channel-group through cut-through

channel-group

To configure serial WAN on a T1 or E1 interface, use the **channel-group** command in controller configuration mode. To clear a channel group, use the **no** form of this command.

Cisco 2600 Series

channel-group *channel-group-number* **timeslots** *range* [**speed** {**56**| **64**}] [**aim** *aim-slot-number*]

no channel-group *channel-group-number*

Cisco 2611 (Cisco Signaling Link Terminal [SLT])

channel-group *channel-number*

no channel-group *channel-number*

Cisco ASR 901 Series, Cisco 2600XM Series, Cisco 2691, Cisco 3631, Cisco 3660, Cisco 3725, and Cisco 3745

channel-group *channel-group-number* {**timeslots** *range* [**speed** {**56**| **64**}]| **unframed**} [**aim** *aim-slot-number*]

no channel-group [*channel-group-number* **timeslots** *range*]

Cisco AS5350 and Cisco AS5400 Series

channel-group *channel-group-number*

no channel-group *channel-group-number*

Cisco MC3810

channel-group *channel-number* **timeslots** *range* [**speed** {**56**| **64**}]

no channel-group [*channel-number* **timeslots** *range*]

Syntax Description		
channel-group-number	Channel-group number on the Cisco 2600 series, Cisco 2600XM, Cisco 2691, Cisco 3631, Cisco 3660, Cisco 3725, and Cisco 3745 routers. When a T1 data line is configured, channel-group numbers can be values from 0 to 23. When an E1 data line is configured, channel-group numbers can be values from 0 to 30.
	Valid values can be 0 or 1 on the Cisco AS5350 and Cisco AS5400.

timeslots *range*	Specifies one or more time slots separated by commas, and spaces or ranges of time slots belonging to the channel group separated by a dash. The first time slot is numbered 1.
	• For a T1 controller, the time slots range from 1 to 24.
	• For an E1 controller, the time slots range from 1 to 31.
	You can specify a time slot range (for example, 1-29), individual time slots separated by commas (for example 1, 3, 5), or a combination of the two (for example 1-14, 15, 17-31). See the "Examples" section for samples of different timeslot ranges.
speed {**56**|**64**}	(Optional) Specifies the speed of the underlying DS0s in kilobits per second. Valid values are 56 and 64.
	The default line speed when configuring a T1 controller is 56 kbps on the Cisco 2600 series, Cisco 2600XM series, Cisco 2691, Cisco 3631, Cisco 3660, Cisco 3725, Cisco 3745, and Cisco MC3810.
	The default line speed when configuring an E1 controller is 64 kbps on the Cisco 2600 series, Cisco 2600XM series, Cisco 2691, Cisco 3631, Cisco 3660, Cisco 3725, Cisco 3745, and Cisco MC3810.
	The line speed controls real-time (VBR-RT) traffic shaping, and the maximum burst size (MBS) is 255 cells.
aim *aim-slot-number*	(Optional) Directs HDLC traffic from the T1/E1 interface to the AIM-ATM-VOICE-30 digital signaling processor (DSP) card on the Cisco 2600 series, Cisco 2600XM series, Cisco 2691, Cisco 3631, Cisco 3660, Cisco 3725, and Cisco 3745.
channel-number	Number of the channel. Valid values can be 0 or 1 on the Cisco SLT (Cisco 2611).
unframed	Specifies the use of all 32 time slots for data. None of the 32 time slots is used for framing signals on the Cisco ASR 901 Series, Cisco 2600XM series, Cisco 2691, Cisco 3631, Cisco 3660, Cisco 3725, and Cisco 3745. This keyword is applicable to E1 only.

Command Default The T1/E1 line is connected to the Motorola MPC-860x processor serial communication controller (SCC) or network module with two voice or WAN interface card (VIC or WIC) slots and 0/1/2 FastEthernet ports

DSCC4 by default on Cisco 2600 series, Cisco 2600XM, Cisco 2691, Cisco 3631, Cisco 3660, Cisco 3725, and Cisco 3745 routers.

There is no default behavior or values on the Cisco SLT (Cisco 2611).

The serial interface object encapsulation is set to HDLC on a network access server (NAS) (Cisco AS5350 and Cisco AS5400 series routers).

