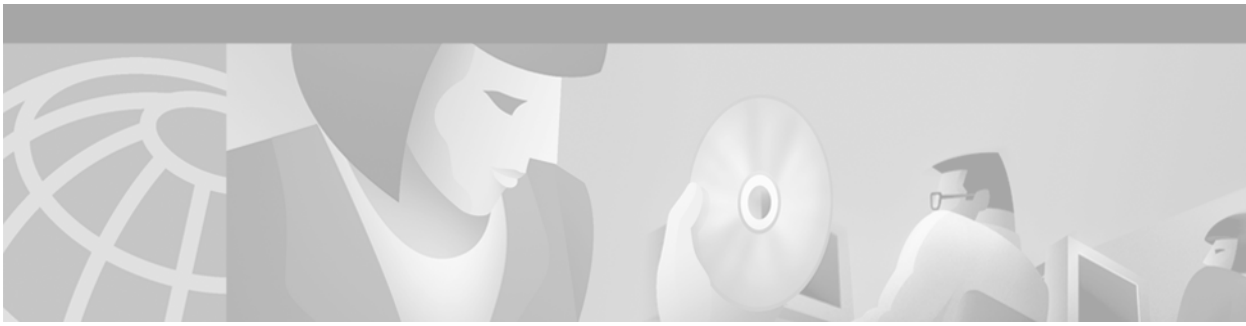

MPOA Commands

This chapter describes the commands available to configure and maintain Multiprotocol over ATM (MPOA).

For MPOA configuration information and examples, refer to the *Cisco IOS Switching Services Configuration Guide*.

atm-address

To override the control ATM address of an MPC or MPS, use the **atm-address** interface configuration command. Use the **no** form of this command to revert to the default address.

atm-address *atm-address*

no atm-address

Syntax Description

atm-address	Control ATM address.

Defaults

The default is an auto-generated ATM address.

Command Modes

Interface configuration.

Command History

Release	Modification
11.3(3a)WA4(5)	This command was introduced.

Usage Guidelines

This command specifies the control ATM address that an MPC or MPS should use when it comes up; that is, when it is associated with a hardware interface.

The **atm-address** command overrides the default the operational control address of the MPC or MPS. When this address is deleted (using the **no** form of the command), the MPC or MPS uses an auto-generated address as its control address.

Examples

The following example specifies the ATM address for an MPC:

```
mpoa-client-config#atm-address 47.009181000000061705b7701.00400BFF0011.00
```

The following example specifies the ATM address for an MPS:

```
mpoa-server-config#atm-address 47.009181000000061705C2B01.00E034553024.00
```

clear mpoa client cache

Use the **clear mpoa client cache** EXEC command to clear the ingress and egress cache entries of one or all MPCs.

clear mpoa client [**name** *mpc-name*] **cache** [**ingress** | **egress**] [**ip-address** *ip-address*]

Syntax Description

name *mpc-name*	(Optional) Specifies the name of the MPC with the specified name.
ingress	(Optional) Clears ingress cache entries associated with the MPC.
egress	(Optional) Clears egress cache entries associated with the MPC.
ip-address *ip-address*	(Optional) Clears matching cache entries with the specified IP address.

Defaults

The system defaults are:

- All MPC cache entries are cleared.
- Both caches are cleared.
- Entries matching only the specified destination IP address are cleared.

Command Modes

EXEC

Command History

Release	Modification
11.3(3a)WA4(5)	This command was introduced.

Examples

The following example clears the ingress and egress cache entries for the MPC named ip_mpc:

```
ATM#clear mpoa client name ip_mpc cache
```

Related Commands

Command	Description
show mpoa client cache	Displays the ingress or egress cache entries matching the IP addresses for the MPCs.

clear mpoa server cache

To clear the ingress and egress cache entries, use the **clear mpoa server cache** EXEC command.

clear mpoa server [**name** *mps-name*] **cache** [**ingress** | **egress**] [**ip-address** *ip-address*]

Syntax Description

name *mps-name*	(Optional) Specifies the name of the MPS. If omitted, this command will apply to all servers.
ingress	(Optional) Clears ingress cache entries associated with a server.
egress	(Optional) Clears egress cache entries associated with a server.
ip-address *ip-address*	(Optional) Clears matching cache entries with the specified IP address. If omitted, this command will clear all entries.

Command Modes

EXEC

Command History

Release	Modification
11.3(3a)WA4(5)	This command was introduced.

