C H A P T E R 16

Troubleshooting

Cisco WAN Switching software provides you the following troubleshooting commands to help diagnose and correct faults.

Table 16-1   Summary of Commands

Command	Description	Page
addalmslot	Add alarm slot	16-3
addextlp	Add external loopback	16-5
addloclp	Add local loopback	16-7
addlocrmtlp	Add local-remote loopback	16-12
addrmtlp	Add remote loopback	16-14
clrchstats	Clear channel statistics	16-19
clrclkalm	Clear clock alarm	16-21
clrclnalm	Clear circuit line alarm	16-23
clrclnerrs	Clear circuit line errors	16-25
clreventq	Clear the events queues	16-29
clrlnalm	Clear line alarm	16-23
clrlnerrs	Clear line errors	16-25
clrlog	Clear log	16-33
clrmsgalm	Clear message alarm	16-35
clrportstats	Clear port statistics	16-37
clrslotalms	Clear slot alarms	16-39
clrsloterrs	Clear slot errors	16-40
clrtrkalm	Clear trunk alarm	16-41
clrtrkerrs	Clear trunk errors	16-44
clrtrkstats	Clear trunk statistics	16-46
cnfbus	Configure Bus	16-47
cnflnalm	Configure line alarm	16-49
cnfslotalm	Configure slot alarm	16-55
cnftrkalm	Configure trunk alarm	16-57
dellp	Delete loopback	16-59

Command	Description	Page
dncd	Down card	16-61
dspalms	Display alarms	16-63
dspbob	Display Breakout Box	16-66
dspbuses	Display Buses	16-69
dspclnerrs	Display circuit line errors	16-71
dspeventq	Display the event queue names and the data in each.	16-74
dspfrcbob	Display FRC-2/FRM-2 breakout box	16-76
dsplog	Display event log	16-78
dsplnalmcnf	Display line alarm configuration	16-80
dsplnerrs	Display line errors	16-83
dsppwr	Display power	16-85
dspslotalms	Display slot alarms	16-90
dspsloterrs	Display slot errors	16-92
dspslotstatcnf	Display slot statistics configuration	16-94
dsptrkerrs	Display individual or all trunk errors.	16-96
prtclnerrs	Print circuit line errors	16-100
prtlnerrs	Print line errors	16-102
prtlog	Print log	16-101
prttrkerrs	Print trunk errors	16-103
resetcd	Reset card	16-104
resetpc	Reset Port Concentrator	16-106
switchcc	Switch controller card	16-107
tstcon	Test connection	16-109
tstconseg	Test connection segment	16-113
tstdelay	Test delay	16-116
tstpcs	Test Port Concentrator Shelf	16-119
tstport	Test port	16-120

addalmslot

Enables the MAJOR and MINOR alarm indicators on an Alarm Relay Card (ARC) or Alarm Relay Module (ARM). It also configures the slot to support external alarms from the Alarm Relay Interface (ARI) back card. You can use this command at any node that can provide external alarm indications to an alarm reporting system. The ARC or ARM can reside in any front slot but usually resides in the right-most slot.

Full Name

Add alarm slot

Syntax

addalmslot <slot number>

Related Commands

delalmslot, dspalms

Attributes

Privilege   1–4

Jobs   No

Log   Yes

Node   IPX, IGX

Lock   Yes

Example 1

addalmslot 16

Description

Enable alarm reporting from slot 16 in a node.

System Response

```
beta           TRM   YourID:1        IPX 32   8.2     Mar.  3 1996 14:27 MST

Alarm summary   (Configured alarm slots: 16)
Connections Failed:       None
Groups Failed:            None
PLN Alarms:               1 Major
CLN Alarms:               None
Cards Failed:             1
Missing Cards:            None
Remote Node Alarms:       1 Major
Remote Domain Alarms:     None




Last Command: addalmslot 16


Next Command:
```

addextlp

Places an external device in loopback mode. The **addextlp** command applies to existing connections on an SDP, HDM, LDP, or LDM. A "near" loopback causes the NEAR EIA template to be applied. A 'far' loopback causes the FAR EIA template to be applied to the data port. The loopback remains in place until removed by the **dellp** command.

The **dspcons** command shows which connections are in loopback mode. Specifying an "n" after the channel indicates a near loopback, and an "f" indicates a far loopback. Because **addextlp** takes the specified connections out of service, use it only when a service disruption is tolerable.

Full Name
Add External Loop to Connection

Syntax
addextlp <channel> < n | f >

Related Commands
dellp, dspcons

Attributes

Privilege	1–2
Jobs	Yes
Log	Yes
Node	IPX, IGX
Lock	Yes

Example 1
addextlp 5.1 n

Description
Place the device connected to channel 5.1 in near loopback.

System Response

```
alpha          TRM   YourID:1        IPX 16     8.2    Mar. 16 1996 12:53 PST

 Local       Remote      Remote                                       Route
 Channel     NodeName    Channel     State  Type   Compression  Code Avoid COS O
 N5.1        beta        25.1        Ok     256                 7/8          0  L
 9.1.100     gamma       8.1.200     Ok     fr                               0  L
 9.2.400     beta        19.2.302    Ok     fr                               0  L
 14.1        gamma       15.1        Ok     v                                0  L




 Last Command: addextlp 5.1 n


 Next Command:
```

Table 16-2

| Parameter	Description
channel	Specifies the channel to loopback in the format *slot.port*.
n /f	Specifies whether the loopback is near or far. An "n" specifies near; an "f" specifies far. For a non-DDS port, the near or far modem is placed in loopback, if it supports this function. For a DDS port, the external DDS device is placed in CSU loopback. Local channels must be configured as OCU in order to place them in external loopback.

addloclp

The **addloclp** command places the following types of channels in local loopback mode:

- Voice
- Data
- Frame relay port
- Frame relay connection
- ATM connection

For voice connections, **addloclp** creates a signal path from a channel or group of channels on an incoming circuit line back to the circuit line. External test equipment can then test the integrity of the path at the T1 DS0 level. The following figure shows a local loopback on a voice channel.

Figure 16-1   Local Loopback on a Voice Channel
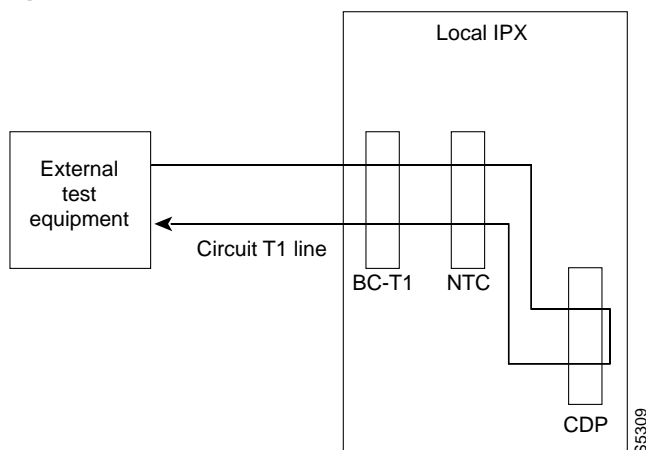
For data connections, **addloclp** creates a signal path from the incoming data port or set of ports back to these same port(s) through the local CDP/CVM, SDP/HDM, or LDP/LDM. External test equipment can then test the integrity of the path. The following figure illustrates a local loopback on a data connection.

Figure 16-2   Local Loopback on a Data Connection
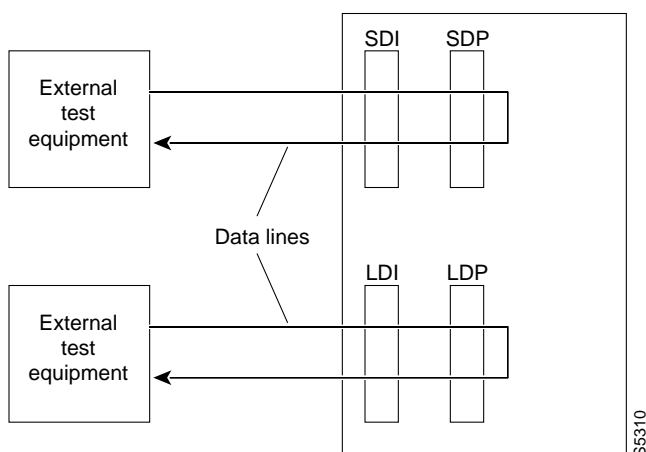
A local loopback can simultaneously exist at both ends of a connection. However, a local loopback and a remote loopback cannot co-exist on a connection. (See the **addrmtlp** description for more information.)

Prior to executing a loopback, the IPX or IGX performs signal and code conditioning to remove the connection from service. The loopback remains in place until removed by the **dellp** command. Only existing connections can be looped back. Use the **dspcons** command to see which connections are looped back. A flashing right parenthesis ")" or left parenthesis "(" is used in the connections display to indicate a loopback. The direction and location of the parenthesis depends on whether the loopback is local or remote and which end of the connection was used to establish the loopback. A local loopback initiated from the local end of the connection looks like this in the connections display:

Local Channel	Remote Node	Remote Channel
12.1	alpha	15.1

A local loopback initiated from the remote end of the connection looks like this:

| Local Channel	Remote Node	Remote Channel
12.1	alpha	15.1

In frame relay connection loopback mode (DLCI included in command), all packets from the far-end of the connection are dropped. The far-end system software is informed of the loopback. In port loopback mode (port specified without a DLCI), all packets for this port are dropped and each opposite end is informed of the loopback mode. The format *slot.port* is used in port mode to loop just the port. The data is looped directly in the FRI back card, so no data reaches the MUXBUS or CELLBUS. The format *slot.port.DLCI* is used in connection (channel) mode to loop a specific channel. Note that this can affect up to 252 connections (channels) in port loopback mode.

Because the **addloclp** command causes the connection(s) to be removed from service, loopbacks should be used only when a service disruption can be tolerated. Remote loopbacks are established with the **addrmtlp** command. Both local and remote loopbacks are removed by the **dellp** command. Loopbacks for data channels can also be initiated by pressing a button on the front of the associated data card.

Frame Relay Local Loops with Port Concentrator

When a frame relay port or connection is located on a Port Concentrator instead of directly on an FRP or FRM card, the data test path is different. When just the *<port>* parameter is used, incoming data is looped back out on the Port Concentrator port:
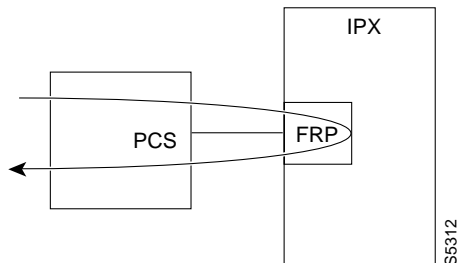
Figure 16-3   Local Loop on Port Concentrator
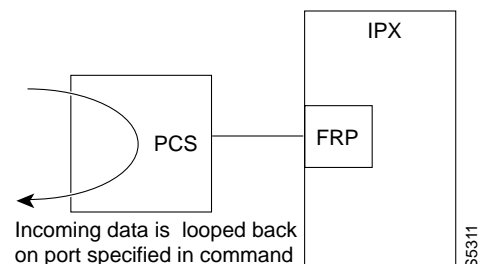
This loop disrupts all frame relay connections on the port that is under test.

When a connection is specified by *<port.dlci>* parameters, the connection is looped back at the FRM-2 or FRP-2 interface with the IGX or IPX card bus:

Figure 16-4   Local Loop on FRM-2 or FRP-2

As shown, this test verifies the operation of all components from the Port Concentrator to IPX/IGX interface with the FRP-2 or FRM-2 card.

This tests interrupts *only* the specified connection on the Port Concentrator port.

Full Name
Add local loopback to connections on a port

Syntax
addloclp *parameters* (see parameters table)

Related Commands
addrmtlp, dellp, dspcons, dspfrport

Attributes

Privilege	1–2
Jobs	Yes
Log	Yes
Node	IPX, IGX, BPX
Lock	Yes

Example 1
addloclp 14.1

Description
The connections screen appears with connection 14.1 highlighted. The system prompts to confirm the loopback. To confirm it, enter y.

System Response

```
Next Command:
alpha          TRM    YourID:1       IPX 16    8.2    Mar. 23 1996 11:03 PST

 Local      Remote      Remote                                      Route
 Channel    NodeName    Channel    State   Type    Compression   Code Avoid COS O
 5.1        beta        )25.1      Ok      256                    7/8        0  L
 9.1.100    gamma       8.1.200    Ok      fr                                0  L
 9.1.200    gamma       8.1.300    Ok      fr                                0  L
 9.2.400    beta        19.2.302   Ok      fr(Grp)                           0  L
 14.1       )gamma      15.1       Ok      v                                 0  L




 Last Command: addloclp 14.1


 Next Command:
```

Table 16-3   addloclp – Parameters (voice)

Parameter	Description
slot	Specifies the slot number of the card containing the port to loop at the local node.
channel (s)	Specifies the channel or set of channels to loop at the local node.
port	Where applicable for the connection type, specifies the port.

Table 16-4   addloclp – Parameters (data)

Parameter	Description
slot	Specifies the slot number of the card containing the port to loop at the local node.
port	Specifies the local port to loop at the local node.

Table 16-5   addloclp – Parameters (Frame Relay)

Parameter	Description
slot	Specifies the slot number of the FRP card containing the port to be looped at the local node.
port	Specifies the local port to loop at the local node.

Table 16-6   addloclp – Parameters (Frame Relay connection)

Parameter	Description
slot	Specifies the slot number of the FRP card containing the port to loop at the local node
port	Specifies the local port to loop at the local node.
DLCI	Specifies the Data Link Connection Identifier (DLCI) number of the channel to loop at the local node.

Table 16-7   addloclp - parameters (ATM connection)

Parameter	Description
slot	Specifies the slot number of the ATM card containing the port to loop at the local node
port	Specifies the local port to loop at the local node.
vpi.vci	The vpi range is 0 - 7, and the vci range is 1 - 255. An asterisk (*) indicates a virtual path

addlocrmtlp

Adds support of a local-remote loopback for testing multi-segment connections in a tiered network. The effect is to instruct the remote node to set up a remote loopback. The **addlocrmtlp** command must be executed prior to using **tstcon** and **tstdelay** for multi-segment connections. For interface shelves, you can execute **addlocrmtlp** on either the interface shelf (after telnetting to it). After testing is complete, remove the local-remote loop by executing **dellp**. A parenthesis on the screen shows the loop's endpoint.

Full Name

Add local-remote loopback in a tiered network

Syntax

addlocrmtlp <channel(s)>

Related Commands

tstcon, tstdelay, dellp, dspcons, dspfrport

Attributes

Privilege	1–2
Jobs	Yes
Log	Yes
Node	BPX, IPX/AF, IPX, IGX
Lock	Yes

Example 1

addlocrmtlp 5.1.3.100

Description

The connections screen appears with the connection highlighted and a prompt for confirmation.

