WAN Switching SuperUser Command Reference

Release 8.5

About This Manual

This section discusses the objectives, audience, organization, and conventions of the *Cisco WAN Switching SuperUser Command Reference* publication.

Cisco documentation and additional literature are available in a CD-ROM package, which ships with your product. The Documentation CD-ROM, a member of the Cisco Connection Family, is updated monthly. Therefore, it might be more up to date than printed documentation. To order additional copies of the Documentation CD-ROM, contact your local sales representative or call customer service. The CD-ROM package is available as a single package or as an annual subscription. You can also access Cisco documentation on the World Wide Web at http://www.cisco.com, http://www-china.cisco.com, or http://www-europe.cisco.com.

Objectives

This publication provides instructions for using the Cisco super user command line interface on the Cisco WAN switches.

Audience

The super user commands apply to tasks that require deeper product knowledge and responsibility than the standard user commands. (For descriptions of the standard user commands, refer to the *Cisco WAN Switching Command Reference*.) The super user commands, for example, let you

- Configure statistics gathering and alarm reporting

- Display more varied and extensive statistics

- Perform software and firmware upgrades

Troubleshoot at a level that requires deeper product knowledge

About the Cisco WAN Switching Product Name Change

The Cisco WAN Switching products have new names. The BPX switch is now called the Cisco BPX® 8620 wide area switch, The AXIS shelf is now called the Cisco MGX™ 8220 edge concentrator, Any switch in the IGX switch family (IGX 8, IGX 16 and IGX 32 wide area switches) is now called the Cisco IGX™ 8400 series wide area switch. The IGX 8 switch is now called the Cisco IGX™ 8410 wide area switch. The IGX 16 switch is now called the Cisco IGX™ 8420 wide area switch, and the IGX 32 switch is now called the Cisco IGX™ 8430 wide area switch.

Organization

- The main body of this publication is as follows:

- Chapter 1, "Super User Commands"

Conventions

This publication uses the following conventions to convey instructions and information.

Command descriptions use these conventions:

- Commands and keywords are in **boldface**.

- Required command arguments are in angle brackets (< >).

- Optional command arguments are in square brackets ([ ]).

- Arguments for which you supply values are in *italics*.

- Optional arguments are grouped are separated by vertical bars (|).

Examples use these conventions:

- Terminal sessions and information the system displays are in `screen` font.

- Information you enter is in `boldface screen` font.

- Nonprinting characters, such as passwords, are in angle brackets (< >).

- Default responses to system prompts are in square brackets ([ ]).

Note Means *reader take note*. Notes contain helpful suggestions or references to materials not contained in this manual.

Caution Means *reader be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

Super User Commands

Introduction

This chapter contains detailed descriptions of the Cisco WAN switch software super user commands for Release 8.5. The Cisco WAN switch software super user command descriptions appear in alphabetical order. Access to these commands requires user-privilege level 0 (zero).

⚠ Caution Use of these commands should be restricted to Cisco personnel and other qualified users, such as System Administrators. Do not distribute this information to casual users because improper use of some super user commands may lead to system malfunction or complete failure.

General Information

Note Access to the super user commands (privilege level 0) requires a different login and password than access to commands with privilege levels 1–6.

Because the privilege level for all super user commands is 0, the privilege level does not appear in the command definition.

Table 1-1 lists the Cisco WAN Switch software level 0 (super user) commands in alphabetical order. The table also lists the nodes on which each command is available and whether you can include the command in a job. To access these commands, type in **SuperUser** at the login prompt. Enter the super user password and the password prompt. To exit a command at any point, press the Delete key.

The screen examples in this chapter are based on a network containing an IPX, IGX, or BPX or any combination of these nodes. For detailed descriptions of commands requiring a user-privilege level in the range 1–6, refer to the *Cisco WAN Switching Command Reference*.

Note Some superuser commands rarely are applicable, while misuse of other superuser commands can cause serious problems in the network. For these commands, the descriptions contain an advisory for you to call the Cisco Technical Assistance Center (TAC) through Customer Engineering before you proceed. The number in the United States is 800 553-2447. For international access, use 1-408 526-4000.

	Table 1-1	Super User Command List				
Command	**Description**	**Job**	**IPX**	**IGX**	**BPX**
burnfwrev	Burn Firmware Revision	Yes	X	X	X
clrcderrs	Clear Detailed Card Errors Log	Yes	X	X	X
clrcnf	Clear Configuration Memory	No	X	X	X
clrfpevt	Clear FastPAD Event Reporting	No	X	X	
cnfcdpparm	Configure CDP Card Parameters	No	X	X	
cnfcftst	Configure Communications Fail Test Pattern	No	X	X	X
cnfchstats	Configure Channel Statistics Collection	Yes	X	X	X
cnfchts	Configure Channel Timestamp	Yes	X	X	X
cnfclnparm	Configure Circuit Line Parameters	No	X	X	
cnfclnsigparm	Configure Circuit Line Signalling Parameters	No	X	X	
cnfclnstats	Configure Circuit Line Statistics Collection	Yes	X	X	
cnfcmparm	Configure Connection Management Parameters	Yes	X	X	X
cnfdiagparm	Configure Diagnostic Test Parameters	No	X	X	X
cnfdlparm	Configure Download Parameters	No	X	X	X
cnfecparm	Configure Echo Canceller Parameters	Yes	X	X	
cnffpcom	Configure FastPAD Communication Parameter	Yes	X	X	
cnffpcon	Configure FastPAD Connection Parameters	Yes	X	X	
cnffpddelay	Configure FastPad Sc/Mc Parameters	No	X	X	
cnffpdpvc	Configure FastPad bc/bc pvc Parameters	No	X	X	
cnffpmap	Configure FastPAD Map Table	Yes	X	X	
cnffpport	Configure FastPAD Port Parameters	No	X	X	
cnffpsys	Configure FastPAD System Parameters	No	X	X	
cnffstparm	Configure Frame Relay ForeSight Node Parameters	No	X	X	X
cnflan	Configure LAN	No	X	X	X
cnflnparm	Configure ATM Line Parameters	No			X
cnflnsigparm	Configure Line Signalling Parameters	No	X	X	
cnflnstats	Configure Line Statistics Collection	Yes	X	X	X
cnfmxbutil	Configure MUXBUS Utilization	No	X	X	
cnfnodeparm	Configure Node Parameters	No	X	X	X
cnfnwip	Configure Network IP Address	No	X	X	X
cnfportstats	Configure FR Port Statistics Collection	Yes	X	X	
cnfrobparm	Configure Robust Alarms Parameters	No	X	X	X
cnfslotstats	Configure Slot Statistics Collection	Yes			X
cnftcpparm	Configure TCP Parameters	Yes	X	X	X
cnftlparm	Configure Trunk-based Loading Parameters	No	X	X	X
cnftrkparm	Configure Trunk Parameters	No	X	X	X
cnftrkstats	Configure Trunk Statistics Collection	Yes	X	X	X

Table 1-1   Super User Command List (Continued)

Command	Description	Job	IPX	IGX	BPX
cnftstparm	Configure Card Self Test Parameters	Yes	X	X	X
cnfuiparm	Configure User Interface Parameters	No	X	X	X
cnfuvmchparm	Configure UVM Channel Parameters	X		X	
cnfvchparm	Configure Voice Channel Parameters	Yes	X	X	
cpyfpmap	Copy FastPAD Map Table	Yes	X	X	
dchst	Display CDP Channel Status	No	X	X	
diagbus	Diagnose Failed Bus	No	X	X	
drtop	Display Route Op Table	No	X	X	X
dspasich	Display ASI Channel Routing Entry	No			X
dspbuses	Display Bus Status	No	X	X	X
dspcderrs	Display Card Errors	No	X	X	X
dspcftst	Display Communications Fail Test Pattern	No	X	X	X
dspchan	Display Channel Configuration	No	X	X	
dspchstatcnf	Display Statistics Enabled for a Channel	No	X	X	
dspchstathist	Display Statistics Data for a Channel	No	X	X	
dspclnstatcnf	Display Statistics Enabled for a Circuit Line	No	X	X	
dspclnstathist	Display Statistics History for a Circuit Line	No	X	X	X
dspcnf	Display Config. Save/Restore Status	No	X	X	X
dspdnld	Display Download	No	X	X	X
dspdutl	Display Data Channel Utilization	No	X	X	
dspecparm	Display Echo Canceller Parameters	No	X	X	
dspfpdsc	Display FastPAD Card Descriptor Parameters	No	X	X	
dspfwrev	Display Firmware Revision	No	X	X	X
dsplnstatcnf	Display Statistics Enabled for a Line	No	X	X	X
dsplnstathist	Display Statistics Data for a Line	No	X	X	X
dspplnmcons	Display Packet Line Connection Counts	No	X	X	
dspportstatcnf	Display Statistics Enabled for a FR Port	No	X	X	
dspportstathist	Display Statistics Hist for a FR Port	No	X	X	
dsprevs	Display Revisions	No	X	X	X
dsprobst	Display Robust Statistics	No	X	X	X
dsprrst	Display Reroute Statistics	No	X	X	X
dspsig	Display Signalling	No	X	X	
dspslot	Display Slot	No	X	X	X
dspslotstatcnf	Display Statistics Enabled for a Slot	No	X	X	X
dspslotstathist	Display Statistics Hist for a Slot	No	X	X	X
dspstatmem	Display Statistics Memory Use	No	X	X	X
dsptcpparm	Display TCP Parameters	No	X	X	X
dsptrkcons	Display Trunk Connection Counts	No	X	X	X

Table 1-1   Super User Command List (Continued)

Command	Description	Job	IPX	IGX	BPX
dsptrkmcons	Display Trunk Connection Counts by Master Node	No	X	X	X
dsptrkstatcnf	Display Statistics Enabled for a Trunk	No	X	X	X
dsptrkstathist	Display Statistics History for a Trunk	No	X	X	X
dsputl	Display Voice Connection Utilization	No	X	X	
forcerev	Force Revision	No	X	X	X
getfwrev	Get Firmware Revision	Yes	X	X	X
loadcnf	Load Configuration	Yes	X	X	X
loadrev	Load Revision	No	X	X	X
prtcderrs	Print Card Errors	Yes	X	X	X
rrtcon	Reroute Connection	Yes	X	X	X
rststats	Reset Statistics Collection TIme	Yes	X	X	X
runcnf	Run Configuration	No	X	X	X
runrev	Run Revision	No	X	X	X
savecnf	Save Configuration	Yes	X	X	
setfpevt	Set FastPAD Events	No	X	X	
tststats	Test Statistics	No	X	X	X

Command Help

The StrataView Plus workstation provides on-line help for all IPX/IGX/BPX commands. On-line help can be accessed through the StrataView Plus FrameViewer icon. On-line help provides an abbreviated version of the information in this document, including the command function, syntax, and attributes. Hypertext links allow you to navigate through the various commands.

Commands

The pages that follow contain the description of the super user commands in alphabetical order. Whenever applicable, the command description includes a description of the options and at least one example of a screen display for the command.

Note   Beginning with Release 7.0, you can substitute a trunk-related command for a corresponding packet line command. For example, you can use the **dsptrkcon** command in place of **dspplncon**.

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burnfwrev (Burn Firmware Image into Card(s)

The **burnfwrev** command burns a new firmware image into a specific card.

Attributes

Jobs: Yes   Log: Yes   Lock: Yes Node Type: IPX, IGX, BPX

Associated Commands

dspfwrev, getfwrev

Syntax

burnfwrev <image name> <slot number>

<image name>	specifies the name of the firmware image to burn. Image names are generally in all capital letters and are case-sensitive when being entered.
<slot number>	specifies the shelf slot where the card to burn is located. Specifying slot 0 will burn all cards of the appropriate type at the local node.

Function

This command is used to burn a firmware image into the memory of a specific card. Before you use **burnfwrev**, the firmware image must already reside in the controller card's memory. (Use **getfwrev** to load the image to the controller.).

A few seconds after you enter **burnfwrev**, the system displays a screen similar to the one in Figure 1-1, then the Burn Address column starts to indicate the addresses that are being "burned." When **burnfwrev** finishes, the status changes to "Complete."

After all cards at a node have been updated with **burnfwrev**, enter the following to clear the firmware image from the controller card's buffer area:

getfwrev 0.0 *node_name*

Use the **dspfwrev** command to display the firmware image status on the controller card at any time after **burnfwrev** has finished.

At the super user level (0), you can use **burnfwrev** only to change the *revision level* of a card's firmware. If the firmware revision would result in a new *model number* for the card, only a user with a higher privilege level can burn the firmware image. In this case, you would have to call the TAC to execute the command.

Figure 1-1   burnfwrev–Burn Firmware Revision into Card

```
gamma           TRM         SuperUser       Rev: 8.5 Aug. 17 1997  14:28 PDT

Firmware        Size        Status
F.D.A           256 K       Burning into slot 19 (6 lives)

File            Address     Length      CRC             Burn Address
0               800000      10          E986E939
1               800800      410         22996DDA
2               801000      2D40        B212147F
3               805E60      480         85CB29EA
4               80A630      70          57A938AE
5               80A6B0      20          4B9E8DDC
6               810000      10000       338E45F6
7               820000      4400        95990113
8               835000      1810        875771B2
9               8368A0      15D0        4C597B97


This Command: burnfwrev

Continue?
```

clrcderrs (Clear Detailed Card Errors)

The **clrcderrs** command clears the history of card failures (errors) associated with the specified slot.

Attributes

Jobs: Yes   Log: Yes   Lock: Yes   Node Type: IPX, IGX, BPX

Associated Commands

dspcderrs, prtcderrs

Syntax

clrcderrs <slot number | *>

<slot number | *>   specifies the slot number to clear. A "*" can be entered to clear all cards.

Function

This command clears the history of card failures associated with the specified slot. When you enter this command system responds with Slot Number or *. After you enter the command, the system asks you to confirm that it is OK to clear this data.

For example, to clear the data from the FRM card in slot 3, enter the command illustrated in Figure 1-2. This screen also illustrates the card's stored data.

Figure 1-2   clrcderrs–Clear Card Errors (before confirmation)

```
pubsigx1        TN    SuperUser        IGX 32    8.5        Aug. 5 1997  18:48 GMT


FRM in Slot 3  : 172240 Rev ESJ     Failures Cleared: Date/Time Not Set
-------------------------------- Records Cleared:  Date/Time Not Set
Self Test          Threshold Counter: 0          Threshold Limit: 300
Total Pass: 495         Total Fail: 0          Total Abort: 2
First Pass: Date/Time Not Set       Last Pass: July 29 1997 19:36:48 GMT
First Fail:                         Last Fail:

Background Test    Threshold Counter: 0          Threshold Limit: 300
Total Pass: 29849        Total Fail: 0          Total Abort: 0
First Pass: Date/Time Not Set       Last Pass: Aug. 5 1997  18:46:34 GMT
First Fail:                         Last Fail:

Hardware Error     Total Events: 0     Threshold Counter: 0
First Event:                        Last Event:


This Command: clrcderrs 3


OK to clear (y/n)?
```

After replying 'y' (yes) to the confirmation prompt, the screen appears as in Figure 1-3.

Figure 1-3   clrcderrs–Clear Card Errors (after confirmation)

```
pubsigx1        TN    SuperUser       IGX 32    8.5       Aug. 5 1997  18:55 GMT

FRM in Slot 3  : 172240 Rev ESJ     Failures Cleared: Date/Time Not Set
-------------------------------- Records Cleared:  Aug. 5 1997  18:55:02 GMT
Self Test         Threshold Counter: 0         Threshold Limit: 300
Total Pass: 0          Total Fail: 0            Total Abort: 0
First Pass:                        Last Pass:
First Fail:                        Last Fail:

Background Test    Threshold Counter: 0         Threshold Limit: 300
Total Pass: 0          Total Fail: 0            Total Abort: 0
First Pass:                        Last Pass:
First Fail:                        Last Fail:

Hardware Error    Total Events: 0    Threshold Counter: 0
First Event:                       Last Event:

Last Command: clrcderrs 3


Next Command:
```

clrcnf (Clear Configuration Memory)

The **clrcnf** command clears the configuration memory at the current node and resets the node.

Attributes

Jobs: No   Log: No   Lock: Yes Node Type: IPX, IGX, BPX

Associated Commands

loadcnf, runcnf, savecnf

Syntax

clrcnf

Function

The **clcnf** command erases most network configuration data. This configuration data includes connections, trunks, circuit lines, and so on, for the local node. You may need to use the **clcnf** command when you upgrade the network with a new software release or when you move a node. Before the command executes, a warning and a confirmation prompt. Figure 1-4 illustrates a typical screen.

This command should be used only on a node that has not yet been placed in service or when the network configuration has been previously saved so it can be quickly reloaded. The configuration can be saved in one of several ways:

- On a StrataView Plus terminal using the **savecnf** command. The node is then reloaded using the **loadcnf** command.

- On a standby controller card. Before entering the **clrcnf** command, remove the standby controller from its slot. The configuration data will be maintained in BRAM even though the power has been removed from the card.

Caution   Use the **clrcnf** command with extreme caution. Typically, you should use **clrcnf** only if the Cisco TAC has advised it. This command can make the node unreachable to the network.

Figure 1-4   clrcnf–Clear Node Configuration

```
*** Warning: ***
This command clears the configuration memory and resets the Node.




This Command: clrcnf

Are you sure (y/n)?
```

clrfpevt (Clear FastPAD Event Reporting)

The **clrfpevt** command disables the reporting of FastPAD events.

Attributes

Jobs: No   Log: No   Lock: No   Node Type: IPX, IGX

Associated Commands

setfpevt

Syntax

clrfpevt <FastPAD name> | <slot.port>

cnfcdpparm (Configure CDP Card Parameters)

The **cnfcdpparm** command configures parameters for the CVM or CDP.

Attributes

Jobs: No   Log: Yes   Lock: Yes Node Type: IPX, IGX

Associated Commands

cnfchts, dchst, cnfecparm

Syntax

cnfcdpparm <parameter number> <new value>

<parameter number>   Specifies the number of the parameter to change. (See Table).

<new value>   Specifies the new value for the parameter.

Function

The **cnfcdpparm** command lets you configure CDP or CVM parameters for Modem Detection (MDM), certain reserved debug parameters, and In Frame and Out of Frame (I Frm and O Frm) thresholds for DS0A-type T1 applications. (See the **cnfln** description for information on assigning % Fast Modem on a per-channel basis.) Table 1-2 lists the **cnfcdpparm** parameters. All CDPs or CVMs in the node are dynamically reconfigured according to the new parameters. When you enter the command, the system prompts for a parameter number, as Figure 1-5 illustrates.

> ⚠ **Caution** You should consult the Cisco TAC before changing any of these parameters.

Figure 1-5   cnfcdpparm Parameters

```
 pubsigx1        TN    SuperUser       IGX 32    8.2.5b    Oct. 20 1997 18:06 PDT

 1   MDM Low  Pwr Thrsh      [3160] (H)  15   0 Frm 4.8 Thrsh (msecs) [ 500] (D)
 2   MDM Stationary Coef.    [  14] (H)  16   I Frm 9.6 Thrsh (msecs) [ 500] (D)
 3   MDM ZCR High Frq Thrsh  [  5A] (H)  17   O Frm 9.6 Thrsh (msecs) [ 500] (D)
 4   MDM ZCR Low  Frq Thrsh  [  56] (H)
 5   MDM Detect Failure Cnt  [   4] (H)
 6   MDM Detect Window Min.  [  39] (H)
 7   MDM Detect Silence Max. [  24] (H)
 8   MDM Pkt Header          [   6] (D)
 9   Null Timing Pkt Header  [   4] (D)
10   Debug Parm A            [   0] (H)
11   Debug Parm B            [   0] (H)
12   I Frm 2.4 Thrsh (msecs) [ 500] (D)
13   O Frm 2.4 Thrsh (msecs) [ 500] (D)
14   I Frm 4.8 Thrsh (msecs) [ 500] (D)

 This Command: cnfcdpparm


 Which parameter do you wish to change:
```

Table 1-2   CDP and CVM Card Parameters

No.	Parameter	Description	Default *
1	MDM Low Power Threshold	Power level for Modem Detect high-range threshold.	3160 (H)
2	MDM Stationary Coefficient	Indicates how rapidly the power level is changing to not be detected as modem.	14 (H)
3	MDM ZCR High Freq Threshold	Defines upper frequency value for 2100 Hz tone used in V.25 modem detection.	5A (H)
4	MDM ZCR Low Freq Threshold	Defines lower frequency value for 2100 Hz tone used in V.25 modem detection.	56 (H)
5	MDM Detect Failure Count	Defines number of failures above which fast modem is not declared.	4 (H)
6	MDM Detect Window Min.	Number of 5.25-milliseconds windows used in modem tests.	39 (H)
7	MDM Detect Silence Max.	Amount of time a channel stays in a modem-detected state. The parameter equals the value you enter times 84 milliseconds. Default=1008 milliseconds.	C (H)
8	MDM Pkt Header	Changes packet type from voice to non-timestamped for modems.	6 (D)
9	Null Timing Pkt Header	Gives a higher priority to the specified number of voice packets to decrease delay for spurts of talking.	4 (D)
10	Debug Parameter A	A reserved engineering debug parameter. This parameter does not actually go to the card.	0 (H)
11	Debug Parameter B	A reserved engineering debug parameter. This parameter does not actually go to the card.	0 (H)
12	I Frm 2.4 Threshold(msecs)	Specifies In Frame threshold for DS0 2.4 Kbps overhead data channel.	500 (D)
13	O Frm 2.4 Threshold (msecs)	Specifies Out of Frame threshold for DS0 2.4 Kbps overhead data channel.	500 (D)
14	I Frm 4.8 Threshold (msecs)	Same as 19 for DS0 4.8 Kbps channel.	500 (D)
15	O Frm 4.8 Threshold(msecs)	Same as 20 for DS0 4.8 Kbps channel.	500 (D)
16	I Frm 9.6 Threshold(msecs)	Same as 19 for DS0 9.6 Kbps channel.	500 (D)
17	O Frm 9.6 Threshold (msecs)	Same as 20 for DS0 9.6 Kbps channel.	500 (D)

* Enter value in either decimal (D) or hexadecimal (H).

cnfcftst (Configure Communication Fail Test Pattern)

The **cnfcftst** command changes the test pattern for communication failure testing.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX, BPX

Associated Commands

dspcftst

Syntax

cnfcftst

Function

The communication fail test pattern is used to periodically test for failure of nodes to communicate with each other. This test pattern is also used to recover from communication fail conditions. A communication fail is defined as a loss of controller communication over one or more trunks to a particular node. A communication fail differs from a communication break condition in that the node may be reachable over other paths. The communication fail test is used to test the failed trunk for proper controller traffic.

This command allows the user to configure the communication fail test pattern byte-by-byte. It defaults to a pattern of 4 bytes of 1s followed by 4 bytes of 0s. Varying the length of the test pattern makes the communications test more or less rigorous. Changing the characters determines the pattern sensitivity for strings of less than 14 bytes.

The **dspcftst** command displays the current communication test pattern. The parameters used for declaring and clearing communication fails are set by the **cnfnodeparm** command. Figure 1-6 illustrates a typical screen.

Figure 1-6   cnfcftst–Configure Communication Fail Test Pattern

```
   pubsigx1         TN    SuperUser       IGX 32     8.5        Feb 24 1997 21:17 GMT

   Comm Fail Test Pattern

   ==> Byte  0: FF      Byte 12: 00      Byte 24: FF      Byte 36: 00      Byte 48: FF
       Byte  1: FF      Byte 13: 00      Byte 25: FF      Byte 37: 00      Byte 49: FF
       Byte  2: FF      Byte 14: 00      Byte 26: FF      Byte 38: 00      Byte 50: FF
       Byte  3: FF      Byte 15: 00      Byte 27: FF      Byte 39: 00      Byte 51: FF
       Byte  4: 00      Byte 16: FF      Byte 28: 00      Byte 40: FF      Byte 52: 00
       Byte  5: 00      Byte 17: FF      Byte 29: 00      Byte 41: FF      Byte 53: 00
       Byte  6: 00      Byte 18: FF      Byte 30: 00      Byte 42: FF      Byte 54: 00
       Byte  7: 00      Byte 19: FF      Byte 31: 00      Byte 43: FF      Byte 55: 00
       Byte  8: FF      Byte 20: 00      Byte 32: FF      Byte 44: 00      Byte 56: FF
       Byte  9: FF      Byte 21: 00      Byte 33: FF      Byte 45: 00      Byte 57: FF
       Byte 10: FF      Byte 22: 00      Byte 34: FF      Byte 46: 00      Byte 58: FF
       Byte 11: FF      Byte 23: 00      Byte 35: FF      Byte 47: 00      Byte 59: FF

   This Command: cnfcftst

   Enter Byte 0:
```

cnfchstats (Configure Channel Statistics Collection)

The **cnfchstats** command enables statistics collection for various channel parameters.

Attributes

Jobs: Yes   Log: Yes   Lock: Yes Node Type: BPX, IGX, IPX

Associated Commands

dspchstatcnf

Syntax

cnfchstats <channel> <stat> <interval> <e | d> [<samples> <size> <peaks>] [nodename]

<channel>	specifies the channel (connection) to configure.
<stat>	specifies the type of statistic to enable/disable. (See Table).
<interval>	specifies the time interval of each sample (1–255 minutes).
<e|d>	enables/disables a statistic. 'E' to enable; 'D' to disable a statistic.
[samples]	specifies the number of sample to collect (1–255).
[size]	specifies the number of bytes per data sample (1, 2 or 4).
[peaks]	enables/disables the collection of one minute peaks. 'Y' to enable: 'N' to disable.
[nodename]	specifies the name of the node to which the StrataView terminal connects.

Function

This debug command enables statistics collecting for channel parameters. Table lists the statistics by type. Not all statistic types are available for all connections. Only valid statistics are displayed for you to select; inapplicable statistics appear in gray. If you are unsure of the size parameter to specify, select four bytes per sample.

The **dspchstatcnf** command displays the channel statistics configuration. Statistics are collected by and displayed on the StrataView Plus workstation. StrataView Plus allows statistics collection to be customized. A StrataView Plus-enabled channel statistic may be disabled by specifying the optional node name of the workstation as the last parameter on the command line.

Table 1-3   Channel Statistic Types

Statistic Type	Statistic
1	Frames Received
2	Receive Frames Discarded
3	Frames Transmitted
4	Transmit Frames Discarded
5	Packets Received
6	Receive Packets Discarded
7	Packets Transmitted
8	Projected Packets Transmitted
9	Supervisory Packets Transmitted
10	Bytes Received
11	Receive Bytes Discarded
12	Bytes Transmitted
13	Transmit Bytes Discarded
14	Seconds V.25 Modem On
15	Seconds DSI Enabled
16	Seconds Off-Hook
17	Seconds In Service
18	Frames Transmitted with FECN
19	Frames Transmitted with BECN
20	Supervisory Packets Received
21	Minutes Congested
22	DE Frames Received
23	DE Frames Transmitted
24	DE Frames Dropped
25	DE Bytes Received
26	Frames Received in Excess of CIR
27	Bytes Received in Excess of CIR
28	Frames Transmitted in Excess of CIR
29	Bytes Transmitted in Excess of CIR
32	Rx Frames Discarded—Deroute/Down
33	Rx Bytes Discarded—Deroute/Down
34	Rx Frames Discarded—VC Queue Overflow
35	Rx Bytes Discarded—VC Queue Overflow
36	Tx Frames Discarded—Queue Overflow
37	Tx Bytes Discarded—Queue Overflow
38	Tx Frames Discarded—Ingress CRC
39	Tx Bytes Discarded—Ingress CRC

Table 1-3   Channel Statistic Types (Continued)

Statistic Type	Statistic
40	Tx Frames Discarded—Trunk Discard
41	Tx Bytes Discarded—Trunk Discard
42	TX Frames During Ingress LMI Fail
43	TX Bytes During Ingress LMI Fail

cnfchts (Configure Channel Timestamp)

The **cnfchts** command configures a pre-aging parameter for data channels. Applicable cards are the SDP, LPD, LDM, and HDM. Applicable traffic is time-stamped data.

Attributes

Jobs: Yes   Log: Yes   Lock: Yes   Node Type: IPX, IGX

Associated Commands

cnfcdpparm

Syntax

cnfchts <channel(s)> <pre-age>

<channel(s)>   Specifies the data channel.

<pre-age>   Specifies a value in 250-microsecond increments to go in the age field in
                       the header of a time-stamped.

Function

This command configures the pre-age parameter for data channels. The pre-age parameter specifies the initial age of a time-stamped packet. With a non-zero pre-age, the packet has less time to wait at the destination before it reaches the Max Time Stamped Packet Age and is taken out of the ingress queue. (Data channels with the greater pre-age value are processed sooner.) However, if the pre-age value is too high because of queuing delays in the network, packets could be discarded because they appear too old at the destination.

The value you enter for Pre-Age should be a multiple of 250 microseconds (otherwise, the system rounds the value down to the nearest multiple of 250 microseconds.) The default value is 0. Acceptable values are in the range 0 to the Max Time Stamped Packet Age (set by the **cnfsysparm** command). After you finish entering this command, the screen as in the example. After you change a timestamp, the connection should be rerouted or restarted for the new value to take effect.

Note   You can see the value for Pre-Age in the screen display for the **dspchcnf** command. If **dspchcnf** is entered at a user-privilege level below super user level, the Pre-Age parameter does not appear in the **dspchcnf** output.

