

# channel-group

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

## Cisco 2600 Series, Cisco 3660, Cisco 3725, and Cisco 3745

**channel-group** *channel-group-number* **timeslots** *range* [**speed** *kbps*] **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 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** *kbps*]

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

### Syntax Description

<i>channel-group-number</i>	Channel-group number on the Cisco 2600 series, Cisco 2600XM, 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.
<b>timeslots</b> <i>range</i>	Specifies one or more time slots separated by commas, 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.
<b>speed</b> <i>kbps</i>	(Optional) Specifies the speed of the underlying DS0s in kilobits per second. Valid values are 48, 56, and 64.  The default line speed when configuring a T1 controller is 56 kbps on the Cisco 2600 series, Cisco 2600XM, Cisco 3660, Cisco 3725, Cisco 3745, and the Cisco MC3810.  The default line speed when configuring an E1 controller is 64 kbps on the Cisco 2600 series, Cisco 2600XM, Cisco 3660, Cisco 3725, Cisco 3745, and the Cisco MC3810.  The <i>kbps</i> argument controls real-time (VBR-RT) traffic shaping, and the maximum burst size (MBS) is 255 cells.

<b>aim</b> <i>aim-slot-number</i>	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, Cisco 3660, Cisco 3725, and Cisco 3745.
<i>channel-number</i>	Number of the channel. Valid values can be 0 or 1 on the Cisco SLT (Cisco 2611).

## Defaults

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 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, 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, Cisco 3660, Cisco 3725, Cisco 3745, and the Cisco MC3810.

## Command Modes

Controller configuration

## Command History

Release	Modification
11.3 MA	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 <i>kbps</i> was changed on the Cisco MC3810; see the “Usage Guidelines” section for valid values.
12.2(11)T	This command was modified for use on the Cisco AS5350 and Cisco AS5400.
12.2(15)T	The <b>aim</b> keyword was added for use on the Cisco 2600 series (including the Cisco 2691), Cisco 2600XM, Cisco 3660, Cisco 3725, and Cisco 3745.

## Usage Guidelines

Use this command to direct High-Level Data Link Control (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, Cisco 3660, Cisco 3725, and Cisco 3745.

**Note**

Neither the Cisco AS500 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 **no channel-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 **encapsulation ss7** 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 **no channel-group channel-group-number** command on the associated T1/E1 controller. The link must first be stopped using the **no shutdown** 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, 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.

When you specify 56 kbps for the speed of the underlying DS0, the channel group is limited to 14 channels on the Cisco MC3810 MultiFlex Trunk (MFT). Because the 56 kbps is the default, specify the 64 kbps when you need more than 14 channels.

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 12.0.0.1 255.0.0.0
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-group12 consists of a single time slot.

```
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 timeslots10 64
```



#### 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 Media Gateway Controllers (MGCs).

#### Related Commands

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

# chat-script

To create a script that will place a call over a modem, use the **chat-script** command in global configuration mode. To disable the specified chat script, use the **no** form of this command.

**chat-script** *script-name expect-send*

**no chat-script** *script-name expect-send*

## Syntax Description

<i>script-name</i>	Name of the chat script.
<i>expect-send</i>	Pairs of information elements: an item to expect and an item to send in response.

## Defaults

No chat scripts are defined.

## Command Modes

Global configuration

## Command History

Release	Modification
10.0	This command was introduced.

## Usage Guidelines

Chat scripts are used in dial-on-demand routing (DDR) to give commands to dial a modem and commands to log on to remote systems. The defined script will be used to place a call over a modem.

Some characteristics of chat scripts are as follows:

- Chat scripts are case sensitive.
- You can have any number of ABORT sequences active at once.
- When a chat script starts, the default timeout is 5 seconds. Changes to the timeout persist until the next time you change them in the script.
- A string within quotation marks is treated as a single entity.

We recommend that one chat script (a “modem” chat script) be written for placing a call and another chat script (a “system” or “login” chat script) be written to log on to remote systems, where required.

### Suggested Chat Script Naming Conventions

A suggested chat script naming convention is *vendor-type-modulation*. If you follow this convention, the syntax of the **chat-script** command becomes **chat-script** *vendor-type-modulation expect-send*.

For example, if you have a Telebit T3000 modem that uses V.32bis modulation, you would name your chat script `telebit-t3000-v32bis`.

The **chat-script** command could be written as follows:

```
chat-script telebit-t3000-v32bis ABORT ERROR ABORT BUSY ABORT "NO ANSWER" "" "AT H" OK "AT
DT \T" DIALING \c TIMEOUT 30 CONNECT \c
```

Adhering to this naming convention allows you to use partial chat script names with regular expressions to specify a range of chat scripts that can be used. This capability is particularly useful for dialer rotary groups and is explained further in the next section.

Chat scripts are in the form *expect-send*, where the send string following the hyphen (-) is executed if the preceding expect string fails. Each send string is followed by a return unless it ends with the escape sequence `\c`. The sequence `^x` is translated into the appropriate control character, and the sequence `\x` is translated into `x` if `\x` is not one of the special sequences listed in [Table 2](#).

See the book titled *Managing uucp and Usenet* by Tim O'Reilly and Grace Todino for more information about chat scripts.

### Escape Sequences

The escape sequences used in chat scripts are listed in [Table 2](#).

**Table 2** Chat Script Send String Escape Sequences

Escape Sequence	Description
<code>\</code>	Sends the ASCII character with its octal value.
<code>\\</code>	Sends a backslash (\) character.
<code>\"</code>	Sends a double-quote (") character (does not work <i>within</i> double quotes).
<code>\c</code>	Suppresses a new line at the end of the send string.
<code>\d</code>	Delays for 2 seconds.
<code>\K</code>	Inserts a BREAK.
<code>\n</code>	Sends a newline or linefeed character.
<code>\N</code>	Sends a null character.
<code>\p</code>	Pauses for 0.25 second.
<code>\q</code>	Reserved, not yet used.
<code>\r</code>	Sends a return.
<code>\s</code>	Sends a space character.
<code>\t</code>	Sends a tab character.
<code>\T</code>	Replaced by phone number.
<code>" "</code>	Expects a null string.
<code>BREAK</code>	Causes a BREAK. This sequence is sometimes simulated with line speed changes and null characters. May not work on all systems.
<code>EOT</code>	Sends an end-of-transmission character.

### Expect-Send Pairs

Sample supported *expect-send* pairs are described in [Table 3](#).

**Table 3** Sample Supported Expect-Send Pairs

Expect and Send Pair	Function
<b>ABORT</b> <i>string</i>	Designates a string whose presence in the input indicates that the chat script has failed.
<b>TIMEOUT</b> <i>time</i>	Sets the time to wait for input, in seconds. The default is 5 seconds and a timeout of 60 seconds is recommended for V.90 modems.

For example, if a modem reports **BUSY** when the number dialed is busy, you can indicate that you want the attempt stopped at this point by including **ABORT BUSY** in your chat script.

#### Alternate Handlers

If you use the *expect-send* pair **ABORT SINK** instead of **ABORT ERROR**, the system terminates abnormally when it encounters **SINK** instead of **ERROR**.

#### Missed Characters

After the connection is established and you press the Return key, you must often press Return a second time before the prompt appears.

For example, you might include the following as part of your chat script:

```
ssword:~/r-ssword
```

This part of the script specifies that, after the connection is established, you want **ssword** to be displayed. If it is not displayed, you must press Return again after the timeout passes.

#### Examples

The following example shows the **chat-script** command being used to create a chat script named *t3000*:

```
chat-script t3000 ABORT ERROR ABORT BUSY ABORT "NO ANSWER" "" "AT H" OK "AT DT \T" DIALING
\c TIMEOUT 60 CONNECT \c
```

#### Related Commands

Command	Description
<a href="#">dialer map</a>	Configures a serial interface or ISDN interface to call one or multiple sites or to receive calls from multiple sites.
<a href="#">script dialer</a>	Specifies a default modem chat script.

# class (controller)

To create a signaling class structure that can be referred to by its name, use the **class** command in controller configuration mode. To remove the structure, use the **no** form of this command.

**class** *name*

**no class** *name*

## Syntax Description

<i>name</i>	The signalling class name which specifies the template that processes the ANI/DNIS delimiter.
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## Command Modes

Controller configuration

## Command History

Release	Modification
12.1(1)T	This command was introduced.

## Usage Guidelines

A signaling class allows the Cisco AS5300 and Cisco AS5800 universal access servers to provide the ANI/DNIS delimiter on incoming T1/CAS trunk lines. The digit collection logic in the call switching module (CSM) for incoming T1 CAS calls in dual tone multifrequency (DTMF) is modified to process the delimiters, the ANI digits, and the DNIS digits.

For this feature to work, a CAS signalling class with the template to process ANI/DNIS delimiters has to be defined. This creates a signalling class structure which can be referred to by its name. The *name* argument must match the name configured in the **signaling-class cas** command.

## Examples

The following example defines a CAS signalling class with the template to process ANI/DNIS delimiters on channel 1:

```
Router(config)# signaling-class cas test
Router(config-sig-class)# profile incoming S<*a<*d<*n

Router(config)# controller T1 1/0/1
Router(config-controller)# cas-custom 1
Router(config-ctrl-cas)# class test
```

## Related Commands

Commands	Descriptions
<a href="#">profile incoming</a>	Defines a template formed by directives guiding the CSM to process the digit sequence for a signalling class.
<a href="#">signaling-class cas</a>	Defines a signaling class which specifies the template that processes the ANI/DNIS delimiter.

# clear cot summary

To reset the counters, use the **clear cot summary** command in privileged EXEC mode.

