



Dial Commands

aaa authorization configuration default

To download static route configuration information from the authorization, authentication, and accounting (AAA) server using TACACS+ or RADIUS, use the **aaa authorization configuration default** command in global configuration mode. To remove static route configuration information, use the **no** form of this command.

aaa authorization configuration default {radius | tacacs+}

no aaa authorization configuration default

| Syntax Description | radius | RADIUS static route download. |
|--------------------|----------------|--------------------------------|
| | tacacs+ | TACACS+ static route download. |

Command Default No configuration authorization is defined.

Command Modes Global configuration

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

Examples The following example downloads static route information using a TACACS+ server:

```
aaa authorization configuration default tacacs+
```

| Related Commands | Command | Description |
|------------------|--------------------------------|--|
| | aaa new-model | Enables the AAA access control model. |
| | aaa route download | Enables the download static route feature and sets the amount of time between downloads. |
| | clear ip route download | Clears static routes downloaded from a AAA server. |
| | show ip route | Displays all static IP routes, or those installed using the AAA route download function. |

aaa route download

To enable the static route download feature and set the amount of time between downloads, use the **aaa route download** command in global configuration mode. To disable this function, use the **no** form of this command.

```
aaa route download [time] [authorization method-list]
```

```
no aaa route download
```

Syntax Description

| | |
|--|--|
| <i>time</i> | (Optional) Time between downloads, in minutes. The range is from 1 to 1440 minutes. |
| authorization <i>method-list</i> | (Optional) Specify a named method list to which RADIUS authorization requests for static route downloads are sent. If these attributes are not set, all RADIUS authorization requests will be sent to the servers that are specified by the default method list. |

Command Default

The default period between downloads (updates) is 720 minutes.

Command Modes

Global configuration

Command History

| Release | Modification |
|------------|--|
| 12.0(3)T | This command was introduced. |
| 12.1 | This command was integrated into Cisco IOS Release 12.1. |
| 12.2(8)T | The authorization keyword was added; the <i>method-list</i> argument was added. |
| 12.2(28)SB | This command was integrated into Cisco IOS Release 12.2(28)SB. |

Usage Guidelines

This command is used to download static route details from the authorization, authentication, and accounting (AAA) server if the name of the router is *hostname*. The name passed to the AAA server for static routes is *hostname-1*, *hostname-2*... *hostname-n*—the router downloads static routes until it fails an index and no more routes can be downloaded.

Examples

The following example sets the AAA route update period to 100 minutes:

```
aaa route download 100
```

The following example sets the AAA route update period to 10 minutes and sends static route download requests to the servers specified by the method list name "list1":

```
aaa route download 10 authorization list1
```

Related Commands

| Command | Description |
|--|---|
| aaa authorization configuration default | Downloads static route configuration information from the AAA server using TACACS+ or RADIUS. |
| clear ip route download | Clears static routes downloaded from a AAA server. |
| show ip route | Displays all static IP routes, or those installed using the AAA route download function. |

arap callback

To enable an AppleTalk Remote Access (ARA) client to request a callback, use the **arap callback** command in global configuration mode. To disable callback requests, use the **no** form of this command.

arap callback

no arap callback

Syntax Description

This command has no arguments or keywords.

Command Default

Callback requests are not accepted on lines configured for ARA.

Command Modes

Global configuration

Command History

| Release | Modification |
|---------|------------------------------|
| 11.1 | This command was introduced. |

Usage Guidelines

This command enables the router to accept callback requests from ARA clients. You first have to enable AppleTalk routing on the router and then enable automatic ARA startup on the line. You can use this command with either local username authentication or TACACS+ authentication.