System Response

```
pubsbpx1        TN    SuperUser       BPX       8.2    July 13 1996 14:41 PDT

 Local            Remote     Remote
 Channel          NodeName   Channel          State  Type      Compress  Code COS
 5.1.3.100 (       pubsbpx3  7.1.2.49          Ok    aftr                          0




 This Command: addlocrmtlp 5.1.3.100


 Loopback these connections (y/n)?
```

Table 16-8   **addlocrmtlp – Parameters**

| Parameter	Description
channels(s)	The connection endpoint on the local node.

addrmtlp

The **addrmtlp** command places the following types of channels in remote loopback mode:

- Voice

- Data

- Frame relay port

- Frame relay connection

- ATM connection

For voice connections, **addrmtlp** loops the information stream from the designated channel or group of channels on an incoming circuit line across the network and loops it back to the circuit line by way of the remote CDP or CVM. External test equipment can then test the integrity of the path at the T1 DS0 level. The following illustrates a remote loopback on a voice channel.

Figure 16-5   Remote Loopback on a Voice Channel
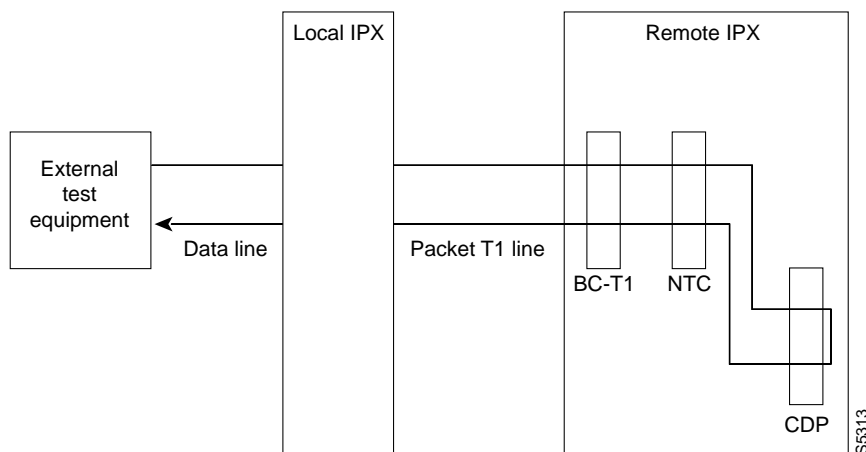
For data connections, **addrmtlp** transfers the information stream from the designated channels through the network and loops it back to the data port(s) through a remote SDP, HDM, LDM, or LDP. External test equipment can then test the integrity of the path. The following illustrates a data connection remote loopback.

Figure 16-6   Remote Loopback on a Data Connection
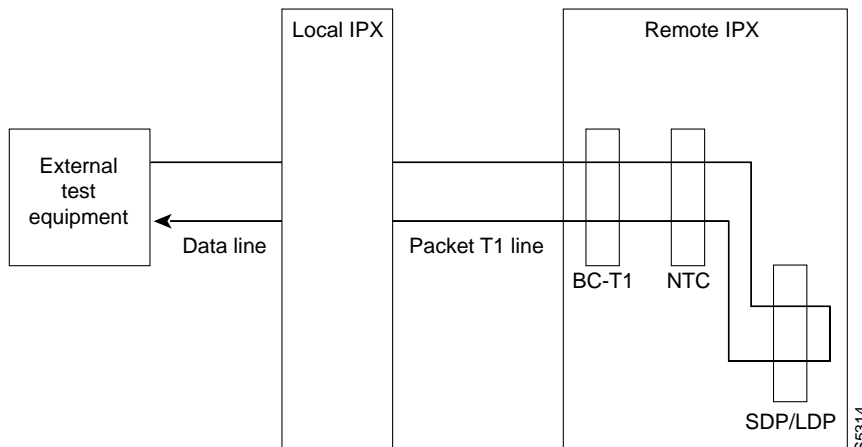
Prior to executing the loopback, the IPX or IGX applies signalling template bit patterns to the A, B, C, and D signalling bits at the remote end to remove the connection from service. The loopback remains in place until removed by the **dellp** command. Only existing connections (those that have been entered with the **add-on** command) can be looped back. You cannot establish a remote loopback on a connection that is already looped back, either locally or remotely. (See the **addloclp** command for more information on local loopbacks.)

Use the **dspcons** command to see which connections are looped back. A flashing left parenthesis "(" or right parenthesis ")" is used in the connections display to indicate a loopback. The direction and location of the parenthesis depends on whether the loopback is local or remote and which end of the connection was used to establish the loopback. A remote loopback initiated from the local end of the connection looks like this:

Local Channel	Remote Channel	Remote Node
3.2	alpha	12.1

A remote loopback initiated from the remote end of the connection looks like this:

Local Channel	Remote Node	Remote Channel
3.2	alpha	12.1

For remote loopback of frame relay connections, note that in remote loopback mode, if the transmit minimum bandwidth exceeds the receive minimum bandwidth, then loopback data may be dropped. For this reason, the connection speeds will be checked and the user will receive the following message if there is a problem:

"Warning - Receiver's BW < Originator's BW - Data may be dropped".

Because the addrmtlp command causes the connection to be removed from service, loopbacks should be used only when a service disruption can be tolerated. Local loopbacks are established with the **addloclp** command. Both local and remote loopbacks are removed by the **dellp** command. Loopbacks for data channels can also be initiated by pressing a push-button on the front of the associated data card.

Remote Loopbacks and the Port Concentrator Shelf

For frame relay remote loops, DLCI MUST be specified; entering only port number only generates an error message.

Unlike local loopbacks, remote loopbacks are not supported for frame relay *ports*; connections must be specified. Data incoming on the frame relay port is looped at the remote end FRM-2 or FRP-2 card.

Figure 16-7   Frame Relay Remote Loops
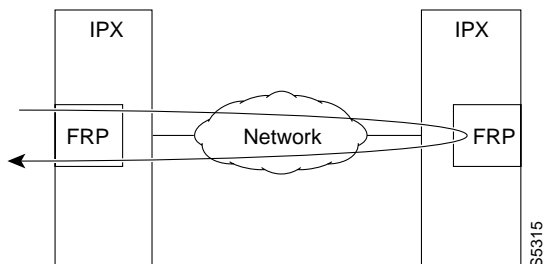
As shown, this test verifies the operation of IPX/IGX network components up to the interface with the remote-end FRM-2 or FRP-2. This test interrupts data traffic for *only* the connection specified by DLCI.

If a port concentrator is attached to the FRM-2 or FRP-2, the only difference in the loop is that the port specified to loop data is on the Port Concentrator:

Figure 16-8   Frame Relay Remote Loops with Port Concentrator
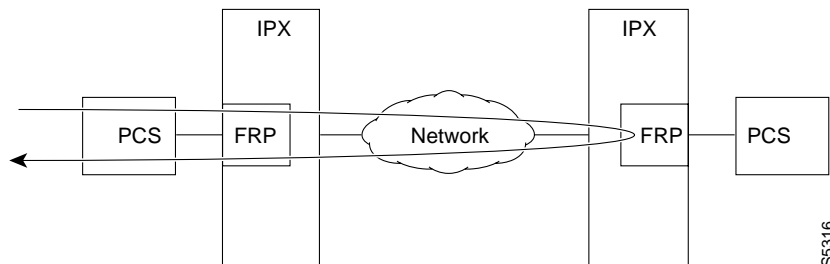
Full Name

Add remote loopback to connections

Syntax

addrmtlp (see parameter tables)

Related Commands

addloclp, dellp, dspcons

Attributes

Privilege	1–2
Jobs	Yes
Log	Yes
Node	IPX, IGX, BPX
Lock	Yes

Example 1

addrmtlp 5.1

Description

The connections screen appears with connection 5.1 highlighted. The system prompts to confirm the loopback. To confirm it, enter y. A flashing parenthesis ")" appears in the "Remote Channel" column of the connection to indicate that the connection is looped back.

System Response

```
  alpha           TRM   YourID:1        IPX 16    8.2    Mar. 16 1996 12:57 PST

  Local        Remote       Remote                                      Route
  Channel      NodeName     Channel    State  Type    Compression  Code Avoid COS O
  5.1          beta         )25.1      Ok     256                  7/8          0 L
  9.1.100      gamma        8.1.200    Ok     fr                                0 L
  9.2.400      beta         19.2.302   Ok     fr                                0 L
  14.1         gamma        15.1       Ok     v                                 0 L










  Last Command: addrmtlp 5.1


  Next Command:
```

Table 16-9   addrmtlp – Parameters (voice)

Parameter	Description
slot	Specifies the slot number of the card containing the port to loop at the local node.
channel (s)	Specifies the channel or set of channels to loop at the local node.
port	Where applicable for the connection type, specifies the port.

Table 16-10   addrmtlp – Parameters (data)

Parameter	Description
slot	Specifies the slot number of the card containing the port to loop at the local node.
port	Specifies the local port to loop at the local node.

Table 16-11   addrmtlp – Parameters (Frame Relay connections)

Parameter	Description
slot	Specifies the slot number of the FRP card containing the port to loop at the local node
port	Specifies the local port to loop at the local node.
DLCI	Specifies the Data Link Connection Identifier (DLCI) number of the channel to loop at the local node.

Table 16-12   addrmtlp – Parameters (ATM)

Parameter	Description
slot	Specifies the slot number of the card containing the port to loop at the local node.
channel (s)	Specifies the channel or set of channels to loop at the local node.
port	Where applicable for the connection type, specifies the port.
vpi.vci	Specifies vpi/vci.

clrchstats

Clears the channel utilization statistics for either all frame relay channels or a specified frame relay channel. Statistics generated within the last one minute are not cleared.

Full Name
Clear channel statistics

Syntax
clrchstats <channel | *>

Related Commands
dspchstats

Attributes

Privilege	1–5
Jobs	Yes
Log	Yes
Node	IPX, IGX
Lock	Yes

Example 1
clrchstats 9.2.400

Description
Clear the statistics of channel 9.2.40.

System Response

```
alpha           TRM   YourID:1        IPX 16    8.2    Mar. 16 1996 13:24 PST

Channel Statistics for 9.2.400    Cleared: Mar. 16 1996 13:23
MIR: 9.6 kbps           Collection Time: 0 day(s) 00:02:42      Corrupted: NO
                   Frames   Avg Size Avg     Util           Packets       Avg
                            (bytes)  (fps)   (%)                           (pps)
From Port:              0         0     0     0
To Network:            0         0     0     0                 0             0
Discarded:             0         0     0     0
From Network:          0         0     0     0                 0             0
To Port:               0         0     0     0
Discarded:             0         0     0     0                 0             0

               ECN Stats:  Avg Rx VC Q:           0    ForeSight RTD    --
Min-Pk bytes rcvd:         0 FECN Frames:          0    FECN Ratio (%)   0
Minutes Congested:         0 BECN Frames:          0    BECN Ratio (%)   0


This Command: clrchstats 9.2.400


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

Table 16-13   clrchstats – Parameters

Parameter	Description
channel	Specifies the frame relay channel for which to clear statistics. <channel> is specified in the format slot.port.DLCI. An "*" specifies all channels.

clrclkalm

Clears the alarm condition attached to a clock source, either circuit line or trunk. The clock test runs continuously in a node, comparing the frequency of the node's clock source to a reference on the NPC/BCC/CC/control card. If a clock source is found to be outside preset frequency limits, it is declared defective and another clock source is selected. In order for the node to return to the original clock source, the alarm must be cleared using the **clrclkalm** command. The alarm may be either a "Bad Clock Source" or "Bad Clock Path" alarm.

Full Name

Clear clock alarm

Syntax

clrclkalm <line type> <line number>

Related Commands

cnfclksrc, dspclksrcs, dspclns, dspcurclk, dsptrks

Attributes

Privilege	1–5
Jobs	No
Log	Yes
Node	IPX, IGX
Lock	Yes

Example 1

clrclkalm c 12

Description

Clear a clock alarm on circuit line 12

Example 2

clrclkalm p 12

Description

Clear a clock alarm on packet line 12

Table 16-14   clrclkalm – Parameters

Parameter	Description
c/p	Specifies the type of line. A "c" is entered for a circuit line, and a "p" is entered for a trunk.
line number	Specifies the number of the circuit or trunk for which to clear the clock alarm.

clrclnalm

Clears the alarms associated with a circuit line. Since the statistical alarms associated with a circuit line have associated integration times, they can keep a major or minor alarm active for some time after the cause has been rectified. This command allows these alarms to be cleared, allowing any new alarms to be quickly identified. The **clrclnalm** command can only clear alarms caused by the collection of statistical data. Alarms caused by a network failure cannot be cleared. For example, an alarm caused by a collection of bipolar errors can be cleared, but an alarm caused by a card failure cannot.

Full Name

Clear circuit line alarm

Syntax

clrclnalm <line_number> <fail_type>

Related Commands

dspclns, dspclnerrs

Attributes

Privilege	1–5
Jobs	No
Log	Yes
Node	IPX, IGX
Lock	Yes

Example 1

clrclnalm 14 2

Description

Clear the minor alarm caused by frame slips on circuit line 14.

System Response

```
alpha          TRM   YourID:1         IPX 16    8.2    Mar. 16 1996 13:10 PST

                            Line Alarm Configuration

                    Minor                              Major

    Violation    Rate    Alarm Time  Clear       Rate    Alarm Time  Clear
    1) Bpv       10E-7   10 min       3 min       10E-3   10 sec      10 sec
    2) Fs          .01%  10 min       3 min         .1%   10 sec      10 sec
    3) Oof       .0001%  10 min       3 min         .01%  10 sec      10 sec
    4) Vpd           2%   5 min       3 min          5%   60 sec      10 sec
    5) Tsdp        .01%   5 min       3 min         .1%   60 sec      10 sec
    6) Ntsdp       .01%   5 min       3 min         .1%   60 sec      10 sec
    7) Pkterr      .01%  10 min       3 min         .1%  125 sec      10 sec
    8) Los       .0001%  10 min       3 min         .01%  10 sec      10 sec



    This Command: clrclnalm 14 2


    Continue?
```

Table 16-15   clrclnalm – Parameters

Parameter	Description
line number	Specifies the number of the circuit line for which to clear the alarm.
failure type	Specifies the type of alarm to clear.

clrclnerrs

Clears the alarms associated with a circuit line. Since the statistical alarms associated with a circuit line have associated integration times, they can keep a major or minor alarm active for some time after the cause has been rectified. This command allows these alarms to be cleared, allowing any new alarms to be quickly identified. The **clrclnalm** command can clear only those alarms that the collection of statistical data has caused. Alarms caused by a network failure cannot be cleared by **clrclnalm**.

Full Name

Clear circuit line errors

Syntax

clrclnerrs [<line_number>]

Related Commands

dspclnerrs, prtclnerrs

Attributes

Privilege	1–5
Jobs	Yes
Log	Yes
Node	IPX, IGX
Lock	Yes

Example 1

clrclnerrs

Description

Clear circuit line error counts. In response to the prompt, enter "y" to reset all circuit line error counts to "0".

System Response

```
alpha          TRM   YourID:1        IPX 16    8.2    Mar. 16 1996 13:12 PST

Total Errors

From  Code    Frame   Out of  Loss of Frame   CRC     Out of
CLN   Errors  Slips   Frames  Signal  BitErrs Errors  MFrames AIS-16
14          0       0       0       -       0       -       -       -