Example

```
pubsipx1          TN    SuperUser        IPX 16    8.5.00    Aug. 14 1997 03:50 GMT

              Maximum EIA     %     DFM Pattern      DFM          PreAge
   Channels   Update Rate    Util     Length       Status        (usec)
   3.1                 2      100        8          Enabled         1000
   3.2-4               2      100        8          Enabled            0




   Last Command: cnfchts 3.1 1000


   Next Command:
```

cnfclnparm (Configure Circuit Line Parameter)

The **cnfclnparm** command configures the alarm integration time for circuit lines originating on a UVM, CDP or CVM and for T1/E1 Frame Relay circuits originating on an FRP, FRM, or UFM.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX

Associated Commands

cnfclnsigparm, dchst

Syntax

cnfclnparm <line>

<line>   specifies the circuit line to configure.

Function

This command configures the circuit line alarm integration times for RED and YELLOW circuit line alarms. These integration times are specified in milliseconds and should be set to correspond to the local carrier's alarm integration times. Carrier integration times are typically 800 to 1500 ms. for RED Alarm and 1500 to 3000 ms. for YELLOW Alarm. The allowable range for these parameters are 60 to 3932100 ms. When you enter this command system responds with the screen in Figure 1-7.

Figure 1-7   cnfcln–Configure Circuit Line Alarm Integration Times

```
 D1.gamma         TRM        SuperUser       Rev: 8.5  Aug. 14 1997  14:27 PDT

 CLN 11 Parameters
  1  Red Alarm - In/Out  [  1000 /   2000] (Dec)
  2  Yel Alarm - In/Out  [  1000 /   2000] (Dec)




















    This Command: cnfclnparm 11


 Which parameter do you wish to change:
```

cnfclnsigparm (Configure Circuit Line Signaling Parameters)

The **cnfclnsigparm** command configures signalling parameters for a UVM, CVM or CDP.

Attributes
Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX

Associated Commands
cnfclnparm, dspsig

Syntax
cnfclnsigparm <parameter number>

specifies the parameter number of the signalling parameter to change. (See Table .)

specifies the new value to enter.

Function
The **cnfclnsigparm** command configures any of the UVM, CVM or CDP circuit line signalling parameters associated with the node. See Table for the parameters and their values.

When you enter this command system as follows, the system responds with the display as shown in Figure 1-8.

Figure 1-8   cnfclnsigparm—Configure Circuit Line Signalling Parameters

```
sw83            TN    SuperUser       IPX 16    8.5.  Aug. 1 1997  15:26 PST

1  CDP & CIP Heartbeat                  [   2] (sec)
2  CDP & CIP Sig. Polling Rate          [  10] (sec)
3  CDP & CIP Default Inband Sig Delay   [  96] (msec)
4  CDP & CIP Default Inband Playout Delay [ 200] (msec)
5  CDP & CIP Default Pulse Sig Delay    [  96] (msec)
6  CDP & CIP Default Pulse Playout Delay [ 200] (msec)
7  CIP Number of Packet Slices          [   1]
8  CDP & CIP Packet Rate                [ 200] (pkt/sec)
9  CDP & CIP Condition CCS Lines?       [  NO]
10 CIP Default Inband Min. Wink         [ 140] (msec)
11 CIP Default Pulse Min. Wink          [ 140] (msec)




This Command: cnfclnsigparm


Which parameter do you wish to change:
```

Table 1-4   Circuit Line Signalling Parameters

No.	Parameter	Description	Range
1	Heartbeat	The current state of the signalling is periodically transmitted to the far end even if no signalling transitions are detected. This interval is determined by the value of "heartbeat."	2–30 sec.
2	Signal Polling Rate	How often the control card polls the UVM/CDP/CVM for the status of the signalling. This parameter is used to update displays and statistics.	2–60 sec.
3	Default Inband Signal Delay	The transmit buffer timer value set after a valid signalling transition for inband signalling arrives. After timeout, a signalling packet is sent.	30–96 msec.
4	Default Inband Playout Delay	The receive buffer timer that "ages" an incoming, time-stamped packet. When the age of the packet reaches the timestamp value, it moves on to depacketization and then to the user-equipment. This parameter is used to even out the delay between signalling packets and voice packets.	0–200 msec.
5	Default Pulse Signal Delay	Same as number 3 but applied to pulse signalling.	30–96 msec.
6	Default Pulse Playout Delay	Same as number 4 but applied to pulse signalling.	100–200 msec.
8	Packet Rate	Reserves trunk bandwidth for carrying UVM/CDP/CVM signalling.	0–1000 packets/sec.
9	Condition CCS Lines	If you specify "yes" for this parameter, the card applies signalling conditioning during an alarm to all channels on E1 circuit lines marked for Common Channel Signalling to notify PBX of a line failure.	YES or NO
10	Inband Min. Wink	Same as 6 for inband signalling.	120–300 msec.
11	Pulse Min. Wink	For UVM/CVM/CDP connections only, this parameter controls both wink and inter-digit intervals for signalling that arrives over the NPC or NPM signaling channel from a far end UVM/CVM/CDP.	120–300 msec.

cnfclnstats (Configure Circuit Line Statistics)

The **cnfclnstats** command configures parameters for circuit line statistics collection.

Attributes

Jobs: Yes   Log: Yes   Lock: Yes Node Type: IPX, IGX

Associated Commands

dspchstats

Syntax

cnfclnstats <line> <stat> <interval> <e|d> [<samples> <size> <peaks>] [nodename]

<line>	specifies the circuit line to configure.
<stat>	specifies the type of statistic to enable/disable.
<interval>	specifies the time interval of each sample (1 - 255 minutes).
<e|d>	enables/disables a statistic. 'E' to enable; 'D' to disable.
[samples]	specifies the number of samples to collect (1 - 255).
[size]	specifies the number of bytes per data sample (1, 2 or 4).
[peaks]	enables/disables the collection of ten second peaks. 'Y' to enable; 'N' disable.

Function

This command configures circuit line statistics. The **cnfclnstats** command lets you customize statistics collection on each circuit line. It primarily applies to debugging and not standard network operation. Table lists the statistics by type. Figure 1-9 illustrates the display.

Not all statistic types are available for all lines. Valid statistics appear in full brightness while unavailable types appear in half brightness.

Table 1-5   **Circuit Line Statistic Types**

Statistic Type	Statistic	Line Type
1	Bipolar Violations	E1 and T1
2	Frame Slips	E1 and T1
3	Out of Frames	E1 and T1
4	Loss of Signal	E1 and T1
5	Frame Bit Errors	E1 only
6	CRC Errors	E1 only
7	Out of Multi-Frames	E1 only
8	All Ones in Timeslot 16	E1 only

Note Typically, bipolar violations do not accumulated on E1 trunk and circuit lines. They accumulate only on E1 lines connected to E1 Frame Relay ports.

Figure 1-9 illustrates the screens displayed after entering **cnfcInstats.**

Figure 1-9   cnfcInstats—Configure Circuit Line Statistics (T1 Line)

```
D2.ipx5         SV+   SuperUser       IPX 16     8.5    Aug. 14 1997  13:28 PDT

Line Statistic Types

 1) Bipolar Violations
 2) Frames Slips
 3) Out of Frames
 4) Losses of Signal




This Command: cnfclnstats 10


Statistic Type:
```

cnfcmparm (Configure Connection Management Parameters)

The **cnfcmparm** command configures various connection management parameters for the node.

Attributes

Jobs: Yes   Log: Yes   Lock: Yes Node Type: IPX, IGX, BPX

Associated Commands

dsprrst, cnftlparm

Syntax

cnfcmparm <parameter number> <value>

specifies the number of the parameter to change. See Table 1-6.

<value>   specifies the new parameter value to enter.

Function

This command configures parameters that affect Adaptive Voice, Rerouting, and Courtesy Up/Down. These parameters are used only at the local node. Table 1-6 lists the parameters, their descriptions, and their default values.

Table 1-6   Connection Management Parameters

No.	Parameter	Description	Range	Default
1	Normalization Interval	The number of minutes between attempts to disable VAD on groups of voice connections.	1–10 minutes	2
2	Max Number To Normalize	The maximum number of connections per group if the switch attempts to disable VAD on groups of connections.	1–50 connections	5 connections
3	Normalization Logging	Enables or disables the logging of changes to a connection's normalization status.	y=yes n=no	No
4	Settling Interval	The number of minutes after a trunk failure during which no normalization attempts are made.	1–10 minutes	4 minutes
5	Minimum Open Space	The minimum number of packets per second of open space required to consider a trunk capable of supporting a normalized connection. Increasing this parameter causes all connections to enter the protect mode.	0–8000 packets per second (pps)	1000 pps
6	Normalization Priority	Determines whether the system uses a connection's Class Of Service or its projected load to determine normalization priority. Changing this parameter causes all connections to enter the protect mode.	COS or Load (c/l)	1 (Load)
7	Load Sample Period	The number of minutes of projected load for determining normalization priority if the normalization priority is set to "Load."	1–10 minutes	4 minutes
8	Maximum Routing Bundle	The maximum number of connections that can be routed as a bundle. Larger values result in faster rerouting. Smaller values provide better load balancing.	1–29	24
9	Reroute Timer	The number of seconds since the last reroute to wait before attempting another reroute of the same connection.	0–900 seconds	300 seconds

Table 1-6   Connection Management Parameters (Continued)

No.	Parameter	Description	Range	Default
10	Timer Reset on Line Fail	Indicates if the reroute timer should be reset on reroutes where the new route has a line failure.	y=yes n=no	y
11	Max Down/Up Per Pass	Number of connections downed/upped per pass.	1–255	50
12	Down/Up Timer	Number of msec to wait between down/up passes.	1000–65535 msecs	30000 msecs
13	Maximum Route Errors per Cycle	Number of failed attempts that the owner of a connection makes when adding a connection to the calculated route before the owner declares a failed connection. After a connection is failed on an IPX or IGX node, you must use the **rrtcon** command to route the connection. On a BPX node, further system action may occur before the connection is failed. See index items14 and 15.	0–65535 failures	250
14	Maximum Time Between Routing Cycles	Applies to BPX nodes. If the connection owner fails to route a connection after the number of attempts specified by Max Route Errors per Cycle, the node can wait a period of time specified by Maximum Time Between Routing Cycles before it again attempts to route the connection. See description of Maximum Routing Error Cycles for the maximum number of routing cycles.	1–8 minutes	5 minutes
15	Maximum Routing Error Cycles	Applies to BPX nodes. Specifies the maximum number of *cycles* of routing attempts the owner of a connection can make before it declares the connection as failed. (The number of routing attempts in one series of attempts is specified by Max Route Errors per Cycle.) After the connection is failed, you must manually route the command with the **rrtcon** command.	0–255 cycles	20
16	Routing pause timer	Specifies a time period for the switch to wait before it routes the next group of connections when the switch is routing groups of connections. (Note that these are not *grouped* connections.)	0–65535 msecs	0
17	Max. messages sent per update	The maximum number of failure messages sent out per update. The purpose of this limit is to prevent the switch that is sending the messages from becoming overloaded with message transmission.	1–223 decimal	10
18	Send SVC urgent msgs	Applies to only IPX nodes for Release 8.5 and works in conjunction with Voice Network Switching (VNS). Enables the node to transmit an urgent message when you remove an SVC.	y=yes n=no	y
19	Max SVC Retry	Applies to only IPX nodes for Release 8.5 and works in conjunction with Voice Network Switching (VNS). Maximum number of failed routing attempts before the switch declares the SVC a failed connection.	0–30 decimal	0
20	Wait for TBL updates	The time the switch waits for an update related to trunk-based loading. Each integer you enter is multiplied by 100 msecs. This wait period should be 1 or 2 seconds (10 x 100 msecs or 20 x 100 msecs) longer than the time specified by the *Fast Interval* parameter of the **cnftlparm** command. The default for *Fast Interval* is 50 (50 x 100 msecs=5 seconds), so the default for *Wait for TBL updates* is 70 (70 x 100 msecs=7 seconds).	0–65000 decimal	70 (x100 msecs)
21	Max derouting bundle	The maximum number of connections in a bundle if the switch deroutes connections in bundles. If you enter a 0 for this parameter, the node can deroute all connections at one time.	0–7000 decimal	500

Table 1-6   Connection Management Parameters (Continued)

No.	Parameter	Description	Range	Default
22	# of reroute groups used	Specifies the number of connection groups when the switch *reroutes* connections in groups. Bandwidth is the basis for the connection group assignments: connections with similar bandwidths belong to a group for rerouting purposes. The switch reroutes connections with the highest bandwidth first and continues with groups of decreasing bandwidth ranges. Any change to this parameter causes a rebuild of the reroute groups, so the interface prompts you for confirmation before the node changes the number. In Release 8.5, this parameter applies to BPX nodes only.	1–200 groups	50
23	Starting size of RR groups	In Release 8.5, this parameter applies to BPX nodes only.	0–9600 cell load units (CLUs)	0 CLUs
24	Increment between RR groups	Specifies the gap in size between reroute bundles. In Release 8.5, this parameter applies to only BPX nodes.	1–9600 cell load units (CLUs)	100 CLUs

Example

The example shows the two screens required to display all **cnfcmparm** parameters.

Figure 1-10   cnfcmparm Parameters

```
sw66            TN    SuperUser       BPX 15    8.5 Aug. 28 1997 19:49 GMT

1  Normalization Interval    [    2] (D)
2  Max Number To Normalize   [    5] (D)
3  Normalization Logging     [   No]
4  Settling Interval         [    4] (D)
5  Minimum Open Space        [ 1000] (D)
6  Normalization Priority    [ Load]
7  Load Sample Period        [    4] (D)
8  Maximum Routing Bundle    [   24] (D)
9  Reroute Timer             [    0] (secs)
10 Reset Timer on Line Fail  [  Yes]
11 Max Down/Up Per Pass      [   50] (D)
12 Down/Up Timer             [30000] (msecs)
13 Max Route Errs per cycle  [   50] (D)
14 Time between Rrt cycles   [    5] (mins)
15 Max. Rrt Err cycles       [   10] (D)

This Command: cnfcmparm


Continue? y
```

```
sw66            TN    SuperUser     BPX 15   8.5 Aug. 28 1997 19:50 GMT

16 Routing pause timer        [    0] (msecs)
17 Max msgs sent per update   [   10] (D)
18 Send SVC urgent msg        [   No]
19 Max SVC Retry              [    0] (D)
20 Wait for TBL Updates       [   70] (100 msecs)
21 Max Derouting Bndl (0=all)[  500] (D)
22 # of reroute groups used   [   50] (D)
23 Starting size of RR grps   [    0] (CLU)
24 Increment between RR grps  [  100] (CLU)



This Command: cnfcmparm


Enter parameter index:
```

cnfdiagparm (Configure Diagnostic Test Parameter)

The **cnfdiagparm** command sets various diagnostic test parameters for the nodes.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX, BPX

Associated Commands

cnftstparm

Syntax

cnfdiagparm

See Table 1-7.

Function

This command sets several parameters that affect the three IPX/IGX/BPX automatic diagnostic tests. Use this command to set test parameters on the internal system clock. Table lists the parameters, their descriptions, and their default values.

Table 1-7   Diagnostic Parameters

No.	Parameter *	Description	Default *
1	VDP Test Frequency	Interval between VDP background tests (in seconds).	50
2	LDP tstport delay	Seconds delayed before test data is sent.	10
3	System clock drift (8.192 Mhz)	Range of allowable drift of system clock.	±480
4	UEC-B's PLL railing (8.192 Mhz)	Range of UEC-B's phase lock loop rail.	± 2720
5	NPC/NPM PLL Min. (8.192 Mhz)	Lower limit of controller card's PLL.	- 92000
6	NPC/NPM PLL Max. (8.192 Mhz)	Upper limit of controller card's PLL.	+ 508000
7	Clock Test Window	Number of samples that make up a window.	10
8	Clock Test Max Error in Window	Errors within window before fault isolation.	4
9	Clock Test Isolation Window	Window size during fault isolation.	10
10	Clock Fault Max. Error in Window	Errors allowed during fault isolation.	3
11	Clock Test Frequency	Interval between clock tests.	200 ms.
12	Clock Test Switch Delay	Delay clock testing after any clock transfers to allow settling.	3000 ms.
13	Card Reset Threshold		255
14	Card Reset Increment		0

* Clock Test parameters—Frequencies are in Hz, offset from 8.192 MHz

When you enter this command, the system responds with the screen illustrated in Figure 1-11.

Figure 1-11   cnfdiagparm—Configure Diagnostic Test Parameters

```
D2.att7       SV          SuperUser      IPX 16    8.5     Aug. 13 1997 00:21 GMT

1. Vdp Test Frequency (seconds)      [50]
2. LDP tstport delay                 [10]
3. System clock drift (8.192 MHz)  +- [480]
4. UEC-B's PLL railing (8.192 MHz) +- [2720]
5. NPC's PLL minimum (8.192 MHz)    - [92000]
6. NPC's PLL maximum (8.192 Mhz)    + [508000]
7. Clock Test Window                 [10]
8. Clock Test Max Error in Window    [4]
9. Clock Fault Isolation Window      [10]
10. Clock Fault Max Error in Window  [3]
11. Clock Test Frequency (msec)      [200]
12. Clock Test Switch Delay (msec)   [3000]
13. Card Reset Threshold             [255]
14. Card Reset Increment             [0]



This Command: cnfdiagparm


Enter index of value to be changed:
```

cnfdlparm (Configure Download Parameters)

The **cnfdlparm** command sets various software and firmware downloader parameters.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX, BPX

Associated Commands

dspdnld

Syntax

cnfdlparm

Function

This command sets parameters that affect the SW/FW download protocol. It is primarily a debug command. It is included only for the possibility that some future software or firmware revision may need to be adjusted for optimizing the downloading process. See Table for descriptions of the downloading parameters.

> **Caution**   You should not change downloader parameters except under specific direction from the Technical Assistance Center (TAC). Contact the TAC through Customer Engineering.

Parameters

When you enter **cnfdlparm**, the system displays an indexed list of parameters. Table 1-8 describes these parameters, and Figure 1-12 illustrates the **cnfdlparm** screen.

Table 1-8   Configurable Downloading Parameters

No.	Parameter	Description	Range	Default
1	Rmt Blk Freq	For downloads to a remote node, *Rmt Blk Freq* is the time between blocks.	1-9999999 msecs	100 msecs
2	Rmt Blk Size	For downloads to a remote node, *Rmt Blk Size* is the number of bytes in each block.	1-7C0 hex	400 hex
3	Lcl Blk Freq	For downloads to the other processor in the same (local) node, *Lcl Blk Freq* is the time (in msecs) between blocks.	1-9999999 msecs	100 msecs
4	Lcl Blk Size	For downloads to the other processor in the same (local) node, *Lcl Blk Size* is the number of bytes in each block.	1-7C0 hex	400 hex

Table 1-8   Configurable Downloading Parameters (Continued)

5	Image Req Freq	The time between requests for a description of an image. When a node seeks a new software image from other nodes, it first sends requests for a full *description* of the image residing on a node to determine if that node has the correct image. The requesting node sends its request one node at a time. *Image Req Freq* is the time between the last request and the request to another node. (This parameter is not a frequency but rather a time period.)	1–9999999 msecs	10000 msecs
6	Dnld Req Freq	After a node seeking a new software image has found a node with the correct image, it requests a download of the image. If the node with the correct image is not available to send the image, the requesting node waits a period of time before it again requests the image. *Dnld Req Freq* is the period of time the requesting node waits before it again requests the image. (This parameter is not a frequency but rather a time period.)	1–9999999 msecs	10000 msecs
7	Session Timeout	The time a receiving node waits for a block transfer to resume. If a block transfer stops after downloading begins, the *Session Timeout* is the time the receiving node waits to resume before it gives up and requests the download again.	1-9999999 msecs	30000 msecs
8	Request Hop Limit	Limit on the number of hops the local node can go to request a download. (The number of hops is the number of trunks that are crossed for one node to communicate with another node.) *Request Hop Limit*=1 means the request can go to only an immediate neighbor.	1–9999999	1
9	Crc Throttle Freq	The number of CRC calculations per second.*Crc Throttle Freq* lets you reduce the number of calculations so the node does not use processor time for CRC calculations.	1–9999999	5000
10	Crc Block Size	Number of bytes that a CRC calculation covers. The default is intentionally the same as *Rmt Blk Size* and *Lcl Blk Size*.	1–7C0 hex bytes	400 hex
11	Rev Change Wait	The time to wait before the node actually loads the software for **loadrev** or **runrev** execution.	0–99999 msecs	0
12	CCs Switch Wait	A wait period before the node actually switches control cards during **switchcc** execution. During normal operation, you should have no reason to increase *CCs Switch Wait*.	1–9999999 msecs	1000 msecs
13	Lcl Response TO	On a local node, a processor that is downloading to another processor must receive an acknowledgment from the receiving processor for each block that arrived correctly. If the sending processor does not receive an acknowledgment by the time *Lcl Response TO* has elapsed, the downloading processor sends the block again.	1–9999999 msecs	5000

Table 1-8   Configurable Downloading Parameters (Continued)

14	Rmt Response TO	When one node downloads to another node, the sending node must receive an acknowledgment for each block correctly received. If the sending node receives no acknowledgment by the time *Rmt Response TO* has elapsed, the sending node sends the block again.	1–9999999 msecs	30000
15	FW Dnld Block TO	The wait period that a controller card waits for an acknowledgment from a receiving card that it correctly received a block.	1–9999999 msecs	50 msecs
16	FW Dnld Msgs/Block	Number of Cbus messages per CRC block CRC check on the payload of the FW download msg	1–9999999 msecs	4
17	Flash Write TO	During flash memory programming, *Flash Write TO* is the time to wait for an acknowledgment that a write cycle finished.	1–9999999 msecs	16000 msecs
18	Flash Erase TO	During a flash memory erasure, *Flash Erase TO* is the time to wait for an acknowledgment that the erase cycle finished.	1–9999999 msecs	100
19	Erase Verify TO	Second (or "true") verification of the erasure. The *Erase Verify TO* parameter is useful only if write/erase performance characteristics of a flash memory device change.	1–9999999 msecs	16000 msecs
20	Standby Flash TO		1–9999999 msecs	
21	Lcl Flash Init TO		1–9999999 msecs	
22	Flsh Write Blk Sz	Number of bytes per write cycle	1–10000 hex	10000 hex
23	Flsh Verify Blk Sz	Second (or "true") verification of the block write. The *Flsh Verify Blk Sz* parameter is useful only if performance characteristics of a flash memory device change.	1–10000 hex	10000 hex
24	Chips Per Write/Erase		1, 2, or 4	1

When you enter this command the system responds with the screen illustrated in Figure 1-12.

Figure 1-12   cnfdlparm—Configure Download Parameters

```
pubsbpx1        VT    SuperUser       BPX 15    8.5        May  24 1997 23:18 GMT

1  Rmt Blk Freq (msec)     [    100]   16 FW Dnld Msgs/Block(dec) [     4]
2  Rmt Blk Size (hex)      [    400]   17 Flash Write TO(msec)    [ 16000]
3  Lcl Blk Freq (msec)     [    100]   18 Flash Erase TO(msec)    [   100]
4  Lcl Blk Size (hex)      [    400]   19 Erase Verify TO(msec)   [ 16000]
5  Image Req Freq (msec)   [  10000]   20 Standby Flash TO(sec)   [   300]
6  Dnld Req Freq (msec)    [  10000]   21 Lcl Flash Init TO(msec) [  1000]
7  Session Timeout (msec)  [  30000]   22 Flsh Write Blk Sz (hex) [ 10000]
8  Request Hop Limit (dec) [      1]   23 Flsh Verfy Blk Sz (hex) [   400]
9  Crc Throttle Freq (dec) [   5000]   24 Chips Per Write/Erase   [     1]
10 Crc Block Size (hex)    [    400]
11 Rev Change Wait(dec)    [      0]
12 CCs Switch Wait(dec)    [   1000]
13 Lcl Response TO(msec)   [   5000]
14 Rmt Response TO(msec)   [  20000]
15 FW Dnld Block TO(msec)  [     50]

This Command: cnfdlparm


Which parameter do you wish to change:
```

cnfecparm (Configure Echo Canceller Parameters)

The **cnfecparm** command configures the CDP or CVM integrated echo canceller (IEC) parameters for specified voice circuit line.

Attributes

Jobs: Yes   Log: Yes   Lock: Yes Node Type: IPX, IGX

Associated Commands

cnfchec, dspecparm

Syntax

cnfecparm <line> <parameter number>

<line>	specifies the circuit line to configure.
<parameter number>	specifies the number of the parameter to change. (See Table .)
<parameter value>	specifies the new value to enter for the parameter.

Function

The **cnfecparm** command configures the UVM, CVM or CDP integrated echo canceller (IEC). It configures IEC parameters associated with all voice channels for the specified circuit line. Setting these parameters allows you to optimize the IEC performance. Table lists the parameters you can modify. The **dspecparm** command description lists the defaults and provides a sample display. Also, refer to the **cnfchec** command in the *Cisco WAN Switching Command Reference* for configuring per-channel parameters.

Table 1-9   Echo Canceller Parameters

Index	Parameter	Description	Options
1	Echo Return Loss High:	Maximum ERL required for echo canceller to converge on speech (value X 0.1 dB).	0–99 dB
2	Echo Return Loss Low:	Minimum ERL required for echo canceller to converge on speech (value X 0.1 dB).	0–99 dB
3	Tone Disabler Type	Selection of protocol to enable tone disabler.	G.164, G.165
4	Non-Linear Processing	Selects type of post-canceller signal.	Center Clipper, Multiplying
5	NLP Threshold	Threshold below which non-linear processing is enabled (value X 0.1 dB).	0–99 dB
6	Noise Injection	Determines if noise will be injected when NLP is active.	Enable, Disable
7	Voice Template	Selection of template to use; normal voice levels or high voice levels.	USA—normal UK—high-level

When you enter this command the system responds with the screen illustrated in Figure 1-13.

Figure 1-13   cnfecparm—Configure Echo Canceller Parameters

```
sw83            TN    SuperUser      IPX 16    8.5    Aug. 1 1997  15:35 PST

IEC Line 7 Parameters
1  CDP IEC Echo Return Loss High (.1 dBs) [          60] (D)
2  CDP IEC Echo Return Loss Low  (.1 dBs) [          30] (D)
3  CDP IEC Tone Disabler Type             [       G.164]
4  CDP IEC Non-Linear Processing          [Center Clipper]
5  CDP IEC Non-Linear Processing Threshold [         18] (D)
6  CDP IEC Noise Injection                [      Enabled]
7  CDP IEC Voice Template                 [          USA]




This Command: cnfecparm 7

Which parameter do you wish to change:
```

cnffpcom (Configure FastPAD Communication Parameter)

The **cnffpcom** command configures the FastPAD communication parameters.

Attributes

Jobs: Yes   Log: Yes   Lock: Yes Node Type: IPX, IGX

Associated Commands

None

Syntax

cnffpcom <slot.port> | <name> <trans timer> <alive timer> <retry count>

<slot.port>	specifies the slot.port of the card that connects to the FastPAD.
<name>	specifies the name of the FastPAD connected to the port.
<trans timer>	specifies the transmission timer.
<alive timer>	specifies the keep alive timer value.
<retry count>	specifies the retry count value.

Function

This command configures the FastPAD communication parameters. When you enter this command, the system responds as shown in Figure 1-14.

Figure 1-14   cnffpcom—Configure FastPAD Communication Parameters

```
  cc7           VT    SuperUser       IPX 32    8.5    Aug. 30 1997 10:05 PST




        Last Command: cnffpcom 31.2 2 2 3


        Next Command:
```

cnffpcon (Configure FastPAD Connection Parameters)

The **cnffpcon** command configures the FastPAD connection parameters.

Attributes

Jobs: Yes   Log: Yes   Lock: Yes Node Type: IPX, IGX

Associated Commands

addcon, dspcon, dncon, upcon

Syntax

cnffpcon <connection> [fr_bw]

<connection>   specifies the connection whose parameters to configure.

[fr_bw]   specifies the Frame Relay bandwidth parameters for the connection.

Function

This command configures connection parameters. When you enter this command, the system responds as shown in Figure 1-15.

Figure 1-15   cnffpcon—Configure FastPAD Connection Parameters

```
cc7             VT    SuperUser      IPX 32    8.5     Aug. 30 1997 10:10 PST

Conn: 31.2.B.1  ca12        9.1.B.1      9.6
  MIR       CIR     VC Q Depth     PIR      Cmax    ECN QThresh    QIR     FST
11.6/11.6 11.6/11.6 2048/2048  11.6/11.6   10/10   1024/1024  11.6/11.6  n
% Util: 100/100
Owner: LOCAL  Restriction: NONE  COS: 0                    Status: New Conn
Group: NONE  Priority: N/A  TestRTD: 0 msec

Path:  cc7      19-- 6.2cc1     6.3-- 2.2ca13    1.3--  13ca12
Pref:  Not Configured




cc7     FTC:  OK                    ca12     FTC:   OK
        FTI:  OK                             FTI:   OK
        FastPAD: OK                          FastPAD: OK

This Command: cnffpcon 31.2.B.1 ca12 9.1.B.1


Enter FRP parameters (mir/oe_mir * ...):
```

cnffpddelay (Configure FastPAD Delay)

The **cnffpddelay** command configures thresholds for severe congestion (Sc) and mild congestion (Mc) on the FastPAD.

Attributes

Jobs: No   Log: Lock: Node Type: IPX, IGX

Associated Commands

Syntax

cnffpddelay <slot.port.subslot.subport><Sc><Mc>

<slot.port.subslot.subport>   specifies the FTC or FTM port and subport that connects to the
                               FastPAD for configuring Sc and Mc.