**clear cot summary**

**Syntax Description** This command has no arguments or keywords.

**Command Modes** Privileged EXEC

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	11.3(7)	This command was introduced.

**Examples** There is no display generated, but the counters in the **show cot summary** command would be all zeros.

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<a href="#">show cot dsp</a>	Displays information about the COT DSP configuration or current status.
	<a href="#">show cot request</a>	Displays COT request information.
	<a href="#">show cot summary</a>	Displays information about the COT activity.

## clear counters (async)

To clear the counters of a specified asynchronous interface or specified asynchronous interface group, as displayed by the **show interface async** command, use the **clear counters** command in EXEC mode.

**clear counters** {**async** *async-interface-number* | **group-async** *group-async-interface-number*}

### Syntax Description

<b>async</b>	Counters in a specified asynchronous interface.
<i>async-interface-number</i>	Required async interface number of the asynchronous interface that has been previously created with this number specification. The range is from 1 through 49.
<b>group-async</b>	Counters in a specified asynchronous interface group.
<i>group-async-interface-number</i>	Required group-async interface number that has been previously created with this number specification. The range is from 0 through 49.

### Command Modes

EXEC

### Command History

Release	Modification
12.0	This command was introduced.

### Usage Guidelines

Before using this command, use the **show interface async** command to display the asynchronous related counters on the specified asynchronous interface.

### Examples

The following example uses the **show interface async** command to display the asynchronous related counters on the asynchronous interface named 1. The example then uses the **clear counters group-async** command to clear the counters. After the counters are cleared, the configuration file for the interface is displayed.

```
Router# show interface async 1

Async1 is down, line protocol is down
modem(slot/port)=1/0, state=IDLE
dsxl(slot/unit/channel)=NONE, status=VDEV_STATUS_UNLOCKED
Hardware is Async Serial
Interface is unnumbered. Using address of Ethernet0 (1.18.31.9)
MTU 1500 bytes, BW 115 Kbit, DLY 100000 usec, rely 255/255, load 1/255
Encapsulation PPP, loopback not set, keepalive not set
DTR is pulsed for 5 seconds on reset
LCP Closed
Closed: IPCP, CDPCP
Last input never, output never, output hang never
Last clearing of "show interface" counters 00:03:46
Input queue: 0/10/0 (size/max/drops); Total output drops: 0/////
Queueing strategy: weighted fair
Output queue: 0/1000/64/0 (size/max total/threshold/drops)
Conversations 0/0/256 (active/max active/max total)
```

```

Reserved Conversations 0/0 (allocated/max allocated)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes, 0 no buffer
Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
  0 packets output, 0 bytes, 0 underruns
  0 output errors, 0 collisions, 0 interface resets
  0 output buffer failures, 0 output buffers swapped out
  0 carrier transitions

```

Router#

Router# **clear counters group-async 1**

Clear "show interface" counters on this interface [confirm]

Router#

\*Oct 17 00:42:27.083: %CLEAR-5-COUNTERS: Clear counter on interface Group-Asynce

### Related Commands

Command	Description
<a href="#">clear modem counters</a>	Clears the statistical counters on one or more manageable modems on access servers or routers.
<a href="#">show interface async</a>	Displays the asynchronous related counters on the specified asynchronous interface.

# clear counters line

To clear line counters, use the **clear counters line** command in EXEC mode.

```
clear counters line {type | number}
```

## Syntax Description

<i>type</i>	Line type: <b>aux</b> , <b>console</b> , <b>tty</b> , or <b>vty</b> .
<i>number</i>	First line number to clear, which can be between 0 and 54.

## Command Modes

EXEC

## Command History

Release	Modification
11.2 P	This command was introduced.

## Usage Guidelines

This command clears the line counters shown by the **show line** command.

## Examples

The following example shows the available options under the **clear counters line** command. When you issue this command, the counters (for example, Uses and Noise) displayed by the **show line** command are cleared.

```
Router# clear counters line ?
```

```
<0-54>  First Line number
aux      Auxiliary line
console  Primary terminal line
tty      Terminal controller
vty      Virtual terminal
```

```
Router# exit
```

```
Router> show line
```

```

  Tty Typ      Tx/Rx      A Modem  Roty AccO  AccI  Uses   Noise  Overruns
*  0 CTY
A  1 TTY 115200/115200 - inout  - - -    1     0     0/0
A  2 TTY 115200/115200 - inout  - - -    1     0     0/0
A  3 TTY 115200/115200 - inout  - - -    1     0     0/0
*  4 TTY 115200/115200 - inout  - - -    0     0     0/0
*  5 TTY 115200/115200 - inout  - - -    0     0     0/0
*  6 TTY 115200/115200 - inout  - - -    0     0     0/0
*  7 TTY 115200/115200 - inout  - - -    0     0     0/0
*  8 TTY 115200/115200 - inout  - - -    0     0     0/0
*  9 TTY 115200/115200 - inout  - - -    0     0     0/0
* 10 TTY 115200/115200 - inout  - - -    0     0     0/0
* 11 TTY 115200/115200 - inout  - - -    0     0     0/0
* 12 TTY 115200/115200 - inout  - - -    0     0     0/0
* 13 TTY 115200/115200 - inout  - - -    0     0     0/0
* 14 TTY 115200/115200 - inout  - - -    0     0     0/0
* 15 TTY 115200/115200 - inout  - - -    0     0     0/0
A 16 TTY 115200/115200 - inout  - - -    1     0     0/0
```

```
A 17 TTY 115200/115200 - inout - - - 1 0 0/0
A 18 TTY 115200/115200 - inout - - - 1 0 0/0
A 19 TTY 115200/115200 - inout - - - 1 0 0/0
A 20 TTY 115200/115200 - inout - - - 1 0 0/0
A 21 TTY 115200/115200 - inout - - - 1 0 0/0
```

---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show line</b>	Displays the parameters of a terminal line.

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# clear dialer

To clear the values of dialer statistics for one or more serial interfaces or BRIs configured for dial-on-demand routing (DDR), use the **clear dialer** privileged EXEC mode command

```
clear dialer [interface interface-type interface-number]
```

## Cisco 7500 Series Routers Only

```
clear dialer [interface serial slot/port]
```

### Syntax Description

<b>interface</b>	(Optional) Indicates that one interface will be specified.
<i>interface-type</i>	(Optional) Interface type: <b>async</b> , <b>serial</b> , or <b>bri</b> .
<i>interface-number</i>	(Optional) Interface number.
<i>slot/port</i>	(Optional) Backplane slot number and port number on the interface. See your hardware installation manual for the specific slot and port numbers.

### Command Modes

Privileged EXEC

### Command History

Release	Modification
11.0	This command was introduced.

### Usage Guidelines

If the **interface** keyword and the arguments are not used, dialer statistics are cleared on all interfaces.

### Examples

The following example clears the dialer statistics on serial interface 1:

```
Router# clear dialer interface serial 1
```

# clear dialer dnis

To reset the counter statistics associated with a specific dialed number identification service (DNIS) group or number, use the **clear dialer dnis** command in privileged EXEC mode.

```
clear dialer dnis {group name | number number}
```

## Syntax Description

<b>group name</b>	Dialer DNIS group statistics.
<b>number number</b>	Dialer DNIS number statistics.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.0(4)XI	This command was introduced.

## Usage Guidelines

Use the **clear dialer dnis** EXEC command to reset the counter statistics associated with a specific DNIS group or number. This command clears the counters for a DNIS group to reset the counter statistics associated with a specific DNIS group or number. If an ISP is charging a customer for the number of calls to a DNIS, it can clear the number after a week or month by using this command.

## Examples

The following example shows the result of using the **clear dialer dnis** command for the DNIS group named “dg1”. Note that the counters have been cleared after the **clear dialer dnis** command has been entered.

```
Router# show dialer dnis group dg1
```

```
DNIS Number:71028
  4 total connections
  3 peak connections
  1 calltype mismatches
DNIS Number:4156266541
  8 total connections
  5 peak connections
  0 calltype mismatches
DNIS Number:4085541628
  3 total connections
  2 peak connections
  0 calltype mismatches
DNIS Number:71017
  2 total connections
  1 peak connections
  0 calltype mismatches
```

```
Router# clear dialer dnis group dg1
```

```
Router# show dialer dnis group dg1
```

```
DNIS Number:71028
  0 total connections
  0 peak connections
  0 calltype mismatches
DNIS Number:4156266541
  0 total connections
  0 peak connections
  0 calltype mismatches
DNIS Number:4085541628
  0 total connections
  0 peak connections
  0 calltype mismatches
DNIS Number:71017
  0 total connections
  0 peak connections
  0 calltype mismatches
```

---

**Related Commands**

Command	Description
<a href="#">show dialer dnis</a>	Displays the number of calls DNIS groups have had.

---

# clear dialer sessions

To remove all dialer sessions and disconnect links when connected, use the **clear dialer sessions** command in EXEC mode.

**clear dialer sessions**

**Syntax Description** This command has no arguments or keywords.

**Command Modes** EXEC

Command History	Release	Modification
	12.0(3)T	This command was introduced.

**Examples** The following example shows how to use the **clear dialer sessions** command:

```
Router# clear dialer sessions
```

Related Commands	Command	Description
	<a href="#">show dialer sessions</a>	Displays all dialer sessions.

# clear dsip tracing

To clear Distributed System Interconnect Protocol (DSIP) tracing statistics (trace logging), use the **clear dsip tracing** command in privileged EXEC mode.

```
clear dsip tracing {counters | tracing} [control | data | ipc]
```

## Syntax Description

<b>counters</b>	DSIP counters.
<b>tracing</b>	DSIP tracing buffers.
<b>control</b>	(Optional) Control counters or tracing buffers.
<b>data</b>	(Optional) Data counters or tracing buffers.
<b>ipc</b>	(Optional) Inter-process communication counters or tracing buffers.

