CHAPTER 4

D

databits

To set the number of data bits per character that are interpreted and generated by hardware, use the **databits** line configuration command.

databits {**5** | **6** | **7** | **8**}
no databits

Syntax Description

5 Five data bits per character.

6 Six data bits per character.

7 Seven data bits per character.

8 Eight data bits per character.

Default

The value is 8.

Command Mode

Line configuration.

Usage Guidelines

This command pertains to the auxiliary port only.

The **databits** line configuration command can be used to mask the high bit on input from devices that generate 7 data bits with parity. If parity is being generated, specify 7 data bits per character. If no parity generation is in effect, specify 8 data bits per character. The other keywords are supplied for compatibility with older devices and generally are not used.

Example

The following example changes the data bits to 7 on the auxiliary port.

```
Switch(config)# line aux 0
Switch(config-line)# databits 7
```

Related Commands

data-character-bits
terminal data-character-bits
terminal databits

data-character-bits

To set the number of data bits per character that are interpreted and generated by software, use the **data-character-bits** line configuration command.

data-character-bits {**7** | **8**}
no data-character-bits

Syntax Description

7 Seven data bits per character.

8 Eight data bits per character.

Default

The value is 8.

Command Mode

Line configuration.

Usage Guidelines

The **data-character-bits** line configuration command does not work on hardwired lines.

Example

The following example sets the number of data bits per character for virtual terminal line 1 to 7.

```
Switch(config)# line vty 1
Switch(config-line)# data-character-bits 7
```

debug atm oam-all

The **debug atm oam-all** privileged EXEC command enables all the debug flags for the OAM. Use the **no** form of the command to disable the debug command.

debug atm oam-all
no debug atm oam-all

Syntax Description

This command has no arguments or keywords.

Command Mode

Privileged EXEC.

Usage Guideline

Caution This command can generate a significant amount of output when it is invoked.

debug atm oam-pkt

To display the transmit and receive OAM traffic, use the **debug atm oam-pkt** privileged EXEC command. This command also decodes individual OAM cells. Use the **no** form of the command to disable the debug command.

debug atm oam-pkt
no debug atm oam-pkt

Syntax Description

This command has no arguments or keywords.

Command Mode

Privileged EXEC.

debug atm pnni

To debug the PNNI configuration, use the following **debug atm pnni** EXEC commands.

debug atm pnni adj-events
debug atm pnni adj-packet
debug atm pnni all
debug atm pnni api
debug atm pnni election
debug atm pnni flood-packet
debug atm pnni hello-packet
debug atm pnni rm
debug atm pnni route-all
debug atm pnni route-errors
debug atm pnni topology

no debug atm pnni

Syntax Description

adj-events	Turns on adjacency-related event debugging. The feature can be turned on for a specific PNNI interface.
adj-packet	Turns on database summary and request packet debugging. The feature can be turned on for a specific PNNI interface.
all	Turns on all PNNI debugging. The feature can be turned on for a specific PNNI interface.
api	Turns on the application interface debugging.
election	Turns on the PGL PNNI election debugging.
flood-packet	Turns on PTSP and ACK packet debugging.
hello-packet	Turns on hello packet debugging. The feature can be turned on for a specific PNNI interface.
rm	Turns on the resource management debugging.
route-all	Turns on all route debugging.
route-errors	Turns on PNNI route errors debugging.
topology	Turns on the internal topology maintenance debugging.

Command Mode

EXEC.

debug atm rm

To enable the debug printout messages for ATM resource manager, use the **debug atm rm** privileged EXEC command. To disable the printout message, use the **no** form of this command.

debug atm rm errors
debug atm rm events
no debug atm rm errors
no debug atm rm events

Syntax Description

This command has no arguments or keywords.

Command Mode

Privileged EXEC.

Usage Guidelines

Caution This command can generate a significant amount of output and can interfere with other activity on the switch when it is invoked.

debug atm sig

To debug the ATM signalling module, use the **debug atm sig** privileged EXEC commands. Use the **no** form of the command to disable the debug command.

debug atm sig-all
debug atm sig-error
debug atm sig-events
debug atm sig-ie
debug atm sig-nni
debug atm sig-packets

no debug atm sig-all
no debug atm sig-error
no debug atm sig-events
no debug atm sig-ie
no debug atm sig-nni
no debug atm sig-packets

Syntax Description

sig-all	Turns on the debug output for all of the above conditions.
sig-errors	Turns on the debug output for the **atmsig** error conditions.
sig-events	Turns on the debug output for the **atmsig** state machine events.
sig-ie	Turns on the debug output for the **atmsig** messages information element encoding.
sig-nni	Turns on the debug output for the **atmsig** NNI state machine events.
sig-packets	Turns on the debug output for the **atmsig** packets.

