Bridging Command Reference, Cisco IOS XE Release 3SE (Catalyst 3850 Switches)

January 2013

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Bridging Commands

bridge acquire

To forward any frames for stations that the system has learned about dynamically, use the **bridge acquire** command in global configuration mode. To disable the behavior, use the **no** form of this command.

bridge *bridge-group* **acquire**

no bridge *bridge-group* **acquire**

Syntax Description

bridge-group	Bridge group number specified in the **bridge protocol** command.

Defaults

Enabled

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2SX	This command is supported in the Cisco IOS Release 12.2SX train. Support in a specific 12.2SX release of this train depends on your feature set, platform, and platform hardware.

Usage Guidelines

When using the command default, the Cisco IOS software forwards any frames from stations that it has learned about dynamically. If you use the **no** form of this command, the bridge stops forwarding frames to stations it has dynamically learned about through the discovery process and limits frame forwarding to statically configured stations. That is, the bridge filters out all frames except those whose sourced-by or destined-to addresses have been statically configured into the forwarding cache. The **no** form of this command prevents the forwarding of a dynamically learned address.

Examples

The following example shows how to prevent the forwarding of dynamically determined source and destination addresses:

```
no bridge 1 acquire
```

Related Commands

Command	Description
bridge address	Filters frames with a particular MAC-layer station source or destination address.
bridge protocol	Defines the type of Spanning Tree Protocol.

bridge address

To filter frames with a particular MAC-layer station source or destination address, use the **bridge address** in global configuration mode. To disable the filtering of frames, use the **no** form of this command.

bridge *bridge-group* **address** *mac-address* {**forward** | **discard**} [*interface*]

no bridge *bridge-group* **address** *mac-address*

Syntax Description

bridge-group	Bridge group number. It must be the same number specified in the **bridge protocol** command argument.
mac-address	48-bit hardware address written as a dotted triple of four-digit hexadecimal numbers such as that displayed by the **show arp** command in EXEC mode, for example, 0800.cb00.45e9. It is either a station address, the broadcast address, or a multicast destination address.
forward	Frame sent from or destined to the specified address is forwarded as appropriate.
discard	Frame sent from or destined to the specified address is discarded without further processing.
interface	(Optional) Interface specification, such as Ethernet 0. It is added after the **forward** or **discard** keyword to indicate the interface on which that address can be reached.

Defaults

Disabled

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2SX	This command is supported in the Cisco IOS Release 12.2SX train. Support in a specific 12.2SX release of this train depends on your feature set, platform, and platform hardware.

Usage Guidelines

Any number of addresses can be configured into the system without a performance penalty.

Note MAC addresses on Ethernet are “bit-swapped” when compared with MAC addresses on Token Ring and FDDI. For example, address 0110.2222.3333 on Ethernet is 8008.4444.CCCC on Token Ring and FDDI. Access lists always use the canonical Ethernet representation. When using different media and building access lists to filter on MAC addresses, remember this point. Note that when a bridged packet traverses a serial link, it has an Ethernet-style address.

Examples

The following example shows how to enable frame filtering with MAC address 0800.cb00.45e9. The frame is forwarded through Ethernet interface 1:

```
bridge 1 address 0800.cb00.45e9 forward ethernet 1
```

The following example shows how to disable the ability to forward frames with MAC address 0800.cb00.45e9:

```
no bridge 1 address 0800.cb00.45e9
```

Related Commands

Command	Description
bridge acquire	Forwards any frames for stations that the system has learned about dynamically.
bridge-group input-address-list	Assigns an access list to a particular interface.
bridge-group output-address-list	Assigns an access list to a particular interface for filtering the MAC destination addresses of packets that would ordinarily be forwarded out that interface.
bridge protocol	Defines the type of Spanning Tree Protocol.

bridge bridge

To enable the bridging of a specified protocol in a specified bridge group, use the **bridge bridge** command in global configuration mode. To disable the bridging of a specified protocol in a specified bridge group, use the **no** form of this command.

bridge *bridge-group* **bridge** *protocol*

no bridge *bridge-group* **bridge** *protocol*

Syntax Description

bridge-group	Bridge group number specified in the **bridge protocol** command.
protocol	Any of the supported routing protocols. The default is to bridge all of these protocols.