## Defaults

If no option is specified, all control, data, and inter-process communication counters or tracing buffers are cleared.

## Command Modes

privileged EXEC

## Command History

Release	Modification
11.3(2)AA	This command was introduced.

## Usage Guidelines

Use this command to clear the counters displayed with the **show dsip tracing** EXEC command.

## Examples

In the following example, the DSIP counters are cleared (including data, control, and ipc counters):

```
Router# clear dsip tracing
```

## Related Commands

Command	Description
<a href="#">show dsip tracing</a>	Displays DSIP tracing buffer information.
<a href="#">show dsip version</a>	Displays DSIP version information.

# clear interface virtual-access

To tear down the virtual access interface and free the memory for other dial-in uses, use the **clear interface virtual-access** command in EXEC mode.

**clear interface virtual-access** *number*

<b>Syntax Description</b>	<i>number</i>	Virtual access interface number.
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<b>Command Modes</b>	EXEC
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<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	11.2 F	This command was introduced.

<b>Usage Guidelines</b>	This command does not free the memory for uses unrelated to dial-in access.
-------------------------	---

**Examples** The following example clears a specified virtual access interface. You can use the **show interfaces virtual-access** command to display the interface numbers before you clear any specific one.

```
Router# clear interface virtual access 1
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<a href="#">interface virtual-template</a>	Creates a virtual template interface that can be configured and applied dynamically in creating virtual access interfaces.
	<b>show interfaces</b>	Displays statistics for the interfaces configured on a router or access server.

# clear ip route download

To clear static routes downloaded from an authentication, authorization, and accounting (AAA) server, use the **clear ip route download** command in EXEC mode.

```
clear ip route download { * | network-number network-mask | reload }
```

Syntax Description		
	*	All routes.
	<i>network-number</i>	Destination network route and mask in standard IP address notation. For example, 10.1.1.1 255.255.255.255.
	<i>network-mask</i>	
	<b>reload</b>	Delete all routes, then reload static routes from the AAA server and reset the timer configured by the <b>aaa route download</b> command.

**Command Modes** EXEC

Command History	Release	Modification
	12.0(3)T	This command was introduced.

**Usage Guidelines** This command forces the router to reload static routes from the AAA server before the update timer expires.

**Examples** The following example shows how to clear all routes:

```
Router# clear ip route download *
```

Related Commands	Command	Description
	<a href="#">aaa authorization configuration default</a>	Downloads static route configuration information from the AAA server using TACACS+ or RADIUS.
	<a href="#">aaa route download</a>	Enables the download static route feature and sets the amount of time between downloads.
	<a href="#">show ip route</a>	Displays all static IP routes, or those installed using the AAA route download function.

# clear line

To return a terminal line to idle state, use the **clear line** command in EXEC mode.

**clear line** *line-number*

---

<b>Syntax Description</b>	<i>line-number</i>	Absolute line number.
---------------------------	--------------------	-----------------------

---

---

<b>Command Modes</b>	EXEC
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---

---

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	10.0	This command was introduced.

---

---

<b>Usage Guidelines</b>	Use this command to log out of a specific session running on another line. If the line uses a modem, the modem will be disconnected.
-------------------------	--

---

---

<b>Examples</b>	The following example resets line 3 to idle state:
-----------------	--

---

```
Router# clear line 3
```

# clear line async-queue

To reset the connections currently waiting to use a rotary line in the queue, use the **clear line async-queue** command in EXEC mode.

**clear line async-queue** [*rotary-group*]

<b>Syntax Description</b>	<i>rotary-group</i> (Optional) Rotary group.
---------------------------	--

<b>Command Modes</b>	EXEC
----------------------	------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	12.1(1)T	This command was introduced.

**Usage Guidelines** Use this command without any argument to remove all rotary line queues and terminate the asynchronous queue manager. Use the **clear line async-queue** command with the *rotary-group* argument to reset only the specified rotary group.

**Examples** The following example clears all the rotary queues and shows the resulting output:

```
Router# clear line async-queue

Clearing queued connections for ALL rotary groups ! [confirm]
Clearing rotary group 1
  Clearing line 69
  Clearing line 70
Clearing rotary group 2
  Clearing line 66
  Clearing line 67
  Clearing line 68
```

# clear modem

To reset the hardware for one or more manageable modems on an access server or router, use the **clear modem** command in EXEC mode.

```
clear modem { slot/port | all | group group-number | at-mode slot/port | test }
```

Syntax Description		
<i>slot/port</i>		Slot and modem port number. (Include the slash mark when entering this variable, for example: 1/1.)
<b>all</b>		All modems. This command disconnects any active calls.
<b>group</b> <i>group-number</i>		Group of modems. The modem group number is the number of the group you have previously created.
<b>at-mode</b> <i>slot/port</i>		AT directly connected session. The variable, <i>slot/port</i> , is required. This EXEC command clears an attention (AT) directly connected session to a manageable Microcom modem from a second Telnet session.
<b>test</b>		Log or test report that is displayed by the <b>show modem test</b> command. If you do not clear the test regularly, eventually the oldest test report will replace the current test report.

**Command Modes** EXEC

Command History	Release	Modification
	11.2	This command was introduced.

**Usage Guidelines** The modem hardware is reset for modems that are idle or busied out for long periods of time.

An AT directly connected session is usually initiated and closed from the same Telnet session when you enter the **modem at-mode** command and press **Ctrl-C**. However, you can clear an AT directly connected session that was mistakenly left open by enabling the **clear modem at-mode** command from a second Telnet session in to the access server.

**Examples** The following example of the **clear modem slot/port** command resets the hardware for manageable modem 1/1:

```
Router# clear modem 1/1
```

The following is an example of using the **clear modem all** command:

```
Router# clear modem all
```

```
This command will disconnect any active calls.
Clear (reset) all modems? [confirm]
Clearing modems.....
Done
Router#
```

The following examples of the **clear modem group** command clear the manageable modems in group 1:

```
Router# clear modem group 1
Router# clear modem group1
```

The following example executes the **clear modem at-mode** command from a Telnet session:

```
modem at-mode 1/1
```

The following example executes the **clear modem at-mode** command from a second Telnet session while the first Telnet session is connected to the modem:

```
Router# clear modem at-mode 1/1

clear "modem at-mode" for modem 1/1 [confirm]
Router#
```

The following output is displayed in the first Telnet session after the modem is cleared by the second Telnet session:

```
Direct connect session cleared by vty0 (172.19.1.164)
```

#### Related Commands

Command	Description
<a href="#">clear modem counters</a>	Clears the statistical counters on one or more manageable modems on access servers or routers.
<a href="#">interface group-async</a>	Creates a group interface that will serve as master, to which asynchronous interfaces can be associated as members.
<a href="#">show modem at-mode</a>	Opens a directly connected session and enters AT command mode, which is used for sending AT commands to Microcom manageable modems.
<a href="#">show modem test</a>	Displays the modem test log.

# clear modem counters

To clear the statistical counters on one or more manageable modems installed in an access server, use the **clear modem counters** command in EXEC mode.

```
clear modem counters [slot/port-number | group [group-number]]
```

Syntax Description	
<i>slot/port-number</i>	(Optional) Slot and modem port number. (Include the slash mark when entering this variable, for example: 1/1.)
<b>group</b> [ <i>group-number</i> ]	(Optional) One or all groups of modems. The optional modem group number is the number of a group-async interface. The group number range is from 1 to 1002.

Defaults	Disabled
----------	----------

Command Modes	EXEC
---------------	------

Command History	Release	Modification
	11.2	This command was introduced.

**Usage Guidelines**

Entering the **clear modem counters** command without specifying an optional keyword or argument resets the modem statistics on each modem and the summary statistics displayed in the **show modem summary** command.

The subcommand **clear modem counters group** without the group number clears counters in all modem groups. The optional modem group number is the number of a group you have previously created.

**Examples**

The following example of the **clear modem counters slot/port** command clears the statistical counters on manageable modem 1/1:

```
Router# clear modem counters 1/1
```

The following example of the **clear modem counters group** command clears the statistical counters on all manageable modem groups:

```
Router# clear modem counters group
```

```
Clear "show modem" counters for all modem groups [confirm]
Router#
*Oct 17 20:20:24.974: %CLEAR-5-COUNTERS: Clear counter on modems in all groups e
Router#
```

Related Commands	Command	Description
	<a href="#">clear cot summary</a>	Clears the counters of a specified asynchronous interface or specified asynchronous interface group.
	<a href="#">show modem summary</a>	Displays a high-level report for all manageable modems dialing into and out of the network.

# clear modem log

To reset the log for one or more manageable modems installed in a Cisco AS5800 series access server, use the **clear modem log** command in EXEC mode.