Command Mode

Privileged EXEC.

debug rports

To enable driver-level debugging of specific remote ports, use the **debug rports** privileged EXEC command.

debug rports *port*

Syntax Description

port Specifies **aal5 | oc3 | ds3e3 | oc12** as the port to be debugged.

Command Mode

Privileged EXEC.

Usage Guidelines

If you specify **aal5**, you can provide the ATM interface number.

debug sscop

To debug the ATM Signalling SSCOP use the following **debug sscop** privileged EXEC commands. Use the **no** form of the command to disable the debug command.

debug sscop errors
debug sscop events
debug sscop packets

no debug sscop errors
no debug sscop events
no debug sscop packets

Syntax Description

errors Turns on the debug output for the **sscop** error conditions.

events Turns on the debug output for the **sscop** SSCOP state machine events.

packets Turns on the debug output for the **sscop** SSCOP packets.

Command Mode

Privileged EXEC.

default-value exec-character-bits

To define the EXEC character width for either 7 bits or 8 bits, use the **default-value exec-character-bits** global configuration command.

default-value exec-character-bits {**7** | **8**}

Syntax Description

7 Selects the 7-bit ASCII character set.

8 Selects the full 8-bit ASCII character set.

Default

The value is 7.

Command Mode

Global configuration.

Usage Guidelines

Configuring the EXEC character width to 8 bits allows you to add graphical and international characters in banners, prompts, and so forth. However, setting the EXEC character width to 8 bits can also cause failures. If a user on a terminal that is sending parity enters the command **help**, an "unrecognized command" message is displayed because the system is reading all 8 bits and the eighth bit is not needed for the **help** command.

Example

The following example selects the full 8-bit ASCII character set for EXEC banners and prompts.

```
Switch# default-value exec-character-bits 8
```

Related Commands

exec-character-bits
special-character-bits
terminal exec-character-bits
terminal special-character-bits

default-value special-character-bits

To configure the flow control default value from a 7-bit width to an 8-bit width, use the **default-value special-character-bits** global configuration command.

default-value special-character-bits {**7** | **8**}

Syntax Description

7 Selects the 7-bit character set.

8 Selects the full 8-bit character set.

Default

The value is 7.

Command Mode

Global configuration.

Usage Guidelines

Configuring the special character width to 8 bits enables you to add graphical and international characters in banners, prompts, and so forth.

Example

The following example selects the full 8-bit special character set.

```
Switch# default-value special-character-bits 8
```

Related Commands

exec-character-bits
special-character-bits
terminal exec-character-bits
terminal special-character-bits

delay

Note This command or some of its parameters might not function as expected in the LightStream 1010 ATM switch environment.

To set a delay value for an interface, use the **delay** interface configuration command. Use the **no** form of this command to restore the default delay value.

delay *tens-of-microseconds*
no delay

Syntax Description

tens-of-microseconds	Integer that specifies the delay in tens of microseconds for an interface or network segment.

Default

Default delay values can be displayed with the EXEC command **show interfaces**.

Command Mode

Interface configuration.

Example

The following example sets a 30,000-microsecond delay on ATM interface 3/0/0.

```
Switch(config)# interface ATM 3/0/0
Switch(config-if)# delay 30000
```

Related Command

show atm interface

delete

To delete any file on a Flash memory device, use the **delete** privileged EXEC command.

delete[*device***:**]*filename*

Syntax Description

*device***:** Device containing the file to be deleted. (The colon (**:**) is required.) Valid devices are as follows:

- **bootflash:** This device is the internal Flash memory.
- **slot0:** This device is the first PCMCIA slot on the ASP card and is the initial default device.
- **slot1:** This device is the second PCMCIA slot.

filename Name of the file to be deleted. The maximum filename length is 63 characters.

Command Mode

Privileged EXEC.

description (interface)

To add a description to an interface configuration, use the **description** interface configuration command. Use the **no** form of this command to remove the description.

description *string*
no description

Syntax Description

string Comment or a description to help you remember what is attached to this interface.