The default line speed is 56 kbps when a T1 controller is configured on the Cisco 2600 series, Cisco 2600XM series, Cisco 2691, Cisco 3631, Cisco 3660, Cisco 3725, Cisco 3745, and the Cisco MC3810.

The default line speed is 64 kbps when an E1 controller is configured on the Cisco 2600 series, Cisco 2600XM series, Cisco 2691, Cisco 3631, Cisco 3660, Cisco 3725, Cisco 3745, and the Cisco MC3810.

Command Modes   Controller configuration (config-controller)

Command History

Release	Modification
11.3MA	This command was introduced on the Cisco MC3810.
12.0	This command was integrated into Cisco IOS Release 12.0 on the Cisco MC3810.
12.0(7)XE	This command was implemented on the Catalyst 6000 family switches.
12.1(1)E	This command was integrated into Cisco IOS Release 12.1(1)E.
12.1(1)T	This command was modified to accommodate two channel groups on a port on 1- and 2-port T1/E1 multiflex voice or WAN interface cards on the Cisco 2600 and Cisco 3600 series routers.
12.1(3a)E3	The number of valid values for the *kbps* argument was changed on the Cisco MC3810; see the "Usage Guidelines" section for valid values.
12.2(11)T	This command was implemented on the Cisco AS5350 and Cisco AS5400.
12.2(15)T	The **aim** keyword was added for use on the Cisco 2600 series (including the Cisco 2691), Cisco 2600XM, Cisco 3660, Cisco 3725, and Cisco 3745.
12.3(1)	The **unframed** keyword was added for use on the Cisco 2600XM series, Cisco 2691, Cisco 3631, Cisco 3660, Cisco 3725, and Cisco 3745.
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.
15.4(3)S	This command was implemented on the Cisco ASR 901 Series Aggregation Services Router.

Usage Guidelines   Use this command to direct HDLC traffic from the T1/E1 interface to the AIM-ATM-VOICE-30 DSP card. A channel group is created using Advanced Integration Module (AIM) HDLC resources when a **channel-group**

command with the **aim** keyword is parsed during system initialization or when the command is entered during configuration. You must specify the **aim** keyword under a T1/E1 controller port to direct HDLC traffic from the T1/E1 interface to the AIM-ATM-VOICE-30 DSP card on the Cisco 2600 series, Cisco 2600XM series, Cisco 2691, Cisco 3631, Cisco 3660, Cisco 3725, and Cisco 3745.

Note Neither the Cisco AS5400 series NAS nor the Cisco MC3810 is supported with the integrated voice and data WAN on T1/E1 interfaces using the AIM-ATM-VOICE-30 module.

If previous **channel-group** commands are configured with the **aim** keyword, subsequent **channel-group** commands without the **aim** keyword are rejected. Similarly, if a regular **channel-group** command is followed by another **channel-group** command with the **aim** keyword implemented, the second command is rejected on the Cisco 2600 and Cisco 2600XM.

A channel group using AIM HDLC resources is deleted only when a **nochannel-group** command is entered.

By default, the **channel-group** command on a NAS sets the serial interface object encapsulation to HDLC. You must override the default by entering the **encapsulationss7** command for that serial interface object. Once you override the default, encapsulation cannot be changed again for that object. The SS7 encapsulation option is new to the Integrated Signaling Link Terminal feature and is available only for interface serial objects created by the **channel-group** command. The Integrated Signaling Link Terminal feature added SLT functionality on Cisco AS5350 and Cisco AS5400 platforms.

A digital SS7 link can be deleted by entering the **nochannel-group** *channel-group-number* command on the associated T1/E1 controller. The link must first be stopped using the **noshutdown** command. It is not necessary to remove the channel ID association first.

Use the **channel-group** command in configurations where the router or access server must communicate with a T1 or E1 fractional data line. The channel group number may be arbitrarily assigned and must be unique for the controller. The time-slot range must match the time slots assigned to the channel group. The service provider defines the time slots that comprise a channel group.

Note Channel groups, channel-associated signaling (CAS) voice groups, DS0 groups, and time-division multiplexing (TDM) groups all use group numbers. All group numbers configured for channel groups, CAS voice groups, and TDM groups must be unique on the local Cisco MC3810 concentrator. For example, you cannot use the same group number for a channel group and for a TDM group. Furthermore, on the Cisco MC3810, only one channel group can be configured on a controller.