Examples

The following example accepts a callback request from an ARA client:

```
arap callback
```

Related Commands

| Command | Description |
|----------------------------|---|
| arap callback | Enables an ARA client to request a callback from an ARA client. |
| autoselect | Configures a line to start an ARA, PPP, or SLIP session. |
| ppp bap call | Sets PPP BACP call parameters. |
| ppp callback (DDR) | Enables a dialer interface that is not a DTR interface to function either as a callback client that requests callback or as a callback server that accepts callback requests. |
| server (RLM) | Enables the Cisco IOS software to call back clients that request a callback from the EXEC level. |
| virtual-profile aaa | Enables virtual profiles by AAA configuration. |

async default routing



Note

Beginning in Cisco IOS Release 12.3(11)T, the **async default routing** command is replaced by the **routing dynamic** command. See the **routing dynamic** command for more information.

To enable the router to pass routing updates to other routers over an asynchronous interface, use the **async default routing** command in interface configuration mode. To disable dynamic addressing, use the **no** form of this command.

async default routing

no async default routing

Syntax Description

This command has no arguments or keywords.

Command Default

Disabled

Command Modes

Interface configuration

Command History

| Release | Modification |
|-----------|--|
| 10.0 | This command was introduced. |
| 12.3(11)T | This command was replaced by the routing dynamic command. |

Usage Guidelines

Use the **async default routing** command to define the default behavior for router-to-router communication over connections to the AUX port configured as an asynchronous interface. This command is commonly used to enable two routers to communicate over an async dial backup link.

To require a remote user to manually configure routing over connections to the AUX port configured as an asynchronous interface, use the **async dynamic routing** command.

Examples

The following example enables routing over asynchronous interface 0:

```
interface async 0
  async default routing
```

Related Commands

| Command | Description |
|------------------------------|---|
| async dynamic routing | Enables manually configured routing on an asynchronous interface. |

async dynamic address

To specify dynamic asynchronous addressing, use the **async dynamic address** command in interface configuration mode. To disable dynamic addressing, use the **no** form of this command.

async dynamic address

no async dynamic address

Syntax Description This command has no arguments or keywords.

Command Default Dynamic addressing is disabled.

Command Modes Interface configuration

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 10.0 | This command was introduced. |

Usage Guidelines You can control whether addressing is dynamic (the user specifies the address at the EXEC level when making the connection) or whether default addressing is used (the address is forced by the system). If you specify dynamic addressing, the router must be in interactive mode and the user will enter the address at the EXEC level.

It is common to configure an asynchronous interface to have a default address and to allow dynamic addressing. With this configuration, the choice between the default address or dynamic addressing is made by users when they enter the **slip** or **ppp** EXEC command. If the user enters an address, it is used, and if the user enters the **default** keyword, the default address is used.

Examples The following example shows dynamic addressing assigned to asynchronous interface six.

```
interface ethernet 0
 ip address 10.0.0.1 255.0.0.0
interface async 6
 async dynamic address
```

| Related Commands | Command | Description |
|------------------|--------------------------------|--|
| | peer default ip address | Specifies an IP address, an address from a specific IP address pool, or an address from the DHCP mechanism to be returned to a remote peer connecting to this interface. |

async dynamic routing

To enable manually configured routing on an asynchronous interface, use the **async dynamic routing** command in interface configuration mode. To disable routing protocols, use the **no** form of this command; static routing is still used.

async dynamic routing

no async dynamic routing

Syntax Description This command has no arguments or keywords.

Command Default Disabled

Command Modes Interface configuration

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 10.0 | This command was introduced. |

Usage Guidelines The **async dynamic routing** command is commonly used to manually bring up PPP from an EXEC session.

Examples The following example shows how to enable manually configured routing on asynchronous interface 1. The **ip tcp header-compression passive** command enables Van Jacobson TCP header compression and prevents transmission of compressed packets until a compressed packet arrives from the asynchronous link.

```
interface async 1
  async dynamic routing
  async dynamic address
  async default ip address 10.1.1.2
  ip tcp header-compression passive
```

A remote user who establishes a PPP or SLIP connection to this asynchronous interface can enable routing by using the **/routing** switch or the **ppp/routing** command. However, if you want to establish routing by default on connections to an asynchronous interface, use the **async default routing** command when you configure the interface.

