

shortcut-frame-count

Use the **shortcut-frame-count** command to specify the maximum number of times a packet can be routed to the default router within the 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.

Default

The default is 10 frames.

Command Type

Cisco IOS ATM command.

Command Mode

MPC configuration.

Usage Guideline

This command is not supported by the Catalyst 4000 and 2948G series switches.

Example

This example shows how to set the shortcut-setup frame count to 5 for the MPC:

```
mpoa-client-config#shortcut-frame-count 5  
mpoa-client-config#
```

Related Commands

atm-address
mpoa client config name
shortcut-frame-time

shortcut-frame-time

Use the **shortcut-frame-time** 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.

Default

The default is 1 second.

Command Type

Cisco IOS ATM command.

Command Mode

MPC configuration.

Usage Guideline

This command is not supported by the Catalyst 4000 and 2948G series switches.

Example

This example shows how to set the shortcut-setup frame time to 7 for the MPC:

```
mpoa-client-config#shortcut-frame-time 7  
mpoa-client-config#
```

Related Commands

atm-address
mpoa client config name
shortcut-frame-count

show alias

Use the **show alias** command to display a listing of defined command aliases.

show alias [*name*]

Syntax Description

name (Optional) Name of the alias to be displayed. If *name* is not specified, all defined aliases are displayed.

Default

This command has no default setting.

Command Type

Switch command.

Command Mode

Normal.

Example

This example shows how to display all aliases:

```
Console> show alias
shint          show interface
cc            clear config
shf          show flash
sip          show ip route
Console>
```

Related Commands

clear alias

session

set alias

show arp

Use the **show arp** command to display the ARP table.

```
show arp [ip_addr | hostname][noalias]
```

Syntax Description

ip_addr (Optional) Number of the IP address.

hostname (Optional) Name of the host.

noalias (Optional) Keyword to force the display to show only IP addresses, not IP aliases.

Default

This command has no default setting.

Command Type

Switch command.

Command Mode

Normal.

Usage Guidelines

ARP Aging time display in the output is the period of time that indicates when an ARP entry is removed from the ARP table. Set this value by entering the **set arp agingtime** command. The remaining lines of the display show the mappings of IP addresses (or IP aliases) to MAC addresses.

Use the *ip_addr* or the *hostname* options to specify a specific IP host when the ARP cache is large.

Example

This example shows how to display the ARP table:

```
Console> show arp
ARP Aging time = 1200 sec
strauss-fddi    at 00-40-0b-40-40-8f
198.133.219.209 at 00-40-0b-40-cc-31
198.133.219.40  at 08-00-20-08-f1-ac
Console>
```

Related Commands

clear arp

set arp

show atm ilmi-status atm

Use the **show atm ilmi** command to display ILMI-related information.

```
show atm ilmi-status atm mod_num/subcard_num/port_num
```

Syntax Description

mod_num/ Number of the module.

subcard_num Number of the submodule.

port_num Number of the port for the ATM interface.

Default

This command has no default setting.

Command Type

Cisco IOS ATM command.

Command Mode

EXEC.

Usage Guideline

This command is not supported by the Catalyst 4000 and 2948G series switches.

Example

This example shows how to display ILMI-related information.

```
ATM#show atm ilmi-status atm 0/0/3
Interface : ATM0/0/3 Interface Type : Private UNI (Network-side)
ILMI VCC : (0, 16) ILMI Keepalive : Enabled (5 Seconds)
Addr Reg State: UpAndNormal
Peer IP Addr:    0.0.0.0
Peer MaxVPIbits: 8 Peer MaxVCIBits: 14
Configured Prefix(s) :
47.0091.8100.0000.0041.0b0a.1081
47.0091.8100.0000.0060.3e5a.db01
47.0091.8100.5670.0000.0000.1122
```

Table 2-10 describes the fields shown in the **show atm ilmi-status atm** output.

Table 2-10 show atm ilmi-status Command Output Fields

Field	Description
Interface	Number of the module, submodule, and port of the specified ATM interface.
Interface Type	Type of interface for the specified ATM interface.
ILMI VCC	Number of the current ILMI VCC for the specified ATM.
ILMI Keepalive	Status and the set time for the ILMI for the specified ATM.
Configured Prefix	Prefix for the ATM.

show atm interface atm0

Use the **show atm interface atm0** command to display information about the ATM interface.

show atm interface atm0

Note The interface number **atm0** must always be used for the Catalyst 5000, 2926G, and 2926 series ATM module.