Defaults

Bridge every protocol.

Command Modes

Global configuration

Command History

Release	Modification
11.2	This command was introduced.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2SX	This command is supported in the Cisco IOS Release 12.2SX train. Support in a specific 12.2SX release of this train depends on your feature set, platform, and platform hardware.

Usage Guidelines

When integrated routing and bridging (IRB) is enabled, the default route/bridge behavior in a bridge group is to bridge all protocols. You need not use the **bridge bridge** command to enable bridging.

You can use the **no bridge bridge** command to disable bridging in a bridge group so that it does not bridge a particular protocol. When you disable bridging for a protocol in a bridge group, routable packets of this protocol are routed when the bridge is explicitly configured to route this protocol, and nonroutable packets are dropped because bridging is disabled for this protocol.

Note Packets of nonroutable protocols, such as local-area transport (LAT), are bridged only. You cannot disable bridging for the nonroutable traffic.

Examples

The following example shows how to disable bridging of IP in bridge group 1:

```
no bridge 1 bridge ip
```

Related Commands

Command	Description
bridge irb	Enables the Cisco IOS software to route a given protocol between routed interfaces and bridge groups or to route a given protocol between bridge groups.
bridge protocol	Defines the type of Spanning Tree Protocol.
bridge route	Enables the routing of a specified protocol in a specified bridge group.

bridge forward-time

To specify the forward delay interval for the Cisco IOS software, use the **bridge forward-time** command in global configuration mode. To return to the default interval, use the **no** form of this command.

bridge *bridge-group* **forward-time** *seconds*

no bridge *bridge-group* **forward-time** *seconds*

Syntax Description

bridge-group	Bridge group number specified in the **bridge protocol** command.
seconds	Forward delay interval. It must be a value in the range from 10 to 200 seconds. The default is 30 seconds.

Defaults

30-second delay

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2SX	This command is supported in the Cisco IOS Release 12.2SX train. Support in a specific 12.2SX release of this train depends on your feature set, platform, and platform hardware.

Usage Guidelines

The forward delay interval is the amount of time the software spends listening for topology change information after an interface has been activated for bridging and before forwarding actually begins.

Each bridge in a spanning tree adopts the **hello-time**, **forward-time**, and **max-age** parameters of the root bridge, regardless of its individual configuration.

Examples

The following example shows how to set the forward delay interval to 60 seconds:

```
bridge 1 forward-time 60
```

Related Commands

Command	Description
bridge-group subscriber-trunk	Specifies that an interface is at the upstream point of traffic flow.
bridge max-age	Changes the interval the bridge will wait to hear BPDUs from the root bridge.
bridge protocol	Defines the type of Spanning Tree Protocol.

bridge hello-time

To specify the interval between hello bridge protocol data units (BPDUs), use the **bridge hello-time** command in global configuration mode. To return the default interval, use the **no** form of this command.

bridge *bridge-group* **hello-time** *seconds*

no bridge *bridge-group* **hello-time**

Syntax Description

bridge-group	Bridge group number specified in the **bridge protocol** command.
seconds	Interval from 1 to 10 seconds. The default is 1 second.

Defaults

1 second

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2SX	This command is supported in the Cisco IOS Release 12.2SX train. Support in a specific 12.2SX release of this train depends on your feature set, platform, and platform hardware.

Usage Guidelines

Each bridge in a spanning tree adopts the **hello-time**, **forward-time**, and **max-age** parameters of the root bridge, regardless of its individual configuration.

Examples

The following example shows how to set the interval to 5 seconds:

```
bridge 1 hello-time 5
```

Related Commands

Command	Description
bridge forward-time	Specifies the forward delay interval for the Cisco IOS software.
bridge max-age	Changes the interval the bridge will wait to hear BPDUs from the root bridge.
bridge protocol	Defines the type of Spanning Tree Protocol.

bridge irb

To enable the Cisco IOS software to route a given protocol between routed interfaces and bridge groups or to route a given protocol between bridge groups, use the **bridge irb** command in global configuration mode. To disable the feature, use the **no** form of this command.

bridge irb

no bridge irb

Syntax Description

This command has no arguments or keywords.