Default

No description is added.

Command Mode

Interface configuration.

Usage Guidelines

The **description** command is meant solely as a comment to be put in the configuration to help you remember what certain interfaces are used for. The description appears in the output of the following EXEC commands: **show startup-config**, **show interfaces**, and **show running-config**.

Example

The following example describes a 3174 controller on async interface 0.

```
Switch(config)# interface async 0
Switch(config-if)# description 3174 Controller for test lab
```

Related Commands

show atm interface
show running-config
show startup-config

dialer-list list

Note This command or some of its parameters might not function as expected in the LightStream 1010 ATM switch environment.

To group access lists, use the **dialer-list list** global configuration command. To disable automatic dialing, use the **no** form of this command.

dialer-list *dialer-group* **list** *access-list-number*
no dialer-list *dialer-group* **list** *access-list-number*

Syntax Description

dialer-group	Specifies the number of a dialer access group identified in any **dialer-group** interface configuration command.
access-list-number	Specifies the access list number specified in any IP or Novell IPX access lists including Novell IPX extended, Service Access Point (SAP) access lists and bridging type. See Table 4-1 for the supported access list types and numbers.

Default

None.

Command Mode

Global configuration.

Usage Guidelines

The **dialer-list list** command applies access lists to dialer access groups to control dialing using DDR. This command applies access lists to dialer access groups defined with the *dialer-group* command.

Table 4-1 lists the access list types and numbers that the *dialer-group* command supports.

Table 4-1 Dialer-List List Command Access List Types and Numbers

Access List Type	Access List Number Range
Standard IP	1 to 99
Extended IP	100 to 199
Transparent Bridging	200 to 299
Standard Novell IPX	800 to 899
Extended Novell IPX	900 to 999

Examples

Dialing occurs when an interesting packet (one that matches access list specifications) needs to be output on an interface. Using the standard access list method, packets can be classified as interesting or uninteresting. In the following example, IGRP TCP/IP routing protocol updates are not classified as interesting and do not initiate calls.

```
access-list 101 deny igrp 0.0.0.0 255.255.255.255 255.255.255.255 0.0.0.0
```

The following example classifies all other IP packets as interesting and permits them to initiate calls.

```
access-list 101 permit ip 0.0.0.0 255.255.255.255 0.0.0.0 255.255.255.255
```

Then the following command places list 101 into dialer access group 1.

```
Switch# dialer-list 1 list 101
```

Related Commands

dialer-list list

dir

To display a list of files on a Flash memory device, use the **dir** EXEC command.

dir [**/all** | **/deleted**] [**/long**] [*device***:**][*filename*]

Syntax Description

/all (Optional) Lists deleted files, undeleted files, and files with errors.

/deleted (Optional) Lists only the deleted files.

/long (Optional) Displays additional information about the files listed, including the following information:

- File's index number (#).
- Whether the file contains an error (E) or is deleted (D).
- File's type (1 = configuration file, 2 = image file). The switch displays these values only when the file's type is certain. When the file's type is unknown, the system displays a zero or FFFFFFFF in this field.
- File's Cyclic Redundant Checksum (**crc**).
- Offset into the file system of the next file (**seek**).
- Length of file's name (**nlen**).
- Length of the file itself (**length**).
- The date/time file was created (**date**/**time**).
- File's name (**name**).

*device***:** (Optional) Device containing the file(s) to list. (The colon (**:**) is required.) Valid devices are as follows:

- **bootflash:** This device is the internal Flash memory.
- **slot0:** This device is the first PCMCIA slot on the ASP card and is the initial default device.
- **slot1:** This device is the second PCMCIA slot.

filename (Optional) Name of the file(s) to display on a specified device. The files can be of any type. You can use wildcards in the filename. A wildcard character (*) matches all patterns. Strings after a wildcard are ignored.

Default

The initial default device is **slot0:**. Otherwise, the default device is that specified by the **cd** command. When you omit all keywords and arguments, the switch displays only undeleted files for the default device specified by the **cd** command in short format.

Command Mode

EXEC.

Usage Guidelines

If you omit the device, the switch uses the default device specified by the **cd** command.