```
clear modem log [shelfslotport shelfslotport ...] group [group-number]
```

## Syntax Description

<i>shelfslotport</i>	(Optional) One or several modem shelves listed in the order shelf, slot, and port. (Include the slash mark when entering the values.) The shelf value is the shelf ID of the dial shelf. The slot values range from 2 to 11 and the port values range from 0 to 323 on the UP324 modem card, and from 0 to 143 on the Double Density Modem Module (DMM) card.
<b>group</b> [ <i>group-number</i> ]	(Optional) One or all groups of modems. The optional modem group number is the number of a group-async interface. The group number range is from 1 to 1002.

## Defaults

Reset logs for all modems.

## Command Modes

EXEC

## Command History

Release	Modification
12.1 T	This command was introduced.

## Usage Guidelines

Entering the **clear modem log** command without specifying an optional keyword or argument resets the log for all modems. Entering the **clear modem log** command and the **group** keyword without an argument clears the log for all modem groups. Use the optional *shelfslotport* or *group-number* argument to clear the log of a specific modem or modem group.

The *group-number* argument is the number of a group you have previously created using the **interface group-async** global configuration and **group range** interface configuration commands. These commands create a group of asynchronous interfaces that are associated with a group asynchronous interface on the same device.

## Examples

The following example clears the modem log for shelf 1, slot 4, port 0:

```
Router# clear modem log 1/4/0
```

```
Clear Modem log for modem 1/4/00 [confirm]y
```

Use the **show modem log** command to verify that the modem log for shelf 1, slot 4, port 0 is cleared:

```
Router# show modem log 1/4/0
```

```
Modem 1/4/00 Events Log:
```

The following example clears the modem logs for shelf 1, slot 4, port 0 and shelf 1, slot 4, port 2:

```
Router# clear modem log 1/4/1 1/4/2
```

```
Clear modem log for modems 1/4/01 to 1/4/02 [confirm]y
```

Use the **show modem log** command to verify the modem logs for shelf 1, slot 4, port 0 and shelf 1, slot 4, port 2 are cleared:

```
Router# show modem log 1/4/1 1/4/2
```

```
Modem 1/4/01 Events Log:
```

```
Modem 1/4/02 Events Log:
```

The following example clears the log for all modems:

```
Router# clear modem log
```

```
Clear modem log for all modems [confirm]y
```

The following example clears the log for all modem groups:

```
Router# clear modem log group
```

```
Clear modem log for modems in all groups [confirm]y
```

The following example clears the log for modem group 0:

```
Router# clear modem log group 0
```

```
Clear modem log for modems in group 0 [confirm]y
```

## Related Commands

Command	Description
<b>group range</b>	Creates a list of member asynchronous interfaces (associated with a group interface).
<b>interface group-async</b>	Creates a group interface that will serve as master, to which asynchronous interfaces can be associated as members.
<b>show modem log</b>	Displays the modem history event status performed on a manageable modem or group of modems.

# clear modempool-counters

To clear the active or running counters associated with one or more modem pools, use the **clear modempool-counters** command in EXEC mode.

**clear modempool-counters** [*name*]

## Syntax Description

<i>name</i>	(Optional) Modem pool name. If you do not include this option, all counters for all modem pools will be cleared.
-------------	--

## Command Modes

EXEC

## Command History

Release	Modification
11.2 P	This command was introduced.

## Usage Guidelines

The **clear modempool-counters** command clears the counters that are displayed in the **show modem-pool** command. This command is used only with MICA technologies digital modems.

## Examples

The following examples show three modem pools set up on the access server: System-def-Mpool, v90service, and v34service.

```
Router# show modem-pool

modem-pool: System-def-Mpool
modems in pool: 20   active conn: 15
0 no free modems in pool

modem-pool: v90service
modems in pool: 50   active conn: 43
 3 no free modems in pool
called_party_number: 4441000
max conn allowed: 50, active conn: 43
 3 max-conn exceeded, 3 no free modems in pool

modem-pool: v34service
modems in pool: 50   active conn: 30
 1 no free modems in pool
called_party_number: 4443000
max conn allowed: 50, active conn: 30
 0 max-conn exceeded, 0 no free modems in pool
```

In the following example, the **clear modempool-counters v90service** command clears the running counters for the v90services modem pool.

```
Router# clear modempool-counters v90service
Router# show modem-pool

modem-pool: System-def-Mpool
modems in pool: 20   active conn: 15
0 no free modems in pool
```

```

modem-pool: v90service
modems in pool: 50  active conn: 0
 0 no free modems in pool
called_party_number: 4441000
  max conn allowed: 50, active conn: 0
  0 max-conn exceeded, 0 no free modems in pool

modem-pool: v34service
modems in pool: 50  active conn: 30
 1 no free modems in pool
called_party_number: 4443000
  max conn allowed: 50, active conn: 30
  0 max-conn exceeded, 0 no free modems in pool

```

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>called-number (modem pool)</b>	Assigns a called party number to a pool of modems.
<b>modem-pool</b>	Creates a new modem pool or specifies an existing modem pool, which allows you to physically or virtually partition your access server for dial-in and dial-out access.
<b>pool-member</b>	Assigns a range of modems to a modem pool.
<b>show modem-pool</b>	Displays the configuration and connection status for one or more modem pools.

# clear port

To reset the NextPort port and clear any active call to the port, use the **clear port** command in EXEC mode.

## Cisco AS5400 with the NextPort Dial Feature Card (DFC)

```
clear port [slot | slot/port]
```

## Cisco AS5800 with the Universal Port Card (UPC)

```
clear port [shelfslot | shelfslot/port]
```

### Syntax Description

<i>slot</i>	(Optional) The slot number to be cleared. All ports on the specified slot will be cleared. For the Cisco AS5400, slot values range from 1 to 7.
<i>slot/port</i>	(Optional) The slot and port number to be cleared. For the Cisco AS5400, slot values range from 1 to 7 and port values range from 0 to one less than the number of ports supported by the card. You must type in the slash mark.
<i>shelfslot</i>	(Optional) The shelf and slot number to be cleared. All ports on the specified shelf and slot will be cleared. For the Cisco AS5800, shelf values range from 0 to 1 and UPC slot values range from 2 to 11. You must type in the slash mark.
<i>shelfslot/port</i>	(Optional) The shelf, slot, and port number to be cleared. For the Cisco AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and port values range from 0 to 323. You must type in the slash mark.

### Command Modes

EXEC

### Command History

Release	Modification
12.1(1)XD	This command was introduced on the Cisco AS5400.
12.1(3)T	This command was implemented on the Cisco AS5800.
12.1(5)XM1	This command was implemented on the Cisco AS5350.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T.

### Usage Guidelines

If you specify the shelf, slot, and port, you clear that port on that SPE. If you specify only the shelf and slot, you clear all active ports on that particular shelf and slot. If you do not specify a shelf, slot, or port, you clear all the ports on the access server.

This command also clears the Bad state on a port and resets it. However, the port is not cleared if the SPE was previously in a Bad state due to an SPE firmware download.

**Examples**

The following example shows output from the **clear port** command on the Cisco AS5400 with the NextPort DFC. This example clears slot 1, port 1:

```
Router# clear port 1/1
This will clear port 1/01[confirm]y
```

The following example shows output from the **clear port** command on the Cisco AS5800 with the UPC. This example clears shelf 1, slot 3, port 0:

```
Router# clear port 1/3/0
This will clear port 1/03/00[confirm]y
```

**Related Commands**

Command	Description
<a href="#">busyout</a>	Informs the central-office switch that a channel is out of service.
<a href="#">clear line</a>	Returns a terminal line to idle state.
<a href="#">clear spe</a>	Reboots all specified SPEs.
<a href="#">show port digital log</a>	Displays the data event log for digital modems.
<a href="#">show port modem log</a>	Displays the events generated by the modem sessions
<a href="#">show spe</a>	Displays SPE status.
<a href="#">shutdown (port)</a>	Disables a port.

# clear port log

To clear all event entries in the port level history event log, use the **clear port log** command in EXEC mode.

## Cisco AS5400 with NextPort DFC

```
clear port log [slot | slot/port]
```

## Cisco AS5800 with Universal Port Card

```
clear port log [shelfslot | shelfslot/port]
```

Syntax Description	slot	(Optional) All ports on the specified slot. For the AS5400, slot values range from 0 to 7.
	slot/port	(Optional) All ports on the specified slot and SPE. For the AS5400, slot values range from 0 to 7 and port values range from 0 to 107. Be sure to include the slash mark.
	shelfslot	(Optional) All ports on the specified shelf and slot. For the AS5800, shelf values range from 0 to 1 and UPC slot values range from 2 to 11. Be sure to include the slash mark.
	shelfslot/port	(Optional) All ports on the specified SPE. For the AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and port values range from 0 to 323. Be sure to include the slash mark.

Command Modes	EXEC
---------------	------

Command History	Release	Modification
	12.1(1)XD	This command was introduced on the Cisco AS5400.
	12.1(3)T	This command was implemented on the Cisco AS5800.

**Usage Guidelines** The **clear port log** command clears the entire port log. You cannot remove individual service events from the port log. On the Cisco AS5400 only, you can use **show port modem log** or the **show port digital log** to display specific service events, but you must use **clear port log** to clear the entire port event log.

**Examples** The following example shows output from the **clear port log** command on the Cisco AS5400 with NextPort DFC. This example clears slot 1, port 1:

```
Router# clear port log 1/1
```

```
This will clear log event history for port(s)1/01 - 1/01[confirm]y
```

**clear port log**

The following example shows output from the **clear port log** command on the Cisco AS5800 with universal port card. This example clears shelf 1, slot 3, port 0:

```
Router# clear port log 01/03/00
```

```
This will clear port 1/03/00[confirm]y
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<a href="#">show port digital log</a>	Displays the data event log for digital modems.
<a href="#">show port modem log</a>	Displays the events generated by the modem sessions.

# clear resource-pool

To reset the counter statistics associated with a specific customer profile, call discriminator, or physical resource, use the **clear resource-pool** command in privileged EXEC mode.

```
clear resource-pool {customer | discriminator | resource} {name | all}
```

## Syntax Description

<b>customer</b>	Customer profile.
<b>discriminator</b>	Call discriminator.
<b>resource</b>	Physical resource. Checks the counters maintained for resource groups.
<i>name</i>	Specific customer profile, discriminator, or physical resource in the access server.
<b>all</b>	All customer profiles, discriminators, or physical resources in the access server.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.0(4)XI	This command was introduced.