<Sc>   severe congestion

<Mc>   mild congestion

Function

Use this command to set up the delay on the FTC port and subport to which the FastPAD is connected. See Figure 1-16 for a sample screen.

Figure 1-16   cnffpddelay—Configure FastPAD Delay

```
pubsigx1        TN    SuperUser       IGX 32    8.5        Aug. 20 1997 14:07 GMT

Port:          8.1.7.2[FAILED  ]              Configured Clock:    256.0 Kbps
Rcv Clocking:  EXTERNAL                       Measured Clock:          N/A
Xmt Clocking:  EXTERNAL
Data Coding: NRZ
Interface:   V.35

Signalling Protocol     STRATA LMI      Interface Control Template
T391 Link Intg Timer          10
T392 Polling Verif Timer      15        Lead      State
N391 Full Status Poll Cycle   6         CTS       ON
N392 Error Threshold          3         DSR       ON
Monitored Events Count        4         DCD       ON

Severe Congestion (Sc) 64000 (512000)
Mild Congestion (Mc) 57600 (460800)

This Command: cnffpddelay 8.1.7.2


Sc[64000]:
```

cnffpdpvc (Configure FastPAD PVC)

The **cnffppvc** command configures the FastPAD bc/bc PVC parameters.

Attributes

Jobs: No   Log: Lock: Node Type: IPX, IGX

Associated Commands

Syntax

cnffpdpvc <slot.port.subslot.subport.dlci> <bc> <bc>

<slot.port.subslot.subport.dlci>   specifies the FTC or FTM port, subport, and DLCI of the
                                        FastPAD.

cnffpmap (Configure FastPAD Map Table)

The **cnffpmap** command configures the FastPAD map table.

Attributes

Jobs: Yes   Log: Yes   Lock: Yes   Node Type: IPX, IGX

Associated Commands

cpyfpmap

Syntax

cnffpmap <slot.port>

<slot.port>   specifies the FTC or FTM port connected to the FastPAD.

Function

This command configures FastPAD map table. The map table contains the dialing plan for the FastPAD. When you enter this command, the system responds with the screen shown in Figure 1-17:

Figure 1-17   cnffpmap—Configure FastPAD Map Table

```
cc7              VT    SuperUser      IPX 32    8.5    Aug. 30 1997 10:14 PST

Index  #   DLCI Slot   Index  #   DLCI Slot   Index  #   DLCI Slot   Jump:
[000] 9915 0991  05    [014] FFFF 1023  15    [028] FFFF 1023  15
[001] 0182 0018  02    [015] FFFF 1023  15    [029] FFFF 1023  15
[002] 0528 0052  08    [016] FFFF 1023  15    [030] FFFF 1023  15
[003] 0186 0018  06    [017] FFFF 1023  15    [031] FFFF 1023  15
[004] 0188 0018  08    [018] FFFF 1023  15    [032] FFFF 1023  15
[005] 0524 0052  04    [019] FFFF 1023  15    [033] FFFF 1023  15
[006] 0526 0052  06    [020] FFFF 1023  15    [034] FFFF 1023  15
[007] 0528 0052  08    [021] FFFF 1023  15    [035] FFFF 1023  15
[008] 0528 1023  09    [022] FFFF 1023  15    [036] FFFF 1023  15
[009] FFFF 1023  15    [023] FFFF 1023  15    [037] FFFF 1023  15
[010] FFFF 1023  15    [024] FFFF 1023  15    [038] FFFF 1023  15
[011] FFFF 1023  15    [025] FFFF 1023  15    [039] FFFF 1023  15
[012] FFFF 1023  15    [026] FFFF 1023  15    [040] FFFF 1023  15
[013] FFFF 1023  15    [027] FFFF 1023  15    [041] FFFF 1023  15

This Command: cnffpmap 31.2


Next Command:
```

cnffpport (Configure FastPAD Port)

The **cnffpport** command configures the FastPAD port parameters.

Attributes

Jobs: No   Log: Yes   Lock: Yes Node Type: IPX, IGX

Associated Commands

dspftcport, dnftcport, upftcport

Syntax

cnffpport <slot.port.subslot.subport> <parameter number>

<slot.port.subslot.subport>   specifies the port.

specifies the number of the parameter to change.

specifies the new value to enter.

Function

This command configures port parameters for the FastPAD port. When you enter this command, the system responds as in the screen example shown in Figure 1-18.

Figure 1-18   cnffpport—Configure FastPAD Port Parameters

```
cc7             VT    SuperUser      IPX 32    8.5     Aug. 30 1997 10:16 PST

                           FastPad Port Configuration
                      Index: 0x0000 Location: 0x30E84C40
       Port in Use  : 01      Port Type     : 02     Conn Exist   : 01
       Phy Port Code : 00     Port Code     : 00     Abs Rate     : 07

                              Data Parameters
   [01] Mode          : 00 [02] Baud Rate    : 06 [03] Underrun Fill : 7E
   [04] Clock Stop FC : 00 [05] Transmit Clock: 00 [06] Local CTS     : 01
   [07] Local CTS Dly : 00 [08] Local DSR     : 01 [09] Local DCD     : 01
   [10] Hunt Group Mem: 01 [11] Dest Switch Nm: 01 [12] Dest Port Nm  : 03
   [13] Dest Slot/Chnl: 00 [14] Call Timer    : 05 [15] Enable Channel: 01
   [16] Initiate Calls: 01 [17] Allocate BW   : 00 [18] Intrframe Fill: 00
   [19] DPLL Mode     : 00 [20] Set DE on Data: 00 [21] Async In Timer: 05
   [22] Checksum      : 00 [23] Sync Pattern  : 0000


   This Command: cnffpport 31.2.B.1


   Enter parameter number to change (DEL to quit):
```

cnffpsys (Configure FastPAD System Parameters)

The **cnffpsys** command configures the FastPAD system parameters.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX

Associated Commands

dspftcport, dnftcport, upftcport

Syntax

cnffpsys <slot.port> <parameter number>

<slot.port>   specifies the port.

specifies the number of the parameter to change.

specifies the new value to enter.

Function

This command configures system parameters for the FastPAD port. When you enter this command, the system responds with the screen shown in Figure 1-19:

Figure 1-19   cnffpsys—Configure System Parameters

```
cc7              VT    SuperUser      IPX 32    8.5    Aug. 30 1997 10:17 PST

                            FastPad Configuration
                     Index: 0x0000 Location: 0x30E9D0B2
      FPD in Use   : 01    Conn State   : 01    FPD Name      : cc7FP
      Alarm Status : 00    Switched Conn : 01    FPD Index     : 05
      IPX Slot Nm  : 1F    FTC Port Nm  : 01    Link Int      : 01
      Link Rate    : 0C    Card Dsc Index: 00    Avail SwVoice : 00
      Sfail/Nack   : 00/00  TmOut/OutOfSeq: 00/00  Unknown/Q len : 00/00
                            System Parameters
[04] Ring Freq     : 00 [05] Spd Dial Digit: 04 [06] Country Code  : 0100
[07] Line Mgmt Ptcl: 02 [08] Local Swtch Nm: 0C [09] Local Port Nm : 51
[10] Inquire Poll  : 05 [11] Full Stat Poll: 05 [12] Min Frame Size: 22
[13] Max Frame Size: 43 [14] Jitter Buf Sz : 00 [15] User Lockout  : 01
                             Link Parameters
[16] Clock         : 00 [17] Rate          : 0C [18] Bandwidth     : 8000
[19] Data Card Slot: FF [20] Data Card Chnl: 00 [21] Bundled DLCI  : 1000

This Command: cnffpsys 31.2


Enter parameter number to change (DEL to quit)
```

cnffstparm (Configure ForeSight Node Parameter)

The **cnffstparm** command configures the ForeSight parameters for Frame Relay ports.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX, BPX

Associated Commands

cnffrcon

Syntax

cnffstparm

No line or port number need be entered.

Function

This command configures the ForeSight parameters for Frame Relay ports. This command only has an effect if the Frame Relay ForeSight option is enabled. The parameter values set by this command apply to all Frame Relay connections enabled with ForeSight. Therefore, these parameters must be configured on each node in the network that has ForeSight connections. (The **cnffrcon** command enables ForeSight on a connection.) Table 1-10 lists the parameters. Figure 1-20 and Figure 1-21 illustrate IPX and BPX command menus.

Figure 1-20   IPX System Response for cnffstparm

```
sw83            TN    SuperUser      IPX 16    8.5    Aug. 1 1997  15:41 PST

1  FRP/FTC Increase Rate   [   10] (%)
2  FRP/FTC Decrease Rate   [   87] (%)
3  FRP Fast Decrease Rate  [   50] (%)
4  RTD Measurement Time    [    5] (secs)
5  Default RTD             [  100] (msecs)
6  Minimum RTD             [   40] (msecs)
7  Maximum RTD             [  250] (msecs)
8  FECN for congested mins [   50] (%)
9  QIR Time-out            [   10] (secs)
10 Max TstDelay Retries    [  2] (dec)




   This Command: cnffstparm


   Enter parameter index:
```

Figure 1-21   BPX System Response for cnffstparm

```
sw66            TN    SuperUser      BPX 15    8.5 Aug. 28 1997 23:50 GMT

 1  FST Increase Rate     [   10] (%)
 2  FST Decrease Rate     [   93] (%)
 3  FST Fast Decrease Rate [  50] (%)
 4  RTD Measurement Time  [    5] (secs)
 5  Default RTD           [  100] (msecs)
 6  Minimum RTD           [   40] (msecs)
 7  Maximum RTD           [  250] (msecs)
 8  FECN for congested mins [ 50] (%)
 9  QIR Time-out          [  244] (secs)
10  Max TstDelay Retries  [  2] (dec)




Last Command: cnffstparm


Next Command:
```

Table 1-10   cnffstparm–Parameters

Number	Parameter	Description	Default
1	FRP Increase Rate	If free bandwidth is available, the rate at which FRP increases transmission (as a percentage of MIR).	10%
2	FRP Decrease Rate	If free bandwidth becomes unavailable, the rate at which FRP decreases transmission (as a percentage of current rate).	87%
3	FRP Fast Decrease Rate	If a cell is dropped or the TxQ is full, the rate at which FRP decreases transmission (as a percentage of current rate).	50%
4	RTD Measurement Time	The polling interval for measuring round-trip delay on each Frame Relay PVC.	5 sec.
5	Default RTD	The default RTD the connection uses before RTD is measured.	100 ms.
6	Minimum RTD	Min. value used for RTD in FR calculation regardless of measured RTD.	40 ms.
7	Maximum RTD	Max. value used for RTD in FR calculation regardless of measured RTD.	250 ms.
8	FECN for congested mins	When this percentage of packets received have the EFCN bit set, a congested minutes field in the **dspfrport** command is indicated.	50%
9	QIR Time-out	Time before the allowable transmit rate is reset to QIR.	10 secs.
10	Max Test Delay Retries	Maximum number of delay test retries after a timeout.	2

cnflan (Configure LAN)

The **cnflan** command configures node communication parameters.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX, BPX

Associated Commands

upln, dnln, cnfln

Syntax

cnflan <IP_Address> <IP_Subnet_Mask> <Maximum LAN Transmit Unit> <TCP Service Port>

<IPAdd>	Specifies the Internet address of the node used in the TCP/IP protocol.
<IP subnet mask>	Specifies a 32-bit mask that contains information about the bit lengths of the subnet ID and host ID address fields. The format of this field uses 1s for the subnet ID field and 0s for the host ID address field as defined in the TCP/IP protocol. The default value (in decimal notation) is 255 255 255.0. This mask denotes both subnet ID and host ID fields as 8-bit fields.
<Max. LAN Transmit Unit>	BPX nodes only: typical length is 1500 bytes.
<TCPServicePort>	Specifies the node's service point used by the transmission control protocol (TCP).
<GatewayIPAddr>	Specifies the Internet gateway address.

Function

This command configures node communication parameters, so the node can communicate with a StrataView Plus terminal over an Ethernet LAN using TCP/IP protocol. The parameters all contain address information about the Ethernet TCP/IP network that connects the StrataView Plus station to an IPX, IGX, or BPX node. The values must conform to those of the network. The network administrator can supply the parameters. Refer to the screen in Figure 1-22.

Figure 1-22   cnflan—Configure LAN Parameters

```
beta              TRM   YourID:1        IPX 32  8.5     Aug. 15 1997 14:44 MST


Active IP Address:                      192.0.0.0
IP Subnet Mask:                         255.255.255.0
TCP Service Port:                       5120
Default Gateway IP Address:             None

Maximum LAN Transmit Unit:              1500
Ethernet Address:                       00.E0.07.00.00.00

LAN is not available on the PCC




Last Command: cnflan


Next Command:
```

cnflnparm (Configure ATM Line Card Parameter)

The **cnflnparm** command configures several parameters for ATM lines originating on the BPX.

Attributes

Jobs: No   Log: Yes   Lock: Yes Node Type: BPX

Associated Commands

upln, dnln, cnfln

Syntax

cnflnparm <slot.port> <option 1–4>

<slot.port>   specifies the line to configure in the format slot.port for the ASI-0
                                card.

<option 1 – 4>   specifies the parameter to configure.

Function

This command configures the circuit line alarm integration times for RED and YELLOW circuit line
alarms. These integration times are specified in milliseconds and should be set to correspond to the
local carrier's alarm integration times. Carrier integration times are typically 800 ms. to 1500 ms for
RED Alarm and 1500 to 3000 milliseconds for YELLOW Alarm. The allowable range for these
parameters are 60 to 3932100 milliseconds.

You can also set the queue depth for the two queues associated with the ASI-0 card, the constant bit
rate (CBR) queue and the Variable Bit Rate (VBR) queue. The queue depths may be increased to
16,000 bytes per queue.

When you enter this command system responds with the screen in Figure 1-23. The **cnflnparm**
command is quite similar to the **cnfln** command.

Figure 1-23   cnflnparm—Configure ATM Line Card Parameters

```
sw83            TN    SuperUser      IPX 16    8.5    Aug. 1 1997  15:45 PST

CLN 7 Parameters
 1  Red Alarm – In/Out  [  1000 /   2000] (Dec)
 2  Yel Alarm – In/Out  [  1000 /   2000] (Dec)









    This Command: cnflnparm 7


Which parameter do you wish to change:
```

cnflnsigparm (Configure Line Signalling Parameters)

The **cnflnsigparm** command configures the line signalling parameters.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX

Associated Commands

cnflnparm, cnflnstats, dsplnstatcnf, dsplnstathist, upln, dnln, cnfln

Syntax

cnflnsigparm <parameter number>

specifies the number of the parameter to change.

specifies the new value to enter.

Function

The **cnflnsigparm** command configures the line signalling parameters associated with a line. When you enter **cnflnsigparm**, the screen displays the parameters, as shown in Figure 1-24:

Figure 1-24   cnflnsigparm—Configure Line Signalling Parameters

```
cc2             LAN   SuperUser      IPX 32    8.5    Aug. 30 1997 11:16 PST

1  CDP & CIP Heartbeat                  [   2] (sec)
2  CDP & CIP Sig. Polling Rate          [  10] (sec)
3  CDP & CIP Default Inband Sig Delay   [  96] (msec)
4  CDP & CIP Default Inband Playout Delay [ 200] (msec)
5  CDP & CIP Default Pulse Sig Delay    [  96] (msec)
6  CDP & CIP Default Pulse Playout Delay [ 200] (msec)
7  CIP Number of Packet Slices          [   1]
8  CDP & CIP Packet Rate                [ 200] (pkt/sec)
9  CDP & CIP Condition CCS Lines?       [ YES]
10 CIP Default Inband Min. Wink         [ 140] (msec)
11 CIP Default Pulse Min. Wink          [ 140] (msec)




This Command: cnflnsigparm


Which parameter do you wish to change
```

cnflnstats (Configure Line Statistics Collection)

The **cnflnstats** command configures statistics collection for the specified line.

Attributes

Jobs: Yes   Log: Yes   Lock: Yes Node Type: IPX, IGX, BPX

Associated Commands

dsplnstatcnf, dsplnstathist

Syntax

cnflnstats <line> <stat> <interval> <e | d> [<samples> <size> <peaks>]

<line>	specifies the port to configure.
<stat>	specifies the type of statistic to enable/disable.
<interval>	specifies the time interval of each sample (1–255 minutes).
<e|d>	enables/disables a statistic. 'E' to enable; 'D' to disable.
[samples]	specifies the number of samples to collect (1–255).
[size]	specifies the number of bytes per data sample (1, 2, or 4).
[peaks]	enables the collection of one minute peaks. 'Y' to enable; 'N' to disable.

Function

This command configures parameters for line statistic collection. Primarily, **cnflnstats** is a debug tool and should not be necessary for regular use. It lets you customize statistics collected on each line. Table 1-11 lists the statistics by type.

Not all statistic types are available for all lines. Only valid statistics are displayed for the user to select from, the others appear in gray.

Table 1-11   Statistic Types

Statistic Type	Statistic	Line Type
1	Bipolar Violations	E1 and T1
2	Frame Slips	E1 and T1
3	Out of Frames	E1 and T1
4	Loss of Signal	E1 and T1
5	Frame Bit Errors	E1 only
6	CRC Errors	E1 only
7	Out of Multi-Frames	E1 only
8	All Ones in Timeslot 16	E1 only

Note   Bipolar violations are not generally accumulated on E1 trunk and circuit lines. They are accumulated only on E1 lines connected to E1 Frame Relay ports.

Figure 1-25 illustrates the screen displayed after entering **cnflnstats.**

Figure 1-25   cnflnstats—Configure Line Statistics

```
cc2              LAN   SuperUser      IPX 32   8.5    Aug. 30 1997 11:20 PST

Line Statistic Types

 1) Bipolar Violations
 2) Frames Slips
 3) Out of Frames
 4) Losses of Signal
 5) Frames Bit Errors
 6) CRC Errors
 7) Out of Multi-Frames
 8) All Ones in Timeslot 16




Last Command: cnflnstats 15 6 255 e


Next Command:
```

cnfmxbutil (Configure MUXBUS Utilization)

The **cnfmxbutil** command configures the MUXBUS or CELLBUS utilization factor for each FRP or FRM, respectively.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX

Associated Commands

Syntax

cnfmxbutil <slot number> <percentage>

<slot number>   specifies the slot number of the associated FRP card.

<percentage>   specifies the percent of MUXBUS or CELLBUS bandwidth to allocate.

Function

The **cnfmxbutil** command lets you configure the MUXBUS or CELLBUS utilization factor for each FRP or FRM in the node on a slot-by-slot basis. (System software automatically allocates a certain amount of bandwidth for each FRP or FRM in a node. Since the maximum data rate for an FRP or FRM is 2 Mbps, this bandwidth is also the maximum amount of the bus reserved for an FRP or FRM.)

In many applications, each of the four FRP or FRM ports is configured for a large number of 56 or 64 Kbps connections. System software totals the bandwidth required for all the connections, multiplies the total by 121% to reserve extra bandwidth for overhead, then subtracts this amount from the total available bus bandwidth.

However, statistically full utilization is not often required on ports with a large number of connections, so the reserved bus bandwidth may be further reduced. In a node with a T3 or E3 ATM trunk card, much of the bus bandwidth may be assigned to the ATM trunk, so you should exercise caution when allocating the remaining bus bandwidth.

See Figure 1-26 for a sample screen. The screen displays "N/A" for a slot where no FRP or FRM exists. Once the slot is selected, the system displays the message "Enter Utilization Factor." The range is 1–250%. The default is 121%. The extra 21% for the default is for the overhead for encapsulating the Frame Relay frame into the FastPackets or ATM cells.

Figure 1-26   cnfmxbutil—Configure MUXBUS Utilization

```
gamma      SV+      SuperUser      IPX32      Rev:  8.5      Aug. 14 1997  14:27 PDT




          Slot  1: N/A      Slot 9:  N/A      Slot 17: 121%      Slot 25: N/A
          Slot  2: N/A      Slot 10: N/A      Slot 18: 121%      Slot 26: N/A
          Slot  3: N/A      Slot 11: N/A      Slot 19: N/A       Slot 27: N/A
          Slot  4: N/A      Slot 12: N/A      Slot 20: N/A       Slot 28: N/A
          Slot  5: N/A      Slot 13: N/A      Slot 21: N/A       Slot 29: N/A
          Slot  6: N/A      Slot 14: N/A      Slot 22: N/A       Slot 30: N/A
          Slot  7: N/A      Slot 15: N/A      Slot 23: N/A       Slot 31: N/A
          Slot  8: N/A      Slot 16: N/A      Slot 24: N/A       Slot 32: N/A



      This Command: cnfmxbutil


      Enter Slot:
```

cnfnodeparm (Configure Node Parameter)

Sets a variety of general parameters for the nodes in a network.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX, BPX

Associated Commands

Syntax

cnfnodeparm

Function

The **cnfnodeparm** command lets you change some of the node's system parameters. The parameters you can set with **cnfnodeparm** are not closely related. Table 1-11 and Table 1-12 describe the parameters for the IPX/IGX and BPX nodes, respectively. After each table, an applicable set of **cnfnodeparm** screens appears. The defaults for the parameters are selected by Cisco engineering to operate under normal network conditions. With few exceptions, you should change them only with the guidance of the Cisco TAC.

Table 1-12   cnfnodeparm–Parameters for IPX/IGX Nodes

Index	Parameter	Description	Default *
1	Update Initial Delay (sec.)	Specifies a factor for generating a delay before conditional updates are transmitted to the network after a controller card switch-over. The *Update Initial Delay* is multiplied by the number of nodes in the network.	5000 (D)
2	Update Per-Node Delay (ms.)	Specifies the delay between transmission of conditional updates to the nodes.	30000 (D)
3	Comm. Break Test Delay (ms.)	Normal interval between tests for communication break on any node.	30000 (D)
4	Comm. Break Test Offset	Factor between number of communication test failures and test successes to declare a node in communication break condition.	10 (D)
5	Network Timeout Period	Number of milliseconds to wait for a response to a communication test transmission before declaring a failure. The maximum is four failures.	1700 (D)
6	Network Inter-p Period	In inter-domain connections, *Network Inter-p Period* is the number of milliseconds to wait for a response to a communication test transmission before declaring a failure. The maximum is four failures	4000 (D)
7	Network Sliding Window Size	Controls the number of control card messages that the node can simultaneously transmit to the network. This parameter defines the number of no acknowledgments outstanding on a controller before NACKS is declared.	1 (D)

* Enter value in either decimal (D) or hexadecimal (H).

Table 1-12 **cnfnodeparm–Parameters for IPX/IGX Nodes (Continued)**

Index	Parameter	Description	Default *
8	Number of Normal Timeouts	For intra-domain connections: *Number of Normal Timeouts* is the maximum number of normal network re-transmissions before the node signals a communication break.	7 (D)
9	Number of Inter-p Timeouts	For inter-domain connections: *Number of Inter-p Timeouts* is the maximum number of normal network re-transmissions before the node signals a communication break.	3 (D)
10	Number of Satellite Timeouts	Maximum number of satellite network re-transmissions before the node signals a communication break.	6 (D)
11	Number of Blind Timeouts	Maximum number of communication fail timeouts and re-transmissions before the node declares a communication failure (CF). One successful acknowledgment clears CF.	4 (D)
12	Number of CB Msg Timeouts	Number of communication break timeouts and re-transmissions before the node declares a communication break condition (CB). One successful acknowledgment clears the CB condition.	2 (D)
13	Comm. Fail Interval (ms.)	Minimum time allocated for communication fail testing of all trunks terminating on the local node.	10,000 (D)
14	Comm. Fail Multiplier	Number of Comm. Fail Intervals to skip for good lines.	3 (D)
15	Temperature Threshold (° C.)	Temperature in the enclosure that causes an over-temperature alarm to go to the controller card.	50 (D)
16	NPC Redundancy Configured	A "y" indicates a redundant controller card is required. The absence of a redundant controller card generates an alarm.	Y
17	MT3	OBSOLETE	
18	Network Packet TX Rate	Rate for transmitting control card packets to the network. The range is a series of discreet values: 100 200 333 500 1000 1100 1200 1333 1500 2000. The units of measure are packets per second (pps). The purpose of this parameter is to prevent the control card from flooding the trunk with packets.	500 pps
19	Statistics Memory (x 10 KB)	Specifies the amount of controller memory to allocate for statistics collection.	76 (D)
20	Standby Update Timer	Specifies how often to send update messages to standby controller	10 (D)
21	Stby Updts Per Pass	Number of messages that can be sent to standby NPC for each update interval.	30 (D)
22	Gateway ID Timer	An inter-domain rerouting timer. How often to look for junction nodes for new route.	30 (D)
23	GLCON Alloc Timer	Another inter-domain rerouting timer controlling gateway LCON function.	30 (D)
24	Comm Fail Delay	Number of milliseconds to wait to start detecting communication failures after a controller switch-over.	60 (D)
25	Nw. Hdlr Timer (msec)	Network handler timer determines how long to wait to send messages to or receive messages from a remote node.	50 (D)
26	CBUS Delay	Specifies the minimum number of milliseconds the NPC or NPM must wait before it places the next command on the CBUS.	20 (D)

* Enter value in either decimal (D) or hexadecimal (H).

Table 1-12   cnfnodeparm–Parameters for IPX/IGX Nodes (Continued)

Index	Parameter	Description	Default *
27	SNMP	Enables maintenance logging of global SNMP messages. These SNMP events are not errors but any GET, SET, and so on. Output goes to a printer connected to the node's auxiliary port or a terminal server (accessible via telnet). Without a connected output device, the parameter is meaningless.	y=yes
28	TFTP Grant Delay	The number of seconds the node waits before re-sending a TFTP request after a TFTP error has occurred. This field is display-only: you set the value in StrataView Plus.	1
29	TFTTP ACK Timeout	The number of seconds the node waits for an acknowledgment of a TFTP request before it declares the request as timed out. This field is display-only: you set the value in StrataView Plus.	10
30	TFTP Write retires	The number of times the node retries a TFTP operation (not just writes) after a failed attempt. This field is display-only: you set the value in StrataView Plus.	3
31	FRP/FRM Link Status Alarm	Determines whether a signaling failure on an FRP or FRM port causes a major alarm. This parameter applies to any port configured as an NNI.	y=yes
32	Job Lock Timeout	The range is 1–1000 seconds. The default of 0 disables this parameter.	0
33	Max Via LCONs	The maximum number of "via" connections a node can support. (A via connection does not terminate on the node but merely passes through.) This maximum is configurable, but you cannot lower the number below the current limit on the node. The default is the current maximum and should remain unchanged for normal operating conditions.	On an IPX node: 5000 On an IGX node: 20000 On a BPX node: 50000
34	Max Blind Segment Size	The maximum size of each segment of a blind message. (The full message may be longer than the segment, especially in a large network.) A *blind message* is a message the local node sends to the far end node when you execute **addtrk**. If the trunk has many errors, smaller message segments increase the possibility of a successful **addtrk**. Under normal conditions, this parameter should remain the default.	3570
35	Max Nib Xmit Msgs	Maximum number of memory blocks available for messages that are awaiting transmission. Under normal conditions, this parameter should remain the default.	3000
36	Max stby update Q size	Maximum number of update messages that can reside in queues awaiting transmission to the standby processor. Only rare circumstances could provide a reason to change this parameter, so do not change it without first consulting the TAC.	5000

* Enter value in either decimal (D) or hexadecimal (H).

Figure 1-27 shows the available parameters on an IPX or IGX node.