Usage Guidelines

This command clears cache entries.

Examples

The following example clears all cache entries:

```
ATM#clear mpoa server cache
```

Related Commands

Command	Description
show mpoa server cache	Displays ingress and egress cache entries associated with a server.

holding-time

To specify the holding time value for the MPS-p7 variable of an MPS, use the **holding-time** MPS configuration command. To revert to the default value, use the **no** form of this command.

holding-time *time*

no holding-time *time*

Syntax Description

time	Specifies the holding time value in seconds.

Defaults

The default holding time is 1200 seconds (20 minutes).

Command Modes

MPS configuration

Command History

Release	Modification
11.3(3a)WA4(5)	This command was introduced.

Examples

The following example sets the holding time to 600 seconds (10 minutes):

```
holding-time 600
```

keepalive-time

To specify the keepalive time value for the MPS-p1 variable of an MPS, use the **keepalive-time** MPS configuration command. To revert to the default value, use the **no** form of this command.

keepalive-time *time*

no keepalive-time *time*

Syntax Description

time	Specifies the keepalive time value in seconds.

Defaults

The default keepalive time is 10 seconds.

Command Modes

MPS configuration

Command History

Release	Modification
11.3(3a)WA4(5)	This command was introduced.

Examples

The following example sets the keepalive time to 25 seconds:

```
keepalive-time 25
```

lane client mpoa client name

Use the **lane client mpoa client name** interface configuration command to bind a LEC to the named MPC. Use the **no** form of this command to unbind the named MPC from a LEC.

lane client mpoa client name *mpc-name*

no lane client mpoa client name *mpc-name*

Syntax Description

mpc-name	Name of the specific MPC.

Defaults

No LEC is bound to a named MPC.

Command Modes

Interface configuration

Command History

Release	Modification
11.3(3a)WA4(5)	This command was introduced.

Usage Guidelines

When you enter this command, the named MPC is bound to a LEC. The named MPC must exist before this command is accepted. If you enter this command before a LEC is configured (not necessarily running), a warning message is issued.

Examples

The following example binds a LEC on a subinterface to the MPC:

```
ATM (config-subif)#lane client mpoa client name ip_mpc
```

lane client mpoa server name

To bind a LEC with the named MPS, use the **lane client mpoa server name** interface configuration command. To unbind the server, use the **no** form of this command.

lane client mpoa server name *mps-name*

no lane client mpoa server name *mps-name*

Syntax Description

mps-name	Name of the specific MPOA server.

Defaults

No LEC is bound to a named MPS.

Command Modes

Interface configuration

Command History

Release	Modification
11.3(3a)WA4(5)	This command was introduced.

Usage Guidelines

This command binds a LEC to the named MPS. The specified MPS must exist before this command is accepted. If this command is entered when a LEC is not already configured (not necessarily running), a warning message will be issued.

Examples

The following example binds a LANE client with the MPS named MYMPS:

```
ATM (config-subif)#lane client mpoa server name MYMPS
```

mpoa client config name

Use the **mpoa client config name** global configuration command to define an MPC with a specified name. Use the **no** form of this command to delete the MPC.

mpoa client config name *mpc-name*

no mpoa client config name *mpc-name*

Syntax Description

mpc-name	Specifies the name of an MPC.

Defaults

This command has no default setting.

Command Modes

Global configuration

Command History

Release	Modification
11.3(3a)WA4(5)	This command was introduced.

Usage Guidelines

When you configure/create an MPC, you automatically enter the MPC configuration mode. From here, you can enter subcommands to define or change MPC variables specific only to this MPC. Note that the MPC is not functional until it is attached to a hardware interface.

Examples

The following example creates or modifies the MPC named ip_mpc:

```
mpoa client config name ip_mpc
```

Related Commands

Command	Description
atm-address	Overrides the control ATM address of an MPC or MPS.
shortcut-frame-count	Specifies the maximum number of times a packet can be routed to the default router within shortcut-frame time before an MPOA resolution request is sent.
shortcut-frame-time	Sets the shortcut-setup frame time (in seconds) for the MPC.

mpoa client name

Use the **mpoa client name** interface configuration command to attach an MPC to a major ATM interface. Use the **no** form of this command to break the attachment.

mpoa client name *mpc-name*

no mpoa client name *mpc-name*

Syntax Description

mpc-name	Specifies the name of an MPC.