Last Command: clrclnerrs


Next Command:
```

clrclnalm

Clears the alarms associated with a circuit line. Since the statistical alarms associated with a line have associated integration times, they can keep a major or minor alarm active for some time after the cause has been rectified. This command allows these alarms to be cleared, allowing any new alarms to be quickly identified.

The **clrclnalm** command can only clear alarms caused by the collection of statistical data. Alarms caused by a network failure cannot be cleared. For example, an alarm caused by a collection of bipolar errors can be cleared, but an alarm caused by a card failure cannot.

Full Name

Clear circuit line alarm

Note   **clrclnalm** and **clrlnalm** are the same commands.

Syntax

clrclnalm <line_number> <fail_type>

Related Commands

dsplns, dsplnerrs

Attributes

Privilege	1–5
Jobs	No
Log	Yes
Node	IPX, IGX
Lock	Yes

Example 1
clrlnalm 14 2

Description
Clear the minor alarm caused by frame slips on 14. The 2 indicates frame slips.

System Response

```
alpha          TRM   YourID:1          IPX 16    8.2    Mar. 16 1996 13:10 PST

                            Line Alarm Configuration

                     Minor                               Major

    Violation    Rate    Alarm Time  Clear        Rate    Alarm Time  Clear
    1) Bpv       10E-7   10 min       3 min       10E-3   10 sec       10 sec
    2) Fs         .01%   10 min       3 min         .1%   10 sec       10 sec
    3) Oof      .0001%   10 min       3 min         .01%  10 sec       10 sec
    4) Vpd          2%    5 min       3 min          5%   60 sec       10 sec
    5) Tsdp       .01%    5 min       3 min         .1%   60 sec       10 sec
    6) Ntsdp      .01%    5 min       3 min         .1%   60 sec       10 sec
    7) Pkterr     .01%   10 min       3 min         .1%  125 sec       10 sec
    8) Los      .0001%   10 min       3 min         .01%  10 sec       10 sec


    This Command: clrclnalm 14 2


    Continue?
```

Table 16-16   clrclnalm – Parameters

Parameter	Description
line number	Specifies the number of the circuit line for which to clear the alarm.
failure type	Specifies the type of alarm to clear.

clreventq

Clears high water marks for fail handler event queues.

Full Name

Clear event queues from the fail handler

Syntax

clreventq

Related Commands

dspeventq

Attributes

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

Example 1

clreventq

Description

Clear the fail handler event queue.

System Response

```
sw151          TN   SuperUser      IGX 16    8.2        Sep. 12 1996 19:18 GMT

   QUEUE                    LENGTH            THROTTLING
NUM NAMES          MAX   HIGH CURRENT         POINT
 1  Fail_Xid              26    1             7000
 2  Fail_ Q               25    0
 3  Mt_Sv_Q[0]     300     9    0              270
 4  sv_mt_bufq             9    0




This Command: clreventq


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

clrlnerrs

Clears accumulated line error counts for all lines on a node.

Full Name
Clear line errors

Syntax
clrlnerrs [<line_number>]

Related Commands
dsplnerrs, prtlnerrs

Attributes

Privilege	1–5
Jobs	Yes
Log	Yes
Node	IPX, IGX
Lock	Yes

Example 1
clrlnerrs

Description
Clear the line error counts. In response to the prompt enter "y" to reset all line error counts to "0."

System Response

```
alpha           TRM   YourID:1        IPX 16    8.2    Mar. 16 1996 13:12 PST

Total Errors

From  Code    Frame   Out of  Loss of Frame   CRC     Out of
CLN   Errors  Slips   Frames  Signal  BitErrs Errors  MFrames AIS-16
14         0       0       0       -       0       -       -       -




         Last Command: clrclnerrs


         Next Command:
```

clrlog

Clears the event log. When the log is cleared, one entry remains, "Info Log Cleared". Before the event log is cleared, a prompts you to confirm. See the **dsplog** command for more information on the event log.

Full Name

Clear event log

Syntax

clrlog

Related Commands

dsplog

Attributes

Privilege	1–5
Jobs	Yes
Log	Yes
Node	IPX, IGX
Lock	Yes

Example 1

clrlog

Description

Clear the event log. When the log is cleared, one entry remains, "Info Log Cleared." Enter "y" to confirm.

System Response

```
sw151           TN   SuperUser       IGX 16   8.2       Sep. 12 1996 19:19 GMT

Most recent log entries (most recent at top)
Class  Description                                      Date     Time
Info   User SuperUser logged out (Local)               09/12/96 18:18:57
Major  LN 5.6 Loss of Sig (RED)                         09/12/96 18:12:22
Info   User SuperUser logged out (Local)               09/12/96 18:11:17
Info   Clock switch to oscillator of SCC                09/12/96 18:10:46
Clear  LN 5.6 OK                                        09/12/96 18:05:11
Minor  LN 5.6 Out of Multi-Frames                       09/12/96 18:03:27
Info   Clock switch to LINE 5.6                          09/12/96 18:03:12
Clear  LN 5.6 OK                                        09/12/96 18:02:42
Info   Clock switch to oscillator of SCC                09/12/96 17:59:24
Major  LN 5.6 Loss of Sig (RED)                         09/12/96 17:59:24
Info   Clock switch to LINE 5.6                          09/12/96 17:59:20
Clear  LN 5.6 OK                                        09/12/96 17:59:20
Major  LN 5.6 Loss of Sig (RED)                         09/12/96 17:58:51

This Command: clrlog


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

clrmsgalm

Clears the minor alarm due to an alarm message received at an alarm collection port.

Full Name

Clear message alarm

Syntax

clrmsgalm

Related Commands

dspalms, dsplog

Attributes

Privilege	1–5
Jobs	No
Log	Yes
Node	IPX, IGX, BPX
Lock	Yes

Example 1

clrmsgalm

Description

Clear a minor alarm due to an alarm message.

System Response

```
alpha           TRM   YourID:1        IPX 16    8.2    Mar. 23 1996 10:59 PST
```

```
Last Command: clrmsgalm

No message alarm set
Next Command:
```

clrportstats

Clears the statistics for any port on an FRP. This includes the data byte count in the transmit and receive directions and error counts associated with the port. Statistical accumulation then resumes for that port.

Statistics collecting takes place once per minute, so **clrportstats** may not clear statistics that are less than one minute old.

Full Name

Clear port statistics

Syntax

clrportstats <port | *>

Related Commands

dspportstats

Attributes

Privilege	1–5
Jobs	Yes
Log	Yes
Node	IPX, IGX
Lock	Yes

Example 1

clrportstats 9.1

Description

Clear the port statistics for port 1 on an FRP card in slot 9. Type "y" to confirm.

System Response

```
alpha          TRM   YourID:1        IPX 16   8.2   Mar. 23 1996 10:57 PST

Port Statistics for 9.1          Cleared: Mar. 11 1996 15:32
Port Speed: 256 kbps   Collection Time: 11 day(s) 19:22:09     Corrupted: YES

                       Bytes       Average (kbps)    Util (%)        Frames
From Port:                 0            0               0                 0
To Port:                   0            0               0                 0
Frame Errors              LMI Receive Protocol Stats   Misc Statistics
Invalid CRC          0   Status Enq Rcvd        0   Avg Tx Port Q        0
Invalid Alignment    0   Status Xmit            0   FECN Frames          0
Invalid Frm Length   0   Asynch Xmit            0      Ratio (%)         0
Invalid Frm Format   0   Seq # Mismatches       0   BECN Frames          0
Unknown DLCIs        0   Timeouts               0      Ratio (%)         0
Last Unknown DLCI    0   Invalid Req            0   Rsrc Overflow        0
                         Sig Protocol:  None       DE Frms Dropd         0


This Command: clrportstats 9.1


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

clrslotalms

Clears the alarm messages associated with the alarms displayed for the Display Slot Alarms command. Alarm messages are cleared for the specified slot only. These counters should be cleared before beginning any monitoring session. This command prompts the user with a "OK to Clear?" message before actually clearing the counters. Use dspslotalms to observe the slot alarms. Refer to the dspslotalms command for a description of the counters cleared by the clrslotalms command.

Full Name

Clear slot alarms

Syntax

clrslotalms parameters

Related Commands

dspslotalms

Attributes

Privilege	1–5
Jobs	Yes
Log	Yes
Node	BPX
Lock	Yes

Example 1

clrslotalms 3

Description

Clear alarm on slot 3

Table 16-17   clrslotalms – Parameters

Parameter	Description
slot number	Specifies shelf slot in the BPX node for which to clear trunk alarms.

clrsloterrs

Clears the counters for the error counts displayed for the Display Slot Errors command. Counters are cleared for the specified slot only. These counters should be cleared before beginning any monitoring session. This command prompts the user with a "OK to Clear?" message before actually clearing the counters. Use dspsloterrs to observe the **slot errors**. Refer to the dspsloterrs command for a description of the counters cleared by the **clrsloterrs** command.

Full Name

Clear slot errors

Syntax

clrsloterrs <slot number | *>

Related Commands

dspsloterrs

Attributes

Privilege   1–5

Jobs   Yes

Log   Yes

Node   IPX, IGX, BPX

Lock   Yes

Example 1

clrsloterrs 3

Description

Clear the slot errors in slot 3

Table 16-18   clrsloterrs – Parameters

Parameter	Description
slot number	Specifies the shelf slot in the node.

clrtrkalm

Clears statistical alarms associated with either a physical or virtual trunk. Since the statistical alarms associated with a trunk have associated integration times, they can keep a major or minor alarm active for some time after the cause has been rectified. The **clrtrkalm** allows these alarms to be cleared, allowing any new alarms to be quickly identified.

The **clrtrkalm** command can only clear alarms caused by the collection of statistical data. Alarms caused by a network failure cannot be cleared. For example, an alarm caused by a collection of bipolar errors can be cleared, but an alarm caused by a card failure cannot.

Full Name
Clear trunk alarm

Syntax
clrtrkalm <trunk number> <failure type>

Related Commands
dsptrks, dsptrkerrs

Attributes

Privilege	1–5
Jobs	No
Log	Yes
Node	IPX, IGX, BPX
Lock	Yes

Example 1
clrtrkalm

Description
Statistical trunk alarms are cleared

System Response

```
beta            TRM   YourID:1        IPX 32    8.2    Mar. 15 1996 15:15 MST

PLN  Type       Current Line Alarm Status           Other End
7    E1/32      Clear - Line OK                      alpha.10
9    T1/24      Clear - Line OK                      gamma.10
13   T1/24      Clear - Line OK                      alpha.14
15   T1/24      Clear - Line OK                      gamma.15
20   T3/3       Clear - ATM Missing                  -




Last Command: clrtrkalm


Next Command:
```

Example 2

clrtrkalm 7 4

Description

Clear the minor alarm type 4 caused by dropped voice packets on trunk 7. Respond to the
"Continue?" prompt with "y" (for yes) to clear and display the remaining alarms.

System Response

```
beta            TRM   YourID:1        IPX 32    8.2    Mar. 15 1996 15:15 MST

PLN  Type       Current Line Alarm Status           Other End
7    E1/32      Clear - Line OK                      alpha.10
9    T1/24      Clear - Line OK                      gamma.10
13   T1/24      Clear - Line OK                      alpha.14
15   T1/24      Clear - Line OK                      gamma.15
20   T3/3       Clear - ATM Missing                  -




Last Command: clrtrkalm 7 4


Next Command:
```

Table 16-19   clrtrkalm – Parameters

Parameter	Description
trunk number	Specifies the trunk. Note that, for virtual trunks, no virtual trunk parameter is required—just *slot.port*. The format is either *slot* (for a single-trunk card) or *slot.port*.
failure type	Specifies the type of alarm to clear.

clrtrkerrs

Clears the statistical error counters at the node for the specified physical or virtual trunk. You should do this before you begin any monitoring session and periodically thereafter to determine exactly when a trunk problem begins. Use **dsptrkerrs** to observe errors without clearing counters.

Full Name

Clear trunk errors

Syntax

clrtrkerrs <trunk_number | *>

Related Commands

dsptrkerrs, prttrkerrs

Attributes

Privilege	1–5
Jobs	Yes
Log	Yes
Node	IPX, IGX, BPX
Lock	Yes

Example 1

clrtkerrs *

Description

Clear all trunk errors.

System Response

```
pubsbpx1        TN    SuperUser        BPX 15    8.2         Sep. 12 1996 19:37 PST

Total Errors

       Code    Rx Cell Out of  Loss of Frame   HCS     Tx Cell Cell    Cell
TRK    Errors  Dropped Frames  Signal  BitErrs Errors  Dropped Errors  Oofs
1.1         0       0       0       0       -       0       0       -       -
1.2         0       0       0       0       -       0       0       -       -




This Command: clrtrkerrs *

Clears errors on all trunks. Continue (y/n)?
```

Table 16-20   clrtrkerrs – Parameters

Parameter	Description
trunk number	Specifies the trunk counter to clear.

clrtrkstats

Clears the node counters used for the Display Trunk Statistics. Counters are cleared for a physical or virtual trunk. These counters should be cleared before beginning any monitoring session. This is similar to the **clrtrkerrs** command for errors. This command prompts the user with a "OK to Clear?" message before actually clearing the counters. Use **dsptrkstats** to observe the trunk statistics. See the **dsptrkstats** command for a description of the counters cleared by the **clrtrkstats** command.

Full Name

Clear trunk statistics

Syntax

clrtrkstats <*trunk number*>

Related Commands

dsptrkstats

Attributes

Privilege   1–5

Jobs   Yes

Log   Yes

Node   BPX

Lock   Yes

Example 1

clrtrkstats

Description

Clear the statistics on trunk 3

Table 16-21   clrtrkstats – Parameters

Parameter	Description
trunk number	Specifies the trunk. Note that, for virtual trunks, no virtual trunk parameter is required—just slot.port. The format is either slot (for a single-trunk card) or slot.port.

cnfbus

Selects the active System Bus. It should only be necessary to use this command when a problem is suspected with the currently active System Bus. As a safeguard against bus failure, each IPX node is equipped with redundant System Buses, Bus A and Bus B. Either bus can be configured as the active bus and the remaining bus is reserved as standby. Use the **dspbuses** command to display the current bus configuration when configuring the buses with the **cnfbus** command.

Full Name

Configure active bus

Syntax

cnfbus <a/b/t>

Related Commands

dspbuses

Attributes

Privilege	1–3
Jobs	Yes
Log	Yes
Node	IPX, IGX
Lock	

Example 1

cnfbus t

Description

Configure the system bus to toggle.

System Response

```
pubsigx1        TN    SuperUser        IGX 32    8.2        Sep. 12 1996 19:42 GMT

                                 Bus Info

Bus Bandwidth usage in Fastpackets/second    (Snapshot)

    Allocated = 20000      ( 2%)

    Available = 1148000    (98%)




-----------
Bus A: Standby - OK
Bus B: Active - OK


Last Command: cnfbus t


Next Command:
```

Table 16-22   cnfbus – Parameters

Parameter	Description
a	Select Bus A as the active bus.
b	Select Bus B as the active bus.
t	Toggles between buses. It changes the standby bus to the active bus and the active bus to the standby bus

cnflnalm

Sets the packet line (trunk) and circuit line alarm values for failures that are statistical in nature. Statistical alarms are declared by the IPX/BPX software when the cards supporting these lines report too many errors. An alarm is declared if the detected error rate equals the specified "error rate" for the period of time designated by "alarm time". Error rates that exceed the specified error rate cause an alarm in a proportionately shorter period of time. An alarm is cleared when the error rate remains below the rate specified by "error rate" for a period of time designated by "clear time".

Only the thresholds for alarms caused by the collection of statistical data can be configured. Alarms caused by a network failure cannot be configured. For example, the threshold for an alarm caused by a collection of bipolar errors can be configured, but an alarm caused by a card failure cannot. There are six parameters for each alarm type, three each for minor and major alarms respectively. When configuring any one item or more of a minor or major alarm, a value must be entered. The value may be a new value or the current value.

