

BTM Tx BData A Pkt Drp Errors

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Introduction

This document provides troubleshooting information on broadband trunk module (BTM) Tx BData A Pkt Drp errors.

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

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

Conventions

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

Error Definition

This error applies to the IGX BTM with E1, E2, E3, and T3 backcards.

BTM packet drop errors indicate the number of cells discarded from these trunk queues:

Voice	Voice activity detection (VAD) voice traffic.
Timestamped (TS)	Low-speed data and voice-signaling traffic.
Non-timestamped (Non-TS)	High-speed data, non-VAD voice, and modem traffic.
Control Card (CC)	Network processor module (NPM) and the first two packets of talkspurt traffic. (This was the High Priority queue.)

Bursty data A (BData A)	Non-Foresight Frame Relay and high-level data link control (HDLC) frame-forwarded traffic.
Bursty data B (BData B)	Foresight Frame Relay and HDLC frame-forwarded traffic.

Tx BData A Pkt Drp causes include:

- High trunk utilization

Issue the SuperUser-level command **dsprkutil** to check for high trunk utilization. Packet drops can occur when trunk utilization reaches 85 percent. Frame Relay (FR) traffic is very bursty, which causes short-term variations in the load on BData A trunk queues. While BData A queues are relatively large by default, they cannot cope with all possible statistical events such as correlated bursts from many connections. Occasional BData A Packet Drops generally pose no problem.

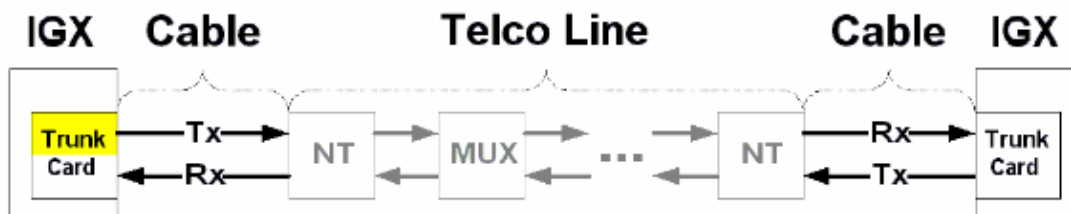
If packet drops from the BData A queue continue, verify the utilization assumptions for the FR connections. The FR connection settings of minimum information rate (MIR), percent utilization (%Util) and credit maximum (Cmax) are particularly important if packet drops continue.

If a small number of packet drops occur, monitor the trunk for a few days. Take action only if discards reduce service quality. If this is the case, the most likely symptom is end-system retransmission or timeouts.

- Misconfigured trunk parameters, as indicated in the SuperUser-level command **cnftrkparm**.

Error Example

The likely location of equipment errors is highlighted in yellow here:



Tx Pkt Drop

NT = Network Termination

MUX = Multiplexer in Telco Line Path

Tx = Transmit

Rx = Receive

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Troubleshooting

Use this procedure to troubleshoot the Tx BData A Pkt Drp error:

1. Issue the SuperUser-level **dsprkutil** <trunk_number> command to check current trunk utilization.
 - a. Issue the **clrtrkerrs** command frequently to clear trunk error statistics.
 - b. When **dsprkerrs** shows dropped packets, issue the **dsprkutil** command to find current trunk utilization. If the Peak Interval Utilization field is higher than 85 percent, then queue overflows are responsible for packet drops.

- c. Issue the **dsprks** command to identify the distant-end switch and trunk number.
 - d. Issue the **vt** command to open a virtual session with the distant-end switch.
 - e. Verify the trunk errors and utilization at the distant end with the commands listed above.
 - f. For immediate relief, route voice connections over alternate trunks.
 - g. Issue the SuperUser-level **dsprkcons** command to identify the total number of connections routed over the problem trunk.
 - h. Issue the **dsprts** command to identify the connection identifiers and current route for all connections routed across the problem trunk.
 - i. Issue these SuperUser-level commands to display utilization for each connection routed across the problem trunk:
 - ◇ **dsputl** Voice connection.
 - ◇ **dsputl** Data connection.
 - ◇ **dspchstats** ATM or FR connection.
2. For FR connections, the parameters that affect trunk bandwidth allocation for a connection are `MIR` and `%Util`.
- a. Issue the **dsprcon** command to verify `MIR` and `%Util` settings.
 - b. To change the `MIR` or `%Util` settings, issue the **cnfcon** command. The lower the `%Util` for an FR connection, the greater the number of FR connections that load onto one trunk by the routing algorithm. The higher the number of FR connections, the higher the probability of `TxBData APkt Drp` errors.
- For switch software to allocate the correct amount of bandwidth required on the BTM trunk, the configured `%Util` value must reflect actual activity on the connection. Packet drops result when the configured utilization of many FR connections is lower than actual use.
- c. Issue the **cnftrkstats**, **dsprkstatcnf**, and **dsprkstat** commands to collect and view target trunk statistics.
- Note:** These statistics require significant NPM processing time and should only be enabled for troubleshooting activities.
- d. Use Cisco WAN Manager statistics to evaluate long term trunk use.
3. Issue the **dsprcon** command to check the `Cmax` setting on the connection. `Cmax` determines the size of initial bursts that are allowed into the network at port speed. A large `Cmax` setting increases the probability of `TxBData APkt Drp` errors. The default value is 10 and should not be changed without investigation.
4. Issue the **cnftrkparm** command to check all trunk parameters.
- a. Compare the problem trunk settings to the default values or to other trunks that have similar traffic without packet drops. An important parameter for data connections is the `Transmit Queue Depth BDataA` field of **cnftrkparm**.
 - b. Consider network specific requirements before you change the queue depth because of the impact changes have on all `BData A` connections on this trunk.

If the problem persists after you perform the troubleshooting steps, contact Cisco Technical Support at (800) 553-24HR, (408) 526-7209, the Cisco Technical Support Website, or send e-mail to 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**
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