Related Commands

| Command | Description |
|----------------------------------|--|
| async default routing | Enables the router to pass routing updates to other routers over the AUX port configured as an asynchronous interface. |
| async dynamic address | Specifies dynamic asynchronous addressing versus default addressing. |
| ip tcp header-compression | Enables TCP header compression. |

async mode dedicated

To place a line into dedicated asynchronous mode using Serial Line Internet Protocol (SLIP) or PPP encapsulation, use the **async mode dedicated** command in interface configuration mode. To return the line to interactive mode, use the **no** form of this command.

async mode dedicated

no async mode dedicated

Syntax Description This command has no arguments or keywords.

Command Default Asynchronous mode is disabled.

Command Modes Interface configuration

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 10.0 | This command was introduced. |

Usage Guidelines With dedicated asynchronous network mode, the interface will use either SLIP or PPP encapsulation, depending on which encapsulation method is configured for the interface. An EXEC prompt does not appear, and the router is not available for normal interactive use.

If you configure a line for dedicated mode, you will not be able to use the **async dynamic address** command because there is no user prompt.

Examples The following example assigns an IP address to an asynchronous line and places the line into network mode. Setting the stop bits to 1 enhances performance.

```
interface async 4
  async default ip address 172.31.7.51
  async mode dedicated
  encapsulation slip

line 20
  location remote computer
  stopbits 1
  speed 115200
```

| Related Commands | Command | Description |
|------------------|-------------------------------|--|
| | async dynamic address | Specifies dynamic asynchronous addressing. |
| | async mode interactive | Returns a line that has been placed into dedicated asynchronous network mode to interactive mode, thereby enabling the slip and ppp EXEC commands. |

async mode interactive

To return a line that has been placed into dedicated asynchronous network mode to interactive mode, thereby enabling the **slip** and **ppp** EXEC commands, use the **async mode interactive** command in interface configuration mode. To prevent users from implementing Serial Line Internet Protocol (SLIP) and PPP at the EXEC level, use the **no** form of this command.

async mode interactive

no async mode interactive

Syntax Description This command has no arguments or keywords.

Command Default Asynchronous mode is disabled.

Command Modes Interface configuration

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 10.0 | This command was introduced. |

Usage Guidelines Interactive mode enables the **slip** and **ppp** EXEC commands. In dedicated mode, there is no user EXEC level. The user does not enter any commands, and a connection is automatically established when the user logs in, according to the configuration.

Examples The following example places asynchronous interface 6 into interactive asynchronous mode:

```
interface async 6
  async default ip address 172.31.7.51
  async mode interactive
  ip unnumbered ethernet 0
```

| Related Commands | Command | Description |
|------------------|-----------------------------|---|
| | async mode dedicated | Places a line into dedicated asynchronous mode using SLIP or PPP encapsulation. |
| | ppp | Starts an asynchronous connection using PPP. |
| | slip | Starts a serial connection to a remote host by using SLIP. |

autodetect encapsulation

To enable automatic detection of the encapsulation types operating over a point-to-point link to a specified serial or ISDN interface or dialer interface under Media Gateway Control Protocol (MGCP) network access server (NAS) packages, use the **autodetect encapsulation** command in interface configuration mode. To disable automatic dynamic detection of the encapsulation types on a link, use the **no** form of this command.

```
autodetect encapsulation {[lapb-ta] [ppp] [v120]}
```

```
no autodetect encapsulation {[lapb-ta] [ppp] [v120]}
```

Syntax Description

| | |
|----------------|--|
| lapb-ta | Link Access Procedure, Balanced (LAPB) for an ISDN terminal adapter. |
| ppp | PPP encapsulation on the interface. |
| v120 | V.120 encapsulation on B channels. |

Command Default

No default behavior or values.