Full Name

Configure line alarms

Syntax

cnflnalm <fail_type> <alarm_class> <rate> <alarm_time> <clear_time>

Related Commands

clrclnalm, clrtrkalm, dspclnerrs, dsplnalmcnf, dsptrkerrs

Attributes

Privilege	1–3
Jobs	No
Log	Yes
Node	IPX, IGX
Lock	Yes

Example 1

cnflnalm 27 1 4 4 3

Description

Set Alarm Type 27, the Minor alarm time threshold, from a default of 5 minutes to 4 minutes. In this example, the cnflnalm command is followed by the alarm type (27), the alarm minor or major (1 for minor, 2 for major), the current rate (which is a default value of.001%, (which is a 4), the new value for Alarm Time of 4 minutes (which is a "4" entry), and the existing Alarm Clear time of "3".

System Response

```
pubsigx1        TN    SuperUser        IGX 32    8.2        Aug. 20 1996 17:19 GMT

                            Line Alarm Configuration

                    Minor                                Major

    Violation    Rate    Alarm Time  Clear      Rate    Alarm Time  Clear
    25) Rxbdapd  .001%   5 min       3 min        .1%   60 sec      10 sec
    26) Rxbdbpd  .001%   5 min       3 min        .1%   60 sec      10 sec
    27) Rxhppd   .001%   4 min       3 min        .1%   60 sec      10 sec
    28) Atmhec    .1%   10 min       3 min         1%  120 sec      10 sec
    29) FSyncErr  .01%  10 min       3 min        .1%  200 sec      10 sec
    30) Rxspdm    .01%   4 min       2 min       .001%  30 sec       5 sec




    Last Command: cnflnalm 27 1 4 4 3


    Next Command:
```

Table 16-23   cnflnalm – Parameters

Parameter	Description
Alarm type	Specifies the alarm type. Following defines the alarm types. (Items with an asterisk, items 18 to 30, pertain to ATM packet lines only.
	1 Bpv—Bipolar violations
	2 Fs —Frame slip
	3 oof—Out of frame
	4 Vpd -Voice packets dropped (TX)
	5 Tspd—Time stamped packets dropped (TX)
	6 Ntspd—Non-time stamped packets dropped
	7 Pkterr—Packet error
	8 Los—Loss of signal
	9 Fer—Frame error
	10 CRC—Cyclic Redundancy Check
	11 Pkoof—Packet out of frame
	12 Oom—Out of multi-frame
	13 Ais16 -Alarm information signal—E1/E3 Only
	14 Bdapd—Bursty data A packets dropped
	15 Bdbpd—Bursty data B packets dropped
	16 Badclk—Bad clock
	17 Pccpd—PCC packets dropped
	18 * Lcv—Line code violations
	19 * Pcv1—P-bit parity code violations
	20 * Pcvp—C-bit parity code violations
	21 * Bcv—PLCP BIP-8 code violations
	22 * Rxvpd—Receive voice packets dropped
	23 * Rxtspd—Receive time stamped packets dropped
	24 * Rxntspd—Receive non-time stamped packets dropped
	25 * Rxbdapd—Receive bursty data A packets dropped
	26 * Rxbdbpd—Receive bursty data B packets dropped
	27 * Rxhppd—Receive high priority packets dropped
	28 * Atmhec—Cell header HEC errors
	29 * Plcpoof—PLCP out of frame
	30 * 30 - Rxspdm - Receive spacer packets dropped
alarm class	Specifies the class of alarm to be configured for the specified alarm type. Valid alarm classes are:
	• Minor alarm
	• Major alarm
Error rates	Specifies the rate at which the error must occur on the line before it is registered. The choices for error rates vary depending on the "alarm type" and the "alarm class". The user choices are called out as Error Rate Options. The default error rates are indicated. With the exception of a Vpd (voice packets dropped) failure, you enter the number corresponding to the desired error rate. For Vpd (voice packets dropped) failures, you enter any dropped packet rate from 1% to 10%. See following for alarm types and error rates.

Table 16-24

Alarm Type	Alarm Class	Error Rate Options *	Alarm Time	Clear Time
1–Bpv	1–minor 2- major	Option B Default = 4 Default = 2	10 Minutes 10 Seconds	3 Minutes 10 Seconds
2–Fs	1–minor 2–major	Option A Default = 3 Default = 2	10 Minutes 10 Seconds	3 Minutes 10 Seconds
3–Oof	1–minor	1 – 1% 2 – .1% 3 – .01% 4 – .001% 5 – .0001% (Def.)	10 Minutes	3 Minutes
	2–major	1 – 1% 2 – .1% 3 – .01% (Def.) 4 – .001%	10 Seconds	10 Seconds
4- Vpd	1–minor 2–major	Any dropped packet rate from 1% to 10%	5 Minutes 60 Seconds	3 Minutes 10 Seconds
5- Tspd	1–minor 2–major	Option A Default = 3 Default = 2	5 Minutes 60 Seconds	3 Minutes 10 Seconds
6–Ntspd	1–minor 2–major	Option A Default = 3 Default = 2	5 Minutes 60 Seconds	3 Minutes 10 Seconds
7- Pkterr	1–minor 2–major	Any error count from 1–10,000	10 Minutes 125 Seconds	3 Minutes 10 Seconds
8-Los	1–minor 2–major	Option A Default = 5 Default = 3	10 Minutes 10 Seconds	3 Minutes 10 Seconds
9- Fer	1–minor 2–major	Option A Default = 3 Default = 2	10 Minutes 200 Seconds	3 Minutes 10 Seconds
10- CRC	1–minor 2–major	Option A Default = 3 Default = 2	10 Minutes 200 Seconds	3 Minutes 10 Seconds
11–Pkoof	1–minor 2–major	Option A Default = 3 Default = 2	10 Minutes 200 Seconds	3 Minutes 10 Seconds
12- Oom	1–minor 2–major	Option A Default = 4 Default = 2	10 Minutes 10 Seconds	3 Minutes 10 Seconds
13- Ais16	1–minor 2–major	Option A Default = 5 Default = 3	10 Minutes 10 Seconds	3 Minutes 10 Seconds
14–Bdapd	1–minor 2–major	Option A Default = 4 Default = 2	5 Minutes 60 Seconds	3 Minutes 10 Seconds

Alarm Type	Alarm Class	Error Rate Options *	Alarm Time	Clear Time
15- Bdbpd	1–minor	Option A Default = 4	5 Minutes	3 Minutes
	2–major	Default = 2	60 Seconds	10 Seconds
16–Badclk	1–minor	Option A Default = 2	10 Minutes	3 Minutes
	2–major	Default = 1	50 Seconds	10 Seconds
17–Pccpd	1–minor	Option A Default = 4	5 Minutes	3 Minutes
	2–major	Default = 2	60 Seconds	10 Seconds
18–Lcv	1–minor	Option B Default = 3	10 Minutes	3 Minutes
	2–major	Default = 1	10 Seconds	10 Seconds
19–Pcv1	1–minor	Option B Default = 3	10 Minutes	3 Minutes
	2–major	Default = 1	10 Seconds	10 Seconds
20–Pcvp	1–minor	Option B Default = 3	10 Minutes	3 Minutes
	2–major	Default = 1	10 Seconds	10 Seconds
21–Bcv	1–minor	Option B Default = 3	10 Minutes	3 Minutes
	2–major	Default = 1	10 Seconds	10 Seconds
22–Rxvpd	1–minor	1–10% Default =1%	5 Minutes	3 Minutes
	2–major	1–10% Default = 4%	60 Seconds	10 Seconds
23–Rxtspd	1–minor	Option A Default = 3	5 Minutes	3 Minutes
	2–major	Default = 2	60 Seconds	10 Seconds
24–Rxbdapd	1–minor	Option A Default = 3	5 Minutes	3 Minutes
	2–major	Default = 2	60 Seconds	10 Seconds
25–Rxbdbpd	1–minor	Option A Default = 4	5 Minutes	3 Minutes
	2–major	Default = 2	60 Seconds	10 Seconds
26–Rxntspd	1–minor	Option A Default = 4	5 Minutes	3 Minutes
	2–major	Default = 2	60 Seconds	10 Seconds
27–Rxhppd	1–minor	Option A Default = 4	5 Minutes	3 Minutes
	2–major	Default = 2	60 Seconds	10 Seconds
28–Atmhec	1–minor	Option A Default = 4	10 Minute	3 Minutes
	2–major	Default = 2	120 Seconds	10 Seconds
29–Plcpoof	1–minor	Option A Default = 4	10 Minutes	3 Minutes
	2–major	Default = 2	200 Seconds	10 Seconds
30–Rxspdm	1–minor	Option A Default = 4	4 Minutes	2 Minutes
	2–major	Default = 2	10 Seconds	5 Seconds

Table 16-25

Error Rate Options

Option	Alarm Class	Error Rate
A	**1** - minor	**1** - 1% **2** -.1% **3** -.01% **4** -.001% **5** -.0001%
	2 - major	**1** - 1% **2** -.1% **3** -.01%
B	**1** - minor	**1** - 10E-4 **2** - 10E-5 **3** - 10E-6 **4** - 10E-7 **5** - 10E-8
	2 - major	**1** - 10E-2 **2** - 10E-3 **3** - 10E-4 **4** - 10E-5 **5** - 10E-6

Table 16-26

Alarm time	Specifies the time that the condition must exceed the selected threshold before an alarm is declared. For minor alarms, the "alarm time" is entered as minutes and can range from 3 to 10. For major alarms, the "alarm time" is entered as seconds and can range from 10 to 250.
Clear time	Specifies the time that the condition must exceed the selected threshold before the alarm is cleared. For minor alarms, the "clear time" is entered as minutes and can range from 3 to 10. For major alarms, the "clear time" is entered as seconds and can range from 10 to 250.

cnfslotalm

Configures the alarm parameters for the various card types. Upon command entry, the system displays a screen with a choice of 8 card-alarm types. It then displays "Enter Type" and waits for a number in the range 1–12. Upon entry of the alarm type, the system displays the error rates of the selected type.

Full Name
Configure slot alarm parameters

Syntax
cnfslotalm <fail_type> <alarm_class> <rate> <alarm_time> <clear_time>

Related Commands
dspslotalms

Attributes

Privilege	1
Jobs	Yes
Log	Yes
Node	BPX
Lock	Yes

Example 1
cnfslotalm 10

Description
Configure the alarm parameters

System Response

```
pubsbpx1        TN    SuperUser       BPX 15    8.2.0r    Sep. 12 1996 19:43 PST

   Slot Alarm Types

   1) Standby PRBS Errors              11) Poll Clk Errors
   2) Rx Invalid Port Errs             12) CK 192 Errors
   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




   This Command: cnfslotalm


   Enter Type:
```

The screen display after selecting alarm type 10:

```
pubsbpx1        TN    SuperUser       BPX 15    8.2      Sep. 12 1996 19:47 PST

                           Slot Alarm Configuration


                 Minor                               Major

   Violation    Rate    Alarm Time  Clear      Rate    Alarm Time  Clear
   1) SPRBS     .1%   10 min      3 min       1%   100 sec     100 sec
   2) InvP      .1%   10 min      3 min       1%   100 sec     100 sec
   3) PollA     .1%   10 min      3 min       1%   100 sec     100 sec
   4) PollB     .1%   10 min      3 min       1%   100 sec     100 sec
   5) BGE       .1%   10 min      3 min       1%   100 sec     100 sec
   6) TBip      .1%   10 min      3 min       1%   100 sec     100 sec
   7) RBip      .1%   10 min      3 min       1%   100 sec     100 sec
   8) Bfrm      .1%   10 min      3 min       1%   100 sec     100 sec
   9) SIU       .1%   10 min      3 min       1%   100 sec     100 sec
   10) RFifo    .1%   10 min      3 min       1%   100 sec     100 sec

   Last Command: cnfslotalm 10


   Next Command:
```

cnftrkalm

Configures trunk alarm reporting. When trunks are upped and added to the network, they automatically have their alarm reporting enabled. This command permits alarms from upped trunks to be disabled. This may be useful, for example, for trunks that are connected to the node but not yet in service or if the node is experiencing occasional bursts of errors but is still operational. When the alarms are enabled, they will cause an alarm output from the DTI Group Alarm Connector (if equipped) and an alarm indication from the StrataView Plus terminal.

Full Name

Configure trunk alarms

Syntax

cnftrkalm <trunk number> <e|d>

Related Commands

dspalms, dsptrks

Attributes

Privilege	1–5
Jobs	Yes
Log	Yes
Node	IPX, IGX, BPX
Lock	Yes

Example 1

cnftrkalm   14 d

Description

Disable a trunk alarm for trunk 14, which has a major alarm. After using this command to disable the alarms, the only indication that the alarms have been disabled is to observe the dspalms screen while a trunk alarm exists. This indicates "disabled" after PLN Alarms. Therefore, when disabling any trunk alarm, be sure to make note of it so that it may be enabled after the trunk failure has been corrected.

System Response

```
alpha          TRM   YourID:1        IPX 16    8.2   Mar. 16 1996 13:04 PST

From Type       Current Line Alarm Status              Other End
14   T1/24      Major - Tx NTS Packets Dropped         beta.13
```

```
Last Command: cnftrkalm 14 d


Next Command:
```

Example 2
cnftrkalm   14 e

Description
Enable the alarms after they have been disabled

Table 16-27   cnftrkalm – Parameters

Parameter	Description
e/d	Enable/disable

dellp

Deletes an external, local, remote, or local-remote (tiered nets) loopback form the designated channel, set of channels, or port. After the loopback is deleted, any conditioning applied during the loopback process is removed and service is restored. Local loopbacks are added with the **addloclp** command, and remote loopbacks are added with the **addrmtlp** command. External loopbacks are added with the **addextlp** command. A local loop can be deleted only from the node that added it. However, a remote loop can be deleted from the node at either end of the connection. Local-remote loopbacks are added with the addlocrmtlp command. Note that with local-remote loopbacks, execution of **dellp** is mandatory after testing is complete, otherwise continuity errors will follow.

Full Name

Delete loopback from connections or a port

Syntax

dellp <channel(s)>

Related Commands

addextlp, addloclp, addlocrmtlp, addrmtlp

Attributes

Privilege	1–2
Jobs	Yes
Log	Yes
Node	IPX, IGX, BPX
Lock	Yes

Example 1

dellp 4.1.11

Description

Delete the loopback on channel 4.1.11. The connections screen appears with connection 4.1.11 highlighted. The system prompts to confirm deletion of the loopback. To confirm enter "y". Channel 5.1 is no longer looped back and is no longer highlighted, as below.