When you use one of the keywords (**/all**, **/deleted**, **/long**), the system displays file information in long format. The long format includes the following categories:

- File's index number (#).
- Whether the file contains an error (*E*) or is deleted (*D*).
- File's *type* (1 = configuration file, 2 = image file). The switch displays these values only when the file's type is certain. When the file's type is unknown, the system displays a zero or FFFFFFFF in this field.
- File's cyclic redundant check (*crc*).
- Offset into the file system of the next file (*seek*).
- Length of the file's name (*nlen*).
- Length of the file itself (*length*).
- Date and time the file was created (*date/time*).
- File's name (*name*).

When you omit all keywords (**/all**, **/deleted**, **/long**), the system displays file information in short format. Short format includes the following categories:

- File's index number (#).
- Length of the file itself (*length*).
- Date and time the file was created (*date/time*).
- File's name (*name*).

Examples

The following example instructs the switch to list undeleted files for the default device specified by the **cd** command. Notice that the switch displays the information in short format because no keywords are used.

```
Switch# dir
-#- -length- -----date/time------ name
1   620      April 4  1996 21:38:04 config1
2   620      April 4  1996 21:38:14 config2

7993896 bytes available (1496 bytes used)
```

The following example displays the long version of the same device:

```
Switch# dir /long
-#- ED --type-- --crc--- -seek-- nlen -length- -----date/time------ name
1   .. 1        37CEC52E 202EC   7    620      April 4  1996 21:38:04 config1
2   .. 1        37CEC52E 205D8   7    620      April 4  1996 21:38:14 config2

7993896 bytes available (1496 bytes used)
```

Related Commands

cd
config-register
delete
undelete

dis

To disassemble the instruction stream, use the **dis** ROM monitor command.

dis

Syntax Description

This command has no keywords or arguments.

Command Mode

ROM monitor.

disable

To return to the EXEC mode by exiting the privileged EXEC mode, use the **disable** EXEC command.

disable *level*

Command Syntax

level (Optional) You can specify up to sixteen privilege levels, using numbers 0 through 15. Level 1 is normal EXEC-mode user privileges. If this argument is not specified, the privilege level defaults to 15 (traditional enable privileges).

Default

The value is 15.

Command Mode

EXEC.

Usage Guidelines

In the following example, the user is logging out from privilege level 5:

```
Switch# disable 5
```

Related Command

enable

disconnect

To disconnect an existing network connection, use the **disconnect** privileged EXEC command.

disconnect *ip-address* | *name*

Syntax Description

ip-address	Number of the IP address.
name	Name of the network connection.

Command Mode

Privileged EXEC.

Related Command

connect

dnsix-dmdp retries

Note This command or some of its parameters might not function as expected in the LightStream 1010 ATM switch environment.

To set the retransmit count used by the DNSIX Message Delivery Protocol (DMDP), use the **dnsix-dmdp retries** global configuration command. To restore the default number of retries, use the **no** form of this command.

dnsix-dmdp retries *count*
no dnsix-dmdp retries *count*

Syntax Description

count Number of times DMDP retransmits a message. It can be a decimal integer from 0 through 200.

Default

Retransmits messages up to four times or until acknowledged.

Command Mode

Global configuration.

Example

The following example sets the number of times DMDP attempts to retransmit a message to 150:

```
Switch(config)# dnsix-dmdp retries 150
```

Related Commands

dnsix-nat authorized-redirection
dnsix-nat primary
dnsix-nat secondary
dnsix-nat source
dnsix-nat transmit-count

dnsix-nat authorized-redirection

Note This command or some of its parameters might not function as expected in the LightStream 1010 ATM switch environment.

To specify the address of a collection center that is authorized to change the primary and secondary addresses of the host to receive audit messages, use the **dnsix-nat authorized-redirection** global configuration command. To delete an address, use the **no** form of this command.

dnsix-nat authorized-redirection *ip-address*
no dnsix-nat authorized-redirection *ip-address*

Syntax Description

ip-address IP address of the host from which redirection requests are permitted.

Default

An empty list of addresses.

Command Mode

Global configuration.

Usage Guidelines

Use multiple **dnsix-nat authorized-redirection** commands to specify a set of hosts that are authorized to change the destination for audit messages. Redirection requests are checked against the configured list, and if the address is not authorized, the request is rejected and an audit message is generated. If no address is specified, no redirection messages are accepted.

Example

The following example specifies that the address of the collection center authorized to change the primary and secondary addresses is 193.1.1.1.

```
Switch(config)# dnsix-nat authorization-redirection 193.1.1.1
```

dnsix-nat primary

Note This command or some of its parameters might not function as expected in the LightStream 1010 ATM switch environment.