The channel group number can be 0 or 1 on the Cisco SLT (Cisco 2611).

The **channel-group** command also applies to Voice over Frame Relay, Voice over ATM, and Voice over HDLC on the Cisco MC3810.

Examples The following example shows basic configuration directing HDLC traffic from the T1/E1 interface to the AIM-ATM-VOICE-30 DSP card, starting in global configuration mode:

```
Router(config)# controller e1 1/0
Router(config-controller)# clock source internal
Router(config-controller)# channel-group 0 timeslots 1-31 aim 0
```
The following example explicitly sets the encapsulation type to PPP to override the HDLC default:

```
Router# configure terminal
Router(config)# controller t1 6/0
```

```
Router(config-controller)# channel-group 2 timeslots 3 aim 0
Router(config-controller)# exit
Router(config)# interface serial 6/0:2
Router(config-if)# encapsulation ppp
Router(config-if)# ip address 10.0.0.1 255.0.0.0
Router(config-if)# no shutdown
Router(config-if)# end
```

The following example shows how to explicitly set the encapsulation type to SS7 to override the HDLC default using the Integrated Signaling Link Terminal feature. This example uses an 8PRI DFC card inserted into slot 7, and DS0-timeslot 3 on trunk 5 of that card is used as an SS7 link:

```
Router# configure terminal
Router(config)# controller t1 7/5
Router(config-controller)# channel-group 2 timeslots 3
Router(config-controller)# exit
Router(config)# interface serial 7/5:2
Router(config-if)# encapsulation ss7
Router(config-if)# channel-id 0
Router(config-if)# no shutdown
Router(config-if)# end
```

The following example defines three channel groups. Channel-group 0 consists of a single time slot, channel-group 8 consists of seven time slots and runs at a speed of 64 kbps per time slot, and channel-group 12 consists of two time slots.

```
Router(config-controller)# channel-group 0 timeslots 1
Router(config-controller)# channel-group 8 timeslots 5,7,12-15,20 speed 64
Router(config-controller)# channel-group 12 timeslots 2
```

The following example configures a channel group on controller T1 0 on a Cisco MC3810:

```
Router(config)# controller T1 0
Router(config-controller)# channel-group 10 timeslots 10-64
```

The following example configures a channel group on controller E1 1 and specifies that all time slots are used for data:

```
controller e1 1
channel-group 1 unframed
```

Note   SS7 digital F-link support for the 8PRI line card requires use of a third onboard TDM stream to route trunk DS0 messages to the onboard MGCs.

Related Commands

Command	Description
framing	Specifies the frame type for the T1 or E1 data line.
invert data	Enables channel inversion.
linecode	Specifies the line code type for the T1 or E1 line.
voice-card	Configures a card with voice processing resources and enters voice card configuration mode.
encapsulation	Sets the encapsulation type.

channel-group (interface)

To assign and configure an EtherChannel interface to an EtherChannel group, use the **channel-group** command in interface configuration mode. To remove the channel-group configuration from the interface, use the **no** form of this command.

channel-group *channel-group-number* **mode** {**active**| **on**| **passive**}

no channel-group *channel-group-number*

Cisco 2600 Series, Cisco 3600 Series, and Cisco 3700 Series Routers

channel-group *channel-group-number* **mode on**

no channel-group *channel-group-number*

Cisco ASR 1000 Series Routers

channel-group *channel-group-number* **mode** {**active**| **passive**}

no channel-group

Cisco Catalyst Switches

channel-group *channel-group-number* **mode** {**active**| **on**| **auto [non-silent]**| **desirable [non-silent]**| **passive**}

no channel-group *channel-group-number*

Syntax Description		
channel-group-number		Integer that identifies the channel-group. Valid values are from 1 to 256; the maximum number of integers that can be used is 64. • For Fast EtherChannel groups, the number is an integer from 1 to 4. This number is the one previously assigned to the port-channel interface. • On the Cisco ASR 1000 series router, valid values are from 1 to 64.
mode		Specifies the EtherChannel mode of the interface.
active		Enables Link Aggregation Control Protocol (LACP) unconditionally.
on		Enables EtherChannel only.
auto		Places a port into a passive negotiating state in which the port responds to Port Aggregation Protocol (PAgP) packets that it receives but does not initiate PAgP packet negotiation.

non-silent	(Optional) Used with the **auto** or **desirable** mode when traffic is expected from the other device.
desirable	Places a port into an active negotiating state in which the port initiates negotiations with other ports by sending PAgP packets.
passive	Enables LACP only when an LACP device is detected.