Defaults

Integrated routing and bridging (IRB) is disabled.

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2SX	This command is supported in the Cisco IOS Release 12.2SX train. Support in a specific 12.2SX release of this train depends on your feature set, platform, and platform hardware.

Usage Guidelines

IRB is supported for transparent bridging, but not for source-route bridging. IRB is supported on all interface media types except X.25 and ISDN bridged interfaces.

Examples

The following shows how to enable integrated routing and bridging:

```
bridge irb
```

Related Commands

Command	Description
bridge bitswap-layer3-addresses	Enables the bridging of a specified protocol in a specified bridge group.
bridge route	Enables the routing of a specified protocol in a specified bridge group.
interface bvi	Creates the BVI that represents the specified bridge group to the routed world and links the corresponding bridge group to the other routed interfaces.
show interfaces irb	Displays the configuration for each interface that has been configured for integrated routing or bridging.

bridge max-age

To change the interval the bridge will wait to hear Bridge Protocol Data Unit (BPDU) from the root bridge, use the **bridge max-age** command in global configuration mode. To return to the default interval, use the **no** form of this command.

bridge *bridge-group* **max-age** *seconds*

no bridge *bridge-group* **max-age**

Syntax Description

bridge-group	Bridge group number specified in the **bridge protocol** command.
seconds	Interval the bridge will wait to hear BPDUs from the root bridge. It must be a value in the range from 10 to 200 seconds. The default is 15 seconds.

Defaults

15 seconds

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2SX	This command is supported in the Cisco IOS Release 12.2SX train. Support in a specific 12.2SX release of this train depends on your feature set, platform, and platform hardware.

Usage Guidelines

Each bridge in a spanning tree adopts the **hello-time**, **forward-time**, and **max-age** parameters of the root bridge, regardless of its individual configuration. If a bridge does not receive BPDUs from the root bridge within this specified interval, it considers the network to be changed and will recompute the spanning-tree topology.

Examples

The following example increases the maximum idle interval to 20 seconds:

```
bridge 1 max-age 20
```

Related Commands

Command	Description
bridge forward-time	Specifies the forward delay interval for the Cisco IOS software.
bridge-group subscriber-trunk	Specifies that an interface is at the upstream point of traffic flow.
bridge protocol	Defines the type of Spanning Tree Protocol.

bridge protocol

To define the type of Spanning Tree Protocol, use the **bridge protocol** command in global configuration mode. To delete the bridge group, use the **no** form of this command with the appropriate keywords and arguments.

bridge *bridge-group* **protocol** {**dec** | **ibm** | **ieee** | **vlan-bridge**}

no bridge *bridge-group* **protocol** {**dec** | **ibm** | **ieee** | **vlan-bridge**}

Syntax Description

bridge-group	Number in the range from 1 to 255 that you choose to refer to a particular set of bridged interfaces. Frames are bridged only among interfaces in the same group. You will use the group number you assign in subsequent bridge configuration commands.
dec	Digital Spanning Tree Protocol.
ibm	IBM Spanning Tree Protocol.
ieee	IEEE Ethernet Spanning Tree Protocol.
vlan-bridge	VLAN-Bridge Spanning Tree Protocol.

Defaults

No Spanning Tree Protocol is defined.

Command Modes

Global configuration

Command History

Release	Modification
10.0	This command was introduced.
12.0(1)T	The **ibm** and **vlan-bridge** keywords were added.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2SX	This command is supported in the Cisco IOS Release 12.2SX train. Support in a specific 12.2SX release of this train depends on your feature set, platform, and platform hardware.

Usage Guidelines

The routers support two Spanning Tree Protocols: the IEEE 802.1 standard and the earlier Digital Spanning Tree Protocol upon which the IEEE standard is based. Multiple domains are supported for the IEEE 802.1 Spanning Tree Protocol.