Syntax Description

This command has no arguments or keywords.

Default

This command has no default setting.

Command Type

Cisco IOS ATM command.

Command Mode

EXEC.

Usage Guideline

This command is not supported on the Catalyst 4000 and 2948G series switches.

Example

This example shows how to display statistics on the ATM module:

```
ATM#show atm interface atm0
ATM interface ATM0:
AAL enabled:  AAL5 , Maximum VCs: 4096, Current VCCs: 2
Tx buffers 32, Rx buffers 32, Exception Queue: 32, Raw Queue: 32
VP Filter: 0x0, VCIs per VPI: 1024, Max. Datagram Size:1580
PLIM Type:SONET - 155Mbps, TX clocking: LINE
0 input, 0 output, 0 IN fast, 0 OUT fast
Config. is ACTIVE
ATM#
```

Table 2-11 describes the fields in the **show atm interface atm0** output.

Table 2-11 show atm interface atm0 Command Output Fields

Field	Description
ATM interface	ATM interface number.
AAL enabled	AAL type currently enabled.
Maximum VCs	Maximum number of virtual connections this interface can support.
Current VCCs	Number of virtual connections currently active on the interface.
Tx buffers	Number of transmit buffers on the interface.
Rx buffers	Number of receive buffers on the interface.
VCIs per VPI	Maximum number of VCIs to support per VPI (as configured using the atm vc-per-vp command).
Max. Datagram Size	Maximum datagram size supported by the interface.
PLIM Type	PLIM type and speed.
TX clocking	Transmit clocking method used on the interface.
input	Number of packets received from process switch.
output	Number of packets sent to process switch.
IN fast	Number of packets received from fast process switch.
OUT fast	Number of packets sent to fast process switch.
Config. is	Status of the configuration: ACTIVE or VALID in <i>n</i> SECONDS. ACTIVE indicates that the current Catalyst 5000, 2926G, and 2926 series switch configuration has been loaded into the switch and is being used. VALID in <i>n</i> SECONDS indicates that the configuration will be active in <i>n</i> seconds. There is a 5-second inactive period whenever a new configuration is sent to the Catalyst 5000, 2926G, and 2926 series switch.

show atm traffic

Use the **show atm traffic** command to display current global ATM traffic information to and from all ATM networks connected to the ATM module.

show atm traffic

Syntax Description

This command has no arguments or keywords.

Default

This command has no default setting.

Command Type

Cisco IOS ATM command.

Command Mode

EXEC.

Usage Guideline

This command is not supported on the Catalyst 4000 and 2948G series switches.

Example

This example shows sample output from the **show atm traffic** command:

```
ATM#show atm traffic
949 Input packets
948 Output packets
0 Broadcast packets
0 Packets received on non-existent VC
0 Packets attempted to send on non-existent VC
0 OAM cells received
0 OAM cells sent
ATM#
```

Table 2-12 describes the fields in the **show atm traffic** output.

Table 2-12 show atm traffic Command Output Fields

Field	Description
Input packets	Total number of input ATM packets.
Output packets	Total number of nonbroadcast output ATM packets.
Broadcast packets	Total number of broadcast output ATM packets.
Packets received on nonexistent VC	Number of packets received addressed to a virtual connection that is not configured.
Packets attempted to send on nonexistent VC	Number of packets attempted to send to a virtual connection that is not configured.
OAM cells received	Number of OAM cells received.
OAM cells sent	Number of OAM cells sent.

Related Command

atm pvc

show atm vc

Use the **show atm vc** command to display the active ATM virtual connections (PVCs and SVCs) and traffic information.

```
show atm vc [vcd]
```

Syntax Description

vcd (Optional) Number of the virtual connection for which information is displayed.

Default

If you do not specify a *vcd*, the command displays information for all SVCs. The output is in summary form (one line per VC).

Command Type

Cisco IOS ATM command.

Command Mode

EXEC.

Usage Guideline

This command is not supported on the Catalyst 4000 and 2948G series switches.

Example

This example shows how to display statistics for all VCs:

```
ATM#show atm vc
          AAL /      Peak   Avg.   Burst
Interface  VCD   VPI   VCI Type Encapsulation  Kbps   Kbps   Cells Status
ATM0       1    0    5  PVC  AAL5-SAAL      0     0     0 INACTIVE
ATM0       2    0   16  PVC  AAL5-ILMI      0     0     0 INACTIVE
ATM#
```

Table 2-13 describes the fields in the **show atm vc** output.