Defaults

No MPC is attached to an ATM interface.

Command Modes

Interface configuration

Command History

Release	Modification
11.3(3a)WA4(5)	This command was introduced.

Usage Guidelines

The **mpoa client name** command provides an interface to the MPC through which the MPC can set up and receive calls.

When you enter this command on a major interface that is up and operational, the named MPC becomes operational. Once the MPC is fully operational, it can register its ATM address.

Examples

The following example attaches the MPC ip_mpc to an interface:

```
interface atm 1/0
 mpoa client name ip_mpc
```

mpoa server config name

To define an MPS with the specified name, use the **mpoa server config name** global configuration command. To delete an MPS, use the **no** form of this command.

mpoa server config name *mps-name*

no mpoa server config name *mps-name*

Syntax Description

mps-name	Name of the MPOA server.

Defaults

No MPS is defined.

Command Modes

Global configuration

Command History

Release	Modification
11.3(3a)WA4(5)	This command was introduced.

Usage Guidelines

This command defines an MPS with the specified name. The MPS does not actually start functioning until it is attached to a specific hardware interface. Once that attachment is complete, the MPS starts functioning. When you configure/create an MPS, you automatically enter the MPS configuration mode.

You can define the MPS variables specific to an MPS, only after that MPS is defined with a specified name. After this command is entered, further commands may be used to change MPS variables that are specific only to this MPS.

Examples

The following example defines the MPS named MYMPS:

```
mpoa server config name MYMPS
```

mpoa server name

To attach an MPS to a major ATM interface, use the **mpoa server name** interface configuration command. To break the attachment, use the **no** form of this command.

mpoa server name *mps-name*

no mpoa server name *mps-name*

Syntax Description

mps-name	Name of the MPOA server.

Defaults

No MPS is attached to an ATM interface.

Command Modes

Interface configuration

Command History

Release	Modification
11.3(3a)WA4(5)	This command was introduced.

Usage Guidelines

This command attaches an MPS to a specific (major) interface. At this point, the MPS has the capability to obtain its auto generated ATM address and an interface through which it can communicate to the neighboring MPOA devices. Only when both an MPS is defined globally and attached to an interface, it is considered to be operational. Although multiple different servers may share the same hardware interface, an MPS can be attached to only a single interface at any one time. Note that the specified MPS must already have been defined when this command is entered.

Examples

The following example attaches the MPS named MYMPS to an ATM interface:

```
mpoa server name MYMPS
```

mpoa server name trigger ip-address

To originate an MPOA trigger for the specified IP address to the specified MPOA client from the specified MPS, use the **mpoa server name trigger ip-address** EXEC command.

mpoa server name *mps-name* ***trigger ip-address*** *ip address* [**mpc-address** *mpc-address*]

Syntax Description

mps-name	Specifies the name of the MPOA server.
ip address	Specifies the IP address.
mpc-address *mpc-address*	(Optional) Specifies the MPOA client (MPC) address to which the trigger should be sent. If the address is not specified, a trigger will be sent to all clients.

Command Modes

EXEC

Command History

Release	Modification
11.3(3a)WA4(5)	This command was introduced.

Usage Guidelines

This command sends an MPOA trigger for the specified IP address to the specified MPOA client from the specified MPOA server. If an MPOA client is not specified, it is triggered to all MPOA clients.

Examples

The following example sends an MPOA trigger for the specified IP address 128.9.0.7 to all known MPOA clients from the MPOA server named MYMPS:

```
mpoa server name MYMPS trigger ip-address 128.9.0.7
```

network-id

To specify the network ID of an MPS, use the **network-id** MPS configuration command. To revert to the default value (default value for network-id is 1), use the **no** form of this command.

network-id *id*

no network-id

Syntax Description

id	Specifies the network ID of the MPOA server.

Defaults

The default value for network-id is 1.

Command Modes

MPS configuration

Command History

Release	Modification
11.3(3a)WA4(5)	This command was introduced.

Usage Guidelines

Specifies the network ID of this MPS. This value is used in a very similar way the NHRP network ID is used. It is for partitioning NBMA clouds artificially by administration.