## Usage Guidelines

Use the **clear resource-pool** privileged EXEC command to reset the counter statistics associated with a specific customer profile, call discriminator, or physical resource.

## Examples

The following example shows the use of the **clear resource-pool** command for the specific customer named “customer-isp”:

```
Router# clear resource-pool customer ?
WORD Customer profile name
all Clear all customer profiles

Router# clear resource-pool customer customer_isp
```

## Related Commands

Command	Description
<a href="#">show resource-pool call</a>	Displays all active call information for all customer profiles and resource groups.
<a href="#">show resource-pool customer</a>	Displays the contents of one or more customer profiles.
<a href="#">show resource-pool resource</a>	Displays the resource groups configured in the NAS.

# clear snapshot quiet-time

To end the quiet period on a client router within two minutes, use the **clear snapshot quiet-time** command in EXEC mode.

```
clear snapshot quiet-time interface-type interface-number
```

<b>Syntax Description</b>	<i>interface-type</i> Interface type and number. <i>interface-number</i>
---------------------------	---

<b>Command Modes</b>	EXEC
----------------------	------

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	10.3	This command was introduced.

<b>Usage Guidelines</b>	The <b>clear snapshot quiet-time</b> command places the client router in a state to reenter the active period within two minutes. The two-minute hold period ensures a quiet period of at least two minutes between active periods.
-------------------------	---

<b>Examples</b>	The following example ends the quiet period on dialer interface 1: Router# <b>clear snapshot quiet-time dialer 1</b>
-----------------	---

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<a href="#">show snapshot</a>	Displays snapshot routing parameters associated with an interface.
	<a href="#">snapshot client</a>	Configures a client router for snapshot routing.

# clear spe

To reboot all specified service processing elements (SPEs), use the **clear spe** command in EXEC mode.

## Cisco AS5400 with the NextPort Dial Feature Card (DFC)

```
clear spe [slot | slot/spe]
```

## Cisco AS5800 with the Universal Port Card (UPC)

```
clear spe [shelfslot | shelfslot/spe]
```

### Syntax Description

<i>slot</i>	(Optional) The slot number to be cleared. All ports on the specified slot will be cleared. For the Cisco AS5400, slot values range from 1 to 7.
<i>slot/spe</i>	(Optional) The slot and service processing element (SPE) number to be cleared. All ports on the specified slot and SPE will be cleared. For the Cisco AS5400, slot values range from 1 to 7 and SPE values range from 1 to 17. You must type in the slash mark.
<i>shelfslot</i>	(Optional) The shelf and slot number to be cleared. All ports on the specified shelf and slot will be cleared. For the Cisco AS5800, shelf values range from 0 to 1 and UPC slot values range from 2 to 11. You must type in the slash mark.
<i>shelfslot/spe</i>	(Optional) The shelf, slot and SPE number to be cleared. All ports on the specified SPE will be cleared. For the Cisco AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and SPE values range from 0 to 53. You must type in the slash mark.

### Command Modes

EXEC

### Command History

Release	Modification
12.1(1)XD	This command was introduced on the Cisco AS5400.
12.1(3)T	This command was implemented on the Cisco AS5800.
12.1(5)XM1	This command was implemented on the Cisco AS5350.
12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T.

### Usage Guidelines

Execution of the **clear spe** command causes the configured firmware to be downloaded to the specified SPE or the range of SPEs and causes the power-on self-test (POST) to be executed. This command can be executed regardless of the state of the SPEs.



#### Note

All active ports running on the SPE are prematurely terminated and messages are logged into the appropriate log.

This command downloads configured SPEs with firmware as configured. Unconfigured SPEs download with the default firmware, which is the bundled version. To configure and manage the downloading of firmware without abruptly terminating SPEs, use the firmware location or firmware upgrade commands as appropriate.

### Examples

The following example clears SPEs when the **clear spe** command is entered on the Cisco AS5400 with the NextPort DFC. This example performs a coldstart on slot 1, SPE 1.

```
Router# clear spe 1/1
```

```
Router# This will tear all active calls on the SPE(s), if any.[confirm]y
```

The following example clears SPEs when the **clear spe** command is entered on the Cisco AS5800 with the UPC. This example performs a coldstart on shelf 1, slot 8, SPE 0.

```
Router# clear spe 1/8/0
```

```
Router# This will tear all active calls on the SPE(s), if any.[confirm]y
```

### Related Commands

Command	Description
<a href="#">busyout</a>	Disables a port by waiting for the active services on the specified port to terminate.
<a href="#">clear line</a>	Returns a line to its idle state.
<a href="#">clear port</a>	Resets the NextPort port and clears any active call.
<a href="#">show spe</a>	Displays SPE status.
<a href="#">shutdown (port)</a>	Disables a port.

# clear spe counters

To clear all statistics, use the **clear spe counters** command in EXEC mode.

## Cisco AS5350 and Cisco AS5400 with the NextPort Dial Feature Card (DFC)

```
clear spe counters [slot | slot/spe]
```

## Cisco AS5800 with the Universal Port Card (UPC)

```
clear spe counters [slot/spe | shelf/slot/spe]
```

Syntax Description	slot	(Optional) The slot number to be cleared. All ports on the specified slot will be cleared. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7.
	slot/spe	(Optional) The slot and service processing element (SPE) number to be cleared. All ports on the specified slot and SPE will be cleared. For the Cisco AS5350 slot values range from 1 to 3. For the Cisco AS5400, slot values range from 1 to 7. The SPE values range from 0 to 17. You must type in the slash mark.
	shelf/slot	(Optional) The shelf and slot number to be cleared. All ports on the specified shelf and slot will be cleared. For the Cisco AS5800, shelf values range from 0 to 1 and UPC slot values range from 2 to 11. You must type in the slash mark.
	shelf/slot/spe	(Optional) The shelf, slot and SPE number to be cleared. All ports on the specified SPE will be cleared. For the Cisco AS5800, shelf values range from 0 to 1, slot values range from 2 to 11, and SPE values range from 0 to 53. You must type in the slash marks.

**Command Modes** EXEC

Command History	Release	Modification
	12.1(1)XD	This command was introduced on the Cisco AS5400.
	12.1(3)T	This command was implemented on the Cisco AS5800.
	12.1(5)XM1	This command was implemented on the Cisco AS5350.
	12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T.

**Usage Guidelines** The **clear spe counters** command clears statistical counters of all service types for the specified SPE, range of SPEs, or all the SPEs. If you do not set a parameter, you clear all SPE statistical counters.

---

**Examples**

The following example shows how to clear all statistics by entering the **clear spe counters** command on the Cisco AS5350 with the NextPort DFC:

```
Router# clear spe counters 1/3 1/7
```

This will clear statistic counters for SPEs 1/03 - 1/07 [confirm]**y**

The following example shows how to clear all statistics by entering the **clear spe counters** command on the Cisco AS5800 with the UPC. This example clears shelf 1, slot 3, ports 0 to 11.

```
Router# clear spe counters 1/3/0 1/3/11
```

This will clear statistic counters for SPEs 1/03/00 - 1/03/11[confirm]**y**

# clear spe log

To clear event entries in the slot history event log, use the **clear spe log** command in EXEC mode.

## Cisco AS5400 with the NextPort Dial Feature Card (DFC)

```
clear spe log [slot]
```

## Cisco AS5800 with the Universal Port Card (UPC)

```
clear spe log [shelf/slot]
```

Syntax Description	slot	(Optional) The slot number to be cleared. All ports on the specified slot will be cleared. For the Cisco AS5400, slot values range from 1 to 7.
	shelf/slot	(Optional) The shelf and slot number to be cleared. All ports on the specified shelf and slot will be cleared. For the Cisco AS5800, shelf values range from 0 to 1 and UPC slot values range from 2 to 11. You must type in the slash mark.

Command Modes	EXEC
---------------	------

Command History	Release	Modification
	12.1(1)XD	This command was introduced on the Cisco AS5400.
	12.1(3)T	This command was implemented on the Cisco AS5800.
	12.1(5)XM1	This command was implemented on the Cisco AS5350.
	12.2(11)T	This command was integrated into Cisco IOS Release 12.2(11)T.

**Usage Guidelines**

The **clear spe log** command clears event entries in the slot history event log. If you do not specify the shelf/slot range, all service processing element (SPE) event entries clear.

If you specify the shelf/slot, only the event entries for that slot clear.

**Examples**

The following example shows output from the **clear spe log** command on the Cisco AS5400 with the NextPort DFC. This example clears the SPE log from shelf 1, slot 3:

```
Router# clear spe log 1/03
```

```
This will clear slot event history for slot(s) 3 - 3[confirm]y
```

The following example shows output from the **clear spe log** command on the Cisco AS5800 with the UPC. This example clears shelf 1, slot 8, SPE 0:

```
Router# clear spe log 1/8/0
```

```
This will clear slot event history for slot(s) 8 - 8[confirm]y
```

**■** clear spe log**Related Commands**

Command	Description
<a href="#">show spe log</a>	Displays the SPE system log.

