BTM Out of Frame Errors

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Introduction

This document describes Out of Frame (OOF) and Loss of Frame (LOF) error conditions, which occur on the IGX broadband trunk module (BTM) with E1, E2, E3, and T3 backcards.

Prerequisites

Requirements

Readers of this document should have knowledge of these topics:

- IGX
- BTM

Components Used

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

Conventions

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

Error Definition

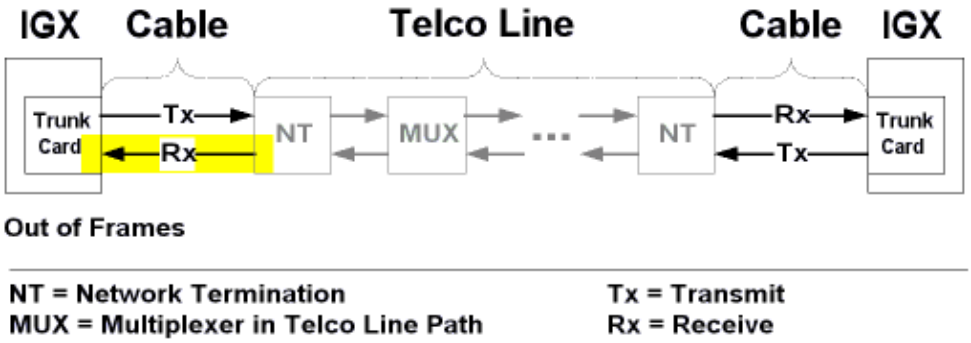
The OOF or LOF condition occurs when errors in the framing pattern are detected by the BTM backcard receiver. This error represents consecutive errors in the terminal framing bits.

The BTM expects this backcard framing information:

Backcard	Framing Information
E1	G.704
E2	
E3	G.832
T3	C−bit

Error Example

The likely location of equipment errors is shown in yellow:



Troubleshooting

Use the troubleshooting steps in this section if one of these conditions are met:

- User traffic is affected.
- The**dsptrks**command indicates an error condition still persists, for example, when the trunk is not in the`Clear-OK`state.

Caution: The troubleshooting activities described in this section are intrusive. Perform these steps in a maintenance window only. Additionally, both ends of the trunk must be active during troubleshooting.

1. Use the**dsptrks**command to verify that the trunk is active. If the trunk number is not displayed in the **dsptrks**command screen output, the trunk is not active. Use the**uptrk**command to activate a trunk.
2. Use the**dsptrkcnf**command to verify line coding and line framing settings they must match the settings configured on the Telco side of the trunk. For E1, verify the cyclic redundancy check (CRC) setting. The CRC−4 settings must match the Telco settings.

    a. Use the**vt**command to initiate a virtual terminal session with the remote IGX.
    b. Use the**dsptrkcnf**command at the remote IGX to verify the line coding, line framing, and CRC setting of the BTM E1 trunk.
    c. Delete the trunk to correct the settings.

    Caution: If you delete the trunk, you could remove all connections routed across the trunk. Before you delete a trunk, verify whether an alternate route for the connections exists, or record all connections and parameters as needed to restore the connections.
    d. Use the**cnftrk**command to match the line framing, line coding, or CRC configuration on the BTM.
3. Use the**dsptrkerrs**command to search for other evidence of a bad line. Bursts of Line Code Errs could indicate a timing problem. Determine whether the trunk configuration states that the Telco provides the clock or expects the clock.
4. Inspect the local hardware by placing a loopback plug (E1) or loopback cable (T3/E3) onto the connector on the backcard of the trunk module. If the trunk status shown in the**dsptrks**command output changes to`Clear-OK`, and if the **dsptrkerrs**command output no longer shows incremental errors, the trunk module and backcard are working properly.

    a. Replace the cabling.

b. Wait at least 10 seconds longer than the `Red Alm Out` timer setting configured with the **cnftrkparm** command before you continue.

5. Ensure that the signal strength is sufficient and that the maximum cable length is not exceeded. For T3 trunks, the line build−out (LBO) is configured from the Line cable length field of the **cnftrk**command. Delete the trunk to correct the Line cable length setting.

   Caution: If you delete the trunk, you could remove all connections routed across the trunk. Before you delete a trunk, verify whether an alternate route for the connections exist, or record all connections and parameters as needed to restore the connections.
6. Ask the Telco to test the line. Line equipment malfunctions can cause framing problems.

Related Information

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

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