Figure 1-27   IPX/IGX cnfnodeparm Parameters

The example shows the two screens required to show all **cnfnodeparm** parameters on an IPX node.

```
pubsipx1        TN   SuperUser        IPX 16    8.5 May  9 1997  09:30 GMT

1  Update Initial Delay  [ 5000] (D)   16 CC Redundancy Cnfged   [    Y] (Y/N)
2  Update Per-Node Delay [30000] (D)   17 MT3 Pass Through Relay [    Y] (Y/N)
3  Comm-Break Test Delay [30000] (D)   18 Nw Pkt Tx Rate (pps)   [  500] (D)
4  Comm-Break Test Offset [   10] (D)  19 Stats Memory (x 10KB)  [   61] (D)
5  Network Timeout Period [ 1700] (D)  20 Standby Update Timer   [    1] (D)
6  Network Inter-p Period [ 4000] (D)  21 Stby Updts Per Pass    [   30] (D)
7  NW Sliding Window Size [    1] (D)   22 Gateway ID Timer        [   30] (D)
8  Num Normal Timeouts    [    7] (D)   23 GLCON Alloc Timer       [   30] (D)
9  Num Inter-p Timeouts   [    3] (D)   24 Comm Fail Delay         [   60] (D)
10 Num Satellite Timeouts [    6] (D)   25 Nw Hdlr Timer (msec)    [  100] (D)
11 Num Blind Timeouts     [    4] (D)   26 CBUS Delay (msec)       [   20] (D)
12 Num CB Msg Timeouts    [    2] (D)   27 SNMP Event logging      [    Y] (Y/N)
13 Comm Fail Interval     [10000] (D)   28 TFTP Grant Delay (sec) [    1] (D)
14 Comm Fail Multiplier   [    3] (D)   29 TFTP ACK Timeout (sec) [   10] (D)
15 Temperature Threshold  [   50] (D)   30 TFTP Write Retries      [    3] (D)

This Command: cnfnodeparm


Continue? y

pubsipx1        TN   SuperUser        IPX 16    8.5 May  9 1997  09:31 GMT

31 FRP Link Status Alarm  [    Y] (Y/N)
32 Job Lock Timeout        [    0] (D)
33 Max Via LCONs           [ 5000] (D)
34 Max Blind Segment Size [ 3570] (D)
35 Max Nib Xmit Msgs       [ 1000] (D)
36 Max Stby Update Q Sz   [ 5000] (D)






This Command: cnfnodeparm


Enter parameter index:
```

Table 1-13   cnfnodeparm–Parameters for a BPX Node

Index	Parameter	Description	Default *
1	Update Initial Delay (sec.)	This delay, multiplied times the number of nodes in the network, is the delay before conditional updates are transmitted to the network after a BCC switchover.	5000 seconds
2	Update Per-Node Delay (ms.)	Delay between transmission of conditional updates to nodes.	30000 msecs
3	Comm. Break Test Delay (ms.)	Interval between tests for communication breaks on any node.	30000 msecs
4	Comm. Break Test Offset	Factor between number of communication test failures and successful tests to declare a node in communication break condition.	10 (D)
5	Network Timeout Period	The time a node waits for a response to a communication test transmission before it declares a failure. Four failures allowed.	1700 (D)
6	Network Inter-p Period	The time a node waits for a response to a communication test transmission on inter-domain connections before it declares a failure. The maximum number failures is four.	4000 (D)
7	NW Sliding Window Size	Controls the number of BCC messages that can be transmitted simultaneously. Defines # of no acknowledgments outstanding on controller before NACKS declared.	1 (D)
8	Num. Normal Timeouts	Number of normal network re-transmissions allowed before issuing a communication break condition (for intra-domain connections).	7 (D)
9	Num. Inter-p Timeouts	Number of normal network re-transmissions allowed before issuing a communication break condition (for inter-domain connections).	3 (D)
10	Num. Satellite Timeouts	Number of satellite network re-transmissions allowed before issuing a communication break.	6 (D)
11	Number of Blind Timeouts	Number of communication failure timeouts and re-transmissions before the node declares a communication failure. One successful acknowledgment clears CF.	4 (D)
12	Number of CB Msg Timeouts	Number of communication break timeouts and re-transmissions before declaring a communication break (CB) condition. One successful acknowledgment clears CB.	2 (D)
13	Comm. Fail Interval (ms.)	Minimum time allocated for communication fail testing of all trunks terminating on the current node.	10,000 (D)
14	Comm. Fail Multiplier	Number of Comm. Fail Intervals to skip for good lines.	3 (D)
15	BCC Redundancy Configured	Yes indicates a redundant controller card is required to prevent an alarm.	Y
16	Stats Memory (x 10 KB)	The amount of controller memory to allocate to statistics collection.	76 (D)
17	Standby Update Timer	Determines how often to send update messages to standby controller	10 (D)
18	Stby Updts Per Pass	Number of messages that can be sent to standby NPC for each update interval.	30 (D)
19	Gateway ID Timer	An inter-domain rerouting timer. How often to look for junction nodes for new route.	30 (D)
20	GLCON Alloc Timer	Another inter-domain rerouting timer controlling gateway LCON function.	30 (D)
21	Comm Fail Delay	Timer to determine how soon after controller switchover to start detecting communication fail.	60 (D)

* Enter value in either decimal (D) or hexadecimal (H).

Table 1-13   cnfnodeparm–Parameters for a BPX Node (Continued)

Index	Parameter	Description	Default *
22	Nw. Hdlr Timer (msec)	Network handler timer determines how long to wait to send messages to or receive messages from a remote node.	50 (D)
23	SAR BCC Transmit Rate	Transmit data rate for BCC traffic to standby BCC (Kbps).	560 (D)
24	SAR High Transmit Rate	Transmit data rate for BCC traffic to other BCC nodes (Kbps).	280 (D)
25	SAR Low Transmit Rate	Transmit data rate for BCC traffic to ICC nodes (Kbps).	56 (D)
26	SAR VRAM Cngestn Limit	The threshold for BCC traffic receive queue congestion that causes cell discards.	7680 (D)
27	SAR VRAM Cell Discard	BCC traffic receive queue discard amount in cells.	256 (D)
28	ASM Card Cnfged	Yes indicates an Alarm/Status Monitor card is required or an alarm will be generated.	Y
29	TFTP Grant Delay (sec)	The number of seconds the node waits before re-sending a TFTP request after a TFTP error has occurred. This field is display-only: you set the value in StrataView Plus.	1
30	TFTP ACK Timeout (sec)	The number of seconds the node waits for an acknowledgment of a TFTP request before it declares the request as timed out. This field is display-only: you set the value in StrataView Plus.	10
31	TFTP Write Retries	The number of times the node retries a TFTP operation (not just writes) after a failed attempt. This field is display-only: you set the value in StrataView Plus.	3
32	SNMP Event logging	Enables maintenance logging of global SNMP messages. These SNMP events are not errors but any GET, SET, and so on. Output goes to a printer connected to the node's auxiliary port or a terminal server (accessible via telnet). Without a connected output device, the parameter is meaningless.	y=yes
33	Job Lock Timeout	The range is 1–1000 seconds. The default of 0 disables this parameter.	0
34	Max Via LCONs	The maximum number of "via" connections a via node can support. The default is the maximum for the node and should remain the default under normal operating conditions.	50000
35	Max Blind Segment Size	The maximum size of each segment of a blind message. (The full message may be longer than the segment, especially in a large network.) A *blind message* is a message the local node sends to the far end node when you execute **addtrk**. If the trunk has many errors, smaller message segments increase the possibility of a successful **addtrk**. Under normal conditions, this parameter should remain the default.	3570
36	Max XmtMemBlks per NIB	Maximum number of memory blocks available for messages that are awaiting transmission. Under normal conditions, this parameter should remain the default.	3000
37	Max Stby Update Q Sz	Maximum number of update messages that can reside in queues awaiting transmission to the standby processor. Only rare circumstances could provide a reason to change this parameter, so do not change it without first consulting the TAC.	5000

* Enter value in either decimal (D) or hexadecimal (H).

Figure 1-28 shows the available parameters on a BPX node.

Figure 1-28   BPX cnfnodeparm Parameters

This example illustrates the two screens required to show all **cnfnodeparm** parameters on a BPX node.

```
sw45            TN   SuperUser     BPX 15    8.5 Aug. 27 1997 18:25 PDT

1  Update Initial Delay  [ 5000] (D)    16 Stats Memory (x 10KB) [   61] (D)
2  Update Per-Node Delay [30000] (D)    17 Standby Update Timer  [   10] (D)
3  Comm-Break Test Delay [30000] (D)    18 Stby Updts Per Pass   [   50] (D)
4  Comm-Break Test Offset [  10] (D)    19 Gateway ID Timer      [   30] (D)
5  Network Timeout Period [ 1700] (D)   20 GLCON Alloc Timer     [   30] (D)
6  Network Inter-p Period [ 4000] (D)   21 Comm Fail Delay       [   60] (D)
7  NW Sliding Window Size [    1] (D)   22 Nw Hdlr Timer (msec)  [   50] (D)
8  Num Normal Timeouts    [    7] (D)   23 SAR CC Transmit Rate  [  560] (D)
9  Num Inter-p Timeouts   [    3] (D)   24 SAR High Transmit Rate [  280] (D)
10 Num Satellite Timeouts [    6] (D)   25 SAR Low Transmit Rate [   56] (D)
11 Num Blind Timeouts     [    4] (D)   26 SAR VRAM Cngestn Limit [ 7680] (D)
12 Num CB Msg Timeouts    [    5] (D)   27 SAR VRAM Cell Discard [  256] (D)
13 Comm Fail Interval     [10000] (D)   28 ASM Card Cnfged       [    Y] (Y/N)
14 Comm Fail Multiplier   [    3] (D)   29 TFTP Grant Delay (sec) [   1] (D)
15 CC Redundancy Cnfged   [    N] (Y/N) 30 TFTP ACK Timeout (sec) [  10] (D)

This Command: cnfnodeparm


Continue? y

sw45            TN   SuperUser     BPX 15    8.5 Aug. 27 1997 18:26 PDT

31 TFTP Write Retries     [    3] (D)
32 SNMP Event logging     [    Y] (Y/N)
33 Job Lock Timeout       [   60] (D)
34 Max Via LCONs          [50000] (D)
35 Max Blind Segment Size [ 3570] (D)
36 Max XmtMemBlks per NIB [ 3000] (D)
37 Max Stby Update Q Sz   [ 5000] (D)






This Command: cnfnodeparm


Enter parameter index:
```

cnfnwip (Configure Network IP Address)

The **cnfnwip** command configures an IP address and subnet mask for the node.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX, BPX

Associated Commands

Syntax

cnfnwip <IPAddr> <IPSubnetMask>

<IPAddr>   IP address of the node: the format is *nnn.nnn.nnn.nnn*, where *nnn* can
                              be 1–255

<IPSubnetMask>   subnet mask: the format is *nnn.nnn.nnn.nnn*

An example of this command is:

cnfnwip 199.35.96.217 255.255.255.0

where 199.35.96.217 is the IP address, and 255.255.255.0 is the subnet mask.

Function

The network IP address and subnet mask support statistics collection for StrataView Plus. The
cnfnwip command defines the IP address the system uses to pass messages between StrataView Plus
and the node. The Statistics Master process in StrataView Plus Network collects statistics. The
Statistics Manager requests and receives statistics using TFTP Get and Put messages. These TFTP
messages pass between the node and the Statistics Master using IP Relay. (See the **cnfstatmast**
description for details on setting the Statistics Master address.) For an example of the **cnfnwip**
command, refer to the screen in Figure 1-29.

Figure 1-29   cnfnwip—Configure Network IP Address

```
axiom       TN    Bootzilla    IGX 32    8.5        Aug. 5 1997  18:25 GMT

Active Network IP Address:            169.134.90.106
Active Network IP Subnet Mask:        255.255.255.0

















Last Command: cnfnwip 169.134.90.106 255.255.255.0


Next Command:
```

cnfportstats (Configure Frame Relay Port Statistics Collection)

The **cnfportstats** command configures parameters for Frame Relay ports.

Attributes

Jobs: Yes   Log: Yes   Lock: Yes   Node Type: IPX, IGX, BPX

Associated Commands

Syntax

cnfportstats <port> <stat> <interval> <e|d> [<samples> <size> <peaks>]

<port>	specifies the port to configure.
<stat>	specifies the type of statistic to enable/disable.
<interval>	specifies the time interval of each sample (1 - 255 minutes).
<e|d>	enables/disables a statistic. 'E' to enable; 'D' to disable.
[samples]	specifies the number of samples to collect (1 - 255).
[size]	specifies the number of bytes per data sample (1, 2 or 4).
[peaks]	enables the collection of one minute peaks. 'Y' to enable; 'N' to disable.

Function

The **cnfportstats** command configures Frame Relay port parameters. The primarily purpose of this command is debugging. Table 1-14 lists the configurable statistics. Not all statistic types are apply to all ports. Refer to Figure 1-30 and Figure 1-31 for examples.

Figure 1-31 shows that the selected statistic is 33—the number of transmitted bytes while the ingress LMI is showing a failed condition. After the port number and statistic number (33) on the command line, the remaining parameters are the interval, enable for this statistic, number of samples, and so on.

Table 1-14   Frame Relay Port Statistic Types

Type	Statistic
1–4	Total frames and bytes transmitted and received.
5–6	Frames transmitted with FECN and BECN set.
7–10	Frames received with problems: CRC errors, invalid format, frame alignment errors, wrong length frames.
11	Number of direct memory access (DMA) overruns on a Frame Relay port that are probably due to excessive user-data input.
12–17	LMI counts on UNI ports. These include status inquiries, status transmit and update requests, invalid inquiries, and LMI link timeouts.
18	Frames received with DLCIs in error.
19	Frames dropped with DE bit set.
20–24	LMI counts on NNI ports: status inquiries, status receive and update requests, LMI link timeouts, keepalive sequence errors.
25–26	Frame and byte count totals for Consolidated Link Layer Message (CLLM) frames that transmit ForeSight messages.

Figure 1-30   cnfportstats—Configure Port Statistics (Screen 1)

```
pubsigx1        TN    SuperUser      IGX 32    8.5        Aug. 5 1997  17:21 GMT


Port Statistic Types

 1) Frames Received                 14) LMI UNI Status Update Count
 2) Frames Transmitted              15) LMI Invalid Status Enquiries
 3) Bytes Received                  16) LMI UNI Link Timeout Errors
 4) Bytes Transmitted               17) LMI UNI Keepalive Sequence Errors
 5) Frames Transmitted with FECN 18) Receive Frames Undefined DLCI Count
 6) Frames Transmitted with BECN    19) DE Frames Dropped
 7) Receive Frame CRC Errors        20) LMI NNI Status Enquiries
 8) Invalid Format Receive Frames   21) LMI NNI Status Receive Count
 9) Receive Frame Alignment Errors  22) LMI NNI Status Update Count
10) Illegal Length Receive Frames   23) LMI NNI Link Timeout Errors
11) Number of DMA Overruns          24) LMI NNI Keepalive Sequence Errors
12) LMI UNI Status Enquiries        25) CLLM Frames Transmitted
13) LMI UNI Status Transmit Count   26) CLLM Bytes Transmitted


This Command: cnfportstats 3.1


Continue?
```

Figure 1-31   cnfportstats—Configure Port Statistics (Screen 2)

```
pubsigx1        TN    SuperUser       IGX 32    8.5       Aug. 5 1997  17:24 GMT

Port Statistic Types

27) CLLM Frames Received
28) CLLM Bytes Received
29) CLLM Failures
30) Tx Frames Discarded - Queue Overflow
31) Tx Bytes Discarded - Queue Overflow
32) Tx Frames while Ingress LMI Failure
33) Tx Bytes while Ingress LMI Failure




Last Command: cnfportstats 3.1 33 2 e 2 4 y


Next Command:
```

cnfrobparm (Configure Robust Alarms Parameters)

The **cnfrobparm** command sets parameters associated with the Robust Alarms feature.

Attributes

Jobs: No   Log: No   Lock: Yes Node Type: IPX, IGX, BPX

Associated Commands

Syntax

cnfrobparm <index> <value>

<index>   specifies the parameter to configure.

<value>   specifies new value to be entered for the parameter.

Function

This command sets Robust Alarms parameters. Robust Alarms is a protocol for node-to-Network Management System (NMS) communications. When a node has statistics or alarm information for the NMS, it requires a confirmation from the NMS of database update. Table 1-14 lists the parameters. Figure 1-32 illustrates the command.

Table 1-15   Robust Communications Parameters

No.	Parameter	Description	Default
1	Robust State wakeup timer	The Robust State machine becomes active after the specified time period has elapsed. If this timer value increases, the state machine operates less often and places less load on the controller card. Units of measure are seconds.	10 seconds
2	Robust update timer	Once a message has gone to the NMS, another message does not go until this timer expires. Units of measure are seconds.	10 seconds
3	Robust acknowledgment timeout	An acknowledgment must be returned by the NMS within this time period or it is assumed the communications link is down. Units of measure are seconds.	600 seconds
4	Robust acknowledgment reset timeout	After a downed link has been repaired, the next message goes out after this time period has elapsed. The purpose of this time period is to let the link settle after the repair. Units of measure are seconds.	60 seconds

Figure 1-32   cnfrobparm—Configure Robust Alarm Parameters

```
D1.a34          TRM   SuperUser      IPX 16    8.5    Aug. 14 1997 15:02 PDT

                          Robust Parameters

1  Robust State wakeup timer (sec) ..................................10
2  Robust update timer (sec) ........................................10
3  Robust acknowledge timeout (sec) .................................600
4  Robust acknowledge reset timeout (sec) ...........................60




This Command: cnfrobparm


Which parameter do you wish to change:
```

cnfslotstats (Configure Slot Statistics Collection)

The **cnfslotstats** command configures the collection of statistics for the selected node slot.

Attributes

Jobs: Yes   Log: Yes   Lock: Yes Node Type: BPX

Associated Commands

dspsloterrs

Syntax

cnfslotstats <slot number>

<slot number>   specifies the shelf and slot.

Function

This command sets the collection interval for each of the BPX node slot statistics. The default is for no statistics to be collected. The collection interval range is 1 minute–255 minutes (4 1/4 hours).

Table 1-15 lists the nine statistics associated with each slot in the BPX node. Figure 1-33 illustrates the command screen. This command is primarily a troubleshooting tool for use when hardware errors are experienced that may not be detected by the individual care self-test routines. An associated display command (**dspsloterrs**) is available for all users.

Table 1-16   Slot Errors

Error	Description
Standby Bus Errors	Indicates a background test over the standby bus produced an error.
Rx Invalid Port Errors	Indicates port number was out of the range 1–3.
Polling Bus A Errors	Parity error occurred on this polling bus.
Polling Bus B Errors	Parity error occurred on this polling bus.
Bad Grant Errors	Error indicates arbiter did not issue a grant to send data before a timeout.
Tx BIP-16 Errors	Data frame transmitted had a checksum error.
Rx BIP-16 Errors	Data frame received with a checksum error.
SIU Phase Errors	Serial Interface Unit on the card did not detect the frame synch properly.
Bframe Errors	Errors detected in the BPX frame on the StrataBus or in a memory operation.

You must enter the statistic type (1–9) to set the collection interval. When you enter the command, the system responds with the following prompt:

"Collection Interval (1–255 minutes): __

Figure 1-33   cnfslotstats—Configure Slot Statistics Parameters

```
sw81            TN    SuperUser        BPX 15    8.5    Aug. 1 1997  15:42 PST

Card Statistics Types

 1) Standby PRBS Errors
 2) Rx Invalid Port Errs
 3) PollA Parity Errors
 4) PollB Parity Errors
 5) Bad Grant Errors
 6) Tx Bip 16 Errors
 7) Rx Bip 16 Errors
 8) Bframe parity Errors
 9) SIU phase Errors
10) Rx FIFO Sync Errors
11) Poll Clk Errors
12) CK 192 Errors


This Command: cnfslotstats 8
```

cnftcpparm (Configure TCP Parameters)

The **cnftcpparm** command configures the TCP parameter.

Attributes

Jobs: Yes   Log: Yes   Lock: Yes   Node Type: IPX, IGX, BPX

Associated Commands

dsptcpparm

Syntax

cnftcpparm <network ip throttle>

<network ip throttle>   specifies the number of times that the BCC card polls the LAN for attention requests.

Function

This command specifies the number of times per second that the BCC checks the IP addressees for attention requests. Figure 1-34 illustrates the system response when you enter **cnftcpparm**:

Figure 1-34   Configure TCP Parameters

```
Sw81            TN    SuperUser      BPX 15    8.5    Aug. 1 1997  15:46 PST

NWIP Bandwidth Throttle (Kbytes/sec):  32









This Command: cnftcpparm


Enter NWIP Bandwidth Throttle (Kbytes/sec):
```

cnftermfunc

Configures port functions for the IPX, IGX, or BPX control and auxiliary ports. The IPX and IGX nodes support two EIA/TIA-232 asynchronous serial ports on the SCC and SCM, respectively. The BPX node supports two EIA/TIA-232 asynchronous serial ports on the LMBCC. In all cases, the top port is the CONTROL TERMINAL port, and the lower port is the AUX PORT. The CONTROL TERMINAL port can connect to a control terminal, StrataView Plus, a direct dial-in modem, or any external EIA/TIA-232 device. The AUX PORT can connect to a printer, an auto-dial modem to call a control center, or an external EIA/TIA-232 device.

The interface specified for the port must match the equipment physically attached to the port. The baud rate and other data transmission parameters for the port are set with the **cnfterm** command. If either port is configured as an external device window, enter the **window** command to begin a session with the external device.

If the auxiliary port is configured as an autodial modem, designate a "network ID" and a "phone number". Configuring the auxiliary port for an autodial modem enables the following to occur: When a change in alarm status happens anywhere in the network, the autodial modem attached to the auxiliary port dials the specified "phone number." If the call goes to the TAC, the alarm is logged under the specified "network ID." With this log, Cisco engineers are automatically notified of any problems that occur in the network.

Full Name

Configure terminal port functions

Syntax

cnftermfunc <a/c> <index> [escape_string | (Network_ID Dial_String)]

Related Commands

cnfterm, cnfprt, dsptermfunc

Attributes

Privilege	1–6
Jobs	No
Log	Yes
Node	IPX, IGX, BPX
Lock	Yes

Example 1

cnftermfunc

Description

Configure an IPX, IGX, or BPX node control or auxiliary port.

System Response

Without an argument on the command line, the switch displays a list of parameters. Figure 1-35 shows the screen on an IPX node.

Figure 1-35   cnftermfunc Screen on an IPX 32 Switch

```
beta            TRM   YourID:1        IPX 32  8.5   Mar. 15 1997 14:46 MST


Control port                         Auxiliary port
1.VT100/StrataView        1.Okidata 182 Printer
2.VT100                   2.Okidata 182 Printer with LOG
3.External Device Window  3.Alarm Message Collector
4.External Device Window
5.Autodial Modem
6.VT100




Last Command: cnftermfunc


Next Command:
```

Example 2

cnftermfunc a Intrepid 18007674479

Description

Configure an auxiliary port. The port configuration screen appears with "Autodial Modem" highlighted to indicate that this interface has been chosen for the auxiliary port. When an alarm occurs on the network, the modem dials 18007674479 to reach the TAC. The alarm is logged on a Cisco computer under the name "Intrepid."

Table 1-17   cnftermfunc–Parameters

Parameter	Description
a	Specifies that the auxiliary port will be configured.
c	Specifies that the control port will be configured.

Table 1-18 **cnftermfunc–Index Parameters**

Index	Description
Control port	1.VT100/StrataView
	2.VT100
	3.External device window
Auxiliary port	1.Okidata 184 printer
	2.Okidata 184 printer with LOG
	3.Alarm message collector
	4.VT100
	5.Autodial modem
	6.VT100

Table 1-19 **cnftermfunc–Optional Parameters**

Parameter	Description
escape string	Specifies a string of 1 to 8 characters used to terminate a session with an external device. This parameter is valid only for "External Device Window" interfaces. The default escape string is "quit."
network id	Specifies a string of 1 to 12 characters used to identify the network during an autodial connection to the TAC. This parameter is valid only for "Autodial Modem" interfaces. Any alarm status change in the network is automatically logged at Cisco by using this network ID. Contact the TAC for the ID to use.
dial string	Specifies the telephone number to be dialed when the network is reporting alarm status changes via the autodial modem. This parameter is valid only for "Autodial Modem" interfaces. The "phone number" can be up to 16 characters long and normally consists of digits and commas only. A comma is used to indicate that the autodial modem should pause two seconds before continuing to dial. For example, the number "9,4083700736" would cause the modem to dial a "9", pause two seconds, then dial the remaining digits. Contact Cisco's TAC through Customer Engineering for the number.

cnftlparm (Configure Trunk-Based Loading Parameters)

The **cnftlparm** command configures the trunk based loading (TBL) parameters.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX, BPX

Associated Commands

cnfcmparm

Syntax

cnftlparm <index>

Parameters

Table 1-20 describes the **cnftlparm** parameters.

Note   Cisco Systems recommends that you leave all parameters at the default values. If you need to change a TBL parameter, first call the TAC through Cisco Customer Engineering.

Table 1-20   cnftlparm–Parameters

No.	Parameter	Description	Range	Default
1	Enable	Enables or disables automatic TBL update messages. Do not disable unless you first contact the TAC.	Yes/No	Yes
2	Normal Interval	Specifies the time interval between checks to determine if the node should send out a TBL update signaling a non-critical change in the trunk load.	0–65000 (times 100 msecs)	150
3	Fast Interval	Specifies the time interval between checks to determine if the node should send out a TBL update signaling a critical change in the trunk load.	0–65000 (times 100 msecs)	50
4	Low Threshold	Algorithm parameters for complex update algorithm.	1–100%	50
5	High Threshold	Algorithm parameters for complex update algorithm.	1–100%	90
6	Min. Percent Chg, Mid 1	Algorithm parameters for complex update algorithm.	1–100%	10
7	Min. Percent Chg, Mid 2	Algorithm parameters for complex update algorithm.	1–100%	6

Table 1-20   cnftlparm–Parameters (Continued)

8	Min. Percent Chg, Mid 3	Algorithm parameters for complex update algorithm.	1–100%	3
9	Min. Percent Chg, Upper	Algorithm parameters for complex update algorithm.	1–100%	2
10	Background Updt Count	Specifies a periodic update. 0=update disabled. If *Background Updt Count* is greater than 0, switch software multiplies it by the value you specify for *Normal Interval*.	0–1000%	0
11	Update Algorithm	Selects the update algorithm. 0=default. 1=complex update algorithm.	0 or 1	0

Function

The **cnftlparm** command lets you control the rate of update messages in conjunction with trunk-based loading. For descriptions of the trunk-based loading parameters, refer to Table 1-20.

Figure 1-36 shows the screen for **cnftlparm**.

Figure 1-36   cnftlparm Parameters

```
sw66            TN    SuperUser      BPX 15    8.5 Aug. 27 1997 22:31 GMT

 1  Enable                [  Yes]
 2  Normal Interval       [  150] (100msecs)
 3  Fast Interval         [   50] (100msecs)
 4  Low Threshold         [   50] (D)
 5  High Threshold        [   90] (D)
 6  Min Percent Chg, Mid 1  [   10] (D)
 7  Min Percent Chg, Mid 2  [    6] (D)
 8  Min Percent Chg, Mid 3  [    3] (D)
 9  Min Percent Chg, Upper  [    2] (D)
10 Background Updt Count   [    0] (D)
11 Update Algorithm        [    0] (D)




    This Command: cnftlparm


    Enter parameter index:
```

cnftrkparm (Configure Trunk Card Parameter)

The **cnftrkparm** command sets specified trunk parameters for the following front cards:

- ALM/B
- AIT
- BTM
- NTC
- NTM
- BNI
- BXM

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX, BPX

Associated Commands

dsptrkstathist, dsptrkstatcnf

Syntax

cnftrkparm <trk number> <parm index> <parm value>

<trk number>	specifies the trunk to configure (can be a virtual trunk).
<parm index>	specifies the parameter to change.
<parm value>	specifies the value of the parameter.

Function

Use the **cnftrkparm** command to optimize a network for particular traffic mixes. This command configures any of the trunk-specific parameters associated with a trunk card. It applies to either a FastPacket trunk or an ATM trunk. For ATM trunks, **cnftrkparm** applies to both physical and virtual trunks. Spacer queues indicated for the CLP and EFCN thresholds pertain to AIT and BTM cards in an IPX node or IGX node, respectively.

This command can also reconfigure trunk queue depths to meet the CEPT requirement for a maximum end-to-end delay of 10 milliseconds. For this purpose, enter the following:

cnftrkparm *<trunk number> <parameter index> <parameter value>*

where:*trunk number* specifies the trunk.
parameter index is 2 (which corresponds to the NTS queue).
parameter value is 7 (which is the maximum allowable queue depth).

When the system receives this command and a trunk number, it displays the configurable parameters with an index number for each. The parameters vary with the trunk type, as the subsequent figures and tables show. Table 1-21, Table 1-22, and Table 1-23 list the parameters for trunks carrying FastPackets and ATM cells on different platforms as well as virtual trunks. Figure 1-37, Figure 1-38, Figure 1-39, and Figure 1-40 show the response when you specify a FastPacket line or trunk on a variety of platforms. A table follows one or two screen examples.

Figure 1-37   cnftrkparm for an IPX Node

```
sw83            TN    SuperUser      IPX 16    8.5       Aug. 23 1997 15:58 PST

PLN 13 Parameters:
 1 Yel Alm-In/Out (D) [   600/   600]      18 Red Alm-In/Out (D) [  2500/ 15000]
 2 Rx Max Age - Voice    (D)  [ N/A]       19 Tx Max Age - Voice    (D)   [   20]
 3 Rx EFCN  - BdataB     (D)  [ N/A]       20 Tx EFCN    - BdataB   (D)   [   30]
 4 Gateway Efficiency    (D)  [ N/A]
 5 EFCN     - Rx Space   (D)  [ N/A]       Tx Age Step2 (D)     Tx Age Step  (D)
 6 Low CLP  - Rx_Space   (%)  [ N/A]       21 BDataA [ 128]     23 BDataA [ 128]
 7 High CLP - Rx_Space   (%)  [ N/A]       22 BDataB [ 128]     24 BDataB [ 128]
Rx High CLP  (%)      Rx Low CLP   (%)     Tx High CLP  (%)     Tx Low CLP    (%)
 8 BDataA [ N/A]      10 BDataA [ N/A]     25 BDataA [ 100]     27 BDataA [ 100]
 9 BDataB [ N/A]      11 BDataB [ N/A]     26 BDataB [  75]     28 BDataB [  25]
Receive Queue Depth                (D)     Transmit Queue Depth              (D)
12 Voice  [ N/A]      15 BDataA [ N/A]     29 Voice  [   22]    32 BDataA [ 301]
13 Non TS [ N/A]      16 BDataB [ N/A]     30 Non TS [ 114]     33 BDataB [ 301]
14 TS     [ N/A]      17 HighPri[ N/A]     31 TS      [2616]    34 HighPri[ 100]

Last Command: cnftrkparm 13


Next Command:
```

Table 1-21   IPX/IGX Trunk Parameters

Index	Parameter	Description
1, 18	Yel/Red Alarm In/Out	Specifies a time period relating to when a trunk goes into a red or yellow alarm and after it comes out of the alarm state. The alarm stems from a physical line problem rather than a statistical alarm. The purpose is to prevent the switch from rerouting the connections after a very brief problem or from prematurely informing switch software that the trunk is back in service. The implementation is: • The "into" alarm value is the time the card waits after a local (red) or yellow (remote) problem occurs before the card alerts switch software of the problem. • The "out of" alarm value is the time the card waits after a local, physical problem is cleared before the card alerts switch software that the problem no longer exists.
2, 19	Rx/Tx Max. Age: - Voice	Specifies a multiplier for 125-microsecond increments for the maximum age of voice packets. For example, with the default of 20, the node discards voice packets older than 2.5 seconds.
3, 20	Rx/Tx EFCN - BdataB	For packets or cells received from the trunk carrying ForeSight Frame Relay, the node sets the EFCN bit above this threshold.
4	Gateway Efficiency	Specifies an expected average number of FastPackets in each cell arriving from a trunk. The purpose if this parameter is to help switch software regulate bandwidth usage on the MUXBUS in an IPX node or the or CELLBUS in an IGX node. The range is 1.0–3.0.
5	EFCN - Rx Space	Same as 3, 20 except that EFCN - Rx Space sets the threshold in the RX spacer queues in the AIT or BTM card. Rx space queues face towards the IPX or IGX node.
6, 7	Low-High CLP-Rx Space	Same as 8, 9 except this threshold is for setting CLP in receive spacer queues for data to send to the local node.