Command Modes

Interface configuration

Command History

| Release | Modification |
|-----------|---|
| 11.2 | This command was introduced. |
| 12.0(4)T | The lapb-ta keyword was added. |
| 12.3(7)YB | Support was added for MGCP NAS packages. |
| 12.4(6)T | Support for MGCP NAS packages was integrated into Cisco IOS Release 12.4(6)T. |

Usage Guidelines

At least one encapsulation type must be specified, but you can specify multiple encapsulation types. Encapsulation types can be specified in any order.

Use this command to enable the specified serial or ISDN interface or dialer interface under an MGCP NAS package to accept calls and dynamically change the encapsulation in effect on the interface when the remote device does not signal the call type. For example, if an ISDN call does not identify the call type in the Lower Layer Compatibility fields and is using an encapsulation that is different from the one configured on the interface, the interface can change its encapsulation type dynamically.

This command enables interoperability with ISDN terminal adapters that use V.120 encapsulation but do not signal V.120 in the call setup message. An ISDN interface that by default answers a call as synchronous serial with PPP encapsulation can change its encapsulation and answer such calls.

Autodetection of LAPB traffic on an ISDN terminal adapter is possible by issuing the **lapb-ta** keyword. This allows recognition of incoming LAPB-terminal adapter (TA) calls.

Automatic detection is attempted for 10 seconds after the link is established or the first five packets exchanged over the link, whichever is first.

Examples

The following example configures BRI 0 to call and receive calls from two sites, use PPP encapsulation on outgoing calls, and use Challenge Handshake Authentication Protocol (CHAP) authentication on incoming calls. This example also enables BRI 0 to configure itself dynamically to answer calls that use V.120 but that do not signal V.120.

```
interface bri 0
  encapsulation ppp
  autodetect encapsulation v120
  no keepalive
  dialer map ip 172.17.36.10 name EB1 234
  dialer map ip 172.17.36.9 name EB2 456
  dialer-group 1
  isdn spid1 0146334600
  isdn spid2 0146334610
  isdn T200 1000
  ppp authentication chap
```

The following example enables the LAPB-TA and V.120 protocols for autodetection on the serial interface after you have configured the virtual terminals to handle asynchronous traffic:

```
vtty-async
interface serial0:23
  autodetect encapsulation lapb-ta v120
```

The following example enables PPP encapsulation and LAPB-TA and V.120 protocols for autodetection on the dialer interface under an MGCP NAS package:

```
interface Dialer1
  ip unnumbered Loopback1
  encapsulation ppp
  dialer in-band
  dialer idle-timeout 240
  dialer extsig
  dialer-group 1
  autodetect encapsulation ppp v120 lapb-ta
  ppp authentication chap
!
```

Related Commands

| Command | Description |
|----------------------|--|
| encapsulation | Sets the encapsulation method used by the interface. |

autohangup

To configure automatic line disconnect, use the **autohangup** command in line configuration mode. To disable automatic line disconnect, use the **no** form of this command.

autohangup

no autohangup

Syntax Description This command has no arguments or keywords.

Command Default Disabled

Command Modes Line configuration

| Command History | Release | Modification |
|-----------------|---------|------------------------------|
| | 10.0 | This command was introduced. |

Usage Guidelines This command causes the EXEC to issue the **exit** command when the last connection closes. The **autohangup** command is useful for the UNIX-to-UNIX Copy Program (UUCP) applications that automatically disconnect lines because UUCP scripts cannot issue the **exit** command to hang up the telephone.