Examples

The following example sets the network ID to 5:

```
network-id 5
```

shortcut-frame-count

Use the **shortcut-frame-count** MPC configuration command to specify the maximum number of times a packet can be routed to the default router within shortcut-frame time before an MPOA resolution request is sent. Use the **no** form of this command to restore the default shortcut-setup frame count value.

shortcut-frame-count *count*

no shortcut-frame-count

Syntax Description

count	Shortcut-setup frame count. The default is 10 frames.

Defaults

The default is 10 frames.

Command Modes

MPC configuration mode.

Command History

Release	Modification
11.3(3a)WA4(5)	This command was introduced.

Examples

The following example sets the shortcut-setup frame count to 5 for the MPC:

```
shortcut-frame-count 5
```

Related Commands

Command	Description
atm-address	Overrides the control ATM address of an MPC or MPS.
mpoa client config name	Defines an MPC with a specified name.
shortcut-frame-time	Sets the shortcut-setup frame time (in seconds) for the MPC.

shortcut-frame-time

Use the **shortcut-frame-time** MPC configuration command to set the shortcut-setup frame time (in seconds) for the MPC. Use the **no** form of this command to restore the default shortcut-setup frame-time value.

shortcut-frame-time *time*

no shortcut-frame-time

Syntax Description

time	(Optional) Shortcut-setup frame time in seconds.

Defaults

The default is 1 second.

Command Modes

MPC configuration

Command History

Release	Modification
11.3(3a)WA4(5)	This command was introduced.

Examples

The following example sets the shortcut-setup frame time to 7 for the MPC:

```
shortcut-frame-time 7
```

Related Commands

Command	Description
atm-address	Overrides the control ATM address of an MPC or MPS.
mpoa client config name	Defines an MPC with a specified name.
shortcut-frame-count	Specifies the maximum number of times a packet can be routed to the default router within shortcut-frame time before an MPOA resolution request is sent.

show mpoa client

Use the **show mpoa client** EXEC command to display a summary of information regarding one or all MPCs.

show mpoa client [**name** *mpc-name*] [**brief**]

Syntax Description

name *mpc-name*	(Optional) Name of the MPC with the specified name.
brief	(Optional) Output limit of the command.

Command Modes

EXEC

Command History

Release	Modification
11.3(3a)WA4(5)	This command was introduced.

Usage Guidelines

If you omit the **name** keyword, the command displays information for all MPCs.

Examples

The following is sample output from the **show mpoa client** command:

```
ATM#show mpoa client name ip_mpc brief
MPC Name: ip_mpc, Interface: ATM1/0, State: Up
MPC actual operating address: 47.00918100000000613E5A2F01.0010A6943825.00
Shortcut-Setup Count: 1, Shortcut-Setup Time: 1
Lane clients bound to MPC ip_mpc: ATM1/0.1
Discovered MPS neighbours                    kp-alv   vcd     rxPkts     txPkts
47.00918100000000613E5A2F01.006070174824.00     59    30         28          2
Remote Devices known                                  vcd     rxPkts     txPkts
47.00918100000000613E5A2F01.00000C5A0C5D.00           35          0         10
```

Table 131 describes the fields shown in the display.

Table 131 show mpoa client Field Descriptions

Field	Description
MPC Name	Name specified for the MPC.
Interface	Interface to which the MPC is attached.
State	Current state of the MPC.
MPC actual operating address	ATM address of the MPC.
Shortcut-Setup Count	Current number specified by the **shortcut-frame-count** command.
Shortcut-Setup Time	Current value specified by the **shortcut-frame-time** command.
Lane clients bound to MPC ip_mpc	List of LANE clients currently bound to MPC ip_mpc.

Table 131 show mpoa client Field Descriptions (continued)

Field	Description
Discovered MPS neighbours	List of learned MPS addresses.
kp-alv	Number of seconds until the next keepalive message should be received.
vcd	Number that identifies the virtual circuit.
rxPkts	Number of packets received from the learned MPS.
txPkts	Number of packets transmitted to the learned MPS.
Remote Devices known	List of other devices (typically other MPCs) not in this ELAN.
vcd	Number that identifies the virtual circuit to that MPC.
rxPkts	Number of packets received from the learned remote device.
txPkts	Number of packets transmitted to the learned remote device.