Table 1-21   IPX/IGX Trunk Parameters (Continued)

Index	Parameter	Description
8, 9	Rx High CLP (Bdata A/BdataB)	Frame relay cells/packets received from trunk with CLP bit set above this high threshold will be dropped and will continue to be dropped until the low threshold is crossed. Separate queues for ForeSight and non-ForeSight data. Given in terms of % of queue depth.
10, 11	Rx Low CLP (Bdata A/BdataB)	Same as for 8, 9 except sets low threshold.
25, 26	Tx High CLP	Same as 8, 9 except this is threshold for setting CLP in transmit queues for data to be output to the next link.
27, 28	Tx Low CLP	Same as for 25, 26 except sets low threshold.
12–17	Receive Queue Depth (Voice, NTS, TS, BData A, BData B, High Pri.)	Reserves RAM in the trunk card for each of the receive queues in terms of the number of packets.
29–34	Transmit Queue Depth	Reserves RAM in the trunk card for each of the transmit queues in terms of the number of packets.

Note   For parameter 12, the system displays the following: "Warning - don't change Voice Q size, use Max Voice Age."

Figure 1-38   cnftrkparm for a BPX Trunk

```
pubsbpx1        TN     SuperUser       BPX 15     8.5 July 15 1997 09:37 GMT

TRK 1.1 Parameters
 1 Q Depth - Voice      [  242] (Dec)     15 Q Depth  - CBR      [  600] (Dec)
 2 Q Depth - Non-TS     [  360] (Dec)     16 Q Depth  - VBR      [ 1000] (Dec)
 3 Q Depth - TS         [ 1000] (Dec)     17 Q Depth  - ABR      [ 9070] (Dec)
 4 Q Depth - BData A    [ 1000] (Dec)     18 Low  CLP - CBR      [ 100] (%)
 5 Q Depth - BData B    [ 8000] (Dec)     19 High CLP - CBR      [ 100] (%)
 6 Q Depth - High Pri   [ 1000] (Dec)     20 Low  CLP - VBR      [ 100] (%)
 7 Max Age - Voice      [   20] (Dec)     21 High CLP - VBR      [ 100] (%)
 8 Red Alm - I/O (Dec) [  2500 / 15000] 22 Low  CLP - ABR      [  25] (%)
 9 Yel Alm - I/O (Dec) [  2500 / 15000] 23 High CLP - ABR      [  75] (%)
10 Low  CLP - BData A [ 100] (%)          24 EFCN     - ABR      [  30] (Dec)
11 High CLP - BData A [ 100] (%)          25 SVC Queue Pool Size [  144] (Dec)
12 Low  CLP - BData B [  25] (%)
13 High CLP - BData B [  75] (%)
14 EFCN     - BData B [  30] (Dec)

This Command: cnftrkparm 1.1


Which parameter do you wish to change:
```

Figure 1-39   cnftrkparm for a BXM OC12 Trunk

```
sw97            TRM    SuperUser      BPX 15    8.5 Apr. 30 1997 13:14 GMT

TRK 13.1 Parameters
Trunk Type:        NNI
 1 Q Depth – Voice     [3000] (Dec)     15 Q Depth  – CBR     [  1200] (Dec)
 2 Q Depth – Non-TS   [  3000] (Dec)    16 Q Depth  – VBR     [ 10000] (Dec)
 3 Q Depth – TS       [ 1000] (Dec)     17 Q Depth  – ABR     [ 30000] (Dec)
 4 Q Depth – BData A  [ 20000] (Dec)    18 Low  CLP – CBR     [ 100] (%)
 5 Q Depth – BData B  [ 20000] (Dec)    19 High CLP – CBR     [ 100] (%)
 6 Q Depth – High Pri [ 1000] (Dec)     20 Low  CLP – VBR     [ 100] (%)
 7 Max Age – Voice    [   20] (Dec)     21 High CLP – VBR     [ 100] (%)
 8 Red Alm – I/O (Dec) [  2500 / 15000] 22 Low  CLP – ABR     [  25] (%)
 9 Yel Alm – I/O (Dec) [  2500 / 15000] 23 High CLP – ABR     [  75] (%)
10 Low  CLP – BData A [ 100] (%)        24 EFCN    – ABR     [  30] (Dec)
11 High CLP – BData A [ 100] (%)          25 SVC Queue Pool Size [  144] (Dec)
12 Low  CLP – BData B [  25] (%)
13 High CLP – BData B [  75] (%)
14 EFCN    – BData B  [  30] (Dec)

Last Command: cnftrkparm 13.1


Next Command:
```

Note Although the traffic consists of frame relay in cells, the traffic can pass through a BPX node. Therefore, the Bursty Data queues exist in the BPX node.

Table 1-22   BXM Trunk Parameters

Index	Parameter	Description
1	Q Depth - Voice	Specifies the queue depth in cells for voice traffic.
2	Q Depth - Non-TS	Specifies the queue depth in cells for non-time-stamped traffic.
3	Q Depth - TS	Specifies the queue depth in cells for time-stamped traffic.
4	Q Depth - BData A	Specifies the depth in cells for the bursty data A queue.
5	Q Depth - BData B	Specifies the depth in cells for the bursty data B queue.
6	Q Depth - High Pri	Specifies the queue depth in cells for high priority traffic
7	Max Age - Voice	Specifies a multiplier for 125-microsecond increments for the maximum age of voice packets. For example, with the default of 20, the node discards voice packets older than 2.5 seconds.

Table 1-22   BXM Trunk Parameters (Continued)

Index	Parameter	Description
8	Red Alm - I/O (Dec)	Specifies a time period relating to when a trunk goes into red alarm and after it comes out of the alarm state. The alarm stems from a physical line problem rather than a statistical alarm. The purpose is to prevent the switch from rerouting the connections after a very brief problem or from prematurely informing switch software that the trunk is back in service. The implementation is:
		• The "into" alarm value is the time the card waits after a local, physical problem occurs before the card alerts switch software of the problem.
		• The "out of" alarm value is the time the card waits after a local, physical problem is cleared before the card alerts switch software that the problem no longer exists.
9	Yel Alm - I/O (Dec)	Specifies a time period relating to when a trunk goes into yellow alarm and after it comes out of the alarm state. The alarm stems from a physical line problem on a remote node rather than a statistical alarm. The purpose is to prevent the switch from rerouting the connections after a very brief problem or from prematurely informing switch software that the trunk is back in service. The implementation is:
		• The "into" alarm value is the time the card waits after a remote, physical problem occurs before the card alerts local switch software of the problem.
		• The "out of" alarm value is the time the card waits after a remote, physical problem is cleared before the card alerts local switch software that the problem no longer exists.
10	Low CLP - BData A	Specifies a percent of the Bursty Data A queue. When the number of cells in the queue falls below this percentage, the switch stops discarding cells with CLP=1. The default of 100% disables the function, which causes the switch to discard all cells with CLP=1.
11	High CLP - BData A	Specifies a percent of the Bursty Data A queue. When the number of cells in the queue reaches this percentage, the switch begins to discard cells with CLP=1. The default of 100% disables the function, which causes the switch to discard all cells with CLP=1 regardless of the cell count in the queue.
12	Low CLP - BData B	Specifies a percent of the Bursty Data B queue. When the number of cells in the queue falls below this percentage, the switch stops discarding cells with CLP=1.
13	High CLP - BData B	Specifies a percent of the Bursty Data B queue. When the number of cells in the queue reaches this percentage, the switch begins to discard cells with CLP=1.
14	EFCN - BData B	Specifies the number of cells in the Bursty Data B queue that causes the switch to send congestion notification to the destination node. The default is low in relation to the default queue depth so that notification begins to go out as soon as congestion begins.
15	Q Depth - CBR	Specifies the depth of the queue dedicated to CBR traffic.
16	Q Depth - VBR	Specifies the depth of the queue dedicated to VBR traffic.
17	Q Depth - ABR	Specifies the depth of the queue dedicated to ABR traffic.

Table 1-22   BXM Trunk Parameters (Continued)

Index	Parameter	Description
18	Low CLP - CBR	Specifies a percent of the CBR queue. When the number of cells in the queue falls below this percentage, the node stops discarding cells with CLP=1. The default of 100% disables the function, which causes the switch to discard all cells with CLP=1 regardless of the cell count in the queue. The reason the default is 100% is that, with CBR, congestion is not an expected condition.
19	High CLP - CBR	Specifies a percent of the CBR queue. When the number of cells in the queue reaches this percentage, the node begins to discard cells with CLP=1. The default of 100% disables the function, which causes the switch to discard all cells with CLP=1 regardless of the cell count in the queue. The reason the default is 100% is that, with CBR, congestion is not an expected condition.
20	Low CLP - VBR	Specifies a percent of the VBR queue. When the number of cells in the queue falls below this percentage, the node stops discarding cells with CLP=1. The default of 100% disables the function, which causes the switch to discard all cells with CLP=1 regardless of the cell count in the queue. The reason the default is 100% is that, with VBR, congestion is not an expected condition.
21	High CLP - VBR	Specifies a percent of the VBR queue. When the number of cells in the queue reaches this percentage, the node begins to discard cells with CLP=1. The default of 100% disables the function, which causes the switch to discard all cells with CLP=1 regardless of the cell count in the queue. The reason the default is 100% is that, with VBR, congestion is not an expected condition.
22	Low CLP - ABR	Specifies a percent of the ABR queue. When the number of cells in the queue falls below this percentage, the node stops discarding cells with CLP=1.
23	High CLP - ABR	Specifies a percent of the ABR queue. When the number of cells in the queue reaches this percentage, the node begins to discard cells with CLP=1.
24	EFCN - ABR	Specifies the number of cells in the ABR queue that causes the switch to send congestion notification to the destination node. The default is low in relation to the default queue depth so that notification begins to go out as soon as congestion begins.
25	SVC Queue Pool Depth	Specifies the collective size of the queue depth for all SVC connections.

Figure 1-40   cnftrkparm for a Virtual Trunk

```
sw97              TN    SuperUser      BPX 15    8.5        Aug. 9 1997  10:11 GMT

TRK 1.1.1 Parameters
 8 Red Alm - I/O (Dec) [  2500 /  10000]
 9 Yel Alm - I/O (Dec) [  2500 /  10000]
15 Q Depth  - CBR      [ 2678] (Dec)
18 Low  CLP - CBR      [ 100] (%)
19 High CLP - CBR      [ 100] (%)




This Command: cnftrkparm 1.1.1


Which parameter do you wish to change:
```

Table 1-23   Virtual Trunk Parameters

Index	Parameter	Description
8	Red Alm - I/O (Dec)	Specifies a time period relating to when a trunk goes into red alarm and after it comes out of the alarm state. The alarm stems from a physical line problem rather than a statistical alarm. The purpose is to prevent the switch from rerouting the connections after a very brief problem or from prematurely informing switch software that the trunk is back in service. The implementation is: • The "into" alarm value is the time the card waits after a local, physical problem occurs before the card alerts switch software of the problem. • The "out of" alarm value is the time the card waits after a local, physical problem is cleared before the card alerts switch software that the problem no longer exists.
9	Yel Alm - I/O (Dec)	Specifies a time period relating to when a trunk goes into yellow alarm and after it comes out of the alarm state. The alarm stems from a physical line problem on a remote node rather than a statistical alarm. The purpose is to prevent the switch from rerouting the connections after a very brief problem or from prematurely informing switch software that the trunk is back in service. The implementation is: • The "into" alarm value is the time the card waits after a remote, physical problem occurs before the card alerts local switch software of the problem. • The "out of" alarm value is the time the card waits after a remote, physical problem is cleared before the card alerts local switch software that the problem no longer exists.

Table 1-23   Virtual Trunk Parameters (Continued)

Index	Parameter	Description
18	Low CLP - CBR	Specifies a percent of the CBR queue. When the number of cells in the queue falls below this percentage, the node stops discarding cells with CLP=1. The default of 100% disables the function, which causes the switch to discard all cells with CLP=1 regardless of the cell count in the queue. The reason the default is 100% is that, with CBR, congestion is not an expected condition.
19	High CLP - CBR	Specifies a percent of the CBR queue. When the number of cells in the queue reaches this percentage, the node begins to discard cells with CLP=1. The default of 100% disables the function, which causes the switch to discard all cells with CLP=1 regardless of the cell count in the queue. The reason the default is 100% is that, with CBR, congestion is not an expected condition.
19	High CLP	Specifies a percent of the transmit/receive CBR queue depth. When a transmit/receive threshold is exceeded, the node discards cells with CLP=1 in the connection until the VC queue level falls below the depth specified by Low CLP.

cnftrkstats (Configure Trunk Statistics Collection)

The **cnftrkstats** command configures collection of statistics for a selected trunk.

Attributes

Jobs: Yes   Log: Yes   Lock: Yes   Node Type: IPX, IGX, BPX

Associated Commands

dsptrkstatcnf, dsptrkstathist

Syntax

cnftrkstats <line> <stat> <interval> <e|d> [<samples> <size> <peaks>]

<line>	specifies the trunk to configure.
<stat>	specifies the type of statistic to enable/disable.
<interval>	specifies the time interval of each sample (1–255 minutes).
<e|d>	enables/disables a statistic. 'E' to enable; 'D' to disable.
[samples]	specifies the number of samples to collect (1–255).
[size]	specifies the number of bytes per data sample (1, 2 or 4).
[peaks]	enables/disables collection of 10-second peaks. 'Y' enables; 'N' disables.

Function

The **cnftrkstats** command is primarily a debug command. It configures the collection of statistics for a physical or virtual trunk. After displaying all statistic types for the trunk, the system prompts for "statistic type." Enter the index number associated with the statistic.

Not all types of statistics are available for all lines. Unavailable selections appear in half-tone. Table 1-24 lists the types of statistics that are configurable for FastPacket T1 trunks and ATM T3 trunks. The subsequent figures show the screens associated with T1 packet trunks and T3 ATM trunks.

Table 1-24   Trunk Statistics Types

Categories of Statistics Types	Categories of Statistics Types
Line faults	Line errors and errored seconds
Frame Slips and Loss	Path errors
Transmit packets dropped	Cell framing errors
Packets transmitted for various packet types	EFCN packets transmitted to bus
Packets dropped for various packet types	Queue Service Engine (QSE) cells transmitted
Bursty data CLP packets and cells dropped	Spacer packets transmitted and dropped for each of the 16 queues
Errored seconds	The number of seconds in which errors occurred.

Figure 1-41 is the only screen for T1 trunks.

Figure 1-41   cnftrkstats–Configure T1 Trunk Statistics

```
sw83            TN    SuperUser      IPX 16    8.5      Aug. 1 1997  14:42 PST

Line Statistic Types
 1) Bipolar Violations               18) Voice Packets Transmitted
 3) Out of Frames                    19) TS Packets Transmitted
 4) Losses of Signal                 20) NTS Packets Transmitted
 5) Frames Bit Errors                21) CC Packets Transmitted
 6) CRC Errors                       22) BDA Packets Transmitted
 9) Packet Out of Frames             23) BDB Packets Transmitted
10) Packet CRC Errors                24) Total Packets Transmitted
12) Tx Voice Packets Dropped         25) BDA CLP Packets Dropped
13) Tx TS Packets Dropped            26) BDB CLP Packets Dropped
14) Tx NTS Packets Dropped           27) BDA EFCN Pkts Transmitted
15) Tx CC Packets Dropped            28) BDB EFCN Pkts Transmitted
16) Tx BDA Packets Dropped          149) Bdata A CLP Packets Tx to Line
17) Tx BDB Packets Dropped          150) Bdata B CLP Packets Tx to Line

Last Command: cnftrkstats 13


Next Command:
```

The following screens, shown in Figure 1-42 through Figure 1-48, pertain to an ATM trunk (AIT card) on an IPX node. Other trunk types and cards have other parameters. To see the list of these, enter the command and continue from page to page without entering an index number.

Figure 1-42   cnftrkstats—Configure ATM Trunk Statistics (Screen 1)

```
sw83            TN    SuperUser      IPX 16    8.5       Aug. 1 1997  14:45 PST

Line Statistic Types
 3) Out of Frames                    22) BDA Packets Transmitted
 4) Losses of Signal                 23) BDB Packets Transmitted
10) Packet CRC Errors                24) Total Packets Transmitted
12) Tx Voice Packets Dropped         25) BDA CLP Packets Dropped
13) Tx TS Packets Dropped            26) BDB CLP Packets Dropped
14) Tx NTS Packets Dropped           27) BDA EFCN Pkts Transmitted
15) Tx CC Packets Dropped            28) BDB EFCN Pkts Transmitted
16) Tx BDA Packets Dropped           29) Line Code Violations
17) Tx BDB Packets Dropped           30) Line Errored Seconds
18) Voice Packets Transmitted        31) Line Severely Err Secs
19) TS Packets Transmitted           32) Line Parity Errors
20) NTS Packets Transmitted          33) Errored Seconds - Line
21) CC Packets Transmitted           34) Severely Err Secs - Line

This Command: cnftrkstats 11


Continue?
```

Figure 1-43   cnftrkstats—Configure ATM Trunk Statistics (Screen 2)

```
sw83            TN    SuperUser      IPX 16    8.5       Aug. 1 1997  14:46 PST

Line Statistic Types
35) Path Parity Errors               48) Tx Voice Cells Drpd
36) Errored Secs - Path              49) Tx TimeStamped Cells Drpd
37) Severely Err Secs - Path         50) Tx NTS Cells Dropped
38) Severely Err Frame Secs          51) Tx Hi-Pri Cells Drpd
39) AIS Signal Seconds               52) Tx BData A Cells Drpd
40) Unavail. Seconds                 53) Tx BData B Cells Drpd
41) BIP-8 Code Violations            54) Voice Cells Tx to line
42) Cell Framing Errored Seconds     55) TimeStamped Cells Tx to ln
43) Cell Framing Sev. Err Secs.      56) NTS Cells Tx to line
44) Cell Framing Sec. Err Frame Secs 57) Hi-Pri Cells Tx to line
45) Cell Framing Unavail. Secs.      58) BData A Cells Tx to line
46) ATM Cell Header HEC Errs         59) BData B Cells Tx to line
47) Pkts. Rx from Muxbus             60) Half Full cells Tx to ln

This Command: cnftrkstats 11


Continue?
```

Figure 1-44   cnftrkstats—Configure ATM Trunk Statistics (Screen 3)

```
sw83            TN    SuperUser    IPX 16    8.5    Aug. 1 1997  14:47 PST

Line Statistic Types
61) Full cells Tx to ln              74) Rx Hi-pri Pkts Dropped
62) Total Cells Tx to line           75) Rx BDA Pkts Dropped
63) Tx Bdata A CLP Cells Drpd        76) Rx BDB Pkts Dropped
64) Tx Bdata B CLP Cells Drpd        77) Voice pkts Tx to Muxbus
65) Bdata A EFCN Cells Tx ln         78) TS pkts Tx to Muxbus
66) Bdata B EFCN Cells Tx ln         79) NTS pkts Tx to Muxbus
67) Half Full Cells Rx from ln       80) Hi-pri pkts Tx to Muxbus
68) Full Cells Rx from line          81) Bdata A pkts Tx to Muxbus
69) Total Cells Rx from line         82) Bdata B pkts Tx to Muxbus
70) Total pkts Rx from line          83) Rx Bdata A CLP pkts drpd
71) Rx Voice Pkts Dropped            84) Rx Bdata B CLP pkts drpd
72) Rx TS Pkts Dropped               85) Bdata A EFCN Pkts Tx muxbus
73) Rx NTS Pkts Dropped              86) Bdata B EFCN Pkts Tx muxbus

This Command: cnftrkstats 11


Continue?
```

Figure 1-45   cnftrkstats—Configure ATM Trunk Statistics (Screen 4)

```
sw83            TN    SuperUser    IPX 16    8.5    Aug. 1 1997  14:48 PST

Line Statistic Types
87) Total Pkts Tx to muxbus          100) Rx Spacer 2 Pkts dropped
88) Rx voice cells drpd              101) Rx Spacer 3 Pkts dropped
89) Rx TimeStamped Cells drpd        102) Rx Spacer 4 Pkts dropped
90) Rx NTS Cells dropped             103) Rx Spacer 5 Pkts dropped
91) Rx Hi-pri Cells dropped          104) Rx Spacer 6 Pkts dropped
92) Rx Bdata A Cells dropped         105) Rx Spacer 7 Pkts dropped
93) Rx Bdata B Cells dropped         106) Rx Spacer 8 Pkts dropped
94) Rx Bdata A CLP cells drpd        107) Rx Spacer 9 Pkts dropped
95) Rx Bdata B CLP cells drpd        108) Rx Spacer 10 Pkts dropped
96) Rx Spacer CLP Pkts drpd          109) Rx Spacer 11 Pkts dropped
97) Spacer EFCN Pkts Tx to Muxbus    110) Rx Spacer 12 Pkts dropped
98) Frame Sync Errors                111) Rx Spacer 13 Pkts dropped
99) Rx Spacer 1 Pkts dropped         112) Rx Spacer 14 Pkts dropped

This Command: cnftrkstats 11
```

Figure 1-46   cnftrkstats—Configure ATM Trunk Statistics (Screen 5)

```
sw83             TN    SuperUser     IPX 16    8.5      Aug. 1 1997  14:49 PST

Line Statistic Types
113) Rx Spacer 15 Pkts dropped        126) Spacer 10 Pkts Tx to Muxbus
114) Rx Spacer 16 Pkts dropped        127) Spacer 11 Pkts Tx to Muxbus
115) Rx Spacer Pkts drpd              128) Spacer 12 Pkts Tx to Muxbus
116) Spacer 0 Pkts Tx to Muxbus       129) Spacer 13 Pkts Tx to Muxbus
117) Spacer 1 Pkts Tx to Muxbus       130) Spacer 14 Pkts Tx to Muxbus
118) Spacer 2 Pkts Tx to Muxbus       131) Spacer 15 Pkts Tx to Muxbus
119) Spacer 3 Pkts Tx to Muxbus       132) Spacer 16 Pkts Tx to Muxbus
120) Spacer 4 Pkts Tx to Muxbus       133) Rx Voice QSE Cells Tx
121) Spacer 5 Pkts Tx to Muxbus       134) Rx Time Stamped QSE Cells Tx
122) Spacer 6 Pkts Tx to Muxbus       135) Rx NTS QSE Cells Tx
123) Spacer 7 Pkts Tx to Muxbus       136) Rx Hi Priority QSE Cells Tx
124) Spacer 8 Pkts Tx to Muxbus       137) Rx BData A QSE Cells Tx
125) Spacer 9 Pkts Tx to Muxbus       138) Rx Bdata B QSE Cells Tx

This Command: cnftrkstats 11
```

Figure 1-47   cnftrkstats—Configure ATM Trunk Statistics (Screen 6)

```
sw83             TN    SuperUser     IPX 16    8.5      Aug. 1 1997  15:02 PST

Line Statistic Types
139) Rx BData A EFCN QSE Cells Tx      152) Cell Framing Yel Transitions
140) Rx BData B EFCN QSE Cells Tx      153) AIS Transition Count
141) FEBE Counts                       161) CGW Packets Rx From IPX Net
142) FERR Counts (M or F bit)          162) CGW Cells Tx to Line
143) Cell Framing FEBE Err Secs        163) CGW Frms Relayed to Line
144) Cell Framing FEBE Sev. Err. Secs. 164) CGW Aborted Frames Tx to Line
145) Cell Framing FEBE Counts          165) CGW Dscd Pkts From Abted Frms
146) Cell Framing FE Counts            166) CGW 0-Lngth Frms Rx from Line
147) ATM CRC Errored Seconds           167) CGW Packets Tx to IPX Net
148) ATM CRC Severely Err. Secs.       168) CGW Cells Rx from Line
149) Bdata A CLP Packets Tx to Line    169) CGW Frms Relayed from Line
150) Bdata B CLP Packets Tx to Line    170) CGW Aborted Frms Rx From Line
151) Yellow Alarm Transition Count     171) CGW Dscd Cells From Abted Frms

This Command: cnftrkstats 11
```

Figure 1-48   cnftrkstats—Configure ATM Trunk Statistics (Screen 7)

```
sw83            TN    SuperUser      IPX 16    8.5        Aug. 1 1997  14:51 PST

Line Statistic Types
172) CGW Bd CRC32 Frms Rx from Line     185) OAM Valid OAM Cells Rx
173) CGW Bd Lngth Frms Rx from Line     186) OAM Loopback Cells Rx
174) CGW Bd CRC16 Frms Rx from IPX      187) OAM AIS Cells Rx
175) CGW Bd Length Frms Rx from IPX     188) OAM FERF Cells Rx
176) CGW 0-Length Frms Rx from IPX      189) OAM RTD Cells Rx
177) OAM Valid OAM Cells Tx             190) OAM RA Cells Rx
178) OAM Loopback Cells Tx              191) OAM Invalid OAM Cells Rx
179) OAM AIS Cells Tx                   192) OAM CC Cells Rx
180) OAM FERF Cells Tx
181) OAM RTD Cells Tx
182) OAM RA Cells Tx
183) OAM Invalid Supv Packets Rx
184) OAM CC Cells Tx

This Command: cnftrkstats 11
```

cnftstparm (Configure Card Self Test Parameters)

The **cnftstparm** command sets parameters for the internal diagnostic self tests that can be performed for each card type in the node.

Attributes

Jobs: Yes   Log: Yes   Lock: Yes Node Type: IPX, IGX, BPX

Associated Commands

cnfdiagparm, dspcderrs, prtcderrs, tststats

Syntax

cnftstparm <tp> <freq> <s_e> <s_inc> <s_thr> <s_to> <b_e> <b_inc> <b_thr>

<tp>	specifies the card type.
<freq>	specifies the time between the finish of one test and the start of the next (in seconds; default is card-dependent). 1 sec–65535secs
<s_e>	enables/disables the card self test. 'E' to enable; 'D' to disable.
<s_inc>	specifies the threshold counter increment for self test failures. Counter for each card-type: each failure increments. Default 100.
<s_thr>	specifies the failure threshold for self tests. Default 300.
<s_to>	specifies time to wait for a self test response (in seconds). How long to wait for a response is card dependent
<b_e>	enables/disables the card background test. 'E' to enable; 'D' to disable. Available tests are card dependent. and some not enabled
<b_inc>	specifies the threshold counter increment for background test failures.
<b_thr>	specifies the failure threshold for background tests.

Function

This command sets internal diagnostic, self-test parameters. Upon command entry, the system displays a two-page screen illustrating each of the various card types equipped in the node along with their self test parameters. Each card has two tests: a diagnostic self-test and a background test. The self-test affects the normal operation of the card. The background test can execute while the card is carrying traffic.

The following is a list of the configurable test parameters for each card type:

- Frequency For Test Execution (sec)

- Enable/Disable Self Test (e or d)

- Self Test Failure Increment

- Self Test Failure Threshold

- Timeout For Self Test (sec)

- Enable/Disable Background Test (e or d)

- Background Test Failure Increment

- Background Test Failure Threshold

After **cnftstparm** is entered, Figure 1-49 shows the first page of the display.

Figure 1-49   cnftstparm—Parameters on a BPX Node

```
sw45            TN    SuperUser       BPX 15   8.5 Aug. 27 1997 16:04 PDT


Card    Test  - - - - - - Self Test - - - - - - -   - - Background Test - - -
Type    Freq  Enable      Inc   Thresh  Timeout    Enable      Inc    Thresh
----    ----- --------  ------- ------- -------    --------  ------- -------
BCC       90  Enabled     100     300     300      N/A         100     300
ASM      300  Disabled    100     300      60      N/A         100     300
BNI-T3   300  Enabled     100     300     150      N/A         100     300
BNI-E3   300  Enabled     100     300     150      N/A         100     300
ASI-E3   900  Enabled     100     300     800      Enabled     100     300
ASI-T3   900  Enabled     100     300     800      Enabled     100     300
ASI-155  900  Enabled     100     300     800      Enabled     100     300
BNI-155  300  Enabled     100     300     150      N/A         100     300
BXM     2000  Disabled    100     300    1800      Enabled     100     300




Last Command: cnftstparm


Next Command:
```

To see the second screen, enter "y" at the Continue prompt.

cnfuiparm (Configure User Interface Parameters)

The **cnfuiparm** command sets various control terminal user interface parameters.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX, BPX

Associated Commands

cnfnodeparm

Syntax

cnfuiparm <parameter number> <value>

specifies the index number of the parameter to set. (See Table .)