Table 2-13 show atm vc Command Output Fields

Field	Description
Interface	Interface on which the VC is configured.
VCD	VCD of the VC.
VPI	VPI of the VC.
VCI	VCI of the VC.
Type	Type of virtual connection (PVC or SVC).
AAL/Encapsulation	AAL type and encapsulation type configured for the virtual connection.
Status	Status of the virtual connection (ACTIVE or INACTIVE).

show atm vlan

Use the **show atm vlan** command to display the active VLAN-to-PVC bindings.

```
show atm vlan [vlan_num]
```

Syntax Description

vlan_num (Optional) Number of the VC about which information is displayed. The range of *vlan_num* is 1 to 1023.

Default

If you do not specify a *vlan_num*, all active VLAN-to-PVC bindings are displayed.

Command Type

Cisco IOS ATM command.

Command Mode

Privileged EXEC.

Usage Guideline

This command is not supported on the Catalyst 4000 and 2948G series switches.

Example

After entering the **show atm vlan** command, you see this display:

```
ATM#show atm vlan
VCD      VLAN-ID
10       5
11       5
ATM#
```

The display shows the VCD of the VC and the VLAN-ID of the VLAN to which the VC belongs.

show authentication

Use the **show authentication** command to display authentication information.

show authentication

Syntax Description

This command has no arguments or keywords.

Default

This command has no default setting.

Command Type

Switch command.

Command Mode

Normal.

Example

After entering the **show authentication** command, you see this display:

```
Console> show authentication
Console Session   Telnet Session
Login Authentication:
-----
tacacs            disabled         disabled
local            enabled(primary) enabled(primary)
Enable Authentication:
-----
tacacs            disabled         disabled
local            enabled(primary) enabled(primary)
Console>
```

show boot

Note This command applies only to the Supervisor Engine III or the Catalyst 4000 and 2948G series switch supervisor engine modules. If you attempt to run this command on a Supervisor Engine I or II, you will receive an error message.

Use the **show boot** command to display the contents of the BOOT environment variables and the configuration register setting.

show boot [*mod_num*]

Syntax Description

mod_num (Optional) Module number of the supervisor engine containing the Flash device.

Command Type

Switch command.

Command Mode

Normal.

Usage Guideline

This command can only be used with a Supervisor Engine III or Catalyst 4000 and 2948G series switch supervisor engine module.

Example

This example shows how to use the **show boot** command:

```
Console> show boot
BOOT variable = bootflash:cat5000-sup3.4-4-0-10.bin,1;bootflash:cat5000-sup3.4-;

Configuration register is 0x10f
ignore-config: disabled
console baud: 9600
boot: image specified by the boot system commands
Console>
```

Related Command

show boot

show bridge

Use the **show bridge** command to display bridge information.

show bridge

Syntax Description

This command has no arguments or keywords.

Default

This command has no default setting.

Command Type

Switch command.

Command Mode

Normal.

Example

This example shows how to display bridge information:

```
Console> show bridge
APaRT Enabled
FDDICHECK Enabled
IP fragmentation Enabled
Default IPX translations:
  FDDI SNAP to Ethernet      8023raw
  FDDI 802.2 to Ethernet    8023raw
  Ethernet 802.3 Raw to FDDI snap
Console>
```

Table 2-14 describes the fields in the **show bridge** output.

Table 2-14 show bridge Command Output Fields

Field	Description
APaRT Enabled	Status of whether APaRT is enabled or disabled.
FDDICHECK Enabled	Status of whether FDDICHECK is enabled or disabled.
IP fragmentation Enabled	Status of whether IP fragmentation is enabled or disabled.
Default IPX translations	Default method for translating IPX packets across various media.

Related Commands

set bridge ipx 8022toether
set bridge ipx 8023rawtofdi
set bridge ipx snaptoether
set ip dns domain

show cam

Use the **show cam** command to display the CAM table.

```
show cam [count]{dynamic | static | permanent | system} [vlan]
show cam {dynamic | static | permanent} mod_num/port_num
show cam mac_addr [vlan]
```

Syntax Description

count	(Optional) Keyword to display only the number of CAM entries.
dynamic	Keyword to display dynamic CAM entries.
static	Keyword to display static CAM entries.
permanent	Keyword to display permanent CAM entries.
system	Keyword to display system CAM entries.
<i>vlan</i>	(Optional) Number of the VLAN. If a VLAN is not specified, all VLANs are displayed.
<i>mod_num</i>	Number of the module.
<i>port_num</i>	Number of the port.
<i>mac_addr</i>	MAC address.