Related Commands

Command	Description
clear mpoa client name	Clears the ingress and egress cache entries.

show mpoa client cache

Use the **show mpoa client cache** EXEC command to display the ingress or egress cache entries matching the IP addresses for the MPCs.

show mpoa client [**name** *mpc-name*] **cache** [**ingress** | **egress**] [**ip-address** *ip-address*]

Syntax Description

name *mpc-name*	(Optional) Name of the MPC with the specified name.
ingress	(Optional) Displays ingress cache entries associated with an MPC.
egress	(Optional) Displays egress cache entries associated with an MPC.
ip-address *ip-address*	(Optional) Displays cache entries that match the specified IP address.

Command Modes

EXEC

Command History

Release	Modification
11.3(3a)WA4(5)	This command was introduced.

Examples

The following is sample output from the **show mpoa client cache** command for a specific MPC:

```
ATM#show mpoa client ip_mpc cache
MPC Name: ip-mpc, Interface: ATM1/0, State: Up
MPC actual operating address: 47.00918100000000613E5A2F01.0010A6943825.00
Shortcut-Setup Count: 1, Shortcut-Setup Time: 1
Number of Ingress cache entries: 1
MPC Ingress Cache Information:
Dst IP addr     State   vcd Expires Egress MPC Atm address
20.20.20.1      RSVLD    35   11:38 47.00918100000000613E5A2F01.00000C5A0C5D.00
Number of Egress cache entries: 1
MPC Egress Cache Information:
Dst IP addr         Dst MAC       Src MAC     MPSid  Elan Expires  CacheId  Tag
10.10.10.1      0000.0c5a.0c58 0060.7017.4820     9     2   11:55        1    1
```

Table 132 describes the fields shown in the display.

Table 132 show mpoa client cache Field Descriptions

Field	Description
MPC Name	Name specified for the MPC.
Interface	Interface to which the MPC is attached.
State	Current state of the MPC (up or down).
MPC actual operating address	ATM address of the MPC.
Shortcut-Setup Count	Current number specified by the **shortcut-frame-count** command.

Table 132 show mpoa client cache Field Descriptions (continued)

Field	Description
Number of Ingress cache entries	Number of entries in the ingress cache.
MPC Ingress Cache Information	
Dst IP addr	IP address of the destination.
State	State of the ingress cache entry[1].
vcd	Number that identifies the virtual circuit.
Expires	Time in minutes/seconds until the ingress cache entry expires.
Egress MPC Atm address	ATM address of the egress MPC.
Number of Egress cache entries	Number of entries in the egress cache.
MPC Egress Cache Information:	
Dst IP addr	IP address of the destination.
Dst MAC	MAC address of the destination.
Src MAC	MAC address of the source.
MPSid	Unique number representing the egress MPS.
Elan	ELAN identifier of the ELAN serving this destination IP address.
Expires	Time in minutes/seconds until the egress cache entry expires.
CacheID	Cache identifier.
Tag	Tag identifier.

1. Valid states are initialized, trigger, refresh, hold_down, resolved, and suspended.

show mpoa client statistics

Use the **show mpoa client statistics** EXEC command to display all the statistics collected by an MPC.

show mpoa client [**name** *mpc-name*] **statistics**

Syntax Description

name *mpc-name*	(Optional) Specifies the name of the MPC.

Command Modes

EXEC

Command History

Release	Modification
11.3(3a)WA4(5)	This command was introduced.

Usage Guidelines

This command displays all the statistics collected by an MPC.

Examples

The following is sample output from the **show mpoa client statistics** command for the MPC ip_mpc:

```
ATM#show mpoa client name ip_mpc statistics
MPC Name: ip_mpc, Interface: ATM1/0, State: Up
MPC actual operating address: 47.00918100000000613E5A2F01.0010A6943825.00
Shortcut-Setup Count: 1, Shortcut-Setup Time: 1

                            Transmitted       Received
MPOA Resolution Requests              2              0
MPOA Resolution Replies               0              2
MPOA Cache Imposition Requests        0              0
MPOA Cache Imposition Replies         0              0
MPOA Cache Purge Requests             0              0
MPOA Cache Purge Replies              0              0
MPOA Trigger Request                  0              0
NHRP Purge Requests                   0              0


Invalid MPOA Data Packets Received: 0
```

show mpoa default-atm-addresses

Use **show mpoa default-atm-addresses** EXEC command to display the default ATM addresses for the MPC.

show mpoa default-atm-addresses

Syntax Description

This command has no arguments or keywords.

Command Modes

EXEC

Command History

Release	Modification
11.3(3a)WA4(5)	This command was introduced.