<value>   specifies the new parameter value to enter.

Function

This command lets you set user interface parameters for the control terminal on the local node. It may be necessary to change these parameters in special circumstances, such as when you need to observe a screen for a long period of time or when modem password protection makes logging in difficult. Table 1-25 lists the user interface parameters. Figure 1-50 illustrates the associated display.

Table 1-25   User Interface Parameters

No.	Parameter	Description	Default *
1	Logout Time	Idle time before a local user is logged out (0=never).	20 minutes
2	VT Logout Time	Idle time before a virtual terminal user is logged out.	4 minutes
3	Prompt Time	Idle time before a parameter prompt times out.	2 minutes
4	Command Time	Idle time before a continuous command times out.	3 minutes
5	UID Privilege Level	Privilege level of User ID allowed to use control terminal. The default is 6, the lowest user-level.	6
6	Input Char Echo	If enabled, characters are echoed as you type them.	enabled
7	Screen Update Time	The time between screen updates.	2 seconds

Figure 1-50   cnfuiparm—Configure User Interface Parameters

```
sw83 TN    SuperUser    IPX 16   8.5      Aug. 1 1997  17:01 PST

1. Logout Time ........... No Timeout
2. VT Logout Time ........ 4 minutes
3. Prompt Time ........... 60 seconds
4. Command Time .......... 3 minutes
5. UID Privilege Level ... 6
6. Input Character Echo .. Enabled
7. Screen Update Time .... 2 seconds




This Command: cnfuiparm


Enter parameter index:
```

cnfuvmchparm

Configures default parameters for a channel or range of channels on a UVM. The parameters are:

- Voice codec unit (VCU) level

- PCM interface unit (PIU) level

- VAD threshold

- Modem threshold

See Table 1-26 for an explanation of the preceding UVM channel parameters.

Full Name
Configure UVM channel parameters

Syntax
cnfuvmchparm <channel(s)> <value>

Related Commands
none

Attributes

Privilege	0
Jobs	Yes
Log	Yes
Node	IGX
Lock	Yes

Example 1
cnfuvmchparm 7.1.1

Description
Configure the parameters for channels 1–23 on port 1 of the UVM in slot 7.

System Response

```
sw109          VT    SuperUser       IGX 16    8.5 Aug. 26 1997 17:25 PST

From          Parameter:
              VCU  PIU  VAD   mdm
7.1.1         lvl  lvl  thld  thld  5    6    7    8    9    10   11
7.1.1-23       6    6    40   40    0    0    0    0    0    0    0
7.2.1-23       6    6    40   40    0    0    0    0    0    0    0




This Command: cnfuvmchparm 7.1.


Enter VCU Noise Level/-10dB [0-15]:
```

Table 1-26   cnfuvmchparm–Parameters

Parameter	Description
channel	Specifies the channel or range of channels.
value	"Value" consists of the following parameters:
	VCU is the Voice codec unit. The value for this parameter is a noise level placed in a voice packet that is added in case a voice packet is dropped. The value you can enter is a multiplier for the base noise level of -10 dB. The range is 1 - 15 (multiplied by -10 dB). For example, if you enter 6, the level of noise placed in a replacement packet is -60 dB.
	PIU is the PCM interface unit. This feature performs a resampling and injects noise in case of lost packets. The range is 1 - 15 (multiplied by -10 dB). For example, if you enter 6, the level of noise placed in a replacement packet is -60 dB.
	VAD is the Voice Activity Detection threshold. If the deciBel level falls below the specified limit, no packets are transmitted. The range is 0 - 65535 and is a multiplier of -1 dB, but typical values are around 30–40.
	Modem threshold is a threshold for modem tone detection. Below this threshold, the tone is ignored (or "not detected"). The range is 0–255 and is a multiplier of -1 dB, but typical values are around 30–40.
	All the other values appear as numbered columns. These are placeholders reserved for future development.

cnfvchparm (Configure Voice Channel Parameter)

The **cnfvchparm** command modifies CDP or CVM voice channel parameters.

Attributes

Jobs: Yes   Log: Yes   Lock: Yes Node Type: IPX, IGX

Associated Commands

cnfcdpparm, dspchan

Syntax

cnfvchparm *<channel(s)> <parameters>*

channel(s)   Specifies the voice channel number(s) to configure.

parameters   Specifies values for the voice parameters (Table 1-26 lists parameters).

Function

The **cnfvchparm** command specifies voice card parameters for:

- Voice Activity Detection (VAD)

- Background noise injection

- VF channel loss

- Echo suppression

- Modem detection

Table 1-27 lists the voice parameters you can specify with **cnfvchparm**. Table 1-28 lists some calculated examples for a *sample delay* for VAD and non-VAD connections.

Different versions of firmware for the CDP and CVM present different ways of specifying the level of background noise you can select to cover awkward periods of silence at the ends of voice connections. For cards with Model A firmware, you specify the actual level in dBm (deciBels) or dBrnC0. For Model A cards, you can specify the noise levels with a granularity of 0.1 dBm or dBrnC0. For cards with Model B firmware, you enter a number that maps to a noise level. Table 1-29 lists the numbers that correspond to the levels of injected background noise for Model B firmware.

The screen displays in Example 1 and Example 2 illustrate **cnfvchparm** applied to a Model A CDP and a Model B CDP, respectively. The display for Model A cards shows the deciBel level of the injected noise. The display for the Model B shows the number that corresponds to a deciBel (or dBrnC0) level of background noise.

After you enter **cnfvchparm**, the system displays "Enter channel(s)." After you enter the parameters, the system requests confirmation by displaying "Reconfigure active CDP channels? (y/n)."

Without the **cnfvchparm** command, the other ways to re-configure channels are:

- By switching cards

- By deleting then re-adding connections

Table 1-27   VF Channel Parameters

Parameter	Description	Default
Sample delay for VAD connections	Adds processing to speech information to prevent front-end clipping due to speech detector latency. One increment is 125 μsecs. See Table 1-28.	A8 (H)
Sample delay for non-VAD connections	Same for non-VAD circuits.	01 (H)
Background Noise	Sets the level of background noise the far-end card adds to the connection while it receives no voice packets. For Model A firmware, specify levels in actual decibels in 0.1 dB increments. For Model B firmware, see Table 1-29.	2 (H)
High Pass Filter mode	Enables/disables high-pass filter to assist in VAD and modem detect.	enabled
Floating Priority mode	When enabled, sets higher priority for modem detection on "c" and "v" channels. Effectively changes the trunk queue for the channel.	enabled
V.25 modem detect mode	Enables/disables V.25 modem-detect mode. The default is enabled with "detect-64K," which specifies that a 2100 Hz tone indicates the presence of V.25-type modem. The options with V.25 modem detect are "disable," "32" for 32K upgrade, and "64" for 64K upgrade. Enter "32" for fax transmission at 32 Kbps FAX Optimized ADPCM. Use the default "64" for fax transmission at 64 kbps PCM.	enabled
32K	Auto-upgrade line to 32 Kbps ADPCM when a 32K modem is detected.	disabled
64K	Automatically upgrade line to 64 Kbps clear channel PCM when a high speed modem is detected.	enabled

Table 1-28   Sample Delay Parameter

Delay for VAD and Non-VAD	Delay
01	0.125 msec.
50	10 msec.
A8	21 msec.

Table 1-29   Injected Noise Levels for Model B

Parameter 3	Injected Noise Level
00	Dynamically set noise level to match the noise detected at the other end. Requires Model B firmware on the CDP or CVM.
0	0 dBrnC0 or –90 dBm
1	18 dBrnC0 or –70 dBm
2	21 dBrnC0 or –67 dBm
3	23 dBrnC0 or –65 dBm
4	25 dBrnC0 or –63 dBm
5	27 dBrnC0 or –61 dBm
6	30 dBrnC0 or –58 dBm
7	49 dBrnC0 or –39 dBm

Example 1 cnfvchparm for Model A

```
sw110            TN    SuperUser        IGX 16    8.5 Aug. 6 1997  17:43 PDT

CDP Models All                                    None              All
UVM Models All                                    None              All
          Sample Delay  Bkgnd               Echo Suppression  V.25    Xmit
From 14.1 VAD  Non-VAD  Noise  HPF  Float   Function   Loss   Detect  Delay
14.1-15   A8   01       67     ON   ON      ON         ON     64K     5
14.17-24  A8   01       67     ON   ON      ON         ON     64K     5




This Command: cnfvchparm 14.1-6 A8 1 67 e e e e


V.25 Modem detect, 'd' - disable, '32' - 32K upgrade, '64' - 64K upgrade:
```

Example 2 cnfvchparm for Model B

```
sw83 TN    SuperUser        IPX 16    8.5       Aug. 1 1997  17:01 PST
CDP Models All                             None                All
Sample Delay            Bkgnd   Echo Suppression   V.25    Xmit
From 11.1 VAD  Non-VAD  Noise  HPF  Float Function Loss Detect  Delay
11.1-15   A8   01       2      ON   ON    ON       ON   ON       5
11.17-31  A8   01       2      ON   ON    ON       ON   ON       5




This Command: cnfvchparm


Next Command:
```

cpyfpmap (Copy FastPAD Map Table)

The **cpyfpmap** command copies the FastPAD map table from one FastPAD port to another.

Attributes

Jobs: No   Log: No   Lock: Yes Node Type: IPX, IGX

Associated Commands

cnffpmap

Syntax

cpyfpmap <source slot.port> <nodename> <destination slot.port>

<source slot.port>   specifies the FTC port to copy from.

<nodename>   specifies the nodename.

<destination slot.port>   specifies the FTC port to copy to.

Function

This command copies a FastPAD map table from one FastPAD port to another FastPAD port. When you enter this command, the system responds as shown in Figure 1-51.

Figure 1-51   cpyfpmap—Configure FastPAD Map Table

```
cc7              VT SuperUser      IPX 32    8.5     Aug. 30 1997 10:05 PST




        Last Command: 31.2  cc5  31.1


        Next Command:
```

dchst (Display Channel Status)

The **dchst** command displays CDP or CVM card parameters.

Attributes

Jobs: No   Log: No   Lock: Yes Node Type: IPX, IGX

Associated Commands

cnfcdpparm

Syntax

dchst <channel> [interval]

<channel(s)>   specifies the voice channel number(s) to configure.

<interval>   specifies the refresh time for the data (1–60 sec.)

Function

This command displays state information for a CDP or CVM channel used for a specific connection. The interval parameter specifies the refresh time for the data. It defaults to 5 seconds. The Transmit and Receive dBm0 for both CDP or CVM indicate the input (towards the circuit line) and output power (from the circuit line) levels for the channel. Modem state indicates whether modem-detect is on or off.

Table 1-30 lists the parameters for the CDP or CVM card. Figure 1-52 illustrates the system display for a CDP or CVM.

Table 1-30   Display Channel Status Parameters for CDP or CVM

Register	Byte	Parameter	Description
0	high	zcr total	Zero Crossing Total
	low	signal state mem	Signal State Memory
1	high	hpf z1 hi-hi	High-Pass Filter
	low	hpf z1 hi-lo	High-Pass Filter
2	high	sam - hi	Encoded Voice Sample
	low	sam - lo	Encoded Voice Sample
3	high	vad state-hi	Voice Activity Detector state
	low	vad state-lo	Voice Activity Detector state
4	high	sil cnt	Silent Count
	low	mad signal state	Modem Activity Detector Signal State
5	high	mad wnd cnt	Modem Activity Detector Wnd. Count
	low	mad fail cnt	Modem Activity Detector Fail Count
6	high	mad state-hi	Modem Activity Detector state
	low	mad state-lo	Modem Activity Detector state

Figure 1-52   dchst—Display Channel Status

```
alpha            TRM       SuperUser        Rev: 8.5  Aug. 14 1997 16:30 PST

CDP state display for channel 11.1                                    Snapshot

Transmit dBm0:
Receive dBm0:

Register 0  =
Register 1  =
Register 2  =
Register 3  =
Register 4  =
Register 5  =
Register 6  =



Last Command: dchst 11.1


Next Command:
```

diagbus (Diagnose Failed Bus)

The **diagbus** command is used to diagnose a failed IPX MUXBUS.

Attributes

Jobs: No   Log: Yes   Lock: Yes Node Type: IPX, IGX

Associated Commands

Syntax

diagbus

Function

This command runs detailed diagnostics to isolate MUXBUS problems to a failed card or bus. It is used when a minor alarm is indicated and displaying the alarm (**dspalms**) screen indicates the message "bus needs diagnosis."

This command can only be run locally with a terminal connected directly to the CONTROL port or remotely from a modem connection. It can not be executed through a VT (virtual terminal) command or when the node's CONTROL port is configured for StrataView mode.

> ⚠️ **Caution**   This command may cause a major disruption in service on all lines and connections and should only be run at a time when this can be tolerated.

Performing this test can result in a major disruption in the operation of the node. It should not be performed except as a last resort. To fully isolate the failure may require manual removal of cards, including controller cards etc. For this reason, the command may not be executed over a Virtual Terminal connection.

If the test is successful, and no problems found, the system displays:

Both buses are OK

Otherwise, the system displays various messages to the operator for additional steps to perform in isolating the problem. These messages depend on the results of the diagnostics testing.

drtop (Display Route Op Table)

The **drtop** command displays the routing table from the local node to each connected remote node.

Attributes

Jobs: No   Log: No   Lock: No   Node Type: IPX, IGX, BPX

Associated Commands

dsptrkcons

Syntax

drtop

Function

The **drtop** command displays the routing table from the local node to each remote node to which it connects. It shows how NPC/B.C. traffic is routed to other nodes in the network. Use **drtop** to find which trunks are used to send control cells/packets to other nodes.

The display includes remote node name, number of hops to the remote node, the trunk(s) used, and number of satellite hops if any, and the number of unused DS0s (open space) if any on the route. Figure 1-53 illustrates the display.

Figure 1-53   drtop—Display Route Op Table

```
 pubsipx2        VT     SuperUser        IPX 32      8.5       Aug. 2 1997  02:27 GMT


 Node Number     Node Name      Hops To   Via Trk   SAT Hops   No HP Hops   Open Space
 1               D1.pubsbpx1      2         6          0          0            3
 2               D1.pubsigx1      3         6          0          0            3
 3               D1.pubsipx2      0         0          0          0            0
 5               D1.pubsipx1      1         6          0          0           24
 7               D1.pubsipx3      2         6          0          0           24




 Last Command: drtop


 Next Command:
```

dspasich (Display ASI Channel Routing Entry)

The **dspasich** command displays the ATM channel routing entries for an ASI card.

Attributes

Jobs: No   Log: No   Lock: Yes Node Type: BPX

Associated Commands

None

Syntax

dspasich <line> <channel>

<line>   specifies the line in the format *slot.port*.

<channel>   specifies the channel in the format *vpi.vci*.

Function

This command displays the routing entries for an ASI card shown in Figure 1-54.

Figure 1-54   dspasich—Display ASI Channel Routing Entry

```
pubsbpx1      VT    SuperUser       BPX 15    8.5       May  24 1997 21:09 GMT
ASI Channel Configuration Query & Display

Slot.port.lcn:5.1.1
Status:      Added        BF hdr: 4145 9002 8012 0501 8640 0000 2DEB
[00] BF tp:   4      [11] VCI:   00000064 [22] UPC CDV: 0      [33] FST up:  0
[01] Pri SDA: 5      [12] Con tp:  VC    [23] UPC CIR: 500    [34] FST dn:  0
[02] Dst Prt: 1      [13] Rmt tp:  ASI   [24] UPC CBS: 1000   [35] FST fdn: 0
[03] Dst lcn: 2      [14] Srv tp:  VBR   [25] UPC IBS: 0      [36] FST rmx: 0
[04] BCF tp:  0      [15] Gen AIS: N     [26] UPC MFS: 200    [37] Q max:64000
[05] Qbin#:   12     [16] Mcst:   0      [27] CLP enb: Y      [38] EFCI: 100
[06] BF VPI:  64     [17] Mc grp: 1      [28] FST enb: N      [39] CLP hi: 100
[07] BF VCI:  0      [18] & msk: 0000000F [29] FST MIR: 500   [40] CLP lo: 100
[08] Pl Cls:  0      [19] | msk: 06400640 [30] FST PIR: 500   [41] BCM:    N
[09] Rmt lp:  N      [20] Prt QBN: 2     [31] FST QIR: 500    [42] Inhibit:N
[10] VPI:   00000064 [21] UPC GCR: 0     [32] QIR TO:  0      [43] UPC enb:Y


Last Command: dspasich 5.1 1 N

Next Command:
```

dspbuses (Display Bus Status)

Displays the available MUXBUS or CELLBUS bandwidth. The display does not dynamically receive updates and is therefore a snapshot. The **dspbuses** command lists the dedicated and pooled bandwidth units as well as the status of the available MUXBUS.

Attributes

Jobs: No   Log: No   Lock: No   Node Type: IPX, IGX, BPX

Associated Commands

cnfbus

Syntax

dspbuses

Function

This command displays the available MUXBUS bandwidth. The display is not updated and is referred to as a snapshot. The command lists the dedicated and pooled bandwidth units as well as the status of the available MUXBUS or CELLBUS. Figure 1-55 illustrates the **dspbuses** display on a BPX node. Figure 1-56 illustrates the **dspbuses** display on an IGX node

Figure 1-55   dspbuses on a BPX Switch

```
bpx1        TN    SuperUser       BPX 15    8.5 July 2 1997  13:22 GMT

                                  Bus Status


Bus A (slot 7): Active - OK

Bus B (slot 8): Standby - OK






Last Command: dspbuses


Next Command:
```

Figure 1-56   dspbuses on an IGX Switch

```
pubsbpx1        TN    SuperUser      BPX 15    8.4.0j    July 2 1997  13:22 GMT

                                Bus Status


Bus A (slot 7): Active - OK

Bus B (slot 8): Standby - OK







Last Command: dspbuses


Next Command:
```

dspcardstats (Display BXM Card Statistics)

The **dspcardstats** command displays the collected BXM card statistics for the selected node slot.

Attributes

Jobs: Yes   Log: Yes   Lock: Yes   Node Type: BPX

Associated Commands

cnfslotstats

Syntax

dspcardstats <slot number>

<slot number>   specifies the shelf and slot.

Function

This command displays all card statistics for an active BXM card in the current node. Refer to Figure 1-57 illustrates screen displayed after entering the **dspcardstats** command.

Figure 1-57   dspcardstats–Display BXM Card Statistics

```
sw59            TN    SuperUser       BPX 15    8.5 Date/Time Not Set
ASI-T3 12        Status: Clear - Slot OK              Clrd: Date/Time Not Set
Type       Count ETS   Status    Type
utopia-2 discard count        0     0
utopia-2 misalign count       0     0
atm fr. pyld parity err       0       0
bfr hdr parity err            0     0
null bfrm header err          0     0
brame hoq req t/o             0     0
poll bus parity err           0     0
bfr queue parity err          0     0
bfr bip16 parity err          0     0
mc addr tbl parity err        0     0
eap arfd pndg err             0     0

This Command: dspcardstats 12
Continue?
```

dspcderrs (Display Card Errors)

The **dspcderrs** command displays detailed card failure information resulting from card diagnostics testing at the local node.

Attributes

Jobs: No   Log: No   Lock: No   Node Type: IPX, IGX, BPX

Associated Commands

clrcderrs, prtcderrs

Syntax

dspcderrs [<slot>]

[<slot>]   specifies the shelf slot in the local node.

Function

This command displays a history of card failures associated with a specified slot. If no argument is specified, a summary is displayed, indicating which slots have failures recorded against them. The command displays the results of the self tests and background tests as well as the total hardware errors.

To clear the card error counters, use the **clrcderrs** command. To obtain a hard copy of the report, use the **prtcderrs** command. Figure 1-58 illustrates the command display.

Figure 1-58   dspcderrs—Display Card Errors

```
sw83            TN    SuperUser       IPX 16    8.5       Aug. 1 1997  17:56 PST

AIT in Slot 11 : 176767 Rev AEF     Failures Cleared: Aug. 19 1997 11:25:29 PST
-------------------------------- Records Cleared:  Aug. 20 1997 13:14:03 PST
Self Test          Threshold Counter: 0          Threshold Limit: 300
Total Pass: 0          Total Fail: 0          Total Abort: 0
First Pass:                            Last Pass:
First Fail:                            Last Fail:

Hardware Error     Total Events: 0     Threshold Counter: 0
First Event:                           Last Event:




Last Command: dspcderrs 11


Next Command:
```

dspcftst (Display Comm. Fail Test Pattern)

The **dspcftst** command displays the test pattern used for the communications fail test.

Attributes

Jobs: No   Log: No   Lock: No   Node Type: IPX, IGX, BPX

Associated Commands

cnfcftst

Syntax

dspcftst

Function

This command displays the test pattern used to test the controller communication path to a node that does not respond to normal controller traffic. The test pattern defaults to an alternating 8-byte sequence of 00 and FF. Refer to **cnfcftst** command for other patterns and how to reconfigure this pattern. Figure 1-59 illustrates the command display.

Figure 1-59   dspcftst—Display Comm. Fail Test Pattern

```
    sw83              TN    SuperUser        IPX 16     8.5      Aug. 1 1997  17:57 PST


  Comm Fail Test Pattern.

      Byte  0: FF       Byte 12: 00       Byte 24: FF       Byte 36: 00       Byte 48: FF
      Byte  1: FF       Byte 13: 00       Byte 25: FF       Byte 37: 00       Byte 49: FF
      Byte  2: FF       Byte 14: 00       Byte 26: FF       Byte 38: 00       Byte 50: FF
      Byte  3: FF       Byte 15: 00       Byte 27: FF       Byte 39: 00       Byte 51: FF
      Byte  4: 00       Byte 16: FF       Byte 28: 00       Byte 40: FF       Byte 52: 00
      Byte  5: 00       Byte 17: FF       Byte 29: 00       Byte 41: FF       Byte 53: 00
      Byte  6: 00       Byte 18: FF       Byte 30: 00       Byte 42: FF       Byte 54: 00
      Byte  7: 00       Byte 19: FF       Byte 31: 00       Byte 43: FF       Byte 55: 00
      Byte  8: FF       Byte 20: 00       Byte 32: FF       Byte 44: 00       Byte 56: FF
      Byte  9: FF       Byte 21: 00       Byte 33: FF       Byte 45: 00       Byte 57: FF
      Byte 10: FF       Byte 22: 00       Byte 34: FF       Byte 46: 00       Byte 58: FF
      Byte 11: FF       Byte 23: 00       Byte 35: FF       Byte 47: 00       Byte 59: FF


  Last Command: dspcftst


  Next Command:
```

dspchan (Display Channel Configuration)

The **dspchan** command displays the configuration of various IPX or IGX voice channels.

Attributes

Jobs: No   Log: No   Lock: No   Node Type: IPX, IGX

Associated Commands

cnfcdpparm

Syntax

dspchan <channel>

<channel>   specifies the voice channel connection to display.

Function

This command displays the configuration of IPX or IGX voice channels. It is primarily a debug command and allows inspection of the data structure defining a channel. Parameters for voice and signalling processing on a CDP or CVM voice channel are displayed by this command. Table 1-31 lists the parameters. Many of these parameters are also displayed elsewhere. Figure 1-60 illustrates the command display.

Table 1-31   Voice Channel Configuration Parameters

Parameter	Parameter	Parameter	Parameter
VC Index	Dial Type	TX Sig	iec converge.
In Loss	TX A–D bit	RX Sig	Hi Pass F
Out Loss	RX A–D bit	Clr Chn	es loss
Chan Type	Signalling	Sig Rate	Fmodem
Sig. Intg	Echo supr	PLY MSBhx	ADV
Xmt. dlay	Wink Puls	PLY LSBhx	Cond ID
Smpl dlay	TX A–D Qual	In use	iec erl lvl
Bk noise	RX A–D Qual	DPU	iec Hregs.
DSI smple	TX Code	iec cancel	iec tone dsbl
Chan Util	RX Code	iec nlp	adpcm flag
Onhk A–D			

Figure 1-60   dspchan—Display Channel (CDP card)

```
sw83            TN    SuperUser      IPX 16    8.5     Aug. 1 1997  18:06 PST

Channel Data Base for CDP card  7  chan. 000000 at address 30BF29EC

VC Index     -1              Onhk C        4
In Loss      0               Onhk D        4
Out Loss     0               Dial Type     0
Chan Type    1               TX A bit      1
Sig. Intg    96              TX B bit      1
Xmt. dlay    5               TX C bit      0
Smpl dlay    1               TX D bit      1
Bk noise     67              RX A bit      1
DSI smple    168             RX B bit      1
Chan Util    40              RX C bit      0
Onhk A       3               RX D bit      1
Onhk B       3               Signalling   TSP MODE

This Command: dspchan 7.1


Continue?



sw83            TN    SuperUser      IPX 16    8.5      Aug. 1 1997  18:07 PST

Channel Data Base for CDP card  7  chan. 000000 at address 30BF29EC

Echo supr    1               TX A Qual     3
Hi Pass F    1               TX B Qual     3
Float        1               TX C Qual     3
es loss      1               TX D Qual     3
Fmodem       64              RX A Qual     3
ADV          1               RX B Qual     3
Cond ID      0               RX C Qual     3
Wink Puls    20              RX D Qual     3
END OF UNI CNFG

This Command: dspchan 7.1


Continue?


sw83            TN    SuperUser      IPX 16    8.5.     Aug. 1 1997  18:07 PST

Channel Data Base for CDP card  7  chan. 000000 at address 30BF29EC

TX CODE      3               iec cancel    0
RX CODE      3               iec nlp       1
TX SIG       0               iec converg.  1
RX SIG       0               iec erl lvl   1
CLR CHN      0               iec Hregs.    1
SIG RATE     0               iec tone dsbl 1
PLY MSBhx    1               adpcm flag    0
PLY LSBhx    90
In use       0
DPU          -

Last Command: dspchan 7.1


Next Command:
```

dspchstatcnf (Display Statistics Enabled for a Channel)

The **dspchstatcnf** command displays the configuration of enabled statistics for a channel.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX

Associated Commands

cnfchstats, dspchstathist

Syntax

dspchstatcnf <channel> <stat> <interval> <e|d> [<samples> <size> <peaks>]

<channel>   specifies the channel for whose statistics are to be listed.

Function

The **dspchstatcnf** command displays the enabled interval statistics for a channel. It is intended to help debug problems with statistics gathering. The command output is a list of the connection statistics as set by the **cnfchstats** command, by StrataView Plus, or by IPX or IGX features. Figure 1-61 illustrates a typical example.

The Owner column identifies who or what set the statistic. If the Owner column shows "Automatic," the node's features set the statistic. If the node name appears under Owner, StrataView Plus set the statistic. If the user name appears under Owner, the **cnfchstats** command executed from the command line interface set the statistic.

Figure 1-61   dspchstatcnf—Display Channel Statistics Enabled (FR channel)

```
pubsbpx1        VT     SuperUser       BPX 15    8.5        May  24 1997 23:13 GMT
Statistics Enabled on Channel 5.1.100.100

     Statistic                            Samples Interval Size Peaks  Owner
     ------------------------------------ ------- -------- ---- -----  ----------
41)  AAL5 Cells Discarded for VCQ Full        1      30     4   NONE   TFTP
42)  Average VCq Depth in Cells               1      30     4   NONE   TFTP
43)  Cells lost due to Rsrc Overflow          1      30     4   NONE   TFTP
44)  Cells discarded for SBIN full            1      30     4   NONE   TFTP
45)  Cells Transmitted with EFCI(Port)        1      30     4   NONE   TFTP
46)  Cells Transmitted(Port)                  1      30     4   NONE   TFTP
47)  Cells Received from Network              1      30     4   NONE   TFTP
48)  Cells discarded for QBIN full            1      30     4   NONE   TFTP
49)  Cells discarded when QBIN>CLP            1      30     4   NONE   TFTP
50)  Cells Transmitted with CLP (Port) 1      30     4   NONE   TFTP
51)  BCM Cells Received(Port)                 1      30     4   NONE   TFTP

This Command: dspchstatcnf 5.1.100.100


Continue?
```

dspchstathist (Display Statistics History for a Channel)

The **dspchstathist** command displays a history of statistics configured as enabled for a channel.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX, BPX

Associated Commands

cnfchstats, dspchstatcnf

Syntax

dspchstathist <channel>

<channel>   specifies the channel.

Function

This command displays a history of the enabled statistics for a selected channel. It is intended for debugging problems with statistics gathering. It displays the data for the last five occurrences of the channel statistic. The channel statistic is selected from the list displayed when this command is first entered.

Use the **dspchstatcnf** to display the statistics enabled on the selected channel. Record the statistics types enabled, the collection interval, and owner; you will need this information to obtain the statistics history. Use **cnfchstats** to enable a statistic if it is not already enabled. Figure 1-62 illustrates a display for channel 6.1 packets transmitted (1 second interval) history.

Note   You may have to enter owner "auto" in all capital letters.