Examples The following example enables automatic line disconnect on lines 5 through 10:

```
line 5 10
 autohangup
```

| Related Commands | Command | Description |
|------------------|--------------------|--|
| | exit (EXEC) | Closes an active terminal session by logging off the router. |

autoselect

To configure a line to start an Appletalk Remote Access (ARA), PPP, or Serial Line Internet Protocol (SLIP) session, use the **autoselect** command in line configuration mode. To disable this function on a line, use the **no** form of this command.

```
autoselect { arap | ppp | slip | during-login | timeout seconds }
```

```
no autoselect [timeout]
```

Syntax Description

| | |
|-------------------------------|--|
| arap | ARA session. |
| ppp | PPP session. |
| slip | SLIP session. |
| during-login | Displays the username or password prompt without the user pressing the Return key. After the user logs in, the autoselect function begins. |
| timeout <i>seconds</i> | Timeout period from 1 to 120 seconds for the autoselect process. This argument applies only when the arap , ppp , or slip keyword functions are enabled and has no effect when the during-login keyword function is enabled. |

Command Default

ARA session
No timeout default

Command Modes

Line configuration

Command History

| Release | Modification |
|---------|---|
| 10.3 | This command was introduced. |
| 11.3 | The following keywords were added: <ul style="list-style-type: none"> • during-login • no autoselect • timeout <i>seconds</i> |

Usage Guidelines

This command eliminates the need for users to enter an EXEC command to start an ARA, PPP, or SLIP session.



Note

SLIP does not support authentication. For PPP and ARAP, you must enable authentication.

The **autoselect** command configures the Cisco IOS software to identify the type of connection being requested. For example, when a user on a Macintosh running ARA selects the Connect button, the Cisco IOS software automatically starts an ARAP session. If, on the other hand, the user is running SLIP or PPP and uses the **autoselect ppp** or **autoselect slip** command, the Cisco IOS software automatically

starts a PPP or SLIP session, respectively. This command is used on lines making different types of connections. You should configure **autoselect ppp** when the gateway is configured for interactive PPP authentication. You do not need to configure **autoselect ppp** for dedicated PPP configurations.

**Note**

If you configure **autoselect ppp**, you should not configure a **no exec** under the same line; these processes are mutually exclusive.

A line that does not have **autoselect** configured views an attempt to open a connection as noise. The router does not respond and the user client times out.

When a timeout period is configured and the initial sample byte is not received before that timeout period, a default EXEC process (if configured) is initiated.

**Note**

After the modem connection is established, a Return is required to evoke a response, such as to get the username prompt. You might need to update your scripts to include this requirement. Additionally, the activation character should be set to the default and the exec-character-bits set to 7. If you change these defaults, the application cannot recognize the activation request.

Examples

The following example enables ARA on a line:

```
line 3
  arap enable
  autoselect arap
```

The following example enables a timeout of 30 seconds on a PPP-enabled line:

```
line 7
  autoselect ppp
  autoselect timeout 30
```

The following example enables ARA on a line and allows logins from users with a modified CCL script and an unmodified script to log in:

```
line 3
  arap enable
  autoselect arap
  autoselect during-login
  arap nolog if-needed
```

Related Commands

| Command | Description |
|--------------------------------|---|
| arap use-tacacs | Enables TACACS for ARA authentication. |
| arap warning time | Sets when a disconnect warning message is displayed. |
| exec | Allows an EXEC process on a line, use the exec command in line configuration mode. |
| ppp authentication chap | Enables CHAP or PAP or both and specifies the order in which CHAP and PAP authentication are selected on the interface. |
| ppp authentication pap | Enables CHAP or PAP or both and specifies the order in which CHAP and PAP authentication are selected on the interface. |
| ppp bap call | Sets PPP BACP call parameters. |
| ppp use-tacacs | Enables TACACS for PPP authentication. |

backup delay

To define how much time should elapse before a secondary line status changes after a primary line status has changed, use the **backup delay** command in interface configuration mode. To return to the default so that as soon as the primary fails, the secondary is immediately brought up without delay, use the **no** form of this command.

backup delay {*enable-delay-period* | **never**} {*disable-delay-period* | **never**}

no backup delay {*enable-delay-period* | **never**} {*disable-delay-period* | **never**}