To specify the IP address of the host to which DNSIX audit messages are sent, use the **dnsix-nat primary** global configuration command. To delete an entry, use the **no** form of this command.

dnsix-nat primary *ip-address*
no dnsix-nat primary *ip-address*

Syntax Description

ip-address IP address for the primary collection center.

Default

Messages are not sent.

Command Mode

Global configuration.

Usage Guidelines

An IP address must be configured before audit messages can be sent.

Example

The following example configures an IP address as the address of the host to which DNSIX audit messages are sent:

```
Switch(config)# dnsix-nat primary 194.1.1.1
```

dnsix-nat secondary

Note This command or some of its parameters might not function as expected in the LightStream 1010 ATM switch environment.

To specify an alternate IP address for the host to which DNSIX audit messages are sent, use the **dnsix-nat secondary** global configuration command. To delete an entry, use the **no** form of this command.

dnsix-nat secondary *ip-address*
no dnsix-nat secondary *ip-address*

Syntax Description

ip-address IP address for the secondary collection center.

Default

No alternate IP address is known.

Command Mode

Global configuration.

Usage Guidelines

When the primary collection center is unreachable, audit messages are sent to the secondary collection center instead.

Example

The following example configures an IP address as the address of an alternate host to which DNSIX audit messages are sent:

```
Switch(config)# dnsix-nat secondary 193.1.1.1
```

dnsix-nat source

Note This command or some of its parameters might not function as expected in the LightStream 1010 ATM switch environment.

To start the audit-writing module and to define audit trail source address, use the **dnsix-nat source** global configuration command. To disable the DNSIX audit trail writing module, use the **no** form of this command.

dnsix-nat source *ip-address*
no dnsix-nat source *ip-address*

Syntax Description

ip-address Source IP address for DNSIX audit messages.

Default

Disabled.

Command Mode

Global configuration.

Usage Guidelines

You must issue the **dnsix-nat source** command before any of the other **dnsix-nat** commands. The configured IP address is used as the source IP address for DMDP protocol packets sent to any of the collection centers.

Example

The following example enables the audit trail writing module, and specifies that the source IP address for any generated audit messages should be the same as the primary IP address of Ethernet interface 2/0/0.

```
Switch(config)# dnsix-nat source 128.105.2.5
Switch(config)# interface ethernet 2/0/0
Switch(config-if)# ip address 128.105.2.5 255.255.255.0
```

dnsix-nat transmit-count

Note This command or some of its parameters might not function as expected in the LightStream 1010 ATM switch environment.

To have the audit writing module collect multiple audit messages in the buffer before sending the messages to a collection center, use the **dnsix-nat transmit-count** global configuration command. To revert to the default audit message count, use the **no** form of this command.

dnsix-nat transmit-count *count*
no dnsix-nat transmit-count *count*

Syntax Description

count Number of audit messages to buffer before transmitting to the server. Integer from 1 through 200.

Default

One message is sent at a time.

Command Mode

Global configuration.

Usage Guidelines

An audit message is sent as soon as the message is generated by the IP packet-processing code. The audit writing module can instead buffer up to several audit messages before transmitting to a collection center.

Example

The following example configures the system to buffer five audit messages before transmitting them to a collection center:

```
Switch(config)# dnsix-nat transmit-count 5
```

downward-compatible-config

Note This command or some of its parameters might not function as expected in the LightStream 1010 ATM switch environment.

To generate a configuration that is compatible with an earlier Cisco IOS release, use the **downward-compatible-config** global configuration command. To remove this feature, use the **no** form of this command.

downward-compatible-config *number.number*
no downward-compatible-config

Syntax Description

number.number	Version number of the software separated by a period (.) in the range of 0 through 999999.

Default

Disabled.

Command Mode

Global configuration.

Usage Guidelines

When this command is configured, the switch attempts to generate a configuration that is compatible with the specified version. Currently, this command affects only IP access lists. Under some circumstances, the software might not be able to generate a fully backward-compatible configuration. In such a case, the software issues a warning message.

Example

In the following example, the switch attempts to generate a configuration file compatible with Cisco IOS Release 11.1:

```
Switch(config)# downward-compatible-config 11.1
```

Related Commands

access-list (extended)
access-list (standard)