UXM Loss of Sig (Red) Errors

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Introduction

This document discusses the Universal Switching Module (UXM) `Loss of Sig` (Red) errors and provides steps to troubleshoot these errors.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

The information in this document applies to the Cisco IGX" UXM with T3, E3, T1, E1, and OC3 backcards.

Conventions

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

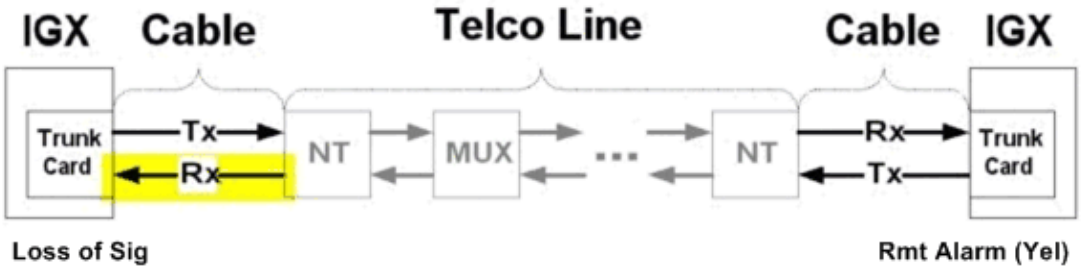
Error Definition

The `Loss of Sig` integrated trunk error indicates that there has been a loss of signal (LOS). The UXM declares a LOS alarm when the signal level at the receiver falls below a minimum acceptable level. A LOS is a physical−layer error, and it typically results in an integrated alarm.

Error Example

The likely location of equipment errors is highlighted in yellow in this diagram:

Loss of Sig



- NT Network Termination
- MUX The Multiplexer in the Telco line path.
- Rx Receive
- Tx Transmit

Troubleshooting

The troubleshooting activities in this section are intrusive. Perform these steps in a maintenance window only in these situations:

- user traffic is affected
- the **dsptrks** command output indicates that an error condition still persists, such as when the trunk is not in `Clear−OK` status

Both ends of the trunk must be active when you troubleshoot.

1. Issue the **dsptrks** command to verify that the trunk is active. If the trunk number is not displayed in the **dsptrks** command output, then the trunk is not active. To activate a trunk, issue the **uptrk** command.
2. Check the cabling between the trunk card and the next device upstream. Typically this is the local channel service unit (CSU) or the Network Termination (NT).

    a. Issue the **dsptrks** command at the distant−end node. If the remote end of the trunk is in the Yellow alarm condition, a one−way problem likely exists.

    An example of such a problem is when the receive physical link toward the local trunk card has a problem, but the transmission direction works properly.
    b. Leave the local cable connected to the trunk card, but remove it from the CSU or NT.
    c. Put a loopback plug on the disconnected end of the cable. If the trunk status in **dsptrks** changes to `Clear−OK`, then the cable is working properly.
    d. Wait at least 10 seconds longer than the `Red Alm Out` timer setting in **cnftrkparm**, to verify the trunk status change.
3. Place a loopback plug onto the connector at the backcard of the UXM, to check the local hardware. Alternatively, place the CSU or the NT into the loop toward the customer premises equipment (CPE), which is the node.

    a. If the trunk status in **dsptrks** changes to `Clear−OK`, and **dsptrkerrs** no longer shows incremental errors, then the trunk and backcard are working properly.
    b. Wait at least 10 seconds longer than the `Red Alm Out` timer setting in **cnftrkparm**, to verify the trunk status change.
4. Issue the **dsptrkcnf** command to check the line coding and line framing settings.

    In some cases, the next equipment upstream does not send a proper signal until it receives a signal from the equipment on the other end of the wire. If the UXM trunk is not configured for correct framing, the multiplexers might not send a signal; this will look like a cable problem, at the IGX. If

you change the framing configuration, it should fix the problem.

5. Place a loopback plug onto the CSU or NT, to loop it back toward the Telco line, to check the Telco line.

    a. If the remote end trunk shows a change from a `Yel Alm Out` to `Clear−OK`, then the Telco line is working properly.
    b. Wait at least 10 seconds longer than the `Yel Alm Out` timer setting in **cnftrkparm**, to verify the trunk status change.
6. Contact your service provider and have the line checked.

If the problem persists after you perform the troubleshooting steps, contact Cisco Systems Technical Support:

- Phone: (800) 553−24HR or (408) 526−7209
- Website: Technical Support − Cisco Systems
- E−mail: tac@cisco.com

Related Information

- **IGX 8400 UXM Trunk Error Troubleshooting and Definitions**
- **WAN Switching Network Synchronization Fundamentals**
- **International Telephony Union (ITU) Recommendation G.704**
- **Cisco WAN Switching Solutions − Cisco Documentation**
- **Guide to New Names and Colors for WAN Switching Products**
- **Software Center − WAN Switching Software**
- **Technical Support − Cisco Systems**

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