Syntax Description

| | |
|-----------------------------|---|
| <i>enable-delay-period</i> | Number of seconds that elapse after the primary line goes down before the Cisco IOS software activates the secondary line. |
| <i>disable-delay-period</i> | Number of seconds that elapse after the primary line comes up before the Cisco IOS software deactivates the secondary line. |
| never | Secondary line is never activated or deactivated. |

Command Default

0 second delay

Command Modes

Interface configuration

Command History

| Release | Modification |
|--------------|--|
| 10.0 | This command was introduced. |
| 12.2(33)SRB1 | This command was integrated into Cisco IOS Release 12.2(33)SRB1. |

Usage Guidelines

For environments in which spurious signal disruptions appear as intermittent lost carrier signals, we recommend that you enable some delay before activating and deactivating a secondary line.

For the Cisco 7600 Backup Interface for Flexible UNI feature to work correctly, the enable and disable backup delay must be 0.

Examples

The following example sets a 10-second delay on deactivating the secondary line (serial interface 0); however, the line is activated immediately.

```
interface serial 0
 backup delay 0 10
```

backup interface

To configure an interface as a secondary or dial backup, use the **backup interface** command in interface configuration mode. To disable the interface from serving as a backup, use the **no** form of this command.

Cisco 7200 Series and Cisco 7500 Series Routers Only

backup interface *slot/port-adapter/port*

no backup interface *slot/port-adapter/port*

Other Cisco Routers

backup interface *type number*

no backup interface *type number*

| Syntax Description | | |
|--------------------|-------------------------------|--|
| | <i>slot/port-adapter/port</i> | The chassis slot, port adapter, and port number of the interface to configure as a backup. Include a slash (/) between slot, port-adapter, and port (for example, 1/1/1). See your hardware installation manual for the specific slot, port adapter, and port numbers. |
| | <i>type number</i> | Type and port number of the interface being configured as a backup. |

Command Default This command is disabled by default.

Command Modes Interface configuration

| Command History | Release | Modification |
|-----------------|--------------|--|
| | 11.0 | This command was introduced. |
| | 12.2(33)SRB1 | This command was integrated into Cisco IOS Release 12.2(33)SRB1. |

Usage Guidelines The interface you define with this command can back up only one other interface.

Routers support only serial and ISDN backup interfaces. Access servers support both asynchronous and serial backup interfaces.

In Cisco IOS Release 12.2(33)SRB1 and later releases, you can configure a backup interface for Gigabit Ethernet on the Cisco 7600 router. The configurations on the primary and backup interfaces must match or the backup interface does not work. Note, however, that if the interface configuration includes the **xconnect** command, you must specify a different virtual circuit ID (VCID) on the primary and backup interfaces.

Examples

The following example sets serial 1 as the backup line to serial 0:

```
interface serial 0
  backup interface serial 1
```

The following example sets gigabitEthernet4/0/1 as the backup interface for gigabitEthernet3/0/1 on the Cisco 7600 router:

```
interface gigabitEthernet 3/0/1
  backup interface gigabitEthernet 4/0/1
```

Related Commands

| Command | Description |
|-----------------|---|
| xconnect | Configures a pseudowire for transporting data over the network. |

backup interface dialer

To configure a dialer interface as a secondary or dial backup, use the **backup interface dialer** command in interface configuration mode. To disable this feature, use the **no** form of this command.

backup interface dialer *number*

no backup interface dialer *number*

| | | |
|---------------------------|-------------------------|---|
| Syntax Description | <i>number</i> | Dialer interface number to use as the backup interface. |
| Command Default | Disabled | |
| Command Modes | Interface configuration | |
| Command History | Release | Modification |
| | 11.2 | This command was introduced. |

Usage Guidelines Multiple dialer interfaces can use the same dialer pool, which might have a single ISDN interface as a member. Thus, that ISDN interface can back up different serial interfaces and can make calls to different sites.