Figure 1-62   dspchstathist—Display Channel Statistics History

```
gamma            TRM       SuperUser       Rev:  8.5  Aug. 14 1997 13:53 PDT

Packets Transmitted on Channel 6.1
Interval: 1 Minute(s), Data Size: 4 Byte(s), NO Peaks, Owner: Automatic

0    -       1699
-1   -        1698
-2   -        1698
-3   -        1699
-4   -        1698
-5   -        1698
-6   -        1698
-7   -        1699
-8   -        1697
-9   -        1699




Last Command: dspchstathist 6.1 7 1 AUTO


Next Command:
```

dspchstats (Display All Enabled Statistics For A Channel)

The **dspchstats** command displays all statistics configured as enabled for a selected channel.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX, BPX

Associated Commands

cnfchstats, dspchstatcnf

Syntax

dspchstats <slot.port.vpi.vci>

<slot.port.vci.vpi>   specifies the channel as defined by the slot, port, virtual channel indicator (VCI) and virtual path indicator (VPI).

Function

This command displays the enabled statistics for the selected channel. It is intended for debugging problems with statistics gathering. It displays the data for the last five occurrences of the channel statistic. The channel statistic is selected from the list displayed when this command is first entered.

Use the **dspchstats command** to display the statistics enabled on the selected channel. Record the statistics types enabled, the collection interval, and owner; you will need this information to obtain the statistics history. Use **cnfchstats** to enable a statistic if it is not already enabled. Figure 1-63 illustrates a display for channel on port 3, slot 1, with VPI and VCI both set to 1.

Figure 1-63   dspchstats—Display Channel Statistics

```
Channel Statistics for 3.1.1.1     Cleared: Date/Time Not Set   (\)  Snapshot
PCR: 500 cps            Collection Time: 0 day(s) 00:03:47      Corrupted: NO
   Traffic       Cells      Avg CPS    %util
From Port   : 11855761    52008      10401
To Network  :   114332    501        100
From Network:   114303    501        100
To Port     :   114303    0          501




Last Command: dspchstats 3.1.1.1.1

Next Command:
```

dspclnstatcnf (Display Circuit Line Statistics Configuration)

The **dspclnstatcnf** command displays statistics configured as enabled for a selected circuit line.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX

Associated Commands

cnfclnstats

Syntax

dspclnstatcnf <line>

<line> Specifies the circuit line in the format *slot* or *slot.line*. If the card has only one line, you can enter just the slot.

Function

This command displays the circuit line statistics as enabled by the **cnfclnstats** command, by StrataView Plus, or by IPX or IGX features. See Figure 1-64 for an example display.

The Owner column shows what set the statistic. If the owner is "Automatic," the statistic was derived from the features. If the node name appears under Owner, the statistic came from StrataView Plus. If "User" is under Owner, the source of the statistic was the **cnfchstats** command.

Figure 1-64   dspclnstatcnf—Display Circuit Line Statistics Enabled (T1 line)

```
sw83            TN    SuperUser      IPX 16    8.5     Aug. 1 1997 18:14 PST

Statistics Enabled on Circuit Line 7

Statistic                           Samples  Interval  Size  Peaks  Owner
----------------------------------- -------  --------  ----  -----  ----------
Frames Slips                            60         0     4   NONE   IPX
Out of Frames                           60         0     4   NONE   IPX
Losses of Signal                        60         0     4   NONE   IPX
Frames Bit Errors                       60         0     4   NONE   IPX
CRC Errors                              60         0     4   NONE   IPX
Out of Multi-Frames                     60         0     4   NONE   IPX
All Ones in Timeslot 16                 60         0     4   NONE   IPX




Last Command: dspclnstatcnf 7


Next Command:
```

dspclnstathist (Display Statistics History for a Circuit Line)

The **dspclnstathist** command displays a history of statistics enabled for a circuit line.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX

Associated Commands

cnfclnstats, dspclnstatcnf

Syntax

dspclnstathist <circuit line>

<circuit line>   specifies the circuit line in the format *slot.line*. If the card set supports
                             only one line, you can enter just the slot number.

Function

This command displays the last five occurrences of the circuit line statistic. The circuit line statistic
is selected from the list displayed when you first enter this command. Use the **dspclnstatcnf** to
display the statistics enabled for the selected channel. Use **cnfclnstats** to enable a statistic.

Figure 1-65 illustrates a display for T1 circuit line 14 bipolar violations (60 second interval) history.

Note   You may have to enter owner "auto" in all capital letters.

Figure 1-65   dspclnstathist—Display Circuit Line Statistics History

```
   gamma              TRM        SuperUser         Rev:  8.5  Aug. 14 1997 14:00 PDT

   Bipolar Violations on Circuit Line 14
   Interval: 60 Minute(s), Data Size: 4 Byte(s), 10 S Peaks, Owner: Automatic

    0   -           0(0)
   -1   -           0(0)
   -2   -           0(0)
   -3   -           0(0)
   -4   -           0(0)




   Last Command: dspclnstathist 14 1 60 AUTO


   Next Command:
```

dspcnf (Display Configuration Save/Restore Status)

The **dspcnf** command displays the status for the configuration save/restore processes on all nodes in the network.

Attributes

Jobs: No   Log: No   Lock: No   Node Type: IPX, IGX, BPX

Associated Commands

savecnf, loadcnf, runcnf

Syntax

dspcnf

Function

This command displays the status for the configuration save/restore process. The display lists the various nodes, the backup ID name of the saved configuration, the time and date saved, and the StrataView Plus terminal it is saved on. See Figure 1-66 for an example.

If the status displays "Reserved for Firmware," a firmware image is being maintained in memory after being loaded. Use the **getfwrev 0.0** command to clear the firmware image. Likewise, if a configuration image is displayed, clear the old configuration image using **savecnf clear** or **loadcnf clear**.

Figure 1-66   dspcnf—Display Configuration Save/Restore Status

```
    sw83            TN    SuperUser      IPX 16    8.5     Aug. 24 1997  18:21 PST

    Node      Backup ID Revision Date/Time (GMT)    Status
    --------  --------- -------- ----------------- --------------------------------
    sw78      mark      8.5.00 02/22/97 16:36:26 Unreachable
    sw81      mark      8.5.00 02/22/97 16:36:26 Unreachable
    sw84      mark      8.5.00 02/22/97 16:36:26 Save on SV+ at sw78 complete
    sw79      mark      8.5.00 02/22/97 16:36:26 Save on SV+ at sw78 complete
    sw86      mark      8.5.00 02/22/97 16:36:26 Unreachable
    sw83      mark      8.5.00 02/22/97 16:36:26 Save on SV+ at sw78 complete




    Last Command: dspcnf


    Next Command:
```

dspdnld (Display Download)

The **dspdnld** command displays the status of a download to a nodes.

Attributes

Jobs: No   Log: Yes   Lock: No   Node Type: IPX, IGX, BPX

Associated Commands

loadrev, getfwrev

Syntax

dspdnld

Function

This command displays the status of any software or firmware download operation from StrataView Plus to the node controller card. You should be connected to the node being downloaded either directly or via virtual terminal connection. The display download command shows:

- download destination—node currently being downloaded.

- download type—destination of the downloaded image, standby RAM or active or standby ROM, or firmware.

- download source—where the image to be downloaded is currently stored, StrataView or StrataView Plus, standby controller, active or standby controller, or remote node.

- download image—where the image is located, ROM or RAM.

This command can be used to check how far along the download has progressed. Figure 1-67 illustrates the command screen. Blocks of data already downloaded appear highlighted; the remaining blocks are appear dim. If there was no download initiated when this command is entered, the blocks of data will appear as all zeros.

Figure 1-67   dspdnld—Display Download

```
sw83           TN    SuperUser      IPX 16    8.5     Aug. 1 1997  18:23 PST

dl_dest:  Active CC                      dl_source: Active CC
dl_type:  None                           dl_image:  ROM      (NPC)

30010800  30020800  30030800  30040800  30050800  30060800  30070800  30080800
30090800  300A0800  300B0800  300C0800  300D0800  300E0800  300F0800  30100800
30110800  30120800  30130800  30140800  30150800  30160800  30170800  30180800
30190800  301A0800  301B0800  301C0800  301D0800  301E0800  301F0800  30200800
30210800  30220800  30230800  30240800  30250800  30260800  30270800  30280800
30290800  302A0800  302B0800  302C0800  302D0800  302E0800  302E3E7C




Last Command: dspdnld


Next Command:
```

dspdutl (Display Data Channel Utilization)

The **dsputl** command displays the percentage utilization for data connections.

Attributes

Jobs: No   Log: No   Lock: No   Node Type: IPX, IGX

Associated Commands

dsputl

Syntax

dspdutl <start bslot> [clear]

<start bslot>   specifies the slot where the data card is located.

[clear]   specifies that all data channel utilization buffers should be cleared
                          after the display.

Function

This command displays the percentage utilization for the data connections starting at the back slot (bslot) number specified. All data connections for the node are displayed (maximum of 32).

The percentage is calculated by dividing the number of packets transmitted over the total number of packets allocated to the specified channel. Only transmit packet rates are used. If percentage utilization exceeds configured utilization the channel appears in reverse video.

Figure 1-68 illustrates a display where there is very low utilization (2%) on three of the four ports and no utilization of the forth port. The clear option clears all slots. Use **dsputl** to display utilization for voice channels.

Figure 1-68   dspdutl—Display Data Channel Utilization

```
sw150          TN    SuperUser       IGX 16    8.5    Aug. 1 1997  20:07 GMT

Percentage utilization        Last Cleared: Date/Time Not Set        Snapshot
From
Slot  1  2  3  4  5  6  7  8    Slot  1  2  3  4  5  6  7  8
13     6 99 99




Last Command: dspdutl 13


Next Command:
```

dspecparm (Display Echo Canceller Parameters)

The **dspecparm** command displays statistics configured as enabled for a selected CDP echo canceller.

Attributes

Jobs: No   Log: Yes   Lock: No   Node Type: IPX, IGX

Associated Commands

cnfecparm

Syntax

dspecparm <line>

<line>   specifies the circuit line to display.

Function

This command displays the Integrated Echo Canceller card parameters associated with the specified circuit line. These parameters are set using the **cnfecparm** command. Table 1-32 lists the parameter options. Figure 1-69 illustrates a typical display.

Table 1-32   Echo Canceller Parameters

Number	Parameter	Description
1	Echo Return Loss High	Maximum ERL required for echo canceller to be enabled.
2	Echo Return Loss Low	Minimum ERL required for echo canceller to be enabled.
3	Tone Disabler Type	Selection of protocol to enable tone disabler.
4	Non-Linear Processing	Selects type of post-canceller signal.
5	NLP Threshold	Threshold to enable non-linear processing.
6	Noise Injection	Determines if noise will be injected when NLP is active.
7	Voice Template	Selection of echo canceller template to use.

Figure 1-69   dspecparm—Display Echo Canceller Parameters

```
sw83           TN    SuperUser      IPX 16   8.5.    Aug. 1 1997  18:34 PST

IEC Line 7 Parameters
1  CDP IEC Echo Return Loss High (.1 dBs)  [              60] (D)
2  CDP IEC Echo Return Loss Low  (.1 dBs)  [              30] (D)
3  CDP IEC Tone Disabler Type              [          G.164]
4  CDP IEC Non-Linear Processing           [Center Clipper]
5  CDP IEC Non-Linear Processing Threshold [              18] (D)
6  CDP IEC Noise Injection                 [        Enabled]
7  CDP IEC Voice Template                  [            USA]




Last Command: dspecparm 7


Next Command:


IPX SU/0036_
```

dspfpdsc (Display FastPAD Card Descriptor)

The **dspfpdsc** command displays FastPAD card descriptor information.

Attributes

Jobs: No   Log: No   Lock: No   Node Type: IPX, IGX, BPX

Associated Commands

dspfp, dspfps

Syntax

dspfpdsc <slot.port.subslot>

Function

This command displays FastPAD card descriptor information including:

- Card in use

- Card state

- FastPAD configuration index

- FastPAD port index

Figure 1-70 illustrates the system response.

Figure 1-70   dspfpdsc—Display FastPAD Card Descriptor

```
  cc7             VT     SuperUser      IPX 32    8.5     Aug. 30 1997 11:08 PST

                        FastPad Card Descriptor Configuration


       Card in Use   :  01     Card State    :  03     FPD CNFG indx :   00



                              Port Index Array

                              FastPad Port Indx
               0    1    2    3    4    5    6    7    8    9    A    B
              0000 0001 0002 0003 0004 0005 0006 FFFF FFFF FFFF FFFF FFFF



     Last Command: dspfpdsc 31.2.B


     Next Command:
```

dspfwrev (Display Firmware Revision)

The **dspfwrev** command displays the status of card firmware revision image loaded in the controller card's RAM.

Attributes

Jobs: No   Log: No   Lock: No   Node Type: IPX, IGX, BPX

Associated Commands

getfwrev, burnfwrev

Syntax

dspfwrev

Function

This command displays the revision level and an indication of the length of the firmware in the controller card. It may require two screens to display all the parameters. Figure 1-71 illustrates the screen display. This command can be used during firmware download to get an idea of how far along the downloading process has progressed. The blocks already downloaded appear normal. Blocks that are yet to be downloaded appear shaded.

If no **getfwrev** command was issued, nothing displays. If "Configuration image present" displays, use the **loadcnf clear** command to clear this status.

Figure 1-71   dspfwrev—Display Firmware Revision

```
gamma            TRM        SuperUser       Rev:  8.5  Aug. 14 1997  14:28 PDT

Firmware         Size       Status
F.D.A            256 K      Complete

File             Address    Length     CRC          Burn Address
File             Address    Length     CRC          Burn Address
1                800800     410        22996DDA
1                800800     410        22996DDA
3                805E60     480        85CB29EA
4                80A630     70         57A938AE
4                80A630     70         57A938AE
6                810000     10000      338E45F6
7                820000     4400       95990113
8                835000     1810       875771B2
9                8368A0     15D0       4C597B97




This Command: dspfwrev


Continue?




gamma            TRM        SuperUser       Rev:  8.5  Aug. 14 1997  14:29 PDT

Firmware         Size       Status
F.D.A            256 K      Complete

File             Address    Length     CRC          Burn Address
10               838000     20F0       0F4898D2
11               83A100     1E20       175F4B39
12               83C000     2FC0       F39B0302
13               83F000     1B0        E755FE4E
14               83FFFE     2          A1F4726D




Last Command: dspfwrev


Next Command:
```

dsplnstatcnf (Display Statistics Enabled for a Line)

The **dsplnstatcnf** command displays statistics configured as enabled for a selected line.

Attributes

Jobs: No   Log: Yes   Lock: Yes Node Type: IPX, IGX

Associated Commands

cnflnstats

Syntax

dsplnstatcnf <line>

<line>   specifies the line.

Function

This command displays the line statistics as enabled by the **cnflnstats** command, by StrataView Plus, or by node features. Figure 1-72 illustrates an example display.

The Owner column identifies who or what set the statistic. If the Owner column shows "Automatic," the node's features set the statistic. If the node name appears under Owner, StrataView Plus set the statistic. If the user name appears under Owner, the **cnfchstats** command executed from the command line interface set the statistic.

Figure 1-72   dsplnstatcnf—Display Statistics Enabled for a Line

```
cc2              LAN    SuperUser      IPX 32    8.5     Aug. 30 1997 11:38 PST

Statistics Enabled on Circuit Line 15

Statistic                          Samples  Interval  Size  Peaks  Owner
---------------------------------- -------  --------  ----  -----  ----------
Bipolar Violations                     60         0     4   NONE   IPX
Frames Slips                           60         0     4   NONE   IPX
Out of Frames                          60         0     4   NONE   IPX
Losses of Signal                       60         0     4   NONE   IPX
Frames Bit Errors                      60         0     4   NONE   IPX
CRC Errors                             60         0     4   NONE   IPX
Out of Multi-Frames                    60         0     4   NONE   IPX
All Ones in Timeslot 16                60         0     4   NONE   IPX




Last Command: dsplnstatcnf 15

Next Command:
```

dsplnstathist (Display Statistics Data for a Line)

The **dsplnstathist** command displays a history of statistics configured as enabled for a selected line.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX

Associated Commands

cnflnstats, dsplnstatcnf

Syntax

dsplnstathist <line>

<line>   specifies the line.

Function

This command displays the last five occurrences of the line statistic. The line statistic is selected from the list displayed when this command is first entered. Use the **dsplnstatcnf** to display the statistics enabled on the selected channel. Use **cnflnstats** to enable a statistic.

Figure 1-73 illustrates an example display.

Note   You may have to enter owner "auto" in all capital letters

---

Figure 1-73   dsplnstathist—Display Statistics Data for a Line

```
cc2              LAN    SuperUser       IPX 32    8.5    Aug. 30 1997 11:40 PST

Command history

12: cnftcpparm
11: cnftcpparm 32
10: cnfnwip 192.38.38.2
 9: cnfnwip 192.38.38.2 255.255.255.0
 8: help cnft
 7: dspasich
 6: dspasich
 5: dspasich
 4: dspbuses
 3: dsplnstatcnf 15
 2: dsplnstathist 15 5 40
 1: dsplnstathist 15 5 40 IPX


Last Command: dsplnstathist 15 5 40 IPX


Next Command:
```

dspplnmcons (Display Packet Line Connection Counts)

The **dspplnmcons** command displays the number of packet line connections by master node.

Attributes

Jobs: No   Log: No   Lock: No   Node Type: IPX, IGX

Associated Commands

Syntax

dspplnmcons <line number> [l | j]

<line number>	specifies the line number for gathering the connection count.
l	refers to local connections.
j	refers to junction.

Function

Displays the number of connections attached to each master node on a specified line. See Figure 1-74, below.

Figure 1-74   dspplnmcons—Display Packet Line Connection Counts

```
    TN      SuperUser        IPX 16    8.5    Aug. 25 1997 18:31 PST

    Connection Counts For PLN 11

    Mst Node  Conns    Mst Node  Conns    Mst Node  Conns    Mst Node  Conns
    sw81      48       sw83      400      sw84      48       sw79      500
    sw86      100



    Last Command: dspplnmcons 11
```

dspportstatcnf (Display Statistics Enabled For A FR Port)

The **dspportstatcnf** command displays statistics configured as enabled for a selected Frame Relay port.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX

Associated Commands

cnfportstats

Syntax

dspclnstatcnf <port>

<port>   specifies the port. Do NOT enter the DLCI for Frame Relay ports.

Function

This command displays the enabling of Frame Relay port statistics. These are the statistics set by the **cnfportstats** command, by StrataView Plus, or by node features. See Figure 1-75 for an example.

The owner column shows what set the statistic. If "Automatic", it is set by features, if node name it was is set by StrataView Plus, if user it was set with the **cnfportstats** command.

Figure 1-75   dspportstatcnf—Display Port Statistics Enabled

```
gamma            SV+        YourID           Rev:  8.5  Aug. 14 1997 13:47 PDT

Statistics Enabled on Port 8.1

Statistic                           Samples  Interval  Size  Peaks  Owner
----------------------------------- -------  --------  ----  -----  ----------
Frames Received                           5        60     4   1 M   beta
Frames Received                           5        60     4   1 M   beta
Bytes Received                            5        60     4   1 M   beta




Last Command: dspportstatcnf 8.1
```

dspportstathist (Display Statistics History For A FR Port)

The **dspportstathist** command displays a history of statistics configured as enabled for a selected Frame Relay port.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Type: IPX, IGX

Associated Commands

cnfportstats, dspportstatcnf

Syntax

dspportstathist <port>

<port>   specifies the port.

Function

This command displays the data for the last five occurrences of the port statistic. The port statistic is selected from the list displayed when this command is first entered. Use the **dspportstatcnf** to display the statistics enabled on the selected port. Use **cnfportstats** to enable a statistic.

Figure 1-76 illustrates a display for FR port 8.2 DE Frames Dropped (1 second interval) history.

Note   You may have to enter owner "auto" or "user" in all capital letters.

Figure 1-76   dspportstathist—Display Port Statistics History

```
D.1 gamma          TRM        SuperUser        Rev:  8.5 Aug. 14 1997 14:15 PDT

DE Frames Dropped on Port 8.2
Interval: 1 Minute(s), Data Size: 4 Byte(s), NO Peaks, Owner: IPX User

 0   -           0
-1   -           0
-2   -           0
-3   -           0




Last Command: dspportstathist 8.2 19 1 USER


Next Command:
```

dsprevs (Display Revisions)

The **dsprevs** command displays the system software revision loaded and running on all nodes in the network.

Attributes

Jobs: No   Log: No   Lock: No   Node Type: IPX, IGX, BPX

Associated Commands

runrev, loadrev, forcerev

Syntax

dsprevs

Function

This command displays the configuration and status of the primary and secondary software revisions for all nodes in the network. The primary revision is the software that is running the node. The secondary revision is the software that is available in memory but not being run. Table 1-33 lists the various status messages. Figure 1-77 and Figure 1-78 illustrate a typical display.

Table 1-33   Status of Node Software Revisions

Status	Description
unavailable	The revision is currently unavailable for the node displayed. The revision has not propagated to the node yet.
available	The node has located the specified revision but has not yet downloaded it.
partial	The revision was only partially downloaded. Indicates the download was temporarily interrupted.
downloading	The revision is in the process of being downloaded. Blocks of data are being transferred.
loaded	The revision has completed downloading but is not ready for running.
upgrading	The controller card is being upgraded by the current revision. This process generally occurs immediately follows the downloading.
upgraded	The upgrade procedure has been completed.
running	The primary revision is currently being used to run the node.

Figure 1-77   dsprevs—Display Revisions

```
sw83            TN   SuperUser       IPX 16    8.5     Aug. 1 1997  19:03 PST

                         ------ Primary ------        ----- Secondary -----
NodeName             Status      Revision      Status       Revision
sw78                 Running     8.5.00
sw81                 Running     8.5.00
sw84                 Running     8.5.ay
sw79                 Running     8.5.1f
sw86                 Running     8.5.00
sw83                 Running     8.5.1f




Last Command: dsprevs


Next Command:
```

Figure 1-78   dsprobparm—Display Robust Communications Statistics

```
D1.jea          TRM   SuperUser       BPX 15    8.5    Aug. 14 1997 12:20 PDT

Robust Communications Statistics since : Date/Time Not Set

Updts msg xmit:      0
Updts msg ackd:      0
Updts ack tout:      0
LCBs freed:          0
Updts ack reset:     0




Last Command: dsprobparm


Next Command:
```

dsprobst (Display Robust Statistics)

The **dsprobst** command displays the statistics associated with the Robust Alarms feature.

Attributes

Jobs: No   Log: No   Lock: No   Node Type: IPX, IGX, BPX

Associated Commands

cnfrobparm

Syntax

dsprobst [clear**]**

[clear]   specifies that the statistics buffers should be cleared after the display.

Function

This command displays the statistics associated with the Robust Alarms messages between the node and StrataView Plus NMS. The optional "clear" argument clears the statistics buffers. Figure 1-79 illustrates a sample display screen.

Figure 1-79   dsprobst—Display Robust Statistics

```
cc2             LAN    SuperUser        IPX 32    8.5 Aug. 30 1997 11:40 PST

Command history
12: cnftcparm
11: cnftcpparm 32
10: cnfnwip 192.38.38.2
 9: cnfnwip 192.38.38.2 255.255.255.0
 8: help cnft
 7: dspasich
 6: dspasich
 5: dspasich
 4: dspbuses
 3: dsplnstatcnf 15
 2: dsplnstathist 15 5 40
 1: dsplnstathist 15 5 40 IPX


Last Command: dsplnstathist 15 5 40 IPX

Statistic not enabled for specified object
Next Command:
```

dsprrst (Display Reroute Statistics)

The **dsprrst** command displays the connection rerouting statistics for the network.

Attributes

Jobs: No   Log: No   Lock: No   Node Type: IPX, IGX, BPX

Associated Commands

rrtcon, drtop

Syntax

dsprrst [-j] [clear]

[-j]   specifies that the reroute statistics display should include junction nodes.

[clear]   specifies that the reroute statistics buffers should be cleared after the display.

Function

This command displays the statistics related to connection rerouting resulting from failed trunks. These statistics may be useful in determining the performance of the reroute algorithm. Use the "clear" option to clear the counters before accumulating the statistics. Table 1-34 lists the applicable reroute statistics. Figure 1-80 illustrates a typical display.

Table 1-34   Display Reroute Statistics

Statistic	Description
Number of Completed Routes	This is the total number of connections routed since the NPC rebuilt.
Number of Failed Routes	This is the number of attempted reroutes that failed for any reason.
Number of Collisions	When a reroute is in progress, the initiating node locks all nodes on the route until the rerouting process is complete. If another node attempts to reroute through one of the locked nodes, a collision is reported and the second node must retry after a delay.
Max. # of Consec. Collisions	Is the count of consecutive collisions as defined above.
Max/Avg Secs To Select Route	Time taken within the initiating node to select a new route.
Max/Avg Secs To Perform Route	Time taken to contact and lock the nodes on the new route and perform the rerouting process.
Avg Secs to Route a Conn:	Time to perform a reroute divided by the average number of connections in a bundle.
% of Collisions/Rrt Attempt	Another statistic derived from the number of collisions and the number of reroute attempts.
Max Secs To NOT find Route	Similar to "max secs to select a route" except that the algorithm finished and no route was found.
Number of Routes not found	Number of routes not found in the rerouting process. This parameter updates periodically as a heartbeat to check for activity.

Table 1-34   Display Reroute Statistics (Continued)

Statistic	Description
# of Rrts with rrt req_bit set	A measure of the connections awaiting rerouting. When rrt_req bit is set, indicates a reroute is not totally successful or trunk deletions or loading additions mean connections must be rerouted. Cleared by rerouting the connection.
Address of Forced Rrt Counts	A NPC memory address for database information.
Max routes checked in search	Maximum number of PLNs examined in a search for a new route.
Max good rts checked in search	Maximum number of possible routes found before the search ended. The value should be 1.
# our lns rmvd from under us	Measure the number of changes to topology and loading that occurred while rerouting was in progress.
# lines rmvd out from under us	Same as above.

Figure 1-80   dsprrst—Display Reroute Statistics

```
sw91            TN    SuperUser      IPX 8    8.5    Aug. 1 1997  20:56 GMT

            Connection Routing Statistics LOC_DOMAIN
Number of Completed Routes:       0  Blocked by other st machines:    273
Number of Failed Routes:          0  Timeouts waiting for ACK/NACK:     0
Number of Collisions:             0  Number of Routes Not found:        0
Max # of Consec Collisions:       0  # of Rrts with rrt_req bit set:    0
Max Secs To Select Route:     0.000  Address of Forced Rrt Counts: 30CDC386
Max Secs To Perform Route:    0.000  Max routes checked in search:      0
Max Bundle Size Routed:           0  Max good rts checked in search:    0
Avg Secs To Select Route:     0.000  # nibs rmvd out from under us:    118
Avg Secs To Perform Route     0.000  # our lns rmvd from under us:      0
Avg Secs To Route a Conn:     0.000  # lns rmvd from under us:         66
Avg Bundle Size Routed:           0  Number of conid conflicts:         0
% of Collisions/Rrt Attempt:     0% Number of LCON deroutes:           0
Max Secs To NOT find Route:   0.005  Number of NW_LCON deroutes:        0
Times conns deletd while rtng:    0  Number of GLCON lcl deroutes:      0


Last Command: dsprrst


Next Command:
```

dspsig (Display Signalling)

The **dspsig** command displays the current signalling state received at the node from the specified voice channel.

Attributes

Jobs: No   Log: No   Lock: No   Node Type: IPX, IGX

Associated Commands

cnfclnsigparm, cnfrcvsig, dspclnsigparm

Syntax

dspsig <start_channel>

<start_channel>   the first voice channel to be monitored.

Function

This command displays the current signalling state received at the node from the specified voice channel. The status of the transmit and receive A and B signalling bits (for DS1 trunks) or A, B, C and D signalling bits (for E1 trunks) are displayed as a 0 or 1. The status of the bits (0 or 1) depends on the signalling type utilized on the connection displayed. The transmit direction of transmission is towards the remote node; the receive direction is towards the local circuit line.

The **dspsig** command can be used to verify the connection signalling type. Figure 1-81 illustrates a typical screen. If you compare the A/B bit states on-hook and off-hook with those shown in the dspchcnf command, you will note that the node passes signalling straight through. The signalling definition is only important for monitoring the on-hook/off-hook state and setting conditioning patterns.

Figure 1-81   dspsig—Display Signalling

```
 sw83             TN    SuperUser       IPX 16    8.5      Aug. 1 1997  19:25 PST


                                  Signalling Information
 From 7.1    TXAbit  TXBbit  TXCbit  TXDbit  RXAbit RXBbit RXCbit RXDbit no_serv
 7.1-15      1       1       0       1       1      1      0      1
 7.17-31     1       1       0       1       1      1      0      1






 Last Command: dspsig 7.1


 Next Command:
```

dspslot (Display Slot)

The **dspslot** command displays system information associated with a specific card in the node.

Attributes

Jobs: No   Log: No   Lock: No   Node Type: IPX, IGX, BPX

Associated Commands

Syntax

dspslot <slot number>

<slot number>   specifies the shelf slot number.

Function

This command displays system information associated with a specific card in the node. The information can help you debug card failures. When a card failure is reported to the Cisco TAC, the TAC engineer records the parameters for the associated card displayed by using **dspslot**.

The information displayed by the **dspslot** command is unique to the card and is used primarily by the controller card to supervise background system tasks. Table 1-35 lists the card parameters. Figure 1-82 illustrates a typical display—an FRP in this case.

Use this command to add information on a failed card when you return it. Print the screen or otherwise record the information and return it with the faulty card to Cisco.