# clear vpdn counters

To clear the counters of a specified virtual private dial-up network (VPDN) session or tunnel or to clear all of the VPDN counters, as displayed by the **show vpdn** command, use the **clear vpdn counters** command in privileged EXEC mode.

```
clear vpdn counters [session { interface interface-type interface-number | id tunnel-id session-id | username username } | tunnel { l2f | l2tp | pptp } { all | hostname hostname | ip { remote | local } ip-address | id tunnel-id}]
```

## Syntax Description

<b>session</b>	(Optional) Specifies that session counters will be cleared.
<b>interface</b> <i>interface-type</i> <i>interface-number</i>	Clears VPDN session counters for the interface specified by the <i>interface-type interface-number</i> arguments. Valid values for the <i>interface-type</i> argument are: <ul style="list-style-type: none"> <li>• <b>serial</b>—Specifies that VPDN session counters will be cleared on a serial interface.</li> <li>• <b>HSSI</b>—Specifies that VPDN session counters will be cleared on a High-Speed Serial Interface (HSSI).</li> <li>• <b>BRI</b>—Specifies that VPDN session counters will be cleared on a BRI interface.</li> <li>• <b>SUBIF</b>—Specifies that VPDN session counters will be cleared on an ATM or Frame Relay subinterface.</li> <li>• <b>Virtual-Access</b>—Specifies that VPDN session counters will be cleared on a virtual access interface.</li> </ul>
<b>id</b> <i>tunnel-id</i> <i>session-id</i>	Clears VPDN session counters by tunnel and session ID. Valid values for the <i>tunnel-id</i> argument and the <i>session-id</i> argument range from 1 to 65535.
<b>username</b> <i>username</i>	Clears VPDN session counters for the username specified by the <i>username</i> argument.
<b>tunnel</b> { <b>l2f</b>   <b>l2tp</b>   <b>pptp</b> }	(Optional) Clears both session and tunnel counters for the tunnel type specified by the <b>l2f</b> , <b>l2tp</b> , or <b>pptp</b> keyword.
<b>all</b>	Clears VPDN counters for all sessions and tunnels of the selected tunnel type .
<b>hostname</b> <i>hostname</i>	Clears VPDN counters for all sessions and tunnels of the selected tunnel type associated with the particular host specified by the <i>hostname</i> argument.  For the <b>l2tp</b> and <b>pptp</b> tunnel type options, the <i>hostname</i> argument has the following value: <i>remote-name</i> [ <i>local-name</i> ]  For the <b>l2f</b> tunnel type option, the <i>hostname</i> argument has the following value: <i>nas-name gateway-name</i>  The <i>nas-name</i> argument is the name of the network access server and <i>gateway-name</i> argument is the name of the home gateway.

## clear vpdn counters

<b>ip {remote   local}</b> <i>ip-address</i>	Clears VPDN counters for all sessions and tunnels of the selected tunnel type associated with the remote or local IP address specified by the <i>ip-address</i> argument.
<b>id</b> <i>tunnel-id</i>	Clears VPDN counters for all sessions and tunnels of the selected tunnel type associated with the tunnel id specified with the <i>tunnel-id</i> argument. Valid values for the <i>tunnel-id</i> argument range from 1 to 65,535.

## Command Modes

Privileged EXEC

## Command History

Release	Modification
12.2(13)T	This command was introduced.

## Usage Guidelines

Use this command to clear counters for VPDN sessions and tunnels. If no keywords are used when the **clear vpdn counters** command is used, all VPDN session and tunnel counters are cleared. If the **session** keyword is used, the specified session counters are cleared. If the **tunnel** keyword is used, the specified session and tunnel counters are cleared. You cannot clear the VPDN tunnel counters without also clearing the VPDN session counters.

## Examples

The following example shows output from the **show vpdn** command before and after the **clear vpdn counters** command is issued:

```
Router# show vpdn session packets interface virtual-access 8

L2TP Session Information Total tunnels 1 sessions 1
PPTP session removal calls 0

LocID RemID TunID Pkts-In Pkts-Out Bytes-In Bytes-Out
7      2      28240 10282  10287   431844  298235

Router# clear vpdn counters session interface virtual-access 8

Clear "show vpdn" counters on this session [confirm]

Router# show vpdn session packets interface virtual-access 8

L2TP Session Information Total tunnels 1 sessions 1
PPTP session removal calls 0

LocID RemID TunID Pkts-In Pkts-Out Bytes-In Bytes-Out
7      2      28240 0        0        0        0

%No active L2F tunnels
%No active PPTP tunnels
%No active PPPoE tunnels
```

## Related Commands

Command	Description
<b>show vpdn</b>	Displays information about active L2TP or L2F tunnels or sessions in a VPDN.

# clear vpdn history failure

To clear the content of the failure history table, use the **clear vpdn history failure** command in EXEC mode.

**clear vpdn history failure**

---

**Syntax Description** This command has no arguments or keywords.

---

**Command Modes** EXEC

---

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	11.3 T	This command was introduced.

---

---

**Examples** The following example clears the content of the failure history table:

```
Router# clear vpdn history failure
```

# clear vpdn redirect

To clear the redirect counters shown in the **show vpdn redirect** command output, use the **clear vpdn redirect** command in privileged EXEC mode.

```
clear vpdn redirect
```

**Syntax Description** This command has no arguments or keywords.

**Command Modes** Privileged EXEC

Command History	Release	Modification
	12.2(8)B	This command was introduced.
	12.2(13)T	This command was integrated into Cisco IOS Release 12.2(13)T.

**Usage Guidelines** Clear the previous display statistics regarding redirects and forwards before entering the **show vpdn redirect** command again.

**Examples** The following example clears the redirect counters from a previously entered **show vpdn redirect** command:

```
Router# clear vpdn redirect
```

Related Commands	Command	Description
	<b>show vpdn redirect</b>	Displays statistics for L2TP call redirects and forwards.
	<b>vpdn redirect</b>	Enables L2TP redirect functionality.
	<b>vpdn redirect attempts</b>	Restricts the number of redirect attempts possible for an L2TP call on the LAC.
	<b>vpdn redirect identifier</b>	Indicates the name of the VPDN redirect identifier to use for L2TP call redirection.
	<b>vpdn redirect source</b>	Configures the public redirect IP address of an LNS.

# clear vpdn tunnel

To shut down a specified virtual private dial-up network (VPDN) tunnel and all sessions within the tunnel, use the **clear vpdn tunnel** command in privileged EXEC mode.

## L2TP or PPTP Tunnels

```
clear vpdn tunnel {pptp | l2tp} {all | hostname remote-name [local-name] | id local-id | ip
local-ip-address | ip remote-ip-address}
```

## L2F Tunnels

```
clear vpdn tunnel l2f {all | hostname nas-name hgw-name | id local-id | ip local-ip-address | ip
remote-ip-address}
```

### Syntax Description

<b>pptp</b>	Clears the specified Point-to-Point Tunneling Protocol (PPTP) tunnel.
<b>l2tp</b>	Clears the specified Layer 2 Tunneling Protocol (L2TP) tunnel.
<b>all</b>	Clears all VPDN tunnels terminating on the device.
<b>hostname</b> <i>remote-name</i> [ <i>local-name</i> ]	Clears all L2TP or PPTP VPDN tunnels established between the devices with the specified local and remote hostnames.
<b>id</b> <i>local-id</i>	Clears the VPDN tunnel with the specified local ID.
<b>ip</b> <i>local-ip-address</i>	Clears all VPDN tunnels terminating on the device with the specified local IP address.
<b>ip</b> <i>remote-ip-address</i>	Clears all VPDN tunnels terminating on the device with the specified remote IP address.
<b>l2f</b>	Clears the specified Layer 2 Forwarding (L2F) tunnel.
<b>hostname</b> <i>nas-name</i> <i>hgw-name</i>	Clears all L2F VPDN tunnels established between the network access server (NAS) and home gateway with the specified hostnames.

### Command Modes

Privileged EXEC

### Command History

Release	Modification
11.2	This command was introduced.
11.3(5)AA	The <b>l2tp</b> keyword was added.
12.0(1)T	The <b>l2f</b> keyword was added.
12.0(5)XE5	The <b>pptp</b> keyword was added.

Release	Modification
12.1(5)T	The <b>pptp</b> keyword was updated for additional Cisco access servers or routers.
12.2(2)T	The syntax for this command was modified to include the following keywords and arguments: <ul style="list-style-type: none"> <li>• <b>all</b></li> <li>• <b>hostname</b> <i>remote-name local-name</i></li> <li>• <b>hostname</b> <i>nas-name hgw-name</i></li> <li>• <b>id</b> <i>local-id</i></li> <li>• <b>ip</b> <i>local-ip-address</i></li> <li>• <b>ip</b> <i>remote-ip-address</i></li> </ul>

### Usage Guidelines

Manual termination of a VPDN tunnel results in the immediate shutdown of the specified VPDN tunnel and all sessions within that tunnel, resulting in a sudden disruption of VPDN services.

You can shut down VPDN tunnels more gradually by issuing the **vpdn softshut** command, which prevents the establishment of new VPDN sessions in all VPDN tunnels that terminate on the device. Existing VPDN sessions are not affected.

A manually terminated VPDN tunnel can be restarted immediately when a user logs in. Manually terminating and restarting a VPDN tunnel while VPDN event logging is enabled can provide useful troubleshooting information about VPDN session establishment. VPDN event logging is enabled by issuing the **vpdn logging** command.

### Examples

The following example clears all L2TP tunnels connecting to a remote peer named NAS1:

```
Router# clear vpdn tunnel l2tp hostname NAS1
```

The following example clears all PPTP tunnels connecting the devices with the hostnames NAS3 and tun1:

```
Router# clear vpdn tunnel pptp NAS3 hostname tun1
```

The following example clears all L2F tunnels originating from the specified IP address:

```
Router# clear vpdn tunnel l2f ip 10.1.1.1
```

### Related Commands

Command	Description
<b>vpdn logging</b>	Enables the logging of generic VPDN events.
<b>vpdn softshut</b>	Prevents new sessions from being established on a VPDN tunnel without disturbing existing sessions.