System Response

```
sw83            TN    SuperUser      IPX 16    8.2        Jan. 31 1996 19:58 PST

From           Remote      Remote
4.1.11         NodeName    Channel         State   Type      Compress  Code COS
4.1.11         sw79        4.1.11          Ok      fst                      0
4.1.12         sw79        4.1.12          Ok      fst                      0
4.1.13         sw79        4.1.13          Ok      fst                      0
4.1.14         sw79        4.1.14          Ok      fst                      0
4.1.15         sw79        4.1.15          Ok      fst                      0
4.1.16         sw79        4.1.16          Ok      fst                      0
4.1.17         sw79        4.1.17          Ok      fst                      0
4.1.18         sw79        4.1.18          Ok      fst                      0
4.1.19         sw79        4.1.19          Ok      fst                      0
4.1.20         sw79        4.1.20          Ok      fst                      0
4.1.21         sw79        4.1.21          Ok      fst                      0
4.1.22         sw79        4.1.22          Ok      fst                      0
4.1.23         sw79        4.1.23          Ok      fst                      0

This Command: dspcons


Continue?
```

Table 16-28   dellp – Parameters

Parameter	Description
channels	Specifies the channel or set of channels whose loopback is to be deleted. <channel> can be specified in one of three formats as follows:

slot.channel	voice connection
slot.port	data connection
slot.port.DLCI	frame relay connection
slot.port.vpi.vci	ATM connections

dncd

Downs (or deactivates) a card. When you down a card, it is no longer available as a node resource.

A card should be downed before you remove it from a card cage. Before an active card is downed, the node determines if a standby card is available. If no standby card is present, the node gives you an opportunity to abort the command. If a standby card of the same type is available and you execute the command, the standby card is activated. If no standby card is available and you execute the command, a major alarm results. To activate a downed card, use the **upcd** command.

Note If you remove a card from a card cage without first executing **dncd**, no warning appears.

You cannot down a control card (NPC, NPM, or BCC). To switch a control between active and standby, use the **switchcc** command.

Full Name
Down card

Syntax
dncd <slot number>

Related Commands
dspcds, resetcd, upcd

Attributes

Privilege	1–3
Jobs	Yes
Log	Yes
Node	IPX, IGX, BPX
Lock	Yes

Example 1
dncd 9

Description
Down card 9

Table 16-29   dncd – Parameters

Parameter	Description
slot number	Specifies the slot number of the card to be downed.

dspalms

Displays major and minor alarms throughout the network and more specific alarms at the local node. The **dspalms** command displays the following information:

- The number of failed connections on the node.

- The number of sources failed.

- The number of major and minor circuit line alarms on the node.

- The number of major and minor trunk alarms on the node.

- The number of failed cards on the node.

- The number of missing cards on the node.

- The number of alarms on other nodes in the network.

- The number of remote domain alarms in the network.

- When the SV+ terminal is at a junction (physically, or **vt**), the number of junction node alarms is displayed.

- The number of unreachable nodes in the network.

- The power supply and power monitor failures on the node.

- Bus failures (either "Failed" or "Needs Diagnostics").

- FR Port Communication Failed (OAM Packet Threshold exceeded).

- FR NNI A-bit Alarms (connections with A bits = 0).

- Any alarm on the ASM card if the node is a BPX.

Trunk alarms are differentiated between those trunks that are disabled and those that are not. For more details on each type of alarm, use the "display" command associated with each failed item as shown below:

Table 16-30

Command	Description
dspcds	Displays cards in the node, with "F" for failures.
dspclns	Displays circuit lines.
dspcons	Displays connections.
dspdmns	Displays the domain and node alarms in the network.
dsplog	Displays events affecting the node.
dspnds	Displays unreachable nodes within domains.
dspnw	Displays alarm status of each domain in network.
dsptrks	Displays trunks.
dsppwr	Displays power supply status and internal temperature.

Full Name
Display current node alarms

Syntax

dspalms

Related Commands

dspcds, dspclns, dspcons, dsplog, dspnw, dsptrks, dsppwr

Attributes

Privilege   1–6

Jobs   No

Log   No

Node   IPX, IGX, BPX

Lock   No

Example 1

dspalms

Description

See a summary of all alarms affecting the node

System Response

```
alpha           TRM   YourID:1        IPX 16    8.2    Mar. 23 1996 10:50 PST

Alarm summary   (Configured alarm slots: 16)
Connections Failed:       None
Groups Failed:            None
PLN Alarms:               1 Major
CLN Alarms:               None
Cards Failed:             1
Missing Cards:            None
Remote Node Alarms:       2 Majors
Remote Domain Alarms:     None




Last Command: dspalms


Next Command:
```

Example 2
dspalms

Description
The current alarms on a BPX.

System Response

```
sw53            TN   SuperUser      BPX 15   8.2     July 21 1996 15:18 GMT

Alarm summary   (Configured alarm slots: None)
Connections Failed:      100
Groups Failed:           None
TRK Alarms:              None
Line Alarms:             None
Cards Failed:            None
Slots Alarmed:           None
Missing Cards:           None
Remote Node Alarms:      1 Unreachable, 5 Majors, 5 Minors
Remote Domain Alarms:    None

Interface Shelf Alarms:  2 Unreachables, 2 Minors
ASM Alarms:              None



Last Command: dspalms


Next Command:

              SW                                          MAJOR ALARM
```

dspbob

Shows the current state of all inputs from user equipment to the node the state of all outputs from the node to the user equipment. The display is real-time and updated at a user-specified interval. The display refreshes at the designated interval until the Delete key is pressed or until it times out. See the **cnfict** description for information on configuring data interfaces. When used with Frame Relay T1/E1 applications, **dspbob** displays the message "This FRP does not support V.35 ports."

Displaying Signal Status for Port Concentrator Ports

If an FRM-2 or FRP-2 card connects to a Port Concentrator Shelf (PCS), up to 44 ports can be specified with the *port* parameter. In this case, **dspbob** displays the signal status for ports on the PCS. The PCS relays any changes in signal states to the FRM-2 or FRP-2, so a slight delay occurs when signals are updated.

When used for PCS ports, **dspbob** has an optional parameter of measuring port clock speed. Selection of this parameter temporarily interrupts all traffic on the logical port. The events that take place upon input of this parameter are:

1 The port is disabled.

2 Two invalid frames are timed as they go out the port.

3 The port is reactivated.

Full Name
Display breakout box

Syntax
dspbob <port> [interval] [(measure clock speed) y | n]

Related Commands
cnfict, dspcon, dspict

Attributes

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

Example 1
dspbob 5.1

Description

See the breakout box display for channel 5.1

System Response

```
alpha          TRM   YourID:1        IPX 16   8.2   Mar. 23 1996 11:29 PST

Port:          5.1
Interface:     V35   DCE
Clocking:      Normal      (255999 Baud)

     Inputs from User Equipment              Outputs to User Equipment
 Lead  Pin  State   Lead  Pin  State     Lead  Pin  State   Lead  Pin  State
 RTS   C    Off                          CTS   D    On
 DTR   H    Off                          DSR   E    On
 TxD   P/S  Idle                         DCD   F    Off
 TT    U/W  Unused                       RI    J    Off
                                         TM    K    Off
                                         RxD   R/T  Idle
                                         RxC   V/X  Active
                                         TxC   Y/a  Active


 This Command: dspbob 5.1


 Hit DEL key to quit:
```

Example 2

dspbob 9.1

Description

See the breakout box display for frame relay connections

System Response

```
alpha           TRM   YourID:1        IPX 16    8.2    Mar. 23 1996 11:29 PST

Port:          9.1
Interface:     FRI-V35   DTE
Clocking:      Normal

       Inputs from User Equipment            Outputs to User Equipment
 Lead  Pin  State  Lead  Pin  State    Lead  Pin  State  Lead  Pin  State
 CTS   D    Off                        RTS   C    On
 DSR   E    Off                        DTR   H    On
 DCD   F    Off                        LT    L    Off
 (TM)  n    Off                        (RLB) N    Off




 This Command: dspbob 9.1


 Hit DEL key to quit:
```

Table 16-31   dspbob – Parameters

Parameter	Description
slot	Specifies the slot number of the card containing the port whose input and output pins are to be displayed.
port	Specifies the data port or frame relay port whose input and output pins are to be displayed.

Table 16-32   dspbob – Optional Parameters

Parameter	Description
interval	Specifies the time in seconds, between updates of the breakout box display. The range is from 1 to 60 seconds. If no interval is specified, the display is updated at five second intervals. Do not use an interval of "1" second in a busy network.
measure clock speed	For Port Concentrator Shelf only: directs the system to measure the clock speed.
	If a Port Concentrator port is selected, the last measured clock speed is displayed on the Clocking line. When Measure Clock Speed is entered as an optional parameter, the clock is measured first, and the results are displayed. Clock speed measurement for PCS ports is described in the *System Manual* information for the PCS.

dspbuses

Displays the status of the System Buses on an IPX or IGX node. As a safeguard against bus failure, each node is equipped with redundant System Buses: Bus A and Bus B. Either bus can be configured as the active bus with the other bus as standby. The **cnfbus** command is used to switch the active bus. Each System Bus contains the following buses: Control Bus, Time Division Multiplex (TDM) bus, clock bus and power bus. In addition to showing which System Bus is active and which is standby, the **dspbuses** command also shows which sub-bus needs diagnostics or has failed. Bus status is displayed at the bottom of the screen. Possible statuses that may be displayed are listed below.

Table 16-33

Status	Description
OK	Bus operation satisfactory
Failed TDM	A failed TDM Bus
Failed CNTL	A failed Control Bus
Needs Diagnostics TDM	The TDM bus needs diagnostics
Needs Diagnostics CNTL	The Control Bus needs diagnostics

The remaining MUXBUS or CELLBUS bandwidth available to assign to cards and circuits is displayed. This is primarily used when configuring the AIT card on the IPX or BTM card on the IGX. The user can assign MUXBUS or CELLBUS bandwidth for the IPX or IGX, respectively. Available bandwidth falls into two categories, namely, *dedicated* and *pooled*. Dedicated bandwidth is reserved by the system for specific purposes, for example Statistical Reserve for PCC traffic. Pooled bandwidth is available and can be assigned to any use but primarily will be used for an ATM trunk.

MUXBUS or CELLBUS bandwidth is assigned in quantities of "switches", "slices", and "circuits" and the available bandwidth is displayed in three rows accordingly. A single DS0 circuit occupies 333 packets/second of MUXBUS or CELLBUS bandwidth, a "slice" of bandwidth is equivalent to three DS0 circuits for a total of 1000 packets/second. And a switch is eight slices for a total of 8000 packets/second of bus bandwidth. In a newly installed node with no cards and no circuits installed, the total bus bandwidth that is available to be assigned is listed in the right column of the following table, which is the sum of the dedicated and pooled bandwidth. As cards and circuits are added to the node, the available bandwidth decreases accordingly.

Table 16-34

Unit of BW	Quantity	MUXBUS/CELLBUS Capacity
switch	8 slices or 8000 packets/sec.	20
slice	3 DS0's or 1000 packets/sec.	160
DS0	333 packets/sec.	480

Full Name

Display status of buses

Syntax

dspbuses

Related Commands

cnfbus

Attributes

Privilege   1–6

Jobs   No

Log   No

Node   IPX, IGX

Lock   No

Example 1

dspbuses

Description

Display status and bandwidth available. The status of Bus A and Bus B is displayed. In this example, both buses are OK and B is the active Control bus (normal operation is for bus A to be the active bus).

System Response

```
alpha            TRM    YourID:1         IPX 16    8.2    Mar. 16 1996 13:34 PST

                                 Bus Info

Available MUXBUS bandwidth (snapshot)

Dedicated  Pooled  Units
---------  ------  -----
0          13      8000 pkts/sec
5          104     1000 pkts/sec
22         312     ds0 circuits

Bus Status
-----------
Bus A: Standby - OK
Bus B: Active - OK


Last Command: dspbuses


Next Command:
```

dspclnerrs

Displays the accumulated error count since the last time errors were reset. The following table lists the types of circuit line errors. The **clrclnerrs** command clears the error counters for circuit lines.

Table 16-35

Type	Explanation
Bipolar errors	Number of times two consecutive pulses have the same polarity (AMI coding only).
Frame slips	Number of times a frame is discarded to re-establish synchronization.
Out of frames	Number of times a loss of-frame synchronism is detected on this circuit line.
Loss of signal	Number of times the signal level at the circuit line input went below the minimum acceptable level.
Frame bit errors	Number of times the frame bit failed to alternate (frame error).
CRC errors	Number of times the generated CRC character did not match the received CRC character (applies only if CRC checking is enabled).
Out of MFrames	Number of times a multiframe synch error was detected (E1 lines only).
AIS - 16	Number of times the Alarm Information Signal (Blue signal) was received.

Full Name

Display circuit line errors

Syntax

dspclnerrs [slot | slot.line]

Related Commands

clrclnerrs, prtclnerrs

Attributes

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

Example 1

dspclnerrs

Description

Display a summary of all circuit line errors.

System Response

```
sw151          TN    SuperUser       IGX 16    8.2        June 20 1996 12:45 GMT

Total Errors

       Code    Frame   Out of  Loss of Frame    CRC     Out of
CLN    Errors  Slips   Frames  Signal  BitErrs  Errors  MFrames AIS-16
 9         0     -        0       0       -        0       -       -
 5.1       0     -        0       0       -        0       -       -
12         0     0        0       0       -        0       -       -
 5.2       0     -        0       0       -        0       -       -




Last Command: dspclnerrs


Next Command:
```

Example 2

dspclnerrs 5.1

Description

Display the circuit line errors for line 5.1 on the UFM card in slot 5. A UFM

System Response

```
sw151           TN    SuperUser       IGX 16    8.2        June 20 1996 12:38 GMT

Circuit Line  5.1 Status:Major - Out of Frm (RED)       Clrd: 06/20/96 12:08:38
Type            Count ETS   Status    Type              Count ETS   Status
Bipolar Err       0     0             Loss of Sig (RED)   0     -
Frame Slips       -     -             AIS       (BLU)     0     -
Out of Frms       0     0             Out of Frms (RED)   2     -
Loss of Sig       0     0             Frm Err Rate(RED)   -     -
Frame BitErrs     -     -             AIS-16     (RED)    -     -
CRC Err           0     0             Rmt Oof   (YEL)     0     -
AIS-16            -     -             Out of MFms (RED)         -
Out of MFms       -     -             Rmt Oom   (YEL)     -     -
                                      Local CGA  (RED)    -     -
                                      Remote CGA (YEL)    -     -




Last Command: dspclnerrs 5.1


Next Command:

              SW                                                  MAJOR ALAR
```

Table 16-36   dspclnerrs – Optional Parameters

Parameter	Description
slot or slot.line	For most circuit lines, the slot number is the line number. For the UFM card, one of eight line numbers is necessary to use this optional parameter. With no optional parameter specification, a summary screen for all circuit line errors appears.

dspeventq

Display information about any configured event queues from the *fail event handler.*

Full Name

Display event queue

Syntax

dspeventq

Related Commands

clreventq

Attributes

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

Example 1

dspeventq

Description

Display the contents of the fail event handler on the current node.

System Response

```
swstorm         TN    SuperUser      BPX 15    8.2    Jan. 24 1996 11:00 GMT

   QUEUE                    LENGTH           THROTTLING
NUM NAMES          MAX    HIGH CURRENT        POINT
 1  Fail_Xid                4     1          14000
 2  Fail_ Q                 4     0
```

```
Last Command: dspeventq


Next Command:
```

dspfrcbob

Displays the current state of the signals on the FRM-2 or FRP-2 physical port. The display is real-time and updated according to the *interval* parameter. The display refreshes at a user-specified interval until either the Delete key is pressed or until a timeout occurs.

This command does not show inputs from the user equipment. It shows inputs from the Port Concentrator module to the FRI-2.

