BTM Rx BData B Pkt Drp Errors

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Introduction

This document provides information on the broadband trunk module (BTM) `Rx BData B 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 broadband trunk module (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.

`RX BData B Pkt Drp` causes include:

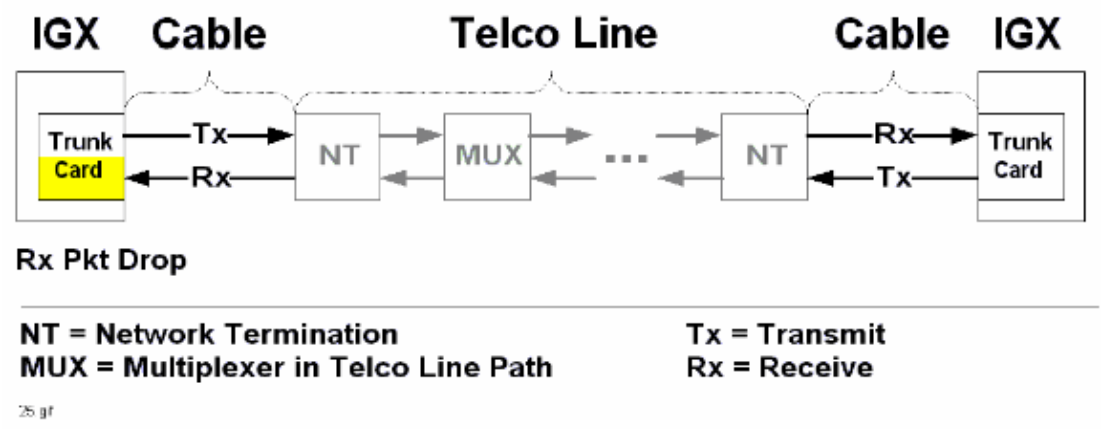
- Check for high trunk utilization. In order to do this, issue the SuperUser−level command **dsptrkutl** <*trunk_number*> . Packet drops can occur if trunk utilization reaches 85 percent. Frame Relay (FR) traffic is very bursty, which causes short−term variations in the load on BData B trunk queues. 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 some packet drops occur, 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

Complete these steps in order to troubleshoot.

1. Issue the SuperUser−level **dsptrkutl** <*trunk_number*> command in order to check the current trunk utilization.

   a. Use the **clrtrkerrs** command frequently to clear trunk error statistics.
   b. When **dsptrkerrs** shows dropped packets, issue the **dsptrkutl** command in order to find current trunk utilization. If the `Peak Interval Utilization` field is higher than 85 percent, then queue overflows cause the packet drops.
   c. Issue the **dsptrks** command in order to identify the distant−end switch and trunk number.

d. Issue the **vt** command in order to open a virtual session with the distant−end switch.
e. For immediate relief, route voice connections over alternate trunks.
f. Issue the SuperUser−level **dsptrkcons** command in order to identify the total number of connections that route over the problem trunk.
g. Issue the **dsprts** command in order to identify the connection identifiers and current route for all connections that route across the problem trunk.
h. Issue these SuperUser−level commands in order to display utilization for each connection that routes 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 in order to verify `MIR` and `%Util` settings.
b. In order to change the `MIR` or `%Util`, issue the **cnfcon** command. The lower the `%Util` for an FR connection, the greater the number of FR connections that the routing algorithm can load onto one trunk. The higher the number of FR connections, the higher the probability of `RX 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. Only enable them for troubleshooting activities.
d. Use Cisco WAN Manager statistics to evaluate long−term trunk use.

3. Issue the **dspcon** command in order 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 `RX BData B Pkt Drp` errors. The default value is ten. Do not change this without investigation.
4. Issue the **cnftrkparm** command in order 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 `Receive Queue Depth BDataB` field of **cnftrkparm**.
b. Consider network specific requirements before changing the queue depth because of the impact that changes would have on all BData B connections on this trunk.

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

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