Command Default No channel groups are assigned.

Command Modes Interface configuration (config-if)

Command History

Release	Modification
11.1CA	This command was introduced.
12.0(7)XE	Support for this command was implemented on Cisco Catalyst 6000 series switches.
12.1(3a)E3	The number of valid values for the *number*argumentwas changed; see the "Usage Guidelines" section for valid values.
12.2(2)XT	This command was implemented on the Cisco 2600 series, Cisco 3600 series, and Cisco 3700 series routers.
12.2(8)T	Support for this command was implemented on the Cisco 2600 series, the Cisco 3600 series, and the Cisco 3700 series routers and integrated into Cisco IOS Release 12.2(8)T .
12.2(14)SX	Support for this command was implemented on the Supervisor Engine 720.
12.2(17d)SXB	Support for this command on the Supervisor Engine 2 was integrated into Cisco IOS Release 12.2(17d)SXB.
12.2(18)SXE	This command was changed to support advanced QinQ translation on QinQ link bundles using GE-WAN interfaces on an OSM-2+4GE-WAN+ OSM on Cisco 7600 series routers.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.
12.2(31)SB2	This command was integrated into Cisco IOS Release 12.2(31)SB2.
12.2(33)SRB	Support for this command on the Cisco 7600 router was integrated into Cisco IOS Release 12.2(33)SRB.

Release	Modification
Cisco IOS XE Release 2.4	This command was integrated into Cisco IOS XE Release 2.4.

Usage Guidelines OSMs are not supported on Cisco 7600 series routers that are configured with a Supervisor Engine 32.

IP Address for the Physical Interface

You do not have to disable the IP address that is assigned to a physical interface that is part of a channel group, but Cisco highly recommends doing so.

Layer 2 and Layer 3 Port Channels

You can create both Layer 2 and Layer 3 port channels by entering the **interface port-channel** command or, when the channel-group gets its first physical interface assignment. The port channels are not created at run time, nor are they created dynamically.

You do not have to create a port-channel interface before assigning a physical interface to a channel group. A port-channel interface is automatically created when the channel group gets its first physical interface, if it is not already created.

Propagation of Configuration and Attribute Changes

Any configuration or attribute changes you make to the port-channel interface are propagated to all interfaces within the same channel group as the port channel. (for example, configuration changes are also propagated to the physical interfaces that are not part of the port-channel, but are part of the channel group.)

The on Keyword

When you use the **on** keyword, a usable EtherChannel exists only when a port group in on mode is connected to another port group in the on mode.

Cisco 2600 Series, Cisco 3600 Series, and Cisco 3700 Series Routers

You do not have to create a port-channel interface before assigning a physical interface to a channel group. A port-channel interface is created automatically when the channel group gets its first physical interface, if it is not already created.

Cisco ASR 1000 Series Routers

The Cisco ASR 1000 series router has the following prerequisites and restriction:

- A port-channel must be created before member links are assigned to it.

- IP addresses must be disabled on member links before those links can be included in a port-channel.

- Fast Ethernet interfaces are not supported.

Cisco Catalyst Switches

The number of valid values for *number* depends on the software release. For software releases prior to Cisco IOS Release 12.1(3a)E3, valid values are from 1 to 256; for Cisco IOS Release 12.1(3a)E3, 12.1(3a)E4, and 12.1(4)E1, valid values are from 1 to 64. Cisco IOS Release 12.1 E and later releases support a maximum of 64 values ranging from 1 to 256.

The channel-group number is global and is shared between all the channeling protocols. If a specific channel number is used for the PAgP-enabled interfaces of a channel group, that same channel number cannot be used for configuring a channel that has LACP-enabled interfaces or vice versa.

Entering the **auto** or **desirable** keyword enables PAgP on the specified interface; the command will be rejected if it is issued on an LACP-enabled interface.

The **active** and **passive** keywords are valid on PAgP-disabled interfaces only.

