

IGX 8400 UXM Trunk Error Troubleshooting and Definitions

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Introduction

This document defines trunk errors reported by the Cisco IGX 8400 Series Switch universal switching module (UXM). The UXM uses trunks and physical lines to implement the inverse multiplexing over ATM (IMA) feature. One IMA trunk can be composed of multiple physical lines. The display counters are divided to identify whether the trunk or the physical line(s) are experiencing errors. Although IMA is only implemented with T1 or E1 trunks, the physical line error counters are used for T3, E3, and OC3 trunks.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

This document is not restricted to specific software and hardware versions.

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

Refer to Cisco Technical Tips Conventions for more information on document conventions.

Background Information

In order to use this document, choose the link to the target error. The error page provides the error definition and troubleshooting steps to isolate the problem.

These commands are commonly used to troubleshoot trunk or physical line problems:

Command	Definition
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dspphyslms	A current view of all physical lines and their status at the node.
dspphyslerrrs	A current and historical view of status for all physical lines at the node. In order to ensure a current view, use the clrphyslerrrs command.
dspphyslerrrs <i><slot_number></i>	A current and historical view of specified physical line status at the node. To ensure a current view, use the clrphyslerrrs <i><slot_number></i> command. Before troubleshooting, use the clrphyslerrrs <i><slot_number></i> command to ensure error counters are registering current events.
dsptrks	A current view of all trunks and their status at the node.
dsptrkerrrs	A current and historical view of status for all trunks at the node. In order to ensure a current view, use the clrtrkerrrs command.
dsptrkerrrs <i><slot_number></i>	A current and historical view of specified trunk status at the node. In order to ensure a current view, use the clrtrkerrrs <i><slot_number></i> command. Before troubleshooting, use the clrtrkerrrs <i><slot_number></i> command to ensure error counters are registering current events.

UXM Trunk and Physical Line Alarm Types

Statistical Alarms are displayed in the left-hand column and Integrated Alarms are displayed in the right-hand column of both the **dsptrkerrrs** *<slot_number>* and **dspphyslerrrs** *<slot_number>* screens for a UXM E3 trunk:

```

labigx          TN          StrataCom          IGX 8420  9.2.34    Apr. 9 2001  20:05 GMT

TRK 11.3          Clear - OK          Cldr:04/09/01 20:05:00
Statistical Alarm Count ETS   Status   Integrated Alarm Count ETS   Status

Tx Voice Cl Drp          0    0          Comm Fails          0    -
TX TS CL Drp            0    0          VTRK Path Fails    0    -
TX NTS CL Drp          0    0
TX Hi-Pri CL Drp       0    0
TX BData A CL Drp      0    0
TX BData B CL Drp      0    0
TX CBR CL Drp          0    0
TX VBR CL Drp          0    0
TX ABR CL Drp          0    0
CGW: Dscd Pkts         0    0
CGW: Dscd Cells        0    0

Last failure time: Date/Time Not Set

Last Command: dsptrkerrrs 11.3
g4static          TN          StrataCom          IGX 8420  9.2.34    Apr. 9 2001  20:06 GMT

PHYSLN 11.3       Clear - OK          Cldr:04/09/01 20:05:09
Statistical Alarm Count ETS   Status   Integrated Alarm Count ETS   Status
Out of Frms          0    0          Loss of SIG (RED)  0    -

```

Loss of SIG	0	0	AIS (BLU)	0	-
Frame BitErrs	0	0	Out of Frms (RED)	0	-
CRC Err	0	0	Remote (YEL)	0	-
Line Code Errs	0	0	Loss of Cell	0	-
P-bit Parity Errs	0	0	Loss of Pointer	0	-
BIP-8 Code Errs	0	0	Frame Sync	0	-
Frame Sync Errs	0	0	Remote Framing	0	-
			Rmt Path Trace	0	-

Last Command: dspphyslnerrs 11.3

Note: The IGX **dsptkerrs** and **dspphyslnerrs** detail screens can provide alarm counts for errors that do not apply to the physical interface. For example, Loss of Pointer and Rmt Path Trace are OC3 errors and do not apply to the E3 interface.