Figure 1-82   dspslot—Display Slot

```
    sw83            TN    SuperUser      IPX 16    8.5      Aug. 1 1997  19:27 PST

  Card Data Base for FRP card in slot 6  at address 30BD820C

    Logical Card        6                      Test in Prog        0
    Verify DB Flag      0                      Slft Res Abort      0
    Info Ptr            30B88C2C               Slft Abort          0
    Last Event          TEST_FREE              Last Test           BKGD_TEST
    Fail Inter          0                      FRP Test Fail       0
    Selftest Fail       0                      FRP Test Fail I     0
    Selftest Inter      0                      FRP Port Test Fail  0
    Selftest Timeout    0                      FRP Port Capacity   31
    Con Test Fail       0                      FRP Line Capable    1
    Red LED Flag        0                      FRP V35 Capable     0
    Restart Reason      Not maintained         FRP X21 Capable     0
    Selftest Results                           FRP NNI/CLLM Cap    1
                                               FRP CGW/ATFR Cap    1


  Last Command: dspslot 6


  Next Command:
```

Table 1-35   Display Slot Parameters

Item	Parameter	Description
1	Logical Card	This number represents the type of card.
2	Verify DB Flag	Verify database flag. Concerned with database and memory.
3	Info Ptr	Information pointer. Concerned with database and memory.
4	Last Event	This is the previous state of the card known to the NPC.
5	Fail Inter	Indicates intermittent card failure.
6	Selftest Fail	Indicates self-test fail condition.
7	Selftest Inter	Indicates intermittent self-test failure.
8	Selftest Timeout	Self-test routine timed out before completion.
9	Con Test Fail	Indicates failure of the test con command.
10	Red LED Flag	Indicates front panel FAIL LED on.
11	Restart Reason	Reason for last card reset.
12	Selftest Results	Results of last self-test for card.
13	Test in Prog	Indicates card test is in progress.
14	Slft Res Abort	Not used.
15	Slft Abort	Not used.
16	Card Stats Up	A "1" indicates statistics are being collected on this card.
17	Sib Pointer	Pointer to database concerning statistics.
18	Summary stats	Pointer to database concerning statistics.
19	Detailed stats	Pointer to database concerning statistics.
20	Bus Mastership	For BCC, this indicates whether this is the slave BCC. For other cards, this is not used.
21	Last Test	Last test performed on card in this slot.

dspslotstatcnf (Display Statistics Enabled for a BXM Card Slot)

The **dspslotstatcnf** command displays statistics configured as enabled for a selected slot where a BXM card resides.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: BPX

Associated Commands

cnfslotstats

Syntax

dspslotstatcnf <slot>

<slot>   specifies the slot where the BXM resides.

Function

This command displays the enabled BXM card slot statistics. These statistics set by the **cnfslotstats** command, by StrataView Plus, or by node features.

The "Owner" column shows what set the statistic, as follows:

- If the column shows "Automatic," it was set by features.

- If the column shows the node name, it was is set by StrataView Plus.

- If the column shows the name of the user, it was set with the **cnfslotstats** command.

dspslotstathist (Display Statistics History for a BXM Card)

The **dspslotstathist** command displays a history of statistics enabled for a BXM card slot.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Type: BPX

Associated Commands

cnfslotstats, dspslotstatcnf

Syntax

dspslotstathist <port>

<slot>   specifies the slot.

Function

This command displays the data for the last five occurrences of the slot statistic. The statistic is selected from the list displayed when this command is first entered. Use the **dspslotstatcnf** to display the statistics enabled on the selected slot. Use **cnfslotstats** to enable a statistic.

Note   You may have to enter owner "auto" or "user" in all capital letters.

---

dspstatmem (Display Statistics Memory Use)

The **dspstatmem** command displays memory usage for statistics collection.

Attributes

Jobs: No   Log: Yes   Lock: No   Node Type: IPX, IGX, BPX

Associated Commands

Syntax

dspstatmem

Function

This command displays memory usage for statistics collection. It is intended for debugging statistics collection problems, not everyday use. The command shows the amount of controller card memory allocated by the user to statistics display (defaults to 650 Kbytes).

The memory occupied by USER is used for user-enabled statistics. Figure 1-83 illustrates a typical screen. The memory occupied by USER figure is that used by the StrataView Plus user. Memory occupied by AUTO is that used by node features.

Figure 1-83   dspstatmem—Display Statistics Memory Usage

```
 sw83            TN     SuperUser       IPX 16     8.5      Aug. 1 1997  19:29 PST




 User Configured Statistics Memory (In bytes)  = 624640

 Memory Occupied by USER (In bytes) = 0

 Memory Occupied by AUTO (In bytes) = 21584




 Last Command: dspstatmem


 Next Command:
```

dsptcpparm (Display TCP Parameters)

The **dspftcpparm** command displays the TCP bandwidth throttle parameter.

Attributes

Jobs: No   Log: No   Lock: No   Node Type: IPX, IGX, BPX

Associated Commands

cnftcpparm

Syntax

dsptcpparm

Function

This command displays the TCP bandwidth throttle parameter. Figure 1-84 shows a typical display.

Figure 1-84   dsptcpparm—Display TCP Parameters

```
cc2              LAN    SuperUser      IPX 32    8.5      Aug. 30 1997 11:42 PST

NWIP Bandwidth Throttle (Kbytes/sec):  32
```

```
Last Command: dsptcpparm


Next Command:
```

dsptrkcons (Display Trunk Connection Counts)

The **dsptrkcons** command displays the number of connections routed over the specified trunk. This command applies to physical and virtual trunks.

Attributes

Jobs: No   Log: No   Lock: No   Node Type: IPX, IGX, BPX

Associated Commands

dsptrkmcons, dspplnmcons

Syntax

dsptrkcons <line number>

<line number>   trunk number.

Function

This command displays the total number of connections being carried by the specified trunk. The connections are summed for each terminating node in the network and lists the connection count for the transmit direction (out of the node).

This command is useful in determining the source of dropped packets in cases where the specified trunk is oversubscribed. Use the **dsptrks** command to list the trunks that originate at each node. Next, use the **dsptrkcons** to determine the number of connections (the more connections per trunk the greater the possibility of over-subscription). Then use the **dsprts** command to identify any through nodes (where the trunk is not terminated). Finally, look at the utilization factor for each of these lines using the **dsputl** and **dspdutl** commands. Figure 1-85 illustrates the **dsptrkcons** command display.

Figure 1-85   dsptrkcons—Display Trunk Connection Counts

```
batman           TN     SuperUser       BPX 15    8.5        Aug. 9 1997  15:57 GMT

Connection Counts For TRK 5.1

Src Node  Conns    Src Node   Conns    Src Node   Conns    Src Node   Conns
batman    1765







Last Command: dsptrkcons 5.1


Next Command:
```

dsptrkmcons (Display Trunk Connection Counts by Master Node)

The **dsptrkmcons** command displays the number of connections routed over the specified trunk (BNI) by the master node.

Attributes

Jobs: No   Log: Lock: Node Type: IPX, IGX, BPX

Associated Commands

dsptrkcons

Syntax

dsptrkmcons <line number>

<line number>   specified trunk number. Note that in a BPX, the line number must
                                include a port number.

Function

This command displays the total number of connections being carried by the specified trunk. Rather than showing the remote end of the connection, the display lists the connection and the node that owns that connections.

This command is useful in determining the source of dropped packets in cases where the specified trunk is oversubscribed. First, use the **dsptrkmcons** command to list the trunks that originate at each node (the more connections per trunk, the greater the possibility of over-subscription). Next, use the **dsprts** command to identify any through-nodes (on which the trunk is not terminated). Finally, look at the utilization for each of these lines by using the **dsputl** and **dspdutl** commands. Figure 1-86 illustrates the **dsptrkmcons** command display.

Figure 1-86   dsptrkmcons—Display Trunk Connection Counts by Master Node

```
sw81            TN    SuperUser      BPX 15    8.5    Aug. 26 1997 13:16 PST

Connection Counts For TRK 6.1

Mst Node  Conns    Mst Node  Conns    Mst Node  Conns    Mst Node  Conns
sw86      26




Last Command: dsptrkmcons 6.1

Next Command:
```

dsptrkstatcnf (Display Statistics Enabled For A Trunk)

The **dsptrkstatcnf** command displays the enabled statistics a physical or virtual trunk.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX, BPX

Associated Commands

cnftrkstats

Syntax

dsptrkstatcnf <line>

<line>	specifies the trunk: *line* can have the form *slot*, *slot.port* or *slot.port.vtrk*. The format depends on whether the trunk card has one or more physical ports and whether the trunk is a virtual trunk.

Function

This command displays the statistics enabled for a trunk. It is intended for debugging statistics collection problems. It displays the trunk statistics set by the **cnftrkstats** command, by StrataView Plus, or by node features. Figure 1-87 shows example statistics for a T3 ATM trunk. The Owner column shows the source of the specification. If the Owner column shows "AUTO," the node's features determined the statistics. If the Owner column shows the name of the node, StrataView Plus determined the statistics. If the Owner column shows "USER," the **cnftrkstats** command was used to configure the statistics. The display may take up to four screens to display completely depending on statistics displayed.

Figure 1-87   dsptrkstatcnf—Display T3 Trunk Statistics Enabled (Screen 1)

```
sw81            TN    SuperUser      BPX 15    8.5 Oct. 22 1997 23:47 PST

Statistics Enabled on Trunk 1.1

     Statistic                             Samples Interval Size Peaks Owner
     ------------------------------------- ------- -------- ---- ----- ----------
  3) Out of Frames                            60        0    4   NONE  AUTO
  4) Loss of Signal                           60        0    4   NONE  AUTO
 29) Line Code Violation                      60        0    4   NONE  AUTO
 32) Line Parity Errors                       60        0    4   NONE  AUTO
 35) Path Parity Errors                       60        0    4   NONE  AUTO
 41) BIP-8 Errors                             60        0    4   NONE  AUTO
 46) HCS Errors                               60        0    4   NONE  AUTO
 48) Tx Voice Overflow Drpd Cells             60        0    4   NONE  AUTO
 49) Tx TS Overflow Drpd Cells                60        0    4   NONE  AUTO
 50) Tx NTS Overflow Drpd Cells               60        0    4   NONE  AUTO
 51) Tx Hi-Pri Overflow Drpd Cells            60        0    4   NONE  AUTO

This Command: dsptrkstatcnf 1.1


Continue? y
```

```
sw81            TN    SuperUser      BPX 15    9.1.f7    Oct. 22 1997 23:48 PST

Statistics Enabled on Trunk 1.1

     Statistic                             Samples Interval Size Peaks Owner
     ------------------------------------- ------- -------- ---- ----- ----------
 52) Tx BData A Overflow Drpd Cells            60        0    4  NONE  AUTO
 53) Tx BData B Overflow Drpd Cells            60        0    4  NONE  AUTO
 98) Frame Sync Errors                         60        0    4  NONE  AUTO
167) Tx CBR Overflow Drpd Cells                60        0    4  NONE  AUTO
168) Tx VBR Overflow Drpd Cells                60        0    4  NONE  AUTO
169) Tx ABR Overflow Drpd Cells                60        0    4  NONE  AUTO




Last Command: dsptrkstatcnf 1.1


Next Command:
```

dsptrkstathist (Display Statistics History for a Trunk)

The **dsptrkstathist** command displays a history of configured statistics for a physical or virtual trunk.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX, BPX

Associated Commands

cnftrkstats, dsptrkstatcnf

Syntax

dsptrkstathist <trunk>

<trunk>   specifies the trunk.

Function

The **dsptrkstathist** command is a statistics debugging command. It displays the data for the last five occurrences of the selected statistic. The available trunk statistics appear on screen upon entry of the **dsptrkstathist** command. (The **cnftrkstats** command enables individual statistics. The **dsptrkstatcnf** command displays the enabled statistics for a trunk.) Figure 1-88 displays a statistic history for virtual trunk 1.1.1. The statistic is TX ABR Overflow Dropped Cells. This is statistic number 169, which execution of **dsptrkstatcnf** shows as enabled for this trunk. (If a *disabled* statistic is selected, a message stating this appears above the command line prompt.) The entered bucket interval is 0 minutes, which means that only the preceding 60 seconds worth of gathered data for number 169 appears.

Note   Enter the owner in all capital letters. You may have to enter owner "auto" in all capital letters.

Figure 1-88   dsptrkstathist—Display Trunk Statistics History

```
sw97            TN   SuperUser      BPX 15    8.5        Aug. 9 1997  12:42 GMT

Tx ABR Overflow Drpd Cells on Trunk 1.1.1
Interval: 10 Second(s), Data Size: 4 Byte(s), NO Peaks, Owner: IPX


  0   -            0                      -11  -           0
 -1   -            0                      -12  -           0
 -2   -            0                      -13  -           0
 -3   -            0                      -14  -           0
 -4   -            0                      -15  -           0
 -5   -            0                      -16  -           0
 -6   -            0                      -17  -           0
 -7   -            0                      -18  -           0
 -8   -            0                      -19  -           0
 -9   -            0                      -20  -           0
-10   -            0                      -21  -           0


This Command: dsptrkstathist 1.1.1 169 0 BPX


Continue?
```

dsputl (Display Utilization)

The **dsputl** command displays the utilization factor for all voice connections on a circuit line.

Attributes

Jobs: No   Log: No   Lock: Yes Node Type: IPX, IGX

Associated Commands

dspdutl

Syntax

dsputl <bslot> [clear]

<bslot>   specifies the shelf back slot number of the circuit line.

[clear]   Directs the controller card to clear the utilization counters after being
                           displayed.

Function

This command displays the actual percentage utilization for all voice connections on a single circuit line specified by the back slot (bslot) number. The percentage is calculated by dividing the number of packets transmitted over the total number of packets allocated to the specified channel. Only transmit packet rates are used. If percentage of actual utilization exceeds the configured utilization the channel appears in reverse video.

Figure 1-89 illustrates a typical display. In this example, the connections from 11.1 to 11.11 use VAD and the connections from 11.12 to 11.17 do not. The connections using VAD do not use any network bandwidth (0 utilization) until the connection is used. The other connections utilize the full bandwidth (100% utilization) even though they may be idle.

Use the **dspdutl** command to display utilization for data channels.

Figure 1-89   dsputl—Display Voice Channel Utilization

```
gamma           TRM       SuperUser       Rev:  8.5  Aug. 14 1997  16:36 PDT

Percentage utilization       Last Cleared: Date/Time Not Set       Snapshot

CLN    1  2  3  4  5  6  7  8  9 10 11 12 13 14 15

11     0  0  0  0  0  0  0  0  0  0  0  0 99 99 99



CLN   16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

11        99



Last Command: dsputl 11


Next Command:
```

forcerev (Force Revision)

The **forcerev** command forces a software revision to be sent down a trunk to a remote node.

Attributes

Jobs: No   Log: Yes   Lock: Yes Node Type: IPX, IGX, BPX

Associated Commands

dsprevs, loadrev

Syntax

forcerev <line number> <primary/secondary> <revision>

<line number>   specifies the trunk number used to send the revision.

<primary/secondary>   specifies which revision is to be sent.

<revision>   specifies the software revision to be forced down the line.

Function

This command sends a change revision message blindly down the specified trunk from the local node to the remote node. This allows primary revisions to be changed regardless of communication breaks and unreachable nodes. Usage of this command should only be necessary if a problem results in inconsistent revisions throughout a network.

Figure 1-90 illustrates an example screen. If the local node does not have the SW revision specified, the system will display "Unavailable X.X" as indicated. Use the **getfwrev** command to load the desired software revision into the node. Use the **dsprevs** command to display the revisions available on each node in the network.

> **Caution** Use this command only when requested by the Cisco TAC and under TAC supervision.

Figure 1-90   forcerev—Force Revision Down a Line

```
alpha            TRM       SuperUser        Rev:  8.5  Aug. 14 1997  13:42 PDT

                        ------ Primary ------        ----- Secondary -----
NodeName         Status      Revision        Status      Revision
NodeName         Status      Revision        Status      Revision
gamma            Running      8.5




Last Command: forcerev 10 s 7.2


Next Command:
```

getfwrev (Get Firmware Revision)

The **getfwrev** command gets and loads a firmware image from StrataView, StrataView Plus, or a remote node into the specified node(s).

Attributes

Jobs: Yes   Log: Yes   Lock: Yes   Node Type: IPX, IGX, BPX

Associated Commands

burnfwrev, dspfwrev, dspdnld

Syntax

getfwrev <image name> <nodename>

<image name>	specifies the name assigned to the firmware revision. Image names are generally in all capital letters and are case-sensitive when being entered.
<nodename>	specifies the node on which to load the revision.

Function

This command gets and loads a firmware revision image into the specified node's NPC memory. This firmware image can then be downloaded to specific interface cards within the node with the **burnfwrev** command. The firmware image must be already loaded into the StrataView or StrataView + terminal before using this command.

When the command is first entered, the status is temporarily "Unavailable" while the node attempts to locate the source of the firmware image. Once the download begins, a list of all of the files that make up the image is displayed and as the downloading progresses, the address of the file is updated.

- **getfwrev a.b.cd** *—loads firmware revision a.b.cd at all reachable nodes

- **getfwrev a.b.cd nodename**—loads firmware revision a.b.cd at one node only (nodename specifies the node).

- **getfwrev 0.0.**—clears a firmware revision image from NPC memory. Should be issued after every firmware download to clear the NPC memory.

⚠ **Caution**   This command is not to be confused with **loadrev**. It loads system software, not firmware.

loadcnf (Load Configuration)

The **loadcnf** command loads a configuration image from StrataView Plus to a node.

Attributes

Jobs: Yes   Log: Yes   Lock: Yes Node Type: IPX, IGX, BPX, IPX/AF

Associated Commands

dspcnf, runcnf, savecnf

Syntax

loadcnf <backup_id | clear> <node_name> <source_SV_node>

<backup_id >	specifies the name of the backup configuration file to be loaded. Configuration names are case-sensitive.
<clear>	specifies that the control card buffer area used for loading a configuration be cleared.
<node name>	specifies the target node where the backup configuration file is to be loaded.
<source_SV_node>	specifies the node connected to the StrataView Plus where the configuration file *backup_id* resides.

Function

This command causes a saved network configuration file to be downloaded from StrataView Plus to one node or all nodes. (See **savecnf**.) The configuration image downloaded is temporarily stored in a buffer area in a node's controller card memory. The process runs in the background and may take several minutes if the configuration file is large. Although loaded, the configuration is not yet restored. The configuration is restored to the controller card's BRAM memory using the **runcnf** command.

After loading and restoring a network configuration, the control card buffer area used for this purpose should be cleared so it is available for other downloading processes, such as that of firmware. To clear the buffer area, execute **loadcnf** with the *clear* parameter specified instead of *backup_id*. Specify the buffer of an individual node with *node_name* or all nodes with *. For the purpose of clearing the buffer area, do not specify the *source_SV_node* parameter.

To execute this command on an IPX/AF or IGX/AF interface shelf, telnet to the shelf or use a control terminal attached to the shelf.

loadrev (Load Revision)

The **loadrev** command loads a secondary system software revision image from StrataView or StrataView Plus into a node.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX, BPX

Associated Commands

runrev, dsprevs, cnfdlparm

Syntax

loadrev <revision> <nodename/*>

<revision >	specifies the revision level of the system software file to be loaded.
<nodename>	specifies the target node where the secondary revision is to be loaded.
<*>	is a shorthand notation used to specify all nodes in the network.

Function

This command loads the secondary revision system software for the specified nodes. The secondary revision system software is the code that is loaded onto a controller card but is not being run. Use the **runrev** command after loading of a revision is complete to make the secondary revision the primary revision. The previous primary revision then becomes the secondary.

Examples of this command:

- **loadrev a.b.cd** *—loads revision a.b.cd at all reachable nodes.

- **loadrev a.b.cd nodename**—loads revision a.b.cd at nodename only

- **loadrev 0.0**.—clears a software revision image from controller memory. This command should be issued after every software download to clear the controller memory.

After entering the command, system responds with: "Enter Rev Number:" The **dsprevs** command is used to observe the software revisions that are currently loaded into the controller memory. The **dspdnld** command is used to display a running picture of the status of the download procedure once it has commenced.

> ⚠ **Caution**   Do not confuse **loadrev** with **getfwrev**. The **getfwrev** command loads firmware, not system software.

prtcderrs (Print Card Errors)

The **prtcderrs** command prints out detailed card failure information.

Attributes

Jobs: Yes   Log: No   Lock: Yes Node Type: IPX, IGX, BPX

Associated Commands

clrcderrs, dspcderrs

Syntax

prtcderrs [<slot>]

<slot >   specifies the shelf slot where the selected card is installed.

Function

Prints a history of card failures associated with a specified slot on the network printer. If no argument is specified, a summary is printed, indicating the slots that have failures recorded against them. Refer to **dspcderrs** command for an example of a typical card error record that might be printed.

rrtcon (Reroute Connection)

The **rrtcon** command is used to manually reroute one or more connections.

Attributes

Jobs: Yes   Log: Yes   Lock: Yes   Node Type: IPX, IGX, BPX

Associated Commands

drtop

Syntax

rrtcon <group | channel(s) | *>

<group | channel(s) | *>:   specifies a group, a channel, or a range of channels to be rerouted. A "*" specifies all locally owned groups and connections.

Function

This command forces a group, channel or range of channels to be rerouted. If a free-routing connection is rerouted by the system for whatever reason, it will not automatically return to its original route when the trouble clears. This may leave the connection on a path that is not the most direct or cost effective.

This command can be used to force a reroute that will likely put the connection back to its original route if available. Over time, many routes may need to be rerouted back to their original paths. In this case, use the "*" to reroute all connections.

To use this command you must first vt to the node that owns the connection (local node). If not at the local node, the system displays "This node is not owner of the connection(s)."

There is no provision for specifying a route. The node determines the connection route according to the same rules that are used when adding a new connection. If no network bandwidth is available for rerouting the connection, the node marks the connection as failed.

> **Caution**   Using this command on a connection that is in service should be done with some discretion because the reroute interrupts service for as long as it takes to reroute the connection.

rststats (Reset Statistics Collection TIme)

The **rststats** command resets the statistics collection time for the **tststats** command.

Attributes

Jobs: Yes   Log: No   Lock: Yes Node Type: IPX, IGX

Associated Commands

tststats

Syntax

rststats

Function

This command resets the collection time for the **tststats** command. The **tststats** command displays a test statistics summary. Before there will be any meaningful statistics, the **tstcon** command must be performed on one or more network connections. Refer to the *Cisco WAN Switching Command Reference* for information on the **tstcon** command. Figure 1-91 illustrates the system response.

Figure 1-91   rststats—Reset Statistics Collection TIme

```
alpha32         LAN    SuperUser       IPX 32    8.5     Aug. 30 1997 13:35 PST

Command history

12:
11:
10:
 9:
 8:
 7:
 6:
 5:
 4:
 3:
 2:
 1: rststats


This Command: rststats

Warning: This command clears all statistics
Continue?
```

runcnf (Run Configuration)

The **runcnf** command restores a network configuration image at one or all nodes.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX, BPX, IPX/AF, IGX/AF

Associated Commands

savecnf, loadcnf, clrcnf

Syntax

runcnf <backup_id> <node_name>

<backup_id>   specifies the name of the configuration image loaded from StrataView
                                Plus. Configuration names are case-sensitive.

<node_name>   specifies the node name to receive the configuration. An asterisk (*)
                                specifies all nodes.

Function

This command restores the specified configuration to the controller card's BRAM memory and
overwrites the current configuration. Once restored, the specified node (or all nodes) rebuilds with
the restored configuration image. To execute this command on an IPX/AF or IGX/AF interface shelf,
telnet to the shelf or use a control terminal attached to the shelf.

This command is usually run after a previous configuration has been lost. If doubts exist about the
state of the configuration at other nodes in the network, load the configuration into all nodes by
specifying "*" for the node name. The new configuration must have previously been loaded into the
controller buffer area with the **loadcnf** command.

⚠ **Caution** All network nodes must be run with the same configuration.

The system may display two warnings in response to the **runcnf** command:

A. When single node specified:

- Warning—node_name not reachable. Continue? Y/N.

- Warning—node_name does not have the specified configuration. Continue? Y/N.

B. When all nodes specified:

- Warning—all nodes not reachable. Continue? Y/N.

- Warning—all nodes do not have the specified configuration.   Continue? Y/N.

If a single node is not reachable, responding with a "Y" does not affect the operation of the network.
If node(s) do not all have the specified configuration or all are unreachable, it is not recommended
that you continue until after the problem is resolved.

runrev (Run Revision)

The **runrev** command runs a specific revision of the system software revision at a node.

Attributes

Jobs: No   Log: Yes   Lock: Yes   Node Type: IPX, IGX, BPX

Associated Commands

dsprevs, loadrev, cnfdlparm

Syntax

runrev <revision> <nodename | *>

<backup_id>	specifies the name of configuration image loaded from StrataView Plus. Image names are generally in all capital letters and are case-sensitive.
<node_name>	specifies the node name to rebuild with a new configuration.
*	is a shorthand notation used to specify all nodes in the network.

Function

This command sets the primary revision for the specified nodes. The primary software revision is the one that is actively controlling node operation. A non-active secondary revision that does not match the primary revision may also be loaded in the controller. To set the primary software revision, enter:

- **runrev a.b.cd ***—to run revision a.b.cd at all reachable nodes.

    or

- **runrev a.b.cd nodename**—to run revision a.b.cd at a single node (nodename) only.

After entering the command, system responds with "Enter Rev Number." Use the **dsprevs** command to determine which rev(s), primary and secondary, are available on the node. The **runrev** command will be ignored if the required revision is not present on the node.

You may need to load the new revision onto the StrataView Plus terminal and then use **loadrev** command to download the new software image into the standby controller before you issue the **runrev** command. If you enter a revision number that does not exist at the node, the system displays the message

   "Warning—the node does not have the specified revision. Continue? Y/N"

Caution   All network nodes must run with the same software revision to ensure normal network operation.

If you respond with "no," the system takes you back to the main StrataView Plus prompt and gives you an opportunity to change the revision number and re-attempt the operation.

savecnf (Save Configuration)

The **savecnf** command saves a configuration image on a StrataView Plus workstation disk.

Attributes

Jobs: Yes   Log: Yes   Lock: Yes   Node Type: IPX, IGX, BPX, IPX/AF, IGX/AF

Associated Commands

loadcnf, runcnf, clrcnf

Syntax

savecnf <backup_id | clear> <node_name> <dest_SV_node> [<dest_SV_ip>]

<backup_id>	specifies the name of a configuration to be saved on StrataView Plus. The Backup ID must be 1–8 alphanumeric characters with the first character being alphabetic. Configuration names are case-sensitive.
<clear>	specifies that the buffer area should be cleared.
<node_name>	specifies the node name to save configuration on. "*" may be specified to indicate all nodes.
<dest_SV_node>	specifies the node name where StrataView Plus is connected and that is to receive the specified backup_id.
<dest_SV_IP>	for IPX/AF or IGX/AF interface shelves only, this optional specification is the IP address of the StrataView Plus that is to receive the configuration image.

Function

The **savecnf** command has two possible applications. It saves all the configurations for the nodes in a routing network, or it saves the configuration of one IPX/AF or IGX/AF interface shelf to a specific StrataView Plus workstation. Once saved, you can restore the configuration to BRAM by using the **loadcnf** and **runcnf** commands. You should execute **savecnf** in the following situations:

- After making any configuration changes in a network

- Before upgrading to a new system software release

Execution on a Routing Node

In a routing network, **savecnf** saves a configuration image for one node or all routing nodes (*node_name* = *) on the StrataView Plus workstation specified by *dest_SV_node*.

Execution on an IPX/AF or IGX/AF Interface Shelf

To execute **savecnf** on an IPX/AF or IGX/AF, either telnet to the shelf or use a control terminal attached to it: **savecnf** saves a configuration image of only the current shelf. The image is stored on the workstation with the IP address in the parameter *dest_SV_ip*. (In a routing network, *dest_SV_ip* is not necessary.) Note that *node_name* and *dest_SV_node* must *both* be the name of the shelf. The IP address of the destination StrataView Plus workstation uniquely identifies where to store the configuration image.

setfpevt (Set FastPAD Event Reporting)

The **setfpevt** command enables the reporting of FastPAD events.

Attributes

Jobs: No   Log: Lock: Node Type: IPX, IGX

Associated Commands

clrfpevt

Syntax

setfpevt <slot.port>

<slot.port>   specifies the slot and port of the FastPAD.

tststats (Test Statistics)

The **tststats** command displays a summary of the test statistics that result from performing a **tstcon** command on various network connections.

Attributes

Jobs: No   Log: No   Lock: No   Node Type: IPX, IGX, BPX

Associated Commands

tstcon

Syntax

tststats [clear]

[clear]   specifies that the test statistics buffers be cleared.

Function

Before **tststats** displays any meaningful statistics, the **tstcon** command must run on one or more network connections. Refer to the *Cisco WAN Switching Command Reference* for information on the **tstcon** command. The following are displayed for voice, data, and Frame Relay connections.

- Tests Completed, Passed, Failed, and Aborted

- Failure data per failed connection (applies only to voice connections):

- Slot.channel—indicates which connection has failed.

- Good reads—indicates number of good reads on the test failure.

- Bad reads—indicates number of bad reads on the test failure.

Figure 1-92 illustrates a typical test statistics display.

Figure 1-92   tststats—Display Test Statistics

```
sw150          TN    SuperUser       IGX 16    8.5      Aug. 1 1997  21:54 GMT

Connection Test results since: Date/Time Not Set

Type       Total       Passed       Failed       Aborted
Voice      0           0            0            0
Data       0           0            0            0
Fr Relay   0           0            0            0




Last Command: tststats


Next Command:
```