You can change the mode for an interface only if it is the only interface that is designated to the specified channel group.

The **on** keyword forces the bundling of the interface on the channel without any negotiation.

You can manually configure a switch with PAgP on one side and LACP on the other side in the **on** mode.

With the **on** mode, a usable EtherChannel exists only when a port group in **on** mode is connected to another port group in **on** mode.

If you enter the **channel group** command on an interface that is added to a channel with a different protocol than the protocol you are entering, the command is rejected.

If the interface belongs to a channel, the **no** form of this command is rejected.

All ports in the same channel group must use the same protocol; you cannot run two protocols on one channel group.

PAgP and LACP are not compatible; both ends of a channel must use the same protocol.

You can change the protocol at any time, but this change causes all existing EtherChannels to reset to the default channel mode for the new protocol.

Configure all ports in an EtherChannel to operate at the same speed and duplex mode (full duplex only for LACP mode).

All ports in a channel must be on the same DFC-equipped module. You cannot configure any of the ports to be on other modules.

On systems that are configured with nonfabric-enabled modules and fabric-enabled modules, you can bundle ports across all modules, but those bundles cannot include a DFC-equipped module port.

You do not have to create a port-channel interface before assigning a physical interface to a channel group. A port-channel interface is created automatically when the channel group gets its first physical interface, if it is not already created.

You do not have to disable the IP address that is assigned to a physical interface that is part of a channel group, but it is highly recommended.

You can create both Layer 2 and Layer 3 port channels by entering the **interface port-channel** command or when the channel group gets its first physical interface assignment. The port channels are not created at runtime or dynamically.

Any configuration or attribute changes that you make to the port-channel interface are propagated to all interfaces within the same channel group as the port channel (for example, configuration changes are also propagated to the physical interfaces that are not part of the port channel but are part of the channel group).

When configuring Layer 2 EtherChannels, you cannot put Layer 2 LAN ports into manually created port-channel logical interfaces.

Only the **on** mode is supported when using this command with GE-WAN ports on the OSM-2+4GE-WAN+ OSM to create QinQ link bundles for advanced QinQ translation. Also, you cannot use the **channel-group** command on GE-WAN interfaces if MPLS is configured. You must remove all IP, MPLS, and other Layer 3 configuration commands before using the **channel-group** command with GE-WAN interfaces.

Note The GE-WAN interfaces on an OSM-2+4GE-WAN+ OSM behave slightly differently than other interfaces if you want to move the interface from one group to another. To move most other interfaces, you can enter the **channel-group** command again to delete the interface from the old group and move it to the new group. For GE-WAN ports, however, you must manually remove the interface from the group by entering the **no channel-group** command before assigning it to a new group.

Caution Do not enable Layer 3 addresses on the physical EtherChannel interfaces. Assigning bridge groups on the physical EtherChannel interfaces causes loops in your network.

For a complete list of guidelines, see the "Configuring EtherChannel" section of the *Cisco 7600 Series Router Cisco IOS Software Configuration Guide*.

Fast EtherChannel

Before you assign a Fast Ethernet interface to a Fast EtherChannel group, you must first create a port-channel interface. To create a port-channel interface, use the **interface port-channel** global configuration command.

If the Fast Ethernet interface has an IP address assigned, you must disable it before adding the Fast Ethernet interface to the Fast EtherChannel. To disable an existing IP address on the Fast Ethernet interface, use the **no ip address**command in interface configuration mode.

The Fast EtherChannel feature allows multiple Fast Ethernet point-to-point links to be bundled into one logical link to provide bidirectional bandwidth of up to 800 Mbps. Fast EtherChannel can be configured between Cisco 7500 series routers and Cisco 7000 series routers with the 7000 Series Route Switch Processor (RSP7000) and 7000 Series Chassis Interface (RSP7000CI) or between a Cisco 7500 series router or a Cisco 7000 series router with the RSP7000 and RSP700CI and a Cisco Catalyst 5000 switch.

A maximum of four Fast Ethernet interfaces can be added to a Fast EtherChannel group.

Caution The port-channel interface is the routed interface. Do not enable Layer 3 addresses on the physical Fast Ethernet interfaces. Do not assign bridge groups on the physical Fast Ethernet interfaces because it creates loops. Also, you must disable spanning tree.