Default

This command has no default setting.

Command Type

Switch command.

Command Mode

Normal.

Usage Guideline

If you display the output associated with the MAC address of an ATM dual PHY OC-12 module, additional information is displayed, including the VCD, VPI, VCI, and VC type.

If you enter the **show cam** command on the Catalyst 5000, 2926G, and 2926 series switches, the EARL CAM table entries are displayed.

If you enter the **show cam** command on the Catalyst 4000 and 2948G series switches, the ASE CAM table entries are displayed.

The Catalyst 2948G is a fixed configuration switch. All ports are located on module 2; for this reason, if you enter 1/N for the module/port number, an error message is displayed.

Examples

This example shows how to display dynamic CAM entries for all VLANs:

```
Console> show cam dynamic
* = Static Entry. + = Permanent Entry. # = System Entry. R = Router Entry.
```

VLAN	Dest MAC/Route Des	Destination Ports or VCs / [Protocol Type]
1	00-60-5c-86-5b-81	4/1 [ALL]
1	00-60-2f-35-48-17	4/1 [ALL]
1	00-80-24-f3-47-20	1/2 [ALL]
1	00-60-09-78-96-fb	4/1 [ALL]
1	00-80-24-1d-d9-ed	1/2 [ALL]
1	00-80-24-1d-da-01	1/2 [ALL]
1	08-00-20-7a-63-01	4/1 [ALL]

Total Matching CAM Entries Displayed = 7

```
Console>
```

This example shows the output associated with the MAC address of an ATM dual PHY OC-12 module, which includes the dynamic CAM entries for all VLANs:

```
Console> show cam dynamic
VLAN  Dest MAC/Route Des  Destination Ports or VCs
-----
12    00-14-14-14-14-1c    6/1
12    00-14-14-14-14-1d    6/1
12    00-14-14-14-14-1a    6/1
12    00-14-14-14-14-1b    6/1
12    00-14-14-14-14-18    6/1
12    00-14-14-14-14-19    6/1
12    00-14-14-14-14-16    6/1
12    00-14-14-14-14-17    6/1
12    00-14-14-14-14-14    6/1
12    00-14-14-14-14-15    6/1
6     00-14-14-14-14-16    4/1 VCD:98 VPI:0 VCI:127 Type: LANE Data Direct
6     00-14-14-14-14-17    4/1 VCD:98 VPI:0 VCI:127 Type: LANE Data Direct
6     00-14-14-14-14-14    4/1 VCD:98 VPI:0 VCI:127 Type: LANE Data Direct
6     00-14-14-14-14-15    4/1 VCD:98 VPI:0 VCI:127 Type: LANE Data Direct
6     00-14-14-14-14-1a    4/1 VCD:98 VPI:0 VCI:127 Type: LANE Data Direct
6     00-14-14-14-14-1b    4/1 VCD:98 VPI:0 VCI:127 Type: LANE Data Direct
6     00-14-14-14-14-18    4/1 VCD:98 VPI:0 VCI:127 Type: LANE Data Direct
6     00-14-14-14-14-19    4/1 VCD:98 VPI:0 VCI:127 Type: LANE Data Direct
6     00-14-14-14-14-1c    4/1 VCD:98 VPI:0 VCI:127 Type: LANE Data Direct
6     00-14-14-14-14-1d    4/1 VCD:98 VPI:0 VCI:127 Type: LANE Data Direct
3     00-14-14-14-14-14    4/1 VCD:101 VPI:0 VCI:130 Type: LANE Data Direct
3     00-14-14-14-14-15    4/1 VCD:101 VPI:0 VCI:130 Type: LANE Data Direct
Do you wish to continue y/n [n]? a
Total Matching CAM Entries Displayed = 21
Console>
```

Table 2-15 describes the fields in the ATM dual PHY OC-12 module **show cam dynamic** output.

Table 2-15 show cam dynamic Command Output Fields

Field	Description
VCD	VCD of the VC.
VPI	VPI of the VC.
VCI	VCI of the VC.
Type	Type of virtual circuit (LANE Data Direct, LANE bus, or AAL5SNAP PVC).