This is the screen output for a UXM with a T1 or E1 backcard:

```

labigx      VT      StrataCom      IGX 8420  9.2.34      Apr. 9 2001  22:04 GMT
TRK  9.2(2)      Clear - OK      Cldr:04/09/01 22:03:23
Statistical Alarm Count ETS  Status  Integrated Alarm  Count ETS  Status
TX Voice CL Drp      0      0      Comm Fails      0      -
TX TS CL Drp         0      0      IMA Failures    0      -
TX NTS CL Drp        0      0      VTRK Path Fails 0      -
TX Hi-Pri CL Drp     0      0
TX BData A CL Drp    0      0
TX BData B CL Drp    0      0
TX CBR CL Drp        0      0
TX VBR CL Drp        0      0
TX ABR CL Drp        0      0
CGW: Dscd Pkts      0      0
CGW: Dscd Cells     0      0

```

Last failure time: Date/Time Not Set

Last Command: dsptkerrs 9.2

```

labigx      VT      StrataCom      IGX 8420  9.2.34      Apr. 9 2001  22:05 GMT
PHYSLN  9.2      Clear - OK      Cldr:04/09/01 22:05:35
Statistical Alarm Count ETS  Status  Integrated Alarm  Count ETS  Status
Bipolar Err          0      0      Loss of SIG (RED) 0      -
Out of Frms          0      0      AIS (BLU)          0      -
Loss of SIG          0      0      Out of Frms (RED) 0      -
Frame BitErrs        0      0      Rmt Oof (YEL)      0      -
CRC Err              0      0      Loss of Cell        0      -
Line Code Errs       0      0      IMA Line Failures  0      -
P-bit Parity Errs    0      0      IMA Failures        0      -
C-bit Parity Errs    0      0
BIP-8 Code Errs      0      0
Frame Sync Errs      0      0

```

Last Command: dspphyslnerrs 9.2

If **dsptrks** shows the trunk as Clear - OK and **dspphyslns** shows the physical line(s) as Clear - OK, no immediate action is required. Minor alarms are typically caused by increased error counts in the Statistical Alarm column. Minor alarms indicate that the trunk or physical line has errors but has not failed. If the error counts in the Statistical Alarm column exceed the threshold specified in the **cnflnal** display, a major alarm is declared. Still, a trunk or physical line is not put in 'failed' state due to a Statistical Alarm.

Trunks are declared as 'failed' only if there is an Integrated Alarm. Also, Integrated Alarms cause a Major alarm to be declared.

After it 'fails', the trunk is removed from service, and all connections either are routed off the trunk or are declared 'failed' if no alternate trunk is available. After a physical line is removed from service, connections can be routed off the IMA trunk if the retained links configuration or connection bandwidth exceeds the remaining physical line bandwidth.

If a new trunk experiences persistent Integrated Alarms, use the **dsprkcnf** *<slot_number>* command to verify the trunk configuration. [Click here for a list of trunk error events and their error categories.](#)

Integrated Alarms

- UXM Comm Fail Errors
- UXM IMA Failure Errors
- UXM VTRK Path Fail Errors
- UXM Loss of Signal (Red) Errors
- UXM AIS (Blu) Errors
- UXM AIS-16 (Red) Errors
- UXM Out of Frames (Red) Errors
- UXM Remote Alarm (Yellow) Errors
- UXM Loss of Cell Errors
- UXM Loss of Pointer Errors
- UXM Path AIS Errors
- UXM Path Yellow Errors
- UXM Frame Sync Errors
- UXM Remote Framing Errors
- UXM Remote Path Trace Errors
- UXM Remote Section Trace Errors
- UXM IMA Line Failure Errors

Related Information

- **IGX Universal Switching Module (UXM) Product Information**
- **Virtual Trunking 'Wrap Around' Solution and Traffic Shaping on Cisco IGX 8400 – Application Note**
- **WAN Switching Network Synchronization Fundamentals**
- **International Telephony Union (ITU) Recommendation G.704**
- **WAN Switching Software and Firmware Support Pages**
- **Technical Support & Documentation – Cisco Systems**

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