To display information about the Fast EtherChannel, use the **show interfaces port-channel**EXEC command.

For more guidelines see the "Configuring EtherChannel" section of the *Cisco 7600 Series Router Cisco IOS Software Configuration Guide* and the "Configuring EtherChannel" section of the *Catalyst 6500 Series Switch Cisco IOS Software Configuration Guide*

Examples This example shows how to add EtherChannel interface 1/0 to the EtherChannel group that is specified by port-channel 1:

```
Router(config-if)#
channel-group 1 mode on
Router(config-if)#
```
The following example shows how to add interface Fast Ethernet 1/0 to the Fast EtherChannel group specified by port-channel 1:

```
Router(config)#
interface port-channel 1
Router(config-if)#
```

```
exit
Router(config)#
interface fastethernet 1/0
Router(config-if)#
channel-group 1
```

Related Commands

Command	Description
interface	Creates a port-channel virtual interface and puts the CLI in interface configuration mode when the **port-channel** keyword is used.
ip address	Sets a primary or secondary IP address on an interface.
show etherchannel	Displays the EtherChannel information for a channel.
show interfaces port-channel	Displays traffic that is seen by a specific port channel.

clear counters

To clear the interface counters, use the **clearcounters** command in user EXEC or privileged EXEC mode.

clear counters commandclear counters [*interface-type interface-number*]

Cisco 7200 Series and 7500 Series with a Packet over SONET Interface Processor

clear counters [*interface-type*] *slot*/*port*

Cisco 7500 Series with Ports on VIP Cards

clear counters [*interface-type*] *slot*/*port-adapter*/*port*

Cisco 7600 Series

clear counters [*interface interface-number*| **null** *interface-number*| **port-channel** *number*| **vlan** *vlan-id*]

Syntax Description

interface-type	(Optional) Specifies the interface type; one of the keywords listed in Table 1 .
interface -number	(Optional) Specifies the interface number displayed with the **showinterfaces** command.
slot	Slot number. Refer to the appropriate hardware manual for slot and port information.
port	Port number. Refer to the appropriate hardware manual for slot and port information.
port-adapter	Port adapter number. Refer to the appropriate hardware manual for information about port adapter compatibility.
interface	(Optional) Interface type; possible valid values are **ethernet**, **fastethernetgigabitethernet**, and **tengigabitethernet**. See the "Usage Guidelines" section for additional valid values.
interface-number	(Optional) Module and port number; see the "Usage Guidelines" section for valid values.
null *interface-number*	(Optional) Specifies the null interface; the valid value is **0**.
port-channel *number*	(Optional) Specifies the channel interface; valid values are a maximum of 64 values ranging from 1 to 256.

| vlan *vlan-id* | (Optional) Specifies the VLAN ID; valid values are from 1 to 4094. |

Command Modes   User EXEC Privileged EXEC

Command History

Release	Modification
10.0	This command was introduced.
11.2F	The **virtual-access** keyword was added.
11.3	The following keywords were added or modified: • **vg-anylan** keyword was added. • **posi** keyword was changed to **pos**.
12.2(15)T	The **ethernet** and **serial** keywords were removed because the LAN Extension feature is no longer available in Cisco IOS software.
12.2(17a)SX	Support for this command was introduced on the Supervisor Engine 720.
12.2(17d)SXB	Support for this command on the Supervisor Engine 2 was extended to Release 12.2(17d)SXB.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.

Usage Guidelines   This command clears all the current interface counters from the interface unless the optional arguments *interface*-type and *interface*-numberare specified to clear only a specific interface type (serial, Ethernet, Token Ring, and so on). The table below lists the command keywords and their descriptions.

Note   This command does not clear counters retrieved using Simple Network Management Protocol (SNMP), but only those seen with the **showinterface** command. However, variables seen with the **showinterface** command that could affect routing, such as load and reliability, or non-cumulative variables, such as input or output rates, are not cleared.

The *interface-number* argument designates the module and port number. Valid values for *interface-number* depend on the specified interface type and the chassis and module that are used. For example, if you specify a Gigabit Ethernet interface and have a 48-port 10/100BASE-T Ethernet module that is installed in a 13-slot chassis, valid values for the module number are from 1 to 13 and valid values for the port number are from 1 to 48.