Note The IEEE 802.1D Spanning Tree Protocol is the preferred way of running the bridge. Use the Digital Spanning Tree Protocol only for backward compatibility.

Examples

The following example shows bridge 1 as using the Digital Spanning Tree Protocol:

```
bridge 1 protocol dec
```

Related Commands

Command	Description
bridge domain	Establishes a domain by assigning it a decimal value from 1 to 10.
bridge-group	Assigns each network interface to a bridge group.

bridge route

To enable the routing of a specified protocol in a specified bridge group, use the **bridge route** command in global configuration mode. To disable the routing of a specified protocol in a specified bridge group, use the **no** form of this command.

bridge *bridge-group* **route** *protocol*

no bridge *bridge-group* **route** *protocol*

Syntax Description

bridge-group	Bridge group number specified in the **bridge protocol** command.
protocol	One of the following protocols: • **appletalk** • clns • decnet • ip • ipx

Defaults

No default bridge group or protocol is specified.

Command Modes

Global configuration

Command History

Release	Modification
10.3	This command was introduced.
12.2(13)T	The following values for the *protocol* argument were removed: • **apollo** • **vines** • **xns**
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2SX	This command is supported in the Cisco IOS Release 12.2SX train. Support in a specific 12.2SX release of this train depends on your feature set, platform, and platform hardware.

Examples

In the following example, AppleTalk and IP are routed on bridge group 1:

```
bridge crb
bridge 1 protocol ieee
bridge 1 route appletalk
bridge 1 route ip
```

Related Commands

Command	Description
bridge crb	Enables the Cisco IOS software to both route and bridge a given protocol on separate interfaces within a single router.
bridge protocol	Defines the type of Spanning Tree Protocol.

bridge-group aging-time

To set the length of time that a dynamic entry can remain in the bridge table from the time the entry was created or last updated, use the **bridge-group aging-time** command in global configuration mode. To return to the default aging-time interval, use the **no** form of this command.

bridge-group *bridge-group* **aging-time** *seconds*

no bridge-group *bridge-group* **aging-time**

Syntax Description

bridge-group	Number of the bridge group to which the interface belongs. It must be a number in the range from 1 to 255.
seconds	Aging time, in the range from 10 to 1000000 seconds. The default is 300 seconds.

Defaults

300 seconds

Command Modes

Global configuration

Command History

Release	Modification
10.3	This command was introduced.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2SX	This command is supported in the Cisco IOS Release 12.2SX train. Support in a specific 12.2SX release of this train depends on your feature set, platform, and platform hardware.

Usage Guidelines

If hosts on a bridged network are likely to move, decrease the aging time to enable the bridge to adapt quickly to the change. If hosts do not send continuously, increase the aging time to record the dynamic entries for a longer time and thus reduce the possibility of flooding when the hosts send again.

Examples

The following example sets the aging time to 200 seconds:

```
bridge-group 1 aging-time 200
```

Related Commands

Command	Description
bridge-group	Assigns each network interface to a bridge group.

bridge-group path-cost

To set a different path cost, use the **bridge-group path-cost** command in interface configuration mode. To choose the default path cost for the interface, use the **no** form of this command.

bridge-group *bridge-group* **path-cost** *cost*

no bridge-group *bridge-group* **path-cost** *cost*

Syntax Description

bridge-group	Number of the bridge group to which the interface belongs. It must be a number in the range from 1 to 255.
cost	Relative cost of using the path. Path cost can range from 1 to 65535, with higher values indicating higher costs. This range applies regardless of whether the IEEE or Digital Spanning Tree Protocol has been specified.

Defaults

The default path cost is computed from the interface's bandwidth setting. The following are IEEE default path cost values. The Digital path cost default values are different.

- Ethernet—100
- 16-Mb Token Ring—62
- FDDI—10
- HSSI—647
- MCI/SCI Serial—647

Command Modes

Interface configuration

Command History

Release	Modification
10.0	This command was introduced.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2SX	This command is supported in the Cisco IOS Release 12.2SX train. Support in a specific 12.2SX release of this train depends on your feature set, platform, and platform hardware.