Examples The following example shows the configuration of a site that backs up two leased lines using one BRI. Two dialer interfaces are defined. Each serial (leased line) interface is configured to use one of the dialer interfaces as a backup. Both of the dialer interfaces use dialer pool 1, which has BRI 0 as a member. Thus, BRI 0 can back up two different serial interfaces and can make calls to two different sites.

```
interface dialer0
 ip unnumbered loopback0
 encapsulation ppp
 dialer remote-name Remote0
 dialer pool 1
 dialer string 5550112
 dialer-group 1

interface dialer1
 ip unnumbered loopback0
 encapsulation ppp
 dialer remote-name Remote1
 dialer pool 1
 dialer string 5550134
 dialer-group 1

interface bri 0
 encapsulation PPP
 dialer pool-member 1
 ppp authentication chap
```

```
interface serial 0
  ip unnumbered loopback0
  backup interface dialer 0
  backup delay 5 10

interface serial 1
  ip unnumbered loopback0
  backup interface dialer 1
  backup delay 5 10
```

backup load

To set a traffic load threshold for dial backup service, use the **backup load** command in interface configuration mode. To return to the default value, use the **no** form of this command.

backup load {*enable-threshold* | **never**} {*disable-load* | **never**}

no backup load {*enable-threshold* | **never**} {*disable-load* | **never**}

Syntax Description

| | |
|-------------------------|--|
| <i>enable-threshold</i> | Percentage of the primary line's available bandwidth that the traffic load must exceed to enable dial backup. |
| <i>disable-load</i> | Percentage of the available bandwidth that the traffic load must be less than to disable dial backup. The transmitted or received load on the primary line plus the transmitted or received load on the secondary line is less than the value entered for the <i>disable-load</i> argument to disable dial backup. |
| never | The secondary line is never activated or deactivated because of the traffic load. |

Command Default

No threshold is defined.

Command Modes

Interface configuration

Command History

| Release | Modification |
|--------------|--|
| 10.0 | This command was introduced. |
| 12.2(33)SRB1 | This command was integrated into Cisco IOS Release 12.2(33)SRB1. |

Usage Guidelines

When the transmitted or received load on the primary line is greater than the value assigned to the *enable-threshold* argument, the secondary line is enabled.

The secondary line is disabled when one of the following conditions occurs:

- The transmitted load on the primary line plus the transmitted load on the secondary line is less than the value entered for the *disable-load* argument.
- The received load on the primary line plus the received load on the secondary line is less than the value entered for the *disable-load* argument.

If the **never** keyword is used instead of an *enable-threshold* argument, the secondary line is never activated because of traffic load. If the **never** keyword is used instead of a *disable-load* argument, the secondary line is never activated because of traffic load.

Examples

The following example sets the traffic load threshold to 60 percent of the primary line serial 0. When that load is exceeded, the secondary line is activated and will not be deactivated until the combined load is less than 5 percent of the primary bandwidth.

```
interface serial 0
  backup load 60 5
  backup interface serial 1
```

busyout (port)

To disable a port by waiting for the active services on the specified port to terminate, use the **busyout** command in port configuration mode. To reenble the ports, use the **no** form of this command.

busyout

no busyout

Syntax Description This command has no arguments or keywords.

Command Default Busyout is not enabled.

Command Modes Port configuration

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 **busyout** command disables a port by waiting for the active services on the specified port to terminate. Use the **no** form of this command to reenble the ports.