# clid group

To add a calling line identifier (CLID) group to a discriminator, use the **clid group** command in CLID configuration mode. To remove a CLID group from a discriminator, use the **no** form of this command.

```
clid group { clid-group-name | default }
```

```
no clid group { clid-group-name | default }
```

## Syntax Description

<i>clid-group-name</i>	Name of the CLID group added to the discriminator. You can add an existing CLID group or one that is to be defined. Discrimination does not happen until the CLID group is defined.
<b>default</b>	Default discrimination profile. Any CLID number coming in on a call is in its respective default group unless it is specifically assigned a CLID group name.

## Defaults

CLID screening is not used.

## Command Modes

CLID configuration

## Command History

Release	Modification
12.1(5)T	This command was introduced.

## Usage Guidelines

Use the **clid group** command to add a CLID group (which specifies the calls to reject) to the discriminator. If you use the default option, CLID call screening is not used.

## Examples

The following example shows a call discriminator named “clidElim” created and configured to block digital calls from the CLID group named “zot”.

```
resource-pool profile discriminator clidElim
  call-type digital
  clid group zot
```

## Related Commands

Command	Description
<a href="#">call-type</a>	Specifies the type of calls you want to block.
<a href="#">resource-pool profile discriminator</a>	Creates a call discrimination profile and assigns it a name.

# clock source line

To set the E1 line clock source for the Cisco AS5200 access server, use the **clock source line** command in controller configuration mode. To change or remove the clocking source, use the **no** form of this command.

**clock source line** {primary | secondary}

**no clock source line** {primary | secondary}

## Syntax Description

<b>primary</b>	Primary TDM clock source.
<b>secondary</b>	Secondary TDM clock source.

## Defaults

Primary TDM clock source is taken from the E1 controller 0 on the Cisco AS5200.

Secondary TDM clock source is taken from the E1 controller 1 on the Cisco AS5200.

## Command Modes

Controller configuration

## Command History

Release	Modification
11.1	This command was introduced.

## Usage Guidelines

Configure the **clock source line primary** command on the controller that takes the most reliable clocking from an E1 line. Configure the **clock source line secondary** command on the controller that has the next best known clocking. With this configuration, the primary line clocking is backed up to the secondary line if the primary clocking shuts down.

## Examples

The following example configures the Cisco AS5200 to use E1 controller 0 as the primary clocking source and the E1 controller 1 as the secondary clocking source:

```
controller e1 0
  framing esf
  linecode hdb3
  pri-group timeslots 1-23
  clock source line primary
!
controller e1 1
  framing esf
  linecode hdb3
  pri-group timeslots 1-23
  clock source line secondary
```

Related Commands	Command	Description
	<a href="#">clear controller</a>	Resets the T1 or E1 controller.
	<a href="#">controller</a>	Configures a T1 or E1 controller and enters controller configuration mode.
	<a href="#">linecode</a>	Selects the linecode type for T1 or E1 line.
	<a href="#">show controllers e1</a>	Displays information about the E1 links supported by the NPM (Cisco 4000) or MIP (Cisco 7500 series).

# copy modem

To copy modem firmware to integrated modems in an access server, use the **copy modem** command in EXEC mode.

**copy {flash | tftp | rcp} modem**

## Syntax Description

<b>flash</b>	Flash memory.
<b>tftp</b>	Local TFTP server.
<b>rcp</b>	Local rcp server.

## Command Modes

EXEC

## Command History

Release	Modification
11.2	This command was introduced.

## Usage Guidelines



### Note

The **copy modem** command is no longer available for MICA portware and 56K Microcom modems on Cisco AS5200 and AS5300 access servers. Use the **spe** command instead.

The Microcom V.34 modems and Cisco AS5200 V.110 terminal adapter will continue to use the **copy modem** command. On bootup, because these modems do not require download, the command displays the location of the firmware as "feature\_card\_flash."

After you enable this command, you are asked to provide the download destination (a *slot/port* or **all**), the remote host name, and the path leading to the source modem firmware.

If a modem that you want to upgrade is busy with a call when the **copy modem** command is enabled, the upgrade for that modem yields until the active call is dropped. All other idle modems in the upgrade range proceed with the downloading operation.

## Examples

The following example copies the modem firmware file called modem\_upgrade from the TFTP server called Modem\_Server to modem 2/0, which is installed in a Cisco AS5200 access server:

```
Router# copy tftp modem

Modem Numbers (<slot>/<port>[-<slot>/<port>] | group <number> | all)? 2/0
Address or name of remote host [UNKNOWN]? Modem_Server
Source file name? dirt/elem/modem_upgrade
Accessing file 'dirt/elem/modem_upgrade' on Modem_Server...
Loading dirt/elem/modem_upgrade .from 192.168.254.254 (via Ethernet0): ! [OK]

Loading dirt/elem/modem_upgrade from 192.168.254.254 (via Ethernet0):
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
[OK - 237503/278528 bytes]
```

```
Router#
%MODEM-5-DL_START: Modem (2/0) started firmware download
%MODEM-5-DL_GOOD: Modem (2/0) completed firmware download:
MNPClass10V.34/V.FCModemRev1.0.23/85.23/85
```

As shown in this example, you might want to upgrade and test one modem's firmware before upgrading the firmware of all the modems on the access server, as shown in the next example.

The following example downloads the same modem firmware file from the TFTP server to all the modems in the Cisco AS5200 access server:

```
Router# copy tftp modem

Modem Numbers (<slot>/<port>[-<slot>/<port>] | group <number> | all)? all
Address or name of remote host [UNKNOWN]? Modem_Server
Source file name? dirt/elem/modem_upgrade
Accessing file 'dirt/elem/modem_upgrade' on Modem_Server...
Loading dirt/elem/modem_upgrade .from 192.168.254.254 (via Ethernet0): ! [OK]

Loading dirt/elem/modem_upgrade from 192.168.254.254 (via Ethernet0):
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
[OK - 237503/278528 bytes]
```

```
Router#
%MODEM-5-DL_START: Modem (2/0) started firmware download
%MODEM-5-DL_START: Modem (2/1) started firmware download
%MODEM-5-DL_START: Modem (2/2) started firmware download
%MODEM-5-DL_START: Modem (2/3) started firmware download
%MODEM-5-DL_START: Modem (2/4) started firmware download
%MODEM-5-DL_START: Modem (2/5) started firmware download
%MODEM-5-DL_START: Modem (2/6) started firmware download
%MODEM-5-DL_START: Modem (2/7) started firmware download
%MODEM-5-DL_START: Modem (2/8) started firmware download
%MODEM-5-DL_START: Modem (2/9) started firmware download
%MODEM-5-DL_START: Modem (2/10) started firmware download
%MODEM-5-DL_START: Modem (2/11) started firmware download
%MODEM-5-DL_START: Modem (2/12) started firmware download
%MODEM-5-DL_START: Modem (2/13) started firmware download
%MODEM-5-DL_START: Modem (2/14) started firmware download
%MODEM-5-DL_START: Modem (2/15) started firmware download
%MODEM-5-DL_START: Modem (2/16) started firmware download
%MODEM-5-DL_START: Modem (2/17) started firmware download
%MODEM-5-DL_START: Modem (2/18) started firmware download
%MODEM-5-DL_START: Modem (2/19) started firmware download
%MODEM-5-DL_START: Modem (2/20) started firmware download
%MODEM-5-DL_START: Modem (2/21) started firmware download
%MODEM-5-DL_START: Modem (2/22) started firmware download
%MODEM-5-DL_START: Modem (2/23) started firmware download
%MODEM-5-DL_GOOD: Modem (2/2) completed firmware download:
MNPClass10V.34/V.FCModemRev1.0.23/85.23/85
%MODEM-5-DL_GOOD: Modem (2/10) completed firmware download:
MNPClass10V.34/V.FCModemRev1.0.23/85.23/85
%MODEM-5-DL_GOOD: Modem (2/4) completed firmware download:
MNPClass10V.34/V.FCModemRev1.0.23/85.23/85
%MODEM-5-DL_GOOD: Modem (2/6) completed firmware download:
MNPClass10V.34/V.FCModemRev1.0.23/85.23/85
%MODEM-5-DL_GOOD: Modem (2/7) completed firmware download:
MNPClass10V.34/V.FCModemRev1.0.23/85.23/85
%MODEM-5-DL_GOOD: Modem (2/12) completed firmware download:
MNPClass10V.34/V.FCModemRev1.0.23/85.23/85
%MODEM-5-DL_GOOD: Modem (2/11) completed firmware download:
MNPClass10V.34/V.FCModemRev1.0.23/85.23/85
```

```

%MODEM-5-DL_GOOD: Modem (2/13) completed firmware download:
MNPCClass10V.34/V.FCModemRev1.0.23/85.23/85
%MODEM-5-DL_GOOD: Modem (2/1) completed firmware download:
MNPCClass10V.34/V.FCModemRev1.0.23/85.23/85
%MODEM-5-DL_GOOD: Modem (2/14) completed firmware download:
MNPCClass10V.34/V.FCModemRev1.0.23/85.23/85
%MODEM-5-DL_GOOD: Modem (2/19) completed firmware download:
MNPCClass10V.34/V.FCModemRev1.0.23/85.23/85
%MODEM-5-DL_GOOD: Modem (2/22) completed firmware download:
MNPCClass10V.34/V.FCModemRev1.0.23/85.23/85
%MODEM-5-DL_GOOD: Modem (2/5) completed firmware download:
MNPCClass10V.34/V.FCModemRev1.0.23/85.23/85
%MODEM-5-DL_GOOD: Modem (2/8) completed firmware download:
MNPCClass10V.34/V.FCModemRev1.0.23/85.23/85
%MODEM-5-DL_GOOD: Modem (2/9) completed firmware download:
MNPCClass10V.34/V.FCModemRev1.0.23/85.23/85
%MODEM-5-DL_GOOD: Modem (2/17) completed firmware download:
MNPCClass10V.34/V.FCModemRev1.0.23/85.23/85
%MODEM-5-DL_GOOD: Modem (2/0) completed firmware download:
MNPCClass10V.34/V.FCModemRev1.0.23/85.23/85
%MODEM-5-DL_GOOD: Modem (2/3) completed firmware download:
MNPCClass10V.34/V.FCModemRev1.0.23/85.23/85
%MODEM-5-DL_GOOD: Modem (2/21) completed firmware download:
MNPCClass10V.34/V.FCModemRev1.0.23/85.23/85
%MODEM-5-DL_GOOD: Modem (2/16) completed firmware download:
MNPCClass10V.34/V.FCModemRev1.0.23/85.23/85
%MODEM-5-DL_GOOD: Modem (2/15) completed firmware download:
MNPCClass10V.34/V.FCModemRev1.0.23/85.23/85
%MODEM-5-DL_GOOD: Modem (2/18) completed firmware download:
MNPCClass10V.34/V.FCModemRev1.0.23/85.23/85
%MODEM-5-DL_GOOD: Modem (2/20) completed firmware download:
MNPCClass10V.34/V.FCModemRev1.0.23/85.23/85
%MODEM-5-DL_GOOD: Modem (2/23) completed firmware download:
MNPCClass10V.34/V.FCModemRev1.0.23/85.23/85