For the Inputs from the User Equipment, the display shows the signals as either On, Off, Active, or Inactive For the Outputs to User Equipment, the display shows the signals as either On, Off, Active, or Inactive. X.21 State Names and Leads for DTC and DCE interfaces are also displayed as ON or OFF.

Full Name
Display FRC/FRM breakout box

Syntax
dspfrcbob <slot.pot> <interval>

Related Commands
dspbob, dspfrcport

Attributes

Privilege	1–3
Jobs	No
Log	No
Node	IPX, IGX
Lock	Yes

Example 1
dspfrcbob 5.2

Description
Display the signals states for port 2 in slot 5.

System Response

```
bootzilla LAN    SuperUser      IPX 32    8.2    Apr. 4 1996  15:09 GMT

Physical Port:  5.2
Interface:      FTI-X21   DCE
Clocking:       Normal       (512224 bps)

     Inputs from User Equipment           Outputs to User Equipment
 Lead  Pin  State   Lead  Pin  State    Lead  Pin  State   Lead  Pin  State
 C     3/10 On                          I     5/12 On
 T     2/9  Active                      R     4/11 Active


            X.21 State Name    DTE Lead T  C     DCE Lead R  I
            1 Ready                    1   OFF           1   OFF
            13 S Send Data             D   ON            1   OFF
            13 R Receive Data          1   OFF           D   ON
            13 Data Transfer           D   ON            D   ON

This Command: dspfrcbob 6.2 1


Hit DEL key to quit:
```

Table 16-37   dspfrcbob – Parameters

Parameter	Description
slot.pot	Specifies the slot and port of an FRM-2/FRC-2 physical port. Port range is 1-4.
interval	Specifies the screen update interval in seconds. The default is 5 seconds.

dsplog

Displays the event log for a node. Events affecting the node are displayed in chronological order with the most recent events at the top of the log. Events from the FastPAD are integrated into the log. The display includes a description of the event, the date and time of the event, and the alarm class of the event. A "Continue?" prompt is displayed if more than one screen is required to display all the log entries. Events generating alarms are marked "Major" or "Minor", and events clearing alarms are marked "Clear". Specific events are logged only within a domain. Events occurring in other domains are not reported at all.

Full Name
Display event log

Syntax
dsplog

Related Commands
clrogs

Attributes

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

Example 1
dsplog

Description
Display the event log for the node.

System Response

```
alpha          TRM   YourID:1       IPX 16    8.2    Mar. 16 1996 13:35 PST

Most recent log entries (most recent at top)
Class  Description                                        Date     Time
Info   User YourID logged in (Local)                      03/16/95 13:31:41
Info   Standby NPC 2 Update Completed                     03/16/95 13:31:14
Major  PLN 14 Tx NTS Packets Dropped                      03/16/95 13:27:50
Info   CDP 7 Inserted                                     03/16/95 13:27:41
Info   NPC 2 Restarted due to a NPC Switchover            03/16/95 13:27:39
Info   Clock switch to oscillator of gamma via PLN 10     03/16/95 13:27:31
Info   CDP 7 Removed                                      03/16/95 13:27:31
Info   NPC 2 Removed - Activated NPC 1                    03/16/95 13:27:31
Clear  PLN 14 Line OK                                     03/16/95 13:27:30
Major  PLN 14 Tx NTS Packets Dropped                      03/16/95 13:27:05
Clear  PLN 14 Line OK                                     03/16/95 13:26:55


This Command: dsplog


Continue?
```

dsplnalmcnf

Displays alarm configuration by alarm type. Each alarm type includes:

- The minor alarm threshold
- The minor alarm time
- The minor alarm clear time
- The major alarm threshold
- The major alarm time
- The major alarm clear time

The alarm threshold, alarm time, and alarm are set in the **cnflnalm** command. See the **cnflnalm** command for descriptions of these parameters.

Full Name

Display line alarm configuration

Syntax

dsplnalmcnf

Related Commands

cnflnalm, dspclnerrs, dsptrkerrs

Attributes

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

Example 1

dsplnalmcnf

Description

View the line alarm threshold configurable for a node. Following are system responses:

System Responses

```
alpha          TRM   YourID:1        IPX 16    8.2    Mar. 23 1996 10:51 PST

                          Line Alarm Configuration

                 Minor                                   Major

   Violation    Rate    Alarm Time  Clear       Rate    Alarm Time  Clear
   1) Bpv       10E-7   10 min      3 min       10E-3   10 sec      10 sec
   2) Fs        .01%    10 min      3 min       .1%     10 sec      10 sec
   3) Oof       .0001%  10 min      3 min       .01%    10 sec      10 sec
   4) Vpd       2%       5 min      3 min       5%      60 sec      10 sec
   5) Tsdp      .01%     5 min      3 min       .1%     60 sec      10 sec
   6) Ntsdp     .01%     5 min      3 min       .1%     60 sec      10 sec
   7) Pkterr    .01%    10 min      3 min       .1%    125 sec      10 sec
   8) Los       .0001%  10 min      3 min       .01%    10 sec      10 sec




This Command: dsplnalmcnf


Continue?

---------------

alpha          TRM   YourID:1        IPX 16    8.2    Mar. 23 1996 10:51 PST

                          Line Alarm Configuration

                 Minor                                   Major

   Violation    Rate    Alarm Time  Clear       Rate    Alarm Time  Clear
   9) Fer       .01%    10 min      3 min       .1%    200 sec      10 sec
   10) CRC      .01%    10 min      3 min       .1%    200 sec      10 sec
   11) Pkoof    .01%    10 min      3 min       .1%    200 sec      10 sec
   12) Oom      .001%   10 min      3 min       .1%     10 sec      10 sec
   13) Ais16    .0001%  10 min      3 min       .01%    10 sec      10 sec
   14) Bdapd    .001%    5 min      3 min       .1%     60 sec      10 sec
   15) Bdbpd    .001%    5 min      3 min       .1%     60 sec      10 sec
   16) Badclk   .1%     10 min      3 min       1%      50 sec      10 sec




This Command: dsplnalmcnf


Continue?
```

```
                ----------------

alpha           TRM   YourID:1       IPX 16   8.2   Mar. 23 1996 10:52 PST

                              Line Alarm Configuration

                    Minor                              Major

  Violation  Rate    Alarm Time  Clear       Rate    Alarm Time  Clear
  17) Pccpd  .001%    5 min       3 min        .1%    60 sec      10 sec
  18) Lcv    10E-6   10 min       3 min       10E-2   10 sec      10 sec
  19) Pcvl   10E-6   10 min       3 min       10E-2   10 sec      10 sec
  20) Pcvp   10E-6   10 min       3 min       10E-2   10 sec      10 sec
  21) Bcv    10E-6   10 min       3 min       10E-2   10 sec      10 sec
  22) Rxvpd     1%    5 min       3 min          4%   60 sec      10 sec
  23) Rxtspd  .01%    5 min       3 min         .1%   60 sec      10 sec
  24) Rxntspd .01%    5 min       3 min         .1%   60 sec      10 sec


This Command: dsplnalmcnf


Continue?

                ----------------

alpha           TRM   YourID:1       IPX 16   8.2   Mar. 23 1996 10:52 PST

                              Line Alarm Configuration

                    Minor                              Major

  Violation  Rate    Alarm Time  Clear       Rate    Alarm Time  Clear
  25) Rxbdapd .001%   5 min       3 min         .1%   60 sec      10 sec
  26) Rxbdbpd .001%   5 min       3 min         .1%   60 sec      10 sec
  27) Rxhppd  .001%   4 min       3 min         .1%   60 sec      10 sec
  28) Atmhec    .1%  10 min       3 min          1%  120 sec      10 sec
  29) Plcpoof  .01%  10 min       3 min         .1%  200 sec      10 sec
  30) Rxspdm   .01%   4 min       2 min        .001%  10 sec       5 sec




Last Command: dsplnalmcnf


Next Command:
```

dsplnerrs

Displays the accumulated error count since the last time errors were reset. The following lists the error types displayed. The **clrlnerrs** command clears the error counters for circuit lines by resetting all error counts to 0.

Table 16-38

Type	Explanation
Bipolar errors	Number of times two consecutive pulses have the same polarity (AMI coding only).
Frame slips	Number of times a frame is discarded to re-establish synchronization.
Out of frames	Number of times a loss of-frame synchronism is detected on this circuit line.
Loss of signal	Number of times the signal level at the circuit line input went below the minimum acceptable level.
Frame bit errors	Number of times the frame bit failed to alternate (frame error).
CRC errors	Number of times the generated CRC character did not match the received CRC character (applies only if CRC checking is enabled).
Out of MFrames	Number of times a multiframe synch error was detected (E1 lines only).
AIS - 16	Number of times the Alarm Information Signal (Blue signal) was received.

Full Name

Display line errors

Syntax

dsplnerrs [line_number]

Related Commands

clrclnerrs, prtclnerrs

Attributes

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

Example 1
dsplnerrs

Description
Display the circuit line errors for all lines.

Table 16-39   dsplnerrs – Optional Parameters

Parameter	Description
line number	Specifies the circuit for which to display a detailed description of the error counts. Otherwise, a summary screen for all circuit lines is displayed

dsppwr

The **dsppwr** command displays the current status of the power supplies and the temperature in the cabinet.

Full Name

Display power

Syntax

dsppwr

Related Commands

resetcd

Attributes

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

Example 1

dsppwr

Description

Display the power status and temperature inside the current IPX.

System Response

```
pubsipx1        TN    SuperUser        IPX 16     8.2    Nov. 8 1996  04:24 PDT

           Power Supply Status                            Cabinet Temperature

Monitor      Status         Revision                         26          78
Installed    Active            FP
                                                         C  60 |  |  140  F
                                                         e        |  |       a
    Power Supply Type   +5v   +12v  -12v  -48v  Temp     n  50 |--|  122  h
                                                         t        |  |       r
A   Empty                                                i  40 |  |  104  e
B   Empty                                                g        |  |       n
C   AC 400W IPX         Ok    Ok    Ok          Ok       r  30 |  |   86  h
D   AC 400W IPX         Ok    Ok    Ok          Ok       a        |  |       e
                                                         d  20 |  |   68  i
                                                         e       `--'       t


Last Command: dsppwr


Next Command:
```

Example 2
dsppwr

Description
Display the power status and temperature inside the current IGX.

System Response

```
sw151           TN    SuperUser        IGX 16     8.2    Aug. 23 1996 11:50 GMT

Power Supply Status                                       Cabinet Temperature

Monitor Rev AK, Ser # 247582  -  Status: Active              30          86

    AC Supply    Status                                   C  60 |  |  140  F
A   1  875W      OK                                       e        |  |       a
B   1  875W      OK                                       n  50 |--|  122  h
C   1  Empty                                              t        |  |       r
D   2  Empty                                              i  40 |  |  104  e
E   2  Empty                                              g        |  |       n
F   2  Empty                                              r  30 |  |   86  h
                                                          a        |  |       e
                                                          d  20 |  |   68  i
                                                          e       `--'       t


Last Command: dsppwr


Next Command:
```

Example 3
dsppwr

Description
Display the power status and temperature inside the current BPX.

System Response

```
bootzilla TN    SuperUser       BPX 15    8.2       May  17 1996 11:06 GMT

        Power Status                               Cabinet Temperature

ASM Status: Active                                   21         69

Power voltage A/B:     0 / 49 V                   C  60 |  | 140  F
                                                  e     |  |      a
PSU  Ins Type Rev SerNum Failure                  n  50 |--| 122  h
 A   N  N/A N/A   N/A    N/A                       t     |  |      r
 B   Y  ???? 00 ......  None                       i  40 |  | 104  e
                                                  g     |  |      n
         Fan Status                               r  30 |  | 86   h
                                                  a     |  |      e
     FAN  1    2    3                             d  20 |  | 68   i
         0000 3300 3240 RPM                        e     `--'     t


Last Command: dsppwr


Next Command:
```

dspslotalmcnf

Displays the slot alarm configuration for the BPX.

Full Name

Display slot alarm configuration.

Syntax

dspslotalmcnf [slot]

Related Commands

dspslotalms

Attributes

Privilege	1–6
Jobs	No
Log	No
Node	BPX
Lock	No

Example 1

dspslotalmcnf 7

Description

Display the slot alarm configuration for the BPX.

System Response

```
D1.jea          TRM   SuperUser      BPX 15   8.2    Mar. 30 1996 12:04 GMT

                            Slot Alarm Configuration

                    Minor                               Major

     Violation    Rate    Alarm Time   Clear        Rate    Alarm Time   Clear
   1) SBus       .01%   10 min       3 min         .1%   10 sec       10 sec
   2) InvP       .01%   10 min       3 min         .1%   10 sec       10 sec
   3) PollA      .01%   10 min       3 min         .1%   10 sec       10 sec
   4) PollB      .01%   10 min       3 min         .1%   10 sec       10 sec
   5) BGE        .01%   10 min       3 min         .1%   10 sec       10 sec
   6) TBip       .01%   10 min       3 min         .1%   10 sec       10 sec
   7) RBip       .01%   10 min       3 min         .1%   10 sec       10 sec
   8) Bfrm       .01%   10 min       3 min         .1%   10 sec       10 sec
   9) SIU        .01%   10 min       3 min         .1%   10 sec       10 sec


   Last Command: dspslotalmcnf 7


   Next Command:
```

Table 16-40   dspslotstatcnf – Optional Parameters

Parameter	Description
slot number	Specifies the slot number of the card to be displayed.

dspslotalms

Displays statistical alarms associated with the SIU on each BPX card. It displays a single line for each slot in a local BPX node occupied by a card. Both the card type and current card alarm status is listed. If a card is operating normally, a "Clear - Slot OK" is displayed. If fault conditions persist to cause the slot errors (described in the Display Slot Errors command) to exceed a preset threshold, this will be displayed under column labeled Current Card Alarm Status. The clrslotalms command clears these alarm messages if the alarm condition has retired.

Full Name

Display slot alarms

Syntax

dspslotalms

Related Commands

dspsloterrs

Attributes

Privilege	1–6
Jobs	No
Log	No
Node	BPX
Lock	No

Example 1

dsplotalms 1

Description

Display the status of the card in slot 1.

System Response

```
D1.jea          TRM   SuperUser       BPX 15    8.2    Mar. 30 1996 12:00 GMT

Slot  Type       Current Slot Alarm Status
   7 BCC         Clear - Slot OK
  11 BNI-T3      Clear - Slot OK
```

```
Last Command: dspslotalms
```

```
Next Command:
```

Table 16-41   dspslotalms – Parameters

Parameter	Description
slot number	Specifies the slot number of the card to be displayed.

dspsloterrs

Displays statistical alarms associated with the SIU on each BPX card. It displays a single line for each slot in a local BPX node occupied by a card. Both the card type and current If a card is operating normally, a "Clear - Slot OK" is displayed. If fault conditions persist to cause the slot errors (described in the Display Slot Errors command) to exceed a preset threshold, this will be displayed under column labeled Current Card Alarm Status. The **clrslotalm** command clears these alarm messages if the alarm condition has retired. Following are the errors displayed.

Table 16-42

Error	Description
Standby Bus Errors	Indicates a background test over the standby bus produced an error.
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 time-out.
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.

Full Name

Display slot errors.

