***>**

Definitions:
slot/port = the slot/port for the service you want to modify
servId = the service description or number for the CIP Client service you want to modify (e.g., **Classical2**)
descString = specifies the new service description or number. Service description strings with spaces must be enclosed in quotations (e.g., **"Classical IP Service 2"**)

Examples:
atm service 4/2 Classical2 description CIP2
description CIP2

Corresponding UI Command

mas

atm service selector

Command Usage

Modify the last byte of the ATM address for a CIP service.

Syntax Options

atm service <*slot/port*> <*servId*> selector <*selector*>

Definitions:
slot/port = the slot/port for the service you want to modify
servId = the service description or number for the LANE Client service you want to modify (e.g., **"Classical IP Service 2"** or **Classical2**)
selector = specifies the new value for the last byte of the ATM address

Examples:
atm service 4/2 Classical2 selector 02
selector 02

Corresponding UI Command

mas

Trunking Service Commands

ATM Trunking is a service that allows Groups and VLANs to be extended across an ATM backbone network. This trunking service operates in a manner similar to Frame Relay Trunking.

atm service trunking

Command Usage

Create a Trunking service.

Syntax Options

atm service <*slot/port***> <***servId***> trunking [member [of] [group]] <***group_list***> [pvc] <***connId***>**

atm service <*slot/port***> <***servId***> trunking [member [of] [group]] <***group_list***> [svc] <***atmAddr***>**

Definitions:
slot/port = specifies the slot/port for the service you want to create
servId = specifies the description or number (can be up to 30 characters) for the service (e.g., **Trunking1**). Service description strings with spaces must be enclosed in quotations (e.g., **"Trunking Service 1"**)
member of group = optional command syntax
group_list = specifies the number of the group or groups that is to be a part of the Trunking service. If more than one group will be a part of this Trunking service, enclose the group list within quotes and separate group numbers with a space (e.g., "1 2 3 4 5 6 7"). The maximum number of groups is 15.
pvc = optional command syntax, specifies PVC (permanent virtual circuit) connection type
connId = specifies connection id (0 to 1024) for the PVC service
svc = optional command syntax, specifies SVC (switched virtual circuit) connection type
atmAddr = specifies an ATM address (40 hex characters) for the the SVC service. Must be a valid ATM address.

Examples:
atm service 4/2 "Trunking Service 1" trunking member of group 2 pvc 30
atm service 4/2 "Trunking Service 1" trunking 2 svc 47007900000000000000000000000A03E00000100

Corresponding UI Command

cas

Remarks

Multiple groups may be added to a Trunking service. The following is an example:

atm service 4/2 "Trunking Service 1" trunking member 2 pvc 30
atm service 4/2 "Trunking Service 1" trunking member 3
atm service 4/2 "Trunking Service 1" trunking member 5

no atm service

Command Usage

Remove a Trunking service.

Syntax Options

no atm service <*slot/port*> <*servId*>

Definitions:
slot/port = the slot/port for the service you want to remove
servId = the service description or number for the PTOP service you want to remove (e.g., **"Trunking Service 1")**

Examples:
no atm service 4/2 "Trunking Service 1"

Corresponding UI Command

das

atm service bandwidth

Command Usage

Modify a bandwidth group for a Trunking service.

Syntax Options

atm service <*slot/port*> <*servId*> bandwidth [group] <*group*>

Definitions:
slot/port = the slot/port for the service you want to modify
servId = the service description or number for the Trunking service you want to modify (e.g., **"Trunking Service 1"**)
group = optional command syntax
group = the bandwidth group number you want to modify

Examples:
atm service 4/2 "Trunking Service 1" bandwidth group 5
atm service 4/2 "Trunking Service 1" bandwidth 5
atm service bandwidth 5

Corresponding UI Command

mas

atm service member

Command Usage

Modify a group member for a Trunking service.

Syntax Options

atm service <*slot/port*> <*servId*> [no] member [of] [group] <*group*>

Definitions:
slot/port = the slot/port for the service you want to modify
servId = the service description or number for the Trunking service you want to modify (e.g., **"Trunking Service 1"**)
no = optional syntax command. Include this syntax if you want to *remove* a group from this Trunking service.
of group = optional command syntax
group = the group number to which the member you want to modify belongs

Examples:
atm service 4/2 "Trunking Service 1" member of group 1
atm service 4/2 "Trunking Service 1" member 1
member 1
atm service 4/2 "Trunking Service 1" no member of group 1
no member 1

Corresponding UI Command

mas

atm service pvc

Command Usage

Modify the PVC (Permanent Virtual Circuit) connection for a Trunking service.

Syntax Options

atm service <*slot/port*> <*servId*> pvc <*connId*>

Definitions:
slot/port = the slot/port for the service you want to modify
servId = the service description or number for the Trunking service you want to modify (e.g., **"Trunking Service 1"**)
connId = the connection id for the PVC service

Examples:
atm service 4/2 "Trunking Service 1" pvc 20
pvc 20

Corresponding UI Command

mas

atm service svc

Command Usage

Modify the SVC (Switched Virtual Circuit) connection for a Trunking service.

Syntax Options

atm service <*slot/port*> <*servId*> svc <*atmAddress*>

Definitions:
slot/port = the slot/port for the service you want to modify
servId = the service description or number for the Trunking service you want to modify (e.g., **"Trunking Service 1"**)
atmAddress = the ATM address for the SVC service

Examples:
atm service 4/2 "Trunking Service 1" svc 47007900000000000000000000000A03E00000100
svc 47007900000000000000000000000A03E00000100

Corresponding UI Command

mas

atm service status

Command Usage

Modify the administrative status for a Trunking service.

Syntax Options

atm service <*slot/port*> <*servId*> status {enable | disable}

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the Trunking service you want to modify (e.g., **"Trunking Service 1"**)
enable = enables the Administrative Status and puts the port online
disable = disables the Administrative Status and takes the port offline

Switch Default:
admin. status = **enable**

Examples:
atm service 4/2 "Trunking Service 1" status enable
status enable

Corresponding UI Command

mas

atm service description

Command Usage

Modify the description for a Trunking service.

Syntax Options

atm service <*slot/port*> <*servId*> description <*descString*>

Definitions:
slot/port = specifies the slot/port for the service you want to modify
servId = specifies the service description or number for the Trunking service you want to modify (e.g., **"Trunking Service 1"**)
descString = specifies the new service description or number

Examples:
atm service 4/2 "Trunking Service 1" description Trunking5
description Trunking5

Corresponding UI Command

mas