Examples

The following is sample output from the **show mpoa default-atm-addresses** command when the switch prefix is NOT available:

```
ATM#show mpoa default-atm-addresses
interface ATM1/0:
MPOA Server: ...006070174824.**
MPOA Client: ...006070174825.**
note: ** is the MPS/MPC instance number in hex

interface ATM2/0:
MPOA Server: ...006070174844.**
MPOA Client: ...006070174845.**
note: ** is the MPS/MPC instance number in hex
```

The following is sample shows output from the **show mpoa default-atm-addresses** command when the switch prefix is available:

```
ATM#show mpoa default-atm-addresses
interface ATM1/0:
MPOA Server: 47.00918100000000613E5A2F01.006070174824.**
MPOA Client: 47.00918100000000613E5A2F01.006070174825.**
note: ** is the MPS/MPC instance number in hex

interface ATM2/0:
MPOA Server: 47.10000000000000000000000.006070174844.**
MPOA Client: 47.10000000000000000000000.006070174845.**
note: ** is the MPS/MPC instance number in hex
```

Table 133 describes the fields shown in the example output.

Table 133 show mpoa default-atm-addresses Field Descriptions

Field	Description
interface ATM1/0	Specified interface.
MPOA Server	ATM address of the MPOA server on the interface.
MPOA Client	ATM address of the MPOA client on the interface.

show mpoa server

To display information about any specified or all MPSs in the system depending on whether the name of the required MPS is specified or not, use the **show mpoa server** EXEC command.

show mpoa server [**name** *mps-name*]

Syntax Description

name *mps-name*	(Optional) Specifies the name of the MPOA server.

Command Modes

EXEC

Command History

Release	Modification
11.3(3a)WA4(5)	This command was introduced.

Usage Guidelines

This command displays information about any specified MPS or all MPSs in the system depending on whether the name of the required MPS is specified or not. The command displays information about server configuration parameters. It also displays information about LAN Emulated Clients (LECs) that are bound to the MPOA server neighbors (both MPC and MPS).

Examples

The following is sample output from the **show mpoa server** command, with a specified name:

```
Router# show mpoa server name ip_mps

MPS Name: ip_mps, MPS id: 0, Interface: ATM1/0, State: up
network-id: 1, Keepalive: 25 secs, Holding time: 1200 secs
Keepalive lifetime: 75 secs, Giveup time: 40 secs
MPS actual operating address: 47.00918100000000613E5A2F01.006070174824.00
Lane clients bound to MPS ip_mps: ATM1/0.1 ATM1/0.2
Discovered neighbours:
MPC 47.00918100000000613E5A2F01.00000C5A0C5D.00 vcds: 39(R,A)
MPC 47.00918100000000613E5A2F01.0010A6943825.00 vcds: 40(R,A)
```

Table 134 describes the fields shown in the display.

Table 134 show mpoa server Field Descriptions

Field	Description
MPS Name	Name of the MPOA server.
MPS id	ID of the MPOA server.
Interface	Interface to which the MPS is attached.
State	State of the MPOA server: up or down.
network-id	Network ID used for partitioning.
Keepalive	Keepalive time value.
Holding time	Holding time value.

Table 134 show mpoa server Field Descriptions (continued)

Field	Description
Keepalive lifetime	Keepalive lifetime value.
Giveup time	Minimum time to wait before giving up on a pending resolution request.
MPS actual operating address	Actual control address of this MPS.
Lane clients bound to MPS ip_mps	List of LANE clients served by the MPS.
Discovered neighbors	MPOA devices discovered by the clients bound to this MPS.

Related Commands

Command	Description
clear mpoa server name	Clears the ingress and egress cache entries of one or all MPCs.

show mpoa server cache

To display ingress and egress cache entries associated with a server, use the **show mpoa server cache** EXEC command.

show mpoa server [**name** *mps-name*] **cache** [**ingress** | **egress**] [**ip-address** *ip-address*]

Syntax Description

name *mps-name*	(Optional) Specifies the name of a MPOA server.
ingress	(Optional) Displays ingress cache entries associated with a server.
egress	(Optional) Displays egress cache entries associated with a server.
ip-address *ip-address*	(Optional) Displays the entries which match the specified IP address.

Command Modes

EXEC

Command History

Release	Modification
12.0	This command was introduced.

Usage Guidelines

This command displays ingress and egress cache entries associated with an MPS.