Table 1: clear counters Interface Type Keywords

Keyword	Interface Type
async	Asynchronous interface
bri	ISDN BRI
dialer	Dialer interface
ethernet	Ethernet interface
fast-ethernet	Fast Ethernet interface
fddi	FDDI
hssi	High-Speed Serial Interface (HSSI)
line	Terminal line
loopback	Loopback interface
null	Null interface
port-channel	Port channel interface
pos	Packet OC-3 interface
serial	Synchronous serial interface
switch	Switch interface
tokenring	Token Ring interface
tunnel	Tunnel interface (IEEE 02.5)
vg-anylan	100VG-AnyLAN port adapter
virtual-access	Virtual-access interface (Refer to the *Cisco IOS Dial Technologies Command Reference* for details on virtual templates.)
virtual-template	Virtual-template interface (Refer to the *Cisco IOS Dial Technologies Command Reference* for details on virtual templates.)
virtual-tokenring	Virtual Token Ring interface

Examples   The following example shows how to clear all interface counters:

```
Router#
 clear counters
```
The following example shows how to clear the Packet OC-3 interface counters on a POSIP card in slot 1 on a Cisco 7500 series router:

```
Router#
 clear counters pos 1/0
```
The following example shows how to clear the interface counters on a Fast EtherChannel interface:

```
Router# clear counter port-channel 1
Clear "show interface" counters on all interfaces [confirm] Y
%CLEAR-5-COUNTERS: Clear counter on all interfaces by console 1
```

Related Commands

Command	Description
show interfaces	Displays the statistical information specific to a serial interface.
show interfaces port-channel	Displays the information about the Fast EtherChannel on Cisco 7500 series routers and Cisco 7000 series routers with the RSP7000 and RSP7000CI.
show queueing interface	Displays queuing information.

clear lacp counters

To clear the statistics for all interfaces belonging to a specific channel group, use the **clearlacpcounters** command in privileged EXEC mode.

clear lacp [*channel-group*] **counters**

Syntax Description

channel-group	(Optional) Channel group number; valid values are from 1 to 256.

Command Default

None

Command Modes

Privileged EXEC

Command History

Release	Modification
12.2(14)SX	Support for this command was introduced on the Supervisor Engine 720.
12.2(17d)SXB	Support for this command on the Supervisor Engine 2 was extended to Release 12.2(17d)SXB.
12.2(33)SRA	This command was integrated into Cisco IOS Release 12.2(33)SRA.

Usage Guidelines

If you do not specify a *channel-group*, all channel groups are cleared.

If you enter this command for a channel group that contains members in PAgP mode, the command is ignored.

Examples

This example shows how to clear the statistics for a specific group:

```
Router# clear lacp 1 counters
Router#
```

Related Commands

Command	Description
show lacp	Displays LACP information.

cut-through

To configure the interfaces on the PA-12E/2FE port adapter to use cut-through switching technology between interfaces within the same bridge group, use the **cut-through**command in interface configuration mode. To return each interface to store-and-forward switching, use the **no**form of this command.

cut-through [**receive**| **transmit**]

no cut-through

Syntax Description

receive	(Optional) Selects cut-through switching technology on received data.
transmit	(Optional) Selects cut-through switching technology on transmitted data.

Command Default

Store-and-forward switching technology (that is, no cut-through)

Command Modes

Interface configuration

Command History

Release	Modification
11.2P	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

Cut-through mode allows switched packets to be transmitted after 64 bytes are received. The transmission of the packets can start before the end of the packet arrives. This reduces the time spent in the switch, but allows packets to be transmitted with bad cyclical redundancy checks (CRCs), because the transmission is initiated before the CRC is received or checked. Store-and-forward mode waits for the entire packet to be received before that packet is forwarded, but will check the CRC before starting transmission.

The PA-12E/2FE port adapter offloads Layer 2 switching from the host CPU by using store-and-forward or cut-through switching technology between interfaces within the same VLAN on the PA-12E/2FE port adapter. The PA-12E/2FE port adapter supports up to four VLANs (bridge groups).

Examples

The following example configures interface 3/0 for cut-through switching:

```
Router(config)#
 interface fastethernet 3/0
Router(config-if)#
 bridge-group 10
Router(config-if)#
 cut-through
Router(config-if)#
 no shutdown
Router(config-if)# exit
```