Syntax

dspsloterrs

Related Commands

dspslotalms

Attributes

Privilege	1–6
Jobs	No
Log	No
Node	BPX
Lock	No

Example 1

dspsloterrs 7

Description

Display the slot alarm configuration for the BPX

System Response

```
D1.jea          TRM   SuperUser      BPX 15    8.2    Mar. 30 1996 12:01 GMT

BCC 7            Status: Clear - Slot OK             Clrd: Date/Time Not Set
Type             Count ETS   Status    Type            Count ETS   Status
Stby PRBS Errs       0     0
Rx Invld Prt Errs    0     0
Poll Bus A Parity    0     0
Poll Bus B Parity    0     0
Bad Grant Errs       0     0
Tx BIP-16 Errs       0     0
Rx BIP-16 Errs       0     0
SIU Phase Errs       0     0
Bfrm. Par. Errs      0     0




Last Command: dspsloterrs 7


Next Command:

----------------

swstorm         TN    SuperUser      BPX 15    8.2    July 21 1996 15:40 GMT

                      Summary of Slot Errors


        Invld Poll  Poll          Tx    Rx          B-    Rx
     Stdby Rx  A Bus B Bus Bad   BIP-  BIP-  SIU   Frame FIFO  Poll  CK-
     PRBS  Port Par  Par  Grant 16    16    Phase Par   Sync  Clk   192
Slot Errs  Errs Errs Errs Errs  Errs  Errs  Errs  Errs  Errs  Errs  Errs
1        0     0    0    0     0     0     0     0     0     0     0     0
4      15K     0    0    0     0     0     0     0     0     0     0     0
7        0     0    0    0     0     0     0  8660  3366     0     0     0
13       0     0    0    0     0     0     0     0     0     0     0     0




Last Command: dspsloterrs


Next Command:

                      SW                                      MAJOR ALARM
```

dspslotstatcnf

Displays the enabled statistics for the specified slot.

Full Name

Display statistics enabled for a slot.

Syntax

dspslotstatcnf [slot]

Related Commands

dspslotalmcnf

Attributes

Privilege	1–6
Jobs	No
Log	No
Node	BPX
Lock	No

Example 1

dspslotstatcnf 7

Description

Display thresholds for slot 7

System Response

```
D1.jea          TRM   SuperUser      BPX 15    8.2    Mar. 30 1996 12:03 GMT

Statistics Enabled on Slot 7

Statistic                          Samples  Interval  Size  Peaks  Owner
---------------------------------- -------  --------  ----  -----  ----------
Standby PRBS Errors                     60         0     4   NONE  Automatic
Rx Invalid Port Errors                  60         0     4   NONE  Automatic
Polling Bus A Parity Errors             60         0     4   NONE  Automatic
Polling Bus B Parity Errors             60         0     4   NONE  Automatic
Bad Grant Errors                        60         0     4   NONE  Automatic
Transmit Bip 16 Errors                  60         0     4   NONE  Automatic
Receive Bip 16 Errors                   60         0     4   NONE  Automatic
Bframe parity Errors                    60         0     4   NONE  Automatic
SIU phase Errors                        60         0     4   NONE  Automatic



Last Command: dspslotstatcnf 7


Next Command:
```

dsptrkerrs

Displays the accumulated line error counts, by failure type, for the specified trunk(s). If no trunk number is entered, a one-line summary of errors for all trunks at the local node is displayed. The following shows the types of errors that are displayed with a brief description of each type. If a specific trunk number is entered with the command, a detailed analysis, including error threshold (ETH), is displayed. Disabled trunks have their trunk number displayed in dim, reverse video on the screen. The clrtrkerrs command resets all error counts to 0.

Table 16-43

Line Type	Error	Explanation
All except ATM	Bipolar errors	Number of times two consecutive pulses have the same polarity (AMI coding only).
	Frame slips	Number of times a frame is discarded to re-establish synchronization.
	Out of frames	Number of times a loss of-frame synchronism is detected on this circuit line.
	Loss of signal	Number of times the signal level at the circuit line input went below the minimum acceptable level.
	Frame bit errors	Number of times the frame bit failed to alternate (frame error).
	CRC errors	Number of times the generated CRC character did not match the received CRC character (applies only if CRC checking is enabled).
	Out of MFrames	Number of times a multiframe synch error was detected (E1 lines only).
	AIS - 16	Number of times the Alarm Information Signal (Blue signal) was received.
Only ATM	Out of Frames	Number of times a momentary loss of-DS3 frame alignment was detected.
	Loss of sync (XX)	Number of times a loss of-DS3 frame alignment lasting more than XX seconds was detected.
	Packet Error	Number of CRC errors for a packet address.
	Line Code Errors	Number of B3ZS code errors detected.
	P-bit Parity Errors	Number of parity errors for the DS3 parity bit (P-bit) sequence.
	C-bit Parity Errors	Number of parity errors for the DS3 control bit (C-bit) sequence.
	Comm Fails	Number of BCC failed to communicate to the other node.
	Loss of signal	Number of times the signal level at the trunk line input went below the minimum acceptable level.
Only ATM	AIS (BLU)	Number of times the Alarm Information Signal (Blue signal) was received.
	Out of MFrames	Number of times a loss of-frame synchronism in the DS3 multiframe alignment was detected.
	Remote Oof	Number of times the DS3 remote alarm (indicating remote end was out of frame alignment) was received.

Full Name

Display trunk errors

Syntax

dsptrkerrs [slot | slot.port]
or
dsptrkerrs <slot.port> (for virtual trunks)

Related Commands

clrtrkerrs, prttrkerrs

Attributes

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

Example 1

dsptrkerrs

Description

Display a summary of all trunk errors at the local node.

System Response

```
alpha          TRM   YourID:1       IPX 16    8.2    Mar. 16 1996 13:13 PST

Total Errors

       Code   Rx Pkts Out of  Loss of Frame   CRC    Tx Pkts Packet  Packet
PLN    Errors Dropped Frames  Signal  BitErrs  Errors Dropped Errors  Oofs
10       -      -       0       0       0       0       0       0       1
14       0      0       0       -       0       -     218M       0       -
```

```
Last Command: dsptrkerrs


Next Command:
```

Example 2
dsptrkerrs 16

Description
Display a detailed description of the errors for trunk 16

System Response

```
D2.ipx4        TRM   YourID:1       IPX 16    8.2    Aug. 4 1996  16:34 PST

Packet Line 16  Status: Clear - Line OK               Clrd: Date/Time Not Set
Type            Count ETS   Status    Type               Count ETS    Status
Bipolar Err        0     0            Comm Fails     0        -
Out of Frms        0     0            Loss of Sig(RED) 1      -
Loss of Sig        0     0            AIS        (BLU) 0      -
Frame BitErrs      0     0            Out of Frms(RED) 0      -
Tx Voice Pkt Drp   0     0            Rmt Oof    (YEL) 0      -
Tx TS Pkt Drp      0     0            Packet Oofs(RED) 1      -
Tx Non-TS Pkt Drp  0     0            Rmt Alarms (YEL) 0      -
Tx NPC Pkt Drp     0     0
Tx Bdata A Pkt Drp 0     0
Tx Bdata B Pkt Drp 0     0
Packet Err         4     1
Packet Oofs        0     0


Last Command: dsptrkerrs 16


Next Command:
```

Table 16-44   **dsptrkerrs – Parameters**

Parameter	Description
	Specifies the trunk for which to display detailed description of its statistical error counts. Otherwise, a summary screen for all trunks is displayed.

prtclnerrs

Prints the accumulated error count since the last time errors were reset. This command uses the same syntax and prints the same information as is displayed using the **dspclnerrs** command. The **clrclnerrs** command clears the error counters for circuit lines by resetting all error counts to 0.

Full Name

Print circuit line errors

Syntax

prtclnerrs

Related Commands

clrtrkerrs, prttrkerrs

Attributes

Privilege   1–6

Jobs   Yes

Log   No

Node   IPX, IGX

Lock   Yes

Example 1

prtclnerrs

Description

Print a summary of all trunk errors at the local node.

System Response

None available as command produces hardcopy.

prtlog

Prints the event log for a node. Events affecting the node are displayed in chronological order with the most recent events at the top of the log. The printout includes a description of the event, the date and time of the event, and the alarm class of the event. This command uses the same syntax and prints the same information as is displayed using the **dsplog** command. See the **dsplog** command for output information.

Full Name

Print event log

Syntax

prtlog

Related Commands

dsplog

Attributes

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

Example 1

prtlog

Description

Print the event log for a node.

System Response

None available as command produces hardcopy.

prtlnerrs

Prints the accumulated error count since the last time errors were reset. This command uses the same syntax and prints the same information as is displayed using the **dsplnerrs** command. The **clrlnerrs** command clears the error counters for circuit lines by resetting all error counts to 0.

Full Name

Print line errors

Syntax

prtlnerrs

Related Commands

dsplnerrs

Attributes

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

Example 1

prtlnerrs

Description

Print errors for all upped lines on a node.

System Response

None available as command produces hardcopy.

prttrkerrs

Prints a summary of the trunk error counts for both physical and virtual trunks on the local node. This is the same information as is displayed using the **dsptrkerrs** command. See the **dsptrkerrs** command for output information.

Full Name

Print trunk errors

Syntax

prttrkerrs

Related Commands

dsptrkerrs

Attributes

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

Example 1

prttrkerrs

Description

Print a summary of trunk errors.

System Response

None available as command produces hardcopy.

resetcd

Resets the hardware and software for a specified card. A hardware reset is equivalent to physically removing and reinserting the front card of a card group and causes the card's logic to be reset. When you reset the hardware of an active card other than a controller card (an NPC, NPM, or BCC), a standby card takes over if one is available. A failure reset clears the card failures associated with the specified slot.   If a slot contains a card set, both the front and back cards are reset.

Do not use the reset command on an active NPC, NPM, or BCC because this causes a temporary interruption of all traffic while the card is rebooting. (Resetting a controller card does not destroy configuration information.) Where a redundant NPC, NPM, or BCC is available, the **switchcc** command is used to switch the active controller card to standby and the standby controller card to active. If a standby card is available, resetting an active card (except for a NPC, NPM, or BCC) does not cause a system failure. H/F Resetting of an active card that has no standby does disrupt service until the self-test finishes.

Full Name
Reset card

Syntax
resetcd <slot_num> <reset_type>

Related Commands
resetcd

Attributes

Privilege	1–3
Jobs	Yes
Log	Yes
Node	IPX, IGX, BPX
Lock	Yes

Example 1
resetcd

Description
Reset the card in slot 23

System Response
No display produced.

Table 16-45   resetcd – Parameters

Parameter	Description
slot number	Specifies the card number to be reset.
H/F	Specifies whether the hardware or failure history for the card is to be reset. An "H" specifies hardware; an "F" specifies failure history.

resetpc

The **resetpc** command resets a PCS attached to a specified FRM-2 or FRP-2 physical port. Concentrated links, logical ports, and all connections are temporarily suspended while the PCS hardware performs a warm boot.

Once the PCS re-establishes communication with the FRM-2 or FRP-2, logical ports are reconfigured and connections repaired. A series of messages describing each of the concentrated links failing and being re-established is generated.

Full Name
Reset Port Concentrator

Syntax
resetpc <slot.port>

Related Commands
tstpcs, dsppcs

Attributes

Privilege	1–3
Jobs	Yes
Log	Yes
Node	IPX, IGX, BPX
Lock	Yes

Example 1
resetpc 2.3

Description
Reset the card in slot 23

System Response
No display produced. (Use dsppcs to check status.)

Table 16-46   resetpc – Parameters

Parameter	Description
slot.port	Specifies the card and port number to be reset.

switchcc

Switches the standby BCC or NPC (or NPM) card to active and the active card to standby. If a standby BCC is not available, the command is not executed. If a standby BCC is available but not ready to go active, a prompt asks you to confirm or abort the switch. This command was previously called switchpcc. Executing switchcc has the following effect:

- Control is transferred to the standby controller card.

- Any job currently running is aborted.

- The user is logged off.

Immediately after the switch, the controller card that was previously active reverts to a download mode. This is indicated by the flashing front panel FAIL lamp. The system software image that is always stored in ROM is downloaded to RAM in the event that the system software was corrupted.

After this is completed, the configuration database is downloaded from the newly active controller card to complete the download. This process takes a number of minutes so this controller card not available for standby operation until this download process is completed. The switchcc command results in a very brief interruption of all traffic. Consequently, you should use **switchcc** only when the network can tolerate a brief interruption.

Full Name

Switch control card

Syntax

switchcc [f]

Related Commands

dspcd, dspcds

Attributes

Privilege	1–3
Jobs	Yes
Log	No
Node	IPX, IGX, BPX
Lock	Yes

Example 1

switchcc

Description

Change the active NPC/BCC to standby, and the standby NPC/BCC to active

System Response

No display produced.

tstcon

The **tstcon** command tests the integrity of an IPX or IGX data path by inserting node-generated test data. The connection service is affected for only a few seconds during the test. One channel at a time is tested to minimize disruption. Because service is disrupted for a short time, no conditioning is applied during the test.

The **tstcon** command can also test an IPX that has been configured as an interface shelf (IPX/AF) in a tiered network but only after a local-remote loopback has been set up with the **addlocrmtlp** command. After testing is complete, the loopback established with **addlocrmtlp** must be removed by **dellp**.

Test results are reported as follows:

Table 16-47

Result	Description
Completed	total number of tests that were run.
Aborted	number of tests that did not run because the connection was not testable because of loopbacks or missing or failed hardware.
Failures	number of tests that failed.
Repaired	number of connections that failed a previous test and have passed the current test.

If a failure is detected, the fault is isolated to a replaceable IPX or IGX, and the standby module (if available) automatically goes into service. During fault isolation, conditioning is applied to both ends of the connection. Only existing connections can be tested. If you enter a range of channels (with connections and some without), the unconnected channels are skipped. The **tstcon** command can be entered from the node at either end of the connection. Unlike the **addloclp** and **addrmtlp** commands, the **tstcon** command does not require external test equipment. Connections cannot be tested with the **tstcon** command if they are currently looped back with either the **addloclp** or **addrmtlp** commands. Example commands follow:

Table 16-48

Command	Description
tstcon *	test all connections.
tstcon * f	test all frame relay connections.
tstcon * v x	test all voice connections, abort on first failure.
tstcon 1.3	test connection on channel 1.3.
tstcon 4.2.200	test connection on channel 4.2.200.
tstcon 1.13-16	test connections on channels 1.13-16.
tstcon 3.21-24 x	test connections on channels 3.21-24, abort on first failure.
tstcon 3.11-20 v	test voice connections only on channels 3.11-20.
tstcon 3.11-20 v x	test voice connections only on channels 3.11-20, abort on first failure.
tstcon 3.21-22 v 5	test voice connections only on channels 3.21-22 and repeat the test 5 times.
tstcon 3.14-15 d x 5	test data connections only on channels 3.14-15: repeat test 5 times, but abort on failure.

For V.35 ports configured for DTE, the following three bulleted items apply:

- Model D FRP - along with software Rel. 8.1 or higher, supports Foresight dynamic congestion avoidance feature. The Model D FRP is required for the AIP application in system software release 7.1. The enhanced V.35 loop back test is available with this card when using Firmware Revision F and system software 7.1.