Examples

The following is sample output from the **show mpoa server cache** command, with a specified name:

```
Router# show mpoa server name ip_mps cache

MPS Name: ip_mps, MPS id: 0, Interface: ATM1/0, State: up
network-id: 1, Keepalive: 25 secs, Holding time: 1200 secs
Keepalive lifetime: 75 secs, Giveup time: 40 secs
MPS actual operating address: 47.00918100000000613E5A2F01.006070174824.00
Number of Ingress cache entries: 1
Ingress Cache information:
  IP address      Ingress MPC ATM Address                       Remaining Time
  20.20.20.1      47.00918100000000613E5A2F01.0010A6943825.00   19:07
Number of Egress cache entries: 1
Egress Cache information:
  Dst IP address  Ingress MPC ATM Address                       Remaining Time
  20.20.20.1      47.00918100000000613E5A2F01.0010A6943825.00   19:06
  src IP 20.20.20.2, cache Id 1
```

Table 135 describes the fields shown in the display.

Table 135 show mpoa server cache Field Descriptions

Field	Description
MPS Name	Name of the MPOA server.
MPS id	ID of the MPOA server.
Interface	Interface to which the MPS is attached.
State	State of the MPOA server: up or down.
network-id	Network ID used for partitioning.
Keepalive	Keepalive time value.
Holding time	Holding time value.
Keepalive lifetime	Keepalive lifetime value.
Giveup time	Minimum time to wait before giving up on a pending resolution request.
MPS actual operating address	Actual control address of this MPS.
Number of Ingress cache entries	Number of entries in the ingress cache.
Ingress Cache information	Information of ingress cache.
IP address	IP address of the MPC.
Ingress MPC ATM Address	ATM address of the ingress MPC.
Remaining Time	Time for which the cache entry is valid.
Number of Egress cache entries	Number of entries in the egress cache.
Egress Cache information	Information of egress cache.
Dst IP address	IP address of the destination.
src IP	IP address of the source MPS which originated the NHRP resolution request.
cache Id	Cache identifier.

show mpoa server statistics

To display all the statistics collected by an MPS, use the **show mpoa server statistics** EXEC command.

show mpoa server [**name** *mps-name*] **statistics**

Syntax Description

name *mps-name*	(Optional) Specifies the name of a MPOA server.

Command Modes

EXEC

Command History

Release	Modification
12.0	This command was introduced.

Usage Guidelines

This command will display all the statistics collected by an MPS. This pertains to the ingress /egress cache entry creation, deletion, and failures.

Examples

The following is a sample output from the **show mpoa server statistics** command, with a specified name:

```
Router# show mpoa server name ip_mps statistics

MPS Name: ip_mps, MPS id: 0, Interface: ATM1/0, State: up
network-id: 1, Keepalive: 25 secs, Holding time: 1200 secs
Keepalive lifetime: 75 secs, Giveup time: 40 secs
MPS actual operating address: 47.00918100000000613E5A2F01.006070174824.00
Opcode                            Transmitted    Received
-----------------------------------------------------------
MPOA Resolution Requests                                 2
MPOA Resolution Replies                      2
MPOA Cache Imposition Requests               1
MPOA Cache Imposition Replies                            1
MPOA Egress Cache Purge Requests                         0
MPOA Egress Cache Purge Replies              0
NHRP Resolution Requests                     0           0
NHRP Resolution Replies                      0           0
NHRP Purge Requests                          0           0
```

Table 136 describes the fields shown in the upper part of this display.

Table 136 show mpoa server statistics Field Descriptions

Field	Description
MPS Name	Name of the MPOA server.
MPS id	ID of the MPOA server.
Interface	Specified interface.
State	State of the MPOA server: up or down.

Table 136 show mpoa server statistics Field Descriptions (continued)

Field	Description
network-id	Network ID used for partitioning.
Keepalive	Keepalive time value.
Holding time	Holding time value.
Keepalive lifetime	Keepalive lifetime value.
Giveup time	Minimum time to wait before giving up on a pending resolution request.
MPS actual operating address	Actual control address of this MPS.

Table 137 Table Format Tags

New Table Catalog	Old Table Names (Converted/Deleted)
A	Format A
B	Format B
C	Format C
CMDREF	(new) Modular only
CMDREF_SYNTAX	(new) Modular only
D	Format D
E	Format E
F	(new)
G	Format G
H	Format H
STEP	(new)
STEPWIDE	(new)