Usage Guidelines

By convention, the path cost is 10000/data rate of the attached LAN (IEEE), or 100000/data rate of the attached LAN (Digital), in megabits per second.

Examples

The following example changes the default path cost for Ethernet interface 0:

```
interface ethernet 0
 bridge-group 1 path-cost 250
```

Related Commands

Command	Description
bridge-group	Assigns each network interface to a bridge group.

bridge-group priority

To set an interface priority, use the **bridge-group priority** command in interface configuration mode. The interface priority is used to select the designated port for this bridge-group on the connected media. One designated port on each medium is needed to compute the spanning tree.

bridge-group *bridge-group* **priority** *number*

Syntax Description

bridge-group	Number of the bridge group to which the interface belongs. It must be a number in the range from 1 to 255.
number	Priority number ranging from 0 to 255 (Digital), or 0 to 64000 (IEEE). The default is 32768 if IEEE Spanning Tree Protocol is enabled on the router or 128 if Digital Spanning Tree Protocol is enabled on the router.

Defaults

When the IEEE Spanning Tree Protocol is enabled on the router: 32768
When the Digital Spanning Tree Protocol is enabled on the router: 128

Command Modes

Interface configuration

Command History

Release	Modification
10.0	This command was introduced.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2SX	This command is supported in the Cisco IOS Release 12.2SX train. Support in a specific 12.2SX release of this train depends on your feature set, platform, and platform hardware.

Usage Guidelines

The lower the number, the more likely it is that the bridge on the interface will be chosen as the root.

There is not a **no** form for this command.

Examples

The following example increases the likelihood that the root bridge will be the one on Ethernet interface 0 in bridge group 1:

```
interface ethernet 0
 bridge-group 1 priority 0
```

The following example shows the **bridge-group priority** help information for 9-bit port number size:

```
Router(config-if)# bridge-group 1 priority ?
<0-255> increments of 2 for IEEE or vlan-bridge, others 1
```

The following example shows the **bridge-group priority** help information for 10-bit port number size:

```
Router(config-if)# bridge-group 1 priority ?
<0-255> increments of 4 for IEEE or vlan-bridge, others 1
```

Related Commands

Command	Description
bridge-group	Assigns each network interface to a bridge group.
bridge priority	Configures the priority of an individual bridge, or the likelihood that it will be selected as the root bridge.

bridge-group spanning-disabled

To disable the spanning tree on a given interface, use the **bridge-group spanning-disabled** command in interface configuration mode. To enable the spanning tree on a given interface, use the no form of this command.

bridge-group *bridge-group* **spanning-disabled**

no bridge-group *bridge-group* **spanning-disabled**

Syntax Description

bridge-group	Number of the bridge group to which the interface belongs. It must be a number in the range from of 1 to 255.

Defaults

Spanning tree is enabled.

Command Modes

Interface configuration

Command History

Release	Modification
10.0	This command was introduced.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2SX	This command is supported in the Cisco IOS Release 12.2SX train. Support in a specific 12.2SX release of this train depends on your feature set, platform, and platform hardware.

Usage Guidelines

To enable transparent bridging on an interface, use the **bridge protocol** command to specify the type of Spanning Tree Protocol to be used. The **bridge-group spanning-disabled** command can be used to disable that spanning tree on that interface.

When a *loop-free* path exists between any two bridged subnetworks, you can prevent Bridge Protocol Data Unit (BPDU)s generated in one transparent bridging subnetwork from impacting nodes in the other transparent bridging subnetwork, yet still permit bridging throughout the bridged network as a whole.

For example, when transparently bridged LAN subnetworks are separated by a WAN, you can use this command to prevent BPDUs from traveling across the WAN link. You would apply this command to the serial interfaces connecting to the WAN in order to prevent BPDUs generated in one domain from impacting nodes in the remote domain. Because these BPDUs are prevented from traveling across the WAN link, using this command also has the secondary advantage of reducing traffic across the WAN link.

