

# BTM PLCP Out of Frame Errors

Document ID: 10859

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## Introduction

This document discusses the Broadband Trunk Module (BTM) Physical Layer Convergence Protocol (PLCP) Out of Frames error and provides steps to troubleshoot this error message.

## Prerequisites

### Requirements

There are no specific requirements for this document.

### Components Used

The information in this document applies to the Cisco IGX" BTM with a T3 interface card.

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

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

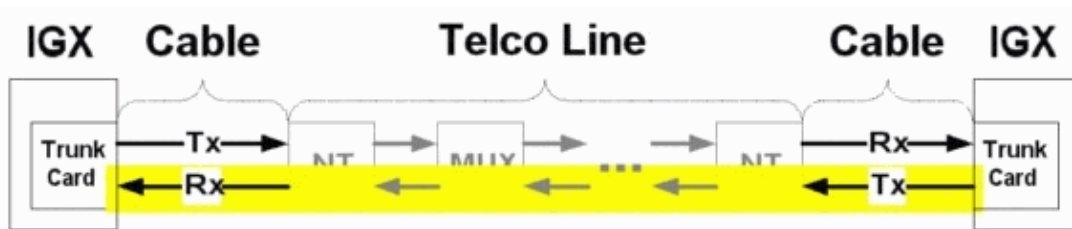
## Error Definition

The BTM T3 transports ATM cells via PLCP framing. The BTM T3 interface card does not map ATM cells directly onto the T3 frame. PLCP framing only achieves a cell transfer rate of 40.704 Mbps. PLCP Out of Frame Errs errors occur after the receiver loses synchronization with the PLCP framing. Because PLCP framing is generated and used by the terminating BTMs, the problem can occur anywhere on the link between the two trunk cards or on the two trunk cards themselves.

## Error Example

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

**BIP-8 Code Errs (on T3 with PLCP)**



- 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 **dsprks** 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 **dsprks** command to verify that the trunk is active. If the trunk number is not displayed in the **dsprks** 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 Network Termination (NT).
  - a. Leave the local cabling connected to the trunk card, but remove it from the NT.
  - b. With the appropriate BNC connector, connect the transmit (Tx) connector to the receive (Rx) connector of the open cable, to loop it back to the local trunk card. Alternatively, place the local NT into the metallic loop toward the local Customer Premises Equipment (CPE). The local CPE is the local BTM card set.
  - c. If the **dsprkerrs** command output no longer shows incremental errors, then the cable and the local trunk module are working properly.
    - ◇ Monitor the **dsprkerrs** command output for five minutes before you proceed to Step 3.
    - ◇ If output from the **dsprkerrs** continues to show incremental errors, then repeat Step 2.
3. Place a loopback cable onto the BTM interface card connector, to check the local hardware. If the trunk status in the **dsprks** command output changes to Clear-OK and if the **dsprkerrs** command no longer shows incremental errors, then the BTM card set is functioning properly.
  - a. Replace the cabling and verify that the errors have stopped.
  - b. Wait at least five minutes before you continue.
4. Check cabling between the remote trunk card and its next device downstream. Typically, this is the remote NT.
  - a. Leave the remote cabling connected to the remote trunk card, but remove it from the remote NT.

- b. With the appropriate BNC connector, connect the Tx connector to the Rx connector of the open cable, to loop it back to the local trunk card. Alternatively, place the remote NT into the metallic loop toward the trunk module on the same site of the CPE.
  - c. If the remote trunk **dsptkerrs** command output does not show incremental errors, then the cable and trunk module are working properly.
  - d. Monitor the output of the **dsptkerrs** command for at least five minutes before you proceed.
5. Check the Telco line.
- a. With the appropriate BNC connector, connect the Tx connector to the Rx connector of the remote NT, to loop it back to the Telco line. If no line test equipment is available, check whether the **dsptkerrs** command output on the local trunk continues to increment errors.
  - b. Monitor the output of the **dsptkerrs** command for at least five minutes before you proceed. If no further trunk errors are counted, then the Telco line is functioning properly in one direction.
  - c. Reconnect the cable to the NT and perform the test in the opposite direction.
6. Ensure that the signal strength is sufficient and that the maximum cable length has not been exceeded. For T3 trunks, the Line Build-Out (LBO) is configured from the **line cable length** field of the **cnftrk** command. To correct the **line cable length** setting, delete the trunk.

**Note:** When you delete a trunk, you might remove all of the connections that are routed across the trunk. Therefore, before you delete the trunk, verify whether an alternate route for the connections exist, or record all of the connections and parameters that you will need to re-add the connections.

7. Ask the Telco to test the line.

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

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## Related Information

- [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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Updated: Apr 17, 2009

Document ID: 10859

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