This example shows routers listed as the CAM entries. If the MAC address belongs to a router, it is shown by appending an “R” to the MAC address. If a VLAN is specified, then only those CAM entries matching the VLAN number are displayed.

```
Console> show cam 00-00-81-01-23-45
* = Static Entry. + = Permanent Entry. # = System Entry. R = Router Entry

Router Watergate with IP address 172.25.55.1 has CAM entries:
VLAN  Dest MAC/Route Des      Destination Ports or VCs
----  -
1      00-00-81-01-23-45R  2/9 [IP]
2      00-00-81-01-23-45R  2/10 [IP]
Total Matching CAM Entries = 2
Console>
```

Related Commands

- clear cam**
- set cam**
- show config**
- show cam agingtime**

show cam agingtime

Use the **show cam agingtime** command to display CAM aging time information for all configured VLANs.

show cam agingtime

Syntax Description

This command has no arguments or keywords.

Default

This command has no default setting.

Command Type

Switch command.

Command Mode

Normal.

Example

This example shows how to display CAM aging time information:

```
Console> show cam agingtime
VLAN 1 aging time = 300 sec
VLAN 3 aging time = 300 sec
VLAN 5 aging time = 300 sec
VLAN 9 aging time = 300 sec
VLAN 100 aging time = 300 sec
VLAN 200 aging time = 300 sec
VLAN 201 aging time = 300 sec
VLAN 202 aging time = 300 sec
VLAN 203 aging time = 300 sec
Console>
```

Related Commands

clear cam

set cam

show cam

show cam mlsrp

Use the **show cam mlsrp** command to display the specified router entries in the MLS forwarding table. If you can specify a VLAN number, only the router MAC addresses corresponding to the VLAN are displayed.

```
show cam mlsrp {ip_addr} [vlan]
```

Syntax Description

ip_addr IP address of the router or name of the router if DNS is enabled.

vlan (Optional) Number of the VLAN. If you do not specify a VLAN, all VLANs are displayed.

Default

This command has no default setting.

Command Type

Switch command.

Command Mode

Normal.

Usage Guideline

This command is not supported on the Catalyst 4000 and 2948G series switches.

Example

This example shows how to display all CAM entries for the specified router:

```
Console>(enable) show cam mlsrp 172.20.22.1
VLAN Destination MAC      Destination Ports or VCs  Xtag Status
-----
1      00-00-81-01-23-45R  2/9                      5  H
2      00-00-81-01-23-45R  2/10                     5  H
Total Matching CAM Entries Displayed = 2
Console>(enable)
```

Related Command

show cam

show cdp

Use the **show cdp** command to display CDP information.

```
show cdp neighbors [mod_num[/port_num]] [detail]  
show cdp port [mod_num[/port_num]]
```

Syntax Description

neighbors	Keyword to show CDP information for all Cisco products connected to the switch.
<i>mod_num</i>	(Optional) Number of the module for which CDP information is displayed. If no module number is specified, CDP information for the entire switch is displayed.
<i>/port_num</i>	(Optional) Number of the port for which CDP information is displayed.
detail	(Optional) Keyword to show detailed information about neighboring Cisco products.
port	Keyword to show CDP port settings.

Default

This command has no default setting.

Command Type

Switch command.

Command Mode

Normal.

Usage Guideline

The Catalyst 2948G is a fixed configuration switch. All ports are located on module 2; for this reason, if you enter **1/N** for the module/port number, an error message is displayed.

Examples

This example shows how to display CDP information about neighboring systems:

```
Console> show cdp neighbor 4
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater

Port    Device-ID                Port-ID    Platform    Capability
-----
4/1     001905905                4/1       WS-C5000    T S
4/1     062000101 (CAT3)        9         WS-C1201    S I
4/1     069000022                8/1       WS-C5500    T S
4/1     069000040                4/2       WS-C5500    T S
Console>
```

This example shows how to display detailed CDP information. The display varies depending on your network configuration at the time you run the command.

```
Console> show cdp neighbor 4 detail
Device-ID: 001905905
Device Addresses:
  IP Address: 172.16.25.140
Holdtime: 168 sec
Capabilities: TRANSPARENT_BRIDGE SWITCH
Version:
  WS-C5000 Software, Version McpSW: 2.2(4) NmpSW: 2.3(103-Eng)
  Copyright (c) 1995,1996 by Cisco Systems
Platform: WS-C5000
Port-ID (Port on Device): 4/1
Port (Our Port): 4/1
```

This example shows how to display CDP information for port 1 on module 2:

```
Console> show cdp port 2/1
Port  CDP Status  Message-Interval
----  -
2/1   enabled      60
Console>
```

Related Command

set cdp