Note In order to disable the spanning tree, you must make sure that no parallel paths exist between transparently bridged interfaces in the network.

Examples

In the following example, the spanning tree for the serial interface 0 is disabled:

```
interface serial 0
 bridge-group 1 spanning-disabled
```

Related Commands

Command	Description
bridge-group	Assigns each network interface to a bridge group.
bridge protocol	Defines the type of Spanning Tree Protocol.

clear bridge

To remove any learned entries from the forwarding database and to clear the transmit and receive counts for any statically or system-configured entries, use the **clear bridge** command in privileged EXEC mode.

clear bridge *bridge-group*

Syntax Description

bridge-group	Bridge group number specified in the **bridge protocol** command.

Defaults

No default behavior or values

Command Modes

Privileged EXEC

Command History

Release	Modification
10.0	This command was introduced.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2SX	This command is supported in the Cisco IOS Release 12.2SX train. Support in a specific 12.2SX release of this train depends on your feature set, platform, and platform hardware.

Examples

The following example shows the use of the **clear bridge** command:

```
Router# clear bridge 1
```

Related Commands

Command	Description
bridge address	Filters frames with a particular MAC-layer station source or destination address.
bridge protocol	Defines the type of Spanning Tree Protocol.

interface bvi

To create the bridge-group virtual interface (BVI) that represents the specified bridge group to the routed world and links the corresponding bridge group to the other routed interfaces, use the **interface bvi** command in global configuration mode. To delete the BVI, use the **no** form of this command.

interface bvi *bridge-group*

no interface bvi *bridge-group*

Syntax Description

bridge-group	Bridge group number specified in the **bridge protocol** command.

Defaults

No BVI is created.

Command Modes

Global configuration

Command History

Release	Modification
11.2	This command was introduced.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2SX	This command is supported in the Cisco IOS Release 12.2SX train. Support in a specific 12.2SX release of this train depends on your feature set, platform, and platform hardware.

Usage Guidelines

You must enable integrated routing and bridging (IRB) before attempting to create a BVI.

When you intend to bridge and route a given protocol in the same bridge group, you must configure the network-layer attributes of the protocol on the BVI. Do not configure protocol attributes on the bridged interfaces. No bridging attributes can be configured on the BVI.

Examples

The following example creates a bridge group virtual interface and associates it with bridge group 1:

```
interface bvi 1
```

Related Commands

Command	Description
bridge irb	Enables the Cisco IOS software to route a given protocol between routed interfaces and bridge groups or to route a given protocol between bridge groups.

show bridge

To display classes of entries in the bridge forwarding database, use the **show bridge** command in privileged EXEC mode.

show bridge [*bridge-group*] [*interface*] [*address* [*mask*]] [**verbose**]

Syntax Description

bridge-group	(Optional) Number that specifies a particular spanning tree.
interface	(Optional) Specific interface, such as Ethernet 0.
address	(Optional) 48-bit canonical (Ethernet ordered) MAC address. This may be entered with an optional mask of bits to be ignored in the address, which is specified with the *mask* argument.
mask	(Optional) Bits to be ignored in the address. You must specify the *address* argument if you want to specify a mask.
verbose	(Optional) Displays additional detail, including any Frame Relay data-link connection identifier (DLCI) associated with a station address.

Command Modes

Privileged EXEC

Command History

Release	Modification
10.0	This command was introduced.
11.0	The **verbose** keyword was added.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2SX	This command is supported in the Cisco IOS Release 12.2SX train. Support in a specific 12.2SX release of this train depends on your feature set, platform, and platform hardware.

Usage Guidelines

This command first appeared in Cisco IOS Release 10.0. The **verbose** keyword first appeared in Cisco IOS Release 11.0.

The following are possible variations of the **show bridge** command:

```
show bridge ethernet 0
show bridge 0000.0c00.0000 0000.00FF.FFFF
show bridge 0000.0c00.0e1a
show bridge
show bridge verbose
```

In the sample output, the first command would display all entries for hosts reachable via Ethernet interface 0, the second command would display all entries with the vendor code of 0000.0c00.0000, and the third command would display the entry for address 0000.0c00.0e1a. In the fourth command, all entries in the forwarding database would be displayed. The fifth command provides additional detail. In all five lines, the bridge group number has been omitted.