```

The following example copies the modem firmware file called STAR.M from Flash memory to the integrated modem 1/2:

```

Router# copy flash modem

Modem Numbers (<slot>/<port> | group <number> | all)? 1/2

System flash directory:
File Length Name/status
  1 3539820 as5200-i-m.allcookies
  2 239203 STAR.M
  3 23072 BOOT.105 [3802288 bytes used, 4586320 available, 8388608 total]
Source file name? STAR.M
Router#
%MODEM-5-DL_START: Modem (1/2) started firmware download
%MODEM-5-DL_GOOD: Modem (1/2) completed firmware download:
MNPCClass10V.34/V.FCModemRev1.0.23/85.23/85
Router

```

## Related Commands

Command	Description
<b>copy</b>	Copies any file from a source to a destination.
<b>spe</b>	Enters SPE configuration mode and sets the range of SPEs.

# corlist incoming

To specify the class of restrictions (COR) list to be used when a specified dial peer acts as the incoming dial peer, use the **corlist incoming** command in dial-peer configuration mode. To clear the previously defined incoming COR list in preparation for redefining the incoming COR list, use the **no** form of this command.

**corlist incoming** *cor-list-name*

**no corlist incoming** *cor-list-name*

Syntax Description	<i>cor-list-name</i>
	Name of the dial peer COR list that defines the capabilities that the specified dial peer has when it is used as an incoming dial peer.

Defaults	No default behavior or values.
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Command Modes	Dial-peer configuration
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Command History	Release	Modification
	12.1(3)T	This command was introduced.

Usage Guidelines	The <b>dial-peer cor list</b> and <b>member</b> commands define a set of capabilities (a COR list). These lists are used in dial peers to indicate the capability set that a dial peer has when it is used as an incoming dial peer (the <b>corlist incoming</b> command) or to indicate the capability set that is required for an incoming dial peer to make an outgoing call through the dial peer (the <b>corlist outgoing</b> command). For example, if dial peer 100 is the incoming dial peer and its incoming COR list name is list_100, dial peer 200 has list_200 as the outgoing COR list name. If list_100 does not include all the members of list_200 (that is, if list_100 is not a superset of list_200), it is not possible to have a call from dial peer 100 that uses dial peer 200 as the outgoing dial peer.
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Examples	In the following example, incoming calls from 526.... are blocked from being switched to outgoing calls to 1900.... because the COR list for the incoming dial peer (list2) is not a superset of the COR list for the outgoing dial peer (list1):
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```
dial-peer list list1
  member 900_call

dial-peer list list2
  member 800_call
  member other_call

dial-peer voice 526 pots
  answer-address 408526....
  corlist incoming list2
  direct-inward-dial
```

■ **corlist incoming**

```
dial-peer voice 900 pots
destination pattern 1900.....
direct-inward-dial
trunkgroup 101
prefix 333
corlist outgoing list1
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<a href="#">corlist outgoing</a>	Specifies the COR list to be used by outgoing dial peers.
<a href="#">dial-peer cor list</a>	Defines a COR list name.
<a href="#">member</a>	Adds a member to a dial peer COR list.

# corlist outgoing

To specify the class of restrictions (COR) list to be used by outgoing dial peers, use the **corlist outgoing** command in dial-peer configuration mode. To clear the previously defined outgoing COR list in preparation for redefining the outgoing COR list, use the **no** form of this command.

**corlist outgoing** *cor-list-name*

**no corlist outgoing** *cor-list-name*

<b>Syntax Description</b>	<i>cor-list-name</i>	Required name of the dial peer COR list for outgoing calls to the configured number using this dial peer.
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<b>Defaults</b>	No default behavior or values.
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<b>Command Modes</b>	Dial-peer configuration
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<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	12.1(3)T	This command was introduced.

<b>Usage Guidelines</b>	If the COR list for the incoming dial peer is not a superset of the COR list for the outgoing dial peer, calls from the incoming dial peer cannot use that outgoing dial peer.
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<b>Examples</b>	In the following example, incoming calls from 526.... are blocked from being switched to outgoing calls to 1900.... because the COR list for the incoming dial peer (list2) is not a superset of the COR list for the outgoing dial peer (list1):
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```
dial-peer list list1
member 900_call

dial-peer list list2
member 800_call
member other_call

dial-peer voice 526 pots
answer-address 408526....
corlist incoming list2
direct-inward-dial

dial-peer voice 900 pots
destination pattern 1900.....
direct-inward-dial
trunk group 101
prefix 333
corlist outgoing list1
```

Related Commands	Command	Description
	<a href="#">corlist incoming</a>	Specifies the COR list to be used when a specified dial peer acts as the incoming dial peer.
	<a href="#">dial-peer cor list</a>	Defines a COR list name.
	<a href="#">member</a>	Adds a member to a dial peer COR list.

# cpp authentication

To enable negotiation of authentication with a router or bridge that supports the Combinet Proprietary Protocol (CPP) and that is calling in to this router, use the **cpp authentication** command in interface configuration mode. To disable negotiation of CPP authentication, use the **no** form of this command.

**cpp authentication**

**no cpp authentication**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Disabled

**Command Modes** Interface configuration

Command History	Release	Modification
	11.2	This command was introduced.

**Usage Guidelines**

Use this command for authenticating the device that is calling in to this router.

Use this command to communicate over an ISDN interface with Cisco 700 and 800 series (formerly Combinet) routers that do not support PPP but do support the CPP.

Since most Cisco routers support PPP, Cisco routers can communicate over ISDN with CPP devices by using PPP encapsulation, which supports both routing and fast switching.

This command is supported on ISDN and dialer interfaces.

This command uses names and passwords from the **username password** command. It does not support TACACS.

**Examples** The following example configures a PRI to communicate with a bridge that does not support PPP:

```
controller t1 1/1
 framing esf
 linecode b8zs
 pri-group timeslots 1-23
 isdn switchtype primary-4ess

interface Serial1/1:23
 encapsulation cpp
 cpp callback accept
 cpp authentication
```

The following example configures a BRI to communicate with a bridge that does not support PPP:

```
interface bri 0
 encapsulation cpp
 cpp callback accept
 cpp authentication
```

**Related Commands**

Command	Description
<a href="#">cpp callback accept</a>	Enables the router to accept callback from a router or bridge that supports the CPP.
<a href="#">encapsulation cpp</a>	Enables encapsulation for communication with routers or bridges using the CPP.
<a href="#">virtual-profile aaa</a>	Enables virtual profiles by AAA configuration.

# cpp callback accept

To enable the router to accept callback from a router or bridge that supports the Combinet Proprietary Protocol (CPP), use the **cpp callback accept** command in interface configuration mode. To disable callback acceptance, use the **no** form of this command.

**cpp callback accept**

**no cpp callback accept**

**Syntax Description** This command has no arguments or keywords.

**Defaults** Disabled

**Command Modes** Interface configuration

Command History	Release	Modification
	11.2	This command was introduced.

**Usage Guidelines** Use this command to communicate over an ISDN interface with Cisco 700 and 800 series (formerly Combinet) routers that do not support PPP but do support CPP.

Currently, most Cisco routers *do* support PPP. Cisco routers can communicate over ISDN with these devices by using PPP encapsulation, which supports both routing and fast switching.

This command is supported on ISDN and dialer interfaces.

**Examples** The following example configures the PRI serial interface 1/1:23 to communicate with a router or bridge that does not support PPP:

```
controller t1 1/1
 framing esf
 linecode b8zs
 pri-group timeslots 1-23
 isdn switchtype primary-4ess
!
interface Serial1/1:23
 encapsulation cpp
 cpp callback accept
 cpp authentication
```

The following example configures BRI 0 to communicate with a router or bridge that does not support PPP:

```
interface bri 0
 encapsulation cpp
 cpp callback accept
 cpp authentication
```

Related Commands	Command	Description
	<a href="#">cpp authentication</a>	Enables negotiation of authentication with a router or bridge that supports the CPP and that is calling in to this router.
	<a href="#">encapsulation cpp</a>	Enables encapsulation for communication with routers or bridges using the CPP.