BTM Tx BData B Pkt Drp Errors

Document ID: 10869

Introduction
Before You Begin
Conventions
Prerequisites
Components Used
Error Definition
Error Example
Troubleshooting
Related Information

Introduction

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

Before You Begin

Conventions

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

Prerequisites

There are no specific prerequisites for this document.

Components Used

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

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 the following 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 (FR) 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 B Pkt Drp` causes include:

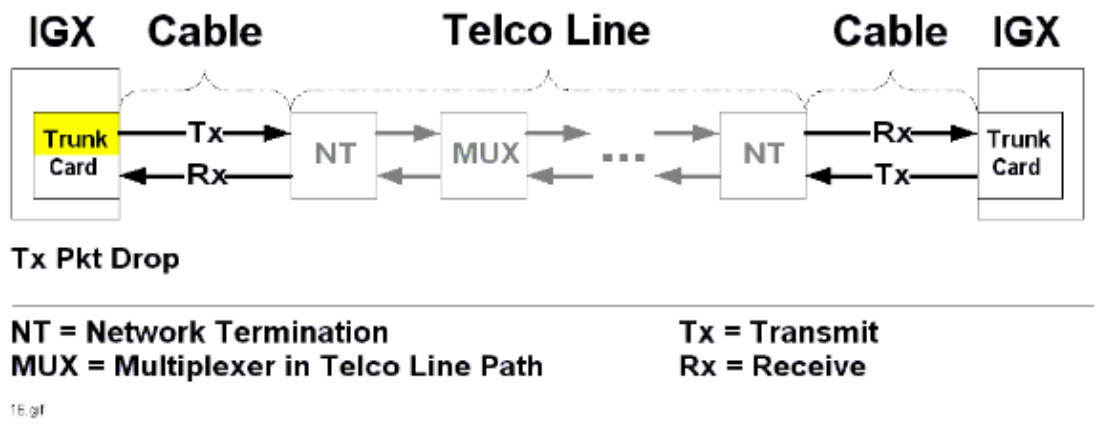
- Check for high trunk utilization by issuing the SuperUser−level command **dsptrkutl** <*trunk_number*> . Packet drops can occur if trunk utilization reaches 85 percent. FR traffic is very bursty, which causes short−term variations in the load on BData B trunk queues. While BData B queues are relatively large by default, they cannot cope with all possible statistical events such as correlated bursts from many connections. Occasional BData B packet drops generally pose no problem.

  If packet drops from the BData B 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 occurs, monitor the trunk for a few days. Take action only if the 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.



Troubleshooting

Use the following procedure to troubleshoot the `Tx BData B Pkt Drp` error.

1. Check current trunk utilization by issuing the SuperUser−level **dsptrkutl** <*trunk_number*> command.

   a. Use the **clrtrkerrs** command frequently to clear trunk error statistics.
   b. When **dsptrkerrs** shows dropped packets, issue the **dsptrkutl** command to find current trunk utilization. If the `Peak Interval Utilization` field is higher than 85 percent, then queue overflows are causing packet drops.

c. Issue the **dsptrks** 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 trunk errors and utilization at the distant end by using the previous commands.
f. For immediate relief, route voice connections over alternate trunks.
g. Issue the SuperUser−level **dsptrkcons** command to identify the total number of connections routed over the problem trunk.
h. Issue the **dsprts** command to identify the connection identifiers and the current route for all connections routed across the problem trunk.
i. Issue the following SuperUser−level commands to display utilization for each connection routed across the problem trunk.

◊ **dsputl** − Voice connection.
◊ **dspdutl** − 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 **dspcon** 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 will be loaded onto one trunk by the routing algorithm. The higher the number of FR connections, the higher the probability of `Tx BData B Pkt 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. Use the **cnftrkstats**, **dsptrkstatcnf**, and **dsptrkstathist** commands to collect and view target trunk statistics. These statistics require significant NPM processing time and should only be enabled for troubleshooting activities.
d. Use Cisco WAN Manager statistics to evaluate trunk use over the long term.

3. Check the `Cmax` setting on the connection by issuing the **dspcon** command. `Cmax` determines the size of initial bursts that are allowed into the network at port speed. A large `Cmax` setting increases the probability of `Tx BData B Pkt Drp` errors. The default value is 10 and should not be changed without investigation.
4. Check all trunk parameters by issuing the **cnftrkparm** command.

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 BDataB` field of **cnftrkparm**.
b. Consider network specific requirements before changing the queue depth because of the impact changes could have on all BData B connections on this trunk.

If the problem persists after performing the troubleshooting steps, please contact the Cisco Systems Technical Assistance Center (TAC) at (800) 553−24HR, (408) 526−7209, the Cisco Technical Support Website, or send e−mail to **tac@cisco.com**.

Related Information

- **More BTM Trunk Alarm Types**
- **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**

Updated: Apr 30, 2009 Document ID: 10869