Examples

The following is sample output from the **show bridge** command. The second display is output from the **show bridge** command with the **verbose** argument.

```
Router# show bridge

Total of 300 station blocks, 280 free
Codes: P - permanent, S - self

Bridge Group 32:Bridge Group 32:

    Address       Action   Interface       Age   RX count   TX count
0180.c200.0000   receive       -            S           0          0
ffff.ffff.ffff   receive       -            S           0          0
0900.2b01.0001   receive       -            S           0          0
0300.0c00.0001   receive       -            S           0          0
0000.0c05.1000   forward   Ethernet0/1      4           1          0
0000.0c04.4b5b   receive       -            S           0          0
0000.0c04.4b5e   receive       -            S           0          0
0000.0c04.4b5d   receive       -            S           0          0
0000.0c04.4b5c   receive       -            S           0          0
0000.0c05.4a62   forward   Ethernet0/1      4           1          0
aa00.0400.2108   forward   Ethernet0/1      0          42          0
0000.0c12.b888   forward   Ethernet0/2      4           1          0
0000.0c12.b886   forward   Ethernet0/1      4           1          0
aa00.0400.4d09   forward   Ethernet0/1      4           1          0
0000.0c06.fb9a   forward   Ethernet0/1      4           1          0
0000.0c04.b039   forward   Ethernet0/1      4           1          0

Router# show bridge verbose

Total of 300 station blocks, 287 free
Codes: P - permanent, S - self

BG Hash      Address      Action Interface     DLCI   Age RX count   TX count
32 00/0   0180.c200.0000 receive      -           -     S           0          0
32 00/1   ffff.ffff.ffff receive      -           -     S           0          0
32 01/0   0900.2b01.0001 receive      -           -     S           0          0
32 01/1   0300.0c00.0001 receive      -           -     S           0          0
32 10/0   0000.0c04.4b5b receive      -           -     S           0          0
32 15/0   0000.0c04.4b5e receive      -           -     S           0          0
32 16/0   0000.0c04.4b5d receive      -           -     S           0          0
32 17/0   0000.0c04.4b5c receive      -           -     S           0          0
32 29/0   aa00.0400.2108 forward  Ethernet0/1     -     0          48          0
32 30/0   0000.0c12.b888 forward  Ethernet0/2     -     0           1          0
32 A4/0   0800.2002.ff5b forward  Ethernet0/1     -     0           6          0
32 E2/0   aa00.0400.e90b forward  Ethernet0/1     -     0          65          0
32 F2/0   0000.0c04.b042 forward  Ethernet0/2     -     3           2          0
```

Table 1 describes the significant fields shown in the display.

Table 1 show bridge Field Descriptions

Field	Description
Total of 300 station blocks	Total number of forwarding database elements in the system. The memory to hold bridge entries is allocated in blocks of memory sufficient to hold 300 individual entries. When the number of free entries falls below 25, another block of memory sufficient to hold another 300 entries is allocated. Therefore, the size of the bridge forwarding database is limited to the amount of free memory in the router.
295 free	Number in the free list of forwarding database elements in the system. The total number of forwarding elements is expanded dynamically, as needed.
BG	Bridging group to which the address belongs.
Hash	Hash key/relative position in the keyed list.
Address	Canonical (Ethernet ordered) MAC address.
Action	Action to be taken when that address is looked up; choices are to discard or forward the datagram.
Interface	Interface, if any, on which that address was seen.
Age	Number of minutes since a frame was received from or sent to that address. The letter “P” indicates a permanent entry. The letter “S” indicates the system as recorded by the router. On the modular systems, this is typically the broadcast address and the router’s own hardware address; on the IGS, this field will also include certain multicast addresses.
RX count	Number of frames received from that address.
TX count	Number of frames forwarded to that address.