Examples

The following example will disable service processing element (SPE) ports 1 to 10 on slot 1 once active services have terminated:

```
Router(config)# port 1/1 1/10
Router(config-port)# busyout
```

Related Commands

| Command | Description |
|------------------------|--|
| clear port | Resets the NextPort port and clears any active call. |
| clear spe | Reboots all specified SPEs. |
| shutdown (port) | Disables a port. |
| show spe | Displays SPE status. |

busyout (privileged EXEC)

To inform a central-office switch that a channel is out-of-service, and to busyout an entire card on a dial shelf and remove it from dial services, use the **busyout** (privileged EXEC) command in privileged EXEC mode. To cancel busyout, use the **no** form of this command.

```
busyout shelfslotport
```

```
no busyout shelfslotport
```

| | | |
|---------------------------|----------------------|---|
| Syntax Description | <i>shelfslotport</i> | Shelf number, slot number, and port number. You must include the slash marks. |
|---------------------------|----------------------|---|

| | |
|------------------------|----------------------|
| Command Default | Busyout is disabled. |
|------------------------|----------------------|

| | |
|----------------------|-----------------|
| Command Modes | Privileged EXEC |
|----------------------|-----------------|

| Command History | Release | Modification |
|------------------------|--|---|
| | 11.3(2)AA | This command was introduced and supported T1 and T3 only. |
| 12.0 | This command was enhanced to support E1 and DMM HMM (Double Modem Module [12] Hex Modem Module [6]). | |

| | |
|-------------------------|--|
| Usage Guidelines | <p>This command does not terminate an existing call; instead, after you hang up or end a call, a new call cannot be established on a channel that has received a busyout command instruction.</p> <p>Use the busyout command before you remove a card from a shelf. The maintenance LED on the card goes ON after all the channels (or calls) have been terminated. The ON LED indicates that it is safe to remove the card from the shelf.</p> <p>Use this command to busyout digital signal level 0s (DS0s) on a trunk card or all modems on a modem card.</p> <p>To busyout an individual DS0, use the ds0 busyout controller configuration command.</p> <p>To display the busyout information, use the show busyout privileged EXEC command.</p> |
|-------------------------|--|

Restrictions

If the trunk card is using ISDN signaling, there is a limit on the amount of traffic that the exchange can accept on the signaling channel. The restrictions are as follows:

- A busyout can take 1 or 2 minutes to complete for a T1 or T2 trunk card.
- The **no busyout** command cannot be used within 3 minutes of the **busyout** command and vice versa; otherwise, the command will be rejected.

Examples

The following example enables busyout on the card in dial shelf 5, slot 4, port 1:

```
busyout 5/4/1
```

Related Commands

| Command | Description |
|--------------------------------|--|
| ds0 busyout (channel) | Forces a DS0 timeslot on a controller into the busyout state. |
| modem busyout | Disables a modem from dialing or answering calls whereby the disabling action is not executed until the active modem returns to an idle state. |
| modem busyout-threshold | Maintains a balance between the number of DS0s and modems. |
| modem shutdown | Abruptly shuts down an active or idle modem installed in an access server or router. |
| show dial-shelf | Displays information about the dial shelf, including clocking information. |

busyout (spe)

To disable active calls on the specified service processing elements (SPEs), use the **busyout** command in SPE configuration mode. To reenable the SPEs, use the **no** form of this command.

busyout

no busyout

Syntax Description This command has no arguments or keywords.

Command Default Busyout is not enabled.

Command Modes SPE configuration

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

You can perform autodiagnostic tests and firmware upgrades when you put the SPEs in the Busyout state. Active ports on the specified SPE will change the state of the specified range of SPEs to the BusyoutPending state. The state changes from BusyoutPending to Busyout when all calls end. Use the **show spe** command to display the state of the range of SPEs. Use the **shutdown** command to override the **busyout** command. Use the **no busyout** command to reenable the SPEs.

Examples

The following example shows all active ports on SPE 1 to 10 on slot 1 being busied out:

```
spe 1/1 1/10
  busyout
```

Related Commands

| Command | Description |
|------------------------|--|
| clear port | Resets the NextPort port and clears any active call. |
| clear spe | Reboots all specified SPEs. |
| shutdown (port) | Disables a port. |
| show spe | Displays SPE status. |