- A loop back test pattern signal (Test Mode) is transmitted to a modem or NTU to initiate a loop back. Some modems and NTUs recognize this code but do not return the TM signal even though a loop has been set up. The FRPs, with the exception of the Model D Firmware Rev. F, wait to receive the TM signal from the external equipment before the data test is performed. If the FRP Model D Firmware Rev. F receives the TM signal return, it responds. If FRP Model D Firmware Rev. F does not receive the TM signal, it waits 10 secs and then sends the test pattern. If the external equipment is inoperative or disconnected, the test fails. After the test is completed, transmission of the codes is terminated and the circuit returns to normal operation. The test result is displayed on the node's terminal **tstport** screen.

- Some external equipment support loopback testing but do not recognize the loop test pattern signal (Test Mode) in the data stream. The FRP/FRI toggles the V.35 LLB (local loop back) or the LRB (remote loop back) leads and then sends the test pattern after the time-out period (10 secs). If the external equipment is inoperative or disconnected, the test fails. The IPX or IGX control terminal displays the result of **tstport** execution.

Full Name
Test connections

Syntax
testcon <channel(s)> [-nolp] [type] [failure abort] [repeat count]

Related Commands
dspcons, dspcons

Attributes

Privilege	1–2
Jobs	Yes
Log	Yes
Node	IPX, IGX
Lock	Yes

Example 1
tstcon 9.1.100

Description

Test connection 9.1.100. The connections screen appears with the connection for channel 9.1.100 highlighted. The system prompts to confirm the test. A "T" after channel under test indicates that the test is currently running on that channel. When the first test is completed, a message appears indicating the results of the tests. As each test is completed, the T moves to the next channel to be tested and the message is updated to include the cumulative results of the tests. When the test is completed for all the specified connections, the "T" disappears and the message indicates the total number of tests and the cumulative results of the test.

System Response

```
alpha           TRM    YourID:1        IPX 16     8.2    Mar. 23 1996 11:04 PST

 Local       Remote       Remote                                         Route
 Channel     NodeName     Channel     State   Type    Compression  Code Avoid COS O
 5.1 T       beta         )25.1       Ok      256                  7/8          0  L
 9.1.100     gamma        8.1.200     Ok      fr                                0  L
 9.1.200     gamma        8.1.300     Ok      fr                                0  L
 9.2.400     beta         19.2.302    Ok      fr(Grp)                           0  L
 14.1        gamma        15.1        Ok      v                                 0  L




 Last Command: tstcon 9.1.100

 Tests: Completed = 1, Aborted = 0, Failed = 1, Connections Repaired = 0
 Next Command:
```

Table 16-49   tstcon – Parameters

Parameter	Description
channels	Specifies the specifies the channel or set of channels whose connections are to be tested. An "*" specifies all connections. Channel is specified in one of the following formats: slot.channel voice connection slot.port data connection slot.port.DLCI frame relay connection

Table 16-50   tstcon – Optional Parameters

Parameter	Description
-nolp	No automatic loopback. This parameter applies only to local-remote loopbacks and is mandatory for testing a multi-segment connection in a tiered network.
type	Restricts the test to the designated connection type. Valid connection types are listed below. If no connection type is designated, all connections are tested. v Tests only voice connections. d Tests only data connections. f Tests only frame relay connections.
x	Aborts the test as soon as a failure is detected. If an "x" is not entered, all specified connections are tested regardless of the test results for each individual connection.
repeat count	Specifies the number of times the test is to be repeated. The range is from 1 to 50. If no test count is specified, the test is run once.

tstconseg

Externally tests the integrity of a connection by inserting OAM segment loopback cells. The connection service is affected for only a few seconds while the data path is tested. To minimize this disruption, each channel is tested individually. This means only one connection at a time is removed from service. Because service is disrupted for only a short time, no conditioning is applied during the test.

The **tstconseg** command can also test the connection to an IPX that has been configured as an interface shelf (IPX/AF) in a tiered network but only after a local-remote loopback has been set up with the **addlocrmtlp** command. After testing is complete, the loopback established with **addlocrmtlp** must be removed by **dellp**.

Test results are reported as follows:

Table 16-51

Result	Description
Completed	total number of tests that were run.
Aborted	number of tests that did not run because the connection was not testable because of loopbacks or missing or failed hardware.
Failures	number of tests that failed.
Repaired	number of connections that failed a previous test and have passed the current test.

Full Name

Test connection segment

Syntax

tstconseg <channel> <iteration count> [A | a]

Related Commands

dspcons, dspcons

Attributes

Privilege	2
Jobs	Yes
Log	Yes
Node	BPX
Lock	Yes

Example 1

tstconseg 11.2.10.17

Description

Test connection segment 11.2.10.17. The connections screen appears with the connection for channel 11.2.10.17 highlighted. The system prompts to confirm that the test should begin. A "T" after the channel under test indicates the test is currently running on that channel. When the first test is complete, a message appears indicating the results of the tests. As each test is completed, the T moves to the next channel to be tested and the message is updated to include the cumulative results of the tests. When the test is completed for all the specified connections, the "T" disappears and the message indicates the total number of tests and the cumulative results of the test.

System Response

```
nmsbpx23        TN    SuperUser      BPX 15    8.2    Aug. 16 1996 12:37 PST

 Local           Remote     Remote                            Route
 Channel         NodeName   Channel       State  Type      Avoid COS O
 11.2.10.17      nmsbpx23   11.1.11.17    Ok     atfst




























 This Command: tstconseg 11.2.10.17 1


 Perform a tstconseg on this connection (y/n)?

 ----------------

 nmsbpx23        TN    SuperUser      BPX 15    8.2    Aug. 16 1996 12:38 PST

 External Connection Segment Test

 Status: Test Complete

 Connection ID      Test Count      Failure Count  Success Count
 11.2.10.17             1               1               0









 Last Command: tstconseg 11.2.10.17 1


 Next Command:
```

Table 16-52   tstconseg – Parameters

Parameter	Description
channel	Specifies the slot.port.vpi.vci of the channel to be tested.
iteration	Number of times to repeat the test.

Table 16-53   tstconseg – Optional Parameters

Parameter	Description
A|a	Specifies that the test be aborted if an error occurs (not case sensitive).

tstdelay

Puts the remote end of the connection into a loopback state, requests the FRP (frame relay) or ASI (ATM) to generate a test packet, calculates the round trip delay (RTD), and displays the round trip delay. This delay includes the FRP or ASI and trunk queuing and processing delays throughout the network. The measured delay using **tstdelay** differs from the ForeSight RTD, which uses a high-priority packet and does not include processing and queuing delays. Using the **tstdelay** command requires that the FRP is at least a Model D. This test interrupts transmission on the connection during the test. Test results appear at the bottom of the screen (this may include a timeout message, as in Example 1).

Testing an IPX that has been configured as an interface shelf (IPX/AF) requires execution of **addlocrmtlp** prior to **tstdelay** and a **tstdelay** parameter that applies only to tiered networks (see optional parameter table). After testing is complete, the loopback established with **addlocrmtlp** must be removed by **dellp**.

Full Name

Test Frame Relay connection delay

Syntax

tstdelay <slot.port.DLCI> [count] | tstdelay <slot.port.vpi.vci> [-nolp] [count] [y]

Related Commands

addlocrmtlp, dellp, dspcons, dspcons

Attributes

Privilege	1–2
Jobs	Yes
Log	Yes
Node	IPX, IGX, BPX
Lock	Yes

Example 1

tstdelay 9.1.100

Description

Test the delay on frame relay channel 9.1.100.

System Response

```
alpha          TRM    YourID:1         IPX 16    8.2    Mar. 23 1996 11:05 PST

Conn: 9.1.100    gamma       8.1.200      fr
   MIR       CIR    VC Q Depth     PIR     Cmax   ECN QThresh    QIR    FST
 9.6/9.6   9.6/9.6      5/5      256/256   10/10  65535/65535  9.6/9.6   n
% Util: 100/100
Owner: LOCAL  Restriction: NONE  COS: 0                   Status: Failed Test
Group: NONE  Priority: H  TestRTD: 0 msec

Path:     alpha   14--13beta    15--15gamma
Pref:     alpha   14--13beta    15--15gamma


alpha 9.1.100                             gamma 8.1.200
FRP:   OK                                 FRP:   OK
FRI:   OK                                 FRI:   OK


Last Command: tstdelay 9.1.100

Test delay timed out
Next Command:
```

Example 2

tstdelay 9.1.1.1

Description

Test the delay on ATM connection 9.1.1.1. The first prompt that follows initial command entry is for whether the ForeSight RTD should be included. The second prompt is for confirming that the test should proceed.

System Response

```
bpx1          TN    SuperUser      BPX 15    8.2      Jan. 31 1996 13:45 PST

Conn:  9.1.1.1        ]bpx6        11.1.1.1      abr      Status: OK
    SCR         MBS         MCR        ABR PCR    UPC FST CLP  % util
 4000/4000   1000/1000   4000/4000   4000/4000    y   y   y   100/100
Owner: REMOTE  Restriction: NONE  COS: 0
Group: NONE  ForeSightRTD: 40 msec  TestRTD: 10 msec

Path:  bpx1    1.3-- 3.3bpx6
Pref:   Not Configured



bpx1         ASI-T3  : OK        bpx6      ASI-T3   : OK
             Line  9.1 : OK                Line 11.1 : OK
             OAM Cell RX: Clear


Last Command: tstdelay 9.1.1.1 n

Round trip delay is 10 msec.
Next Command:
```

Table 16-54   tstdelay – Parameters

Parameter	Description
channel	Specifies the channel of the connection to be tested. It can be a frame relay connection specified as slot. port. DLCI or an ATM connection specified as slot.port.vpi.vci.

Table 16-55   tstfdelay – Optional Parameters

Parameter	Description
-nolp	No automatic loopback. This parameter applies only to local-remote loopbacks and is mandatory for testing a multi-segment connection in a tiered network.
repeat count	Specifies the number of times the test is to be repeated. The range is from 1 to 50. If no test count is specified, the test is run once.
ForeSight RTD (y/n)	Specifies that the ForeSight RTD is included and applies to ATM connections only.

tstpcs

The **tstpcs** command tests the data path for PCS ports for a selected module. The *port* parameter specifies the particular PCS module. The *port* parameter specifies an FRM-2 or FRP-2 physical port to which one of the PCS modules connects.

Upon command entry, each of the 11 ports for the PCS goes into a loop state. In this state, data goes to each port and loops back to the PCS module. Test frames go to a port and are checked for integrity when they return. The test frames also go out on the port.

During this test, any frame relay connection data received by the FRM-2 or FRP-2 destined for one of the ports is discarded. The other three Port Concentrator modules are unaffected. After the test, the port is returned to its previous configuration.

The PCS tests available RAM, and sets each of the 11 ports into a loop mode. Ten frames of data are sent to each port and checked to make sure the same frames are received in entirety and order.

During a test, the **dsppcs** screen shows "Testing" then either "Passed" or "Failed." The test takes about 15 seconds.

Full Name
Test Port Concentrator Shelf

Syntax
tstpcs <slot.port>

Related Commands
dsppcs, resetpc

Attributes

Privilege	1–2
Jobs	Yes
Log	Yes
Node	IPX, IGX
Lock	Yes

Table 16-56   tstpcs – Parameters

Parameter	Description
slot.port	*Slot* is the location of an FRM-2 or FRP-2 card. *Port* selects the physical port to which one of the Port Concentrator modules is connected. The range for port is 1–4.

tstport

Executes a port loopback test on the specified data port. Using **tstport** without the optional parameter performs an internal test. The loopback for the internal test is performed on the IPX or IGX back card and is used to test just the IPX or IGX front and back cards. The test disables the communications for that port and the back card is placed into a loopback mode. The applicable card sets for the **tstport** command are the FRP, FRM, SDP, HDM, LDP, and LDM. The card under test sends several frames of data to the port on the interface card, loops them back, and checks their integrity.

If connections exist on the port being tested, the **dspcons** screen appears. If no connections are present, the **dspfrport** screen appears. A flashing 'T' in the connections screen indicates those connections affected by the test. Either a "(" character or a ")" character indicates the loopback in the **dspfrport**. If a local or remote test fails, the port itself is automatically tested (internal) to determine if the IPX or IGX caused the failure. The following are example command lines:

tstport 5.3   internal loopback port test—this is the default loopback

tstport 5.3 n   near external port loopback test

tstport 5.3 f   far external port loopback test.

For a frame relay port or an LDP or LDM port, an external loopback may be placed at the near (local) or far (remote) modem during the test. For a DDS port, the external loopback is a CSU or DSU loopback at the remote DSU device. If an external port loopback test fails, the internal port loopback test is executed to determine if the IPX or IGX caused the failure. The **cnfict** command can be used to specify the interface control lead template used to condition the output control leads during loopback.

The local and remote modem tests that test the near end and far end modems or NTUs require the IPX or IGX back card to operate as a DTE, so the modem acts as a DCE in this case. The back card asserts the local or remote loopback pin of the V.35 port. For X.21 ports, which do not have a loopback pin defined, the back card sends a loopback command in the data stream to cause the NTU to go into loopback mode. The test then begins.

The loopback test operation sends several frames of test data, receives them back, compares them, and verifies their integrity. The loopback pin subsequently returns to the inactive state, and the modems return to normal operation. The local or remote test works with only those modems that recognize a local and remote loopback command.

Before starting a test, the user must be sure the cabling is correct for the specific equipment. The test conventions are described in CCITT V.54 and X.21 specifications. Only the near (n) and far (f) options are available for the Model C SDP. If the near or far tests fail, no internal test is executed on the SDP to isolate the problem. The SDP is not failed due to a **tstport** failure.

Full Name
Test port

Syntax
tstport <slot.port> [n | f]

Related Commands
cnfict, dspcons, dspfrport

Attributes

Privilege	1–2
Jobs	Yes
Log	Yes
Node	IPX, IGX
Lock	Yes

Example 1

tstport 9.1

Description

Perform an internal port test on a frame relay port.

System Response

```
alpha           TRM   YourID:1        IPX 16   8.2    Mar. 23 1996 11:27 PST

Conn: 9.1.100    gamma      8.1.200     fr
   MIR      CIR    VC Q Depth     PIR     Cmax   ECN QThresh   QIR    FST
 9.6/9.6   9.6/9.6    5/5       256/256  10/10  65535/65535  9.6/9.6   n
% Util: 100/100
Owner: LOCAL  Restriction: NONE  COS: 0                Status: Failed Test
Group: NONE  Priority: H  TestRTD: 0 msec

Path:    alpha   14--13beta    15--15gamma
Pref:    alpha   14--13beta    15--15gamma


alpha 9.1.100                              gamma 8.1.200
FRP:  OK                                   FRP:   OK
FRI:  OK                                   FRI:   OK


Last Command: tstport 9.1

No external clock is detected for DTE
Next Command:
```

Example 2

tstport 32.1 n

Description

Perform a local (near end) loopback test on port 32.1 (requires port to be configured as DTE).

Example 3

tstport 32.1 f

Description

Perform a remote (far end) loopback test on port 32.1 (requires port to be configured as DTE).

Example 4

tstport 9.1

Description

Perform a test of an FRP port.

Table 16-57   tstport – Parameters

Parameter	Description
slot	Specifies the slot number of the FRP, FRM, LDP, LDM, HDM, or SDP.
port	Specifies the number of the port to test. The range is 1–4.

Table 16-58   tstport – Optional Parameters

Parameter	Description
n/f	Specifies that an external loopback test should run at the near or far-end modem. An "n" specifies a "near-end" test. An "f" specifies a "far-end" test. Without one of these optional parameters, the test runs internally.