

# NTM Tx Voice Pkt Drp Errors

Document ID: 13357

---

- Introduction**
- Prerequisites**
  - Requirements
  - Components Used
  - Conventions
- Error Example**
- Troubleshooting**
- Related Information**

---

## Introduction

This document describes the `Voice Pkt Drps` error, which is seen on the Cisco IGX 8400 Series Switch Network Trunk Module (NTM).

## Prerequisites

### Requirements

Readers of this document should be knowledgeable of the following:

- NTM card of the Cisco IGX 8400 platform

### Components Used

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

### Conventions

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

## Error Example

The `Voice Pkt Drps` error applies to the IGX network trunk module (NTM) with T1, E1, and subrate (SR) backcards.

NTM packet drop errors (`Voice Pkt Drps`) indicate the number of cells discarded from the following trunk queues:

Trunk Queue	Traffic Type
Voice	Voice activity detection (VAD) voice traffic.
Timestamped (TS)	<del>Low-speed data, voice-signaling traffic.</del>
Non-timestamped (Non-TS)	High-speed data, non-VAD voice, and modem traffic.

Control Card (CC)	Network processor module (NPM) and 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) <del>frame-forwarded traffic.</del>
Bursty data B (BData B)	Foresight frame relay and HDLC frame-forwarded traffic.

Voice Pkt Drps error causes can be the following:

1. High trunk utilization as verified using the SuperUser-level **dsprkutl** command. Packet drops can occur when trunk utilization reaches 85%. This situation most likely occurs if the utilization of connections was underestimated during configuration. For voice connections with VAD, trunk bandwidth is assigned with a default utilization of 40%. This number could change, depending on the version of switch software and also by users. VAD is a feature that only assembles FastPackets when voice is detected.

If the assumption about how much bandwidth VAD can save is too optimistic (low % utilization), then the connections may generate more FastPackets than what the trunk can handle. This can result in Voice Pkt Drps errors on the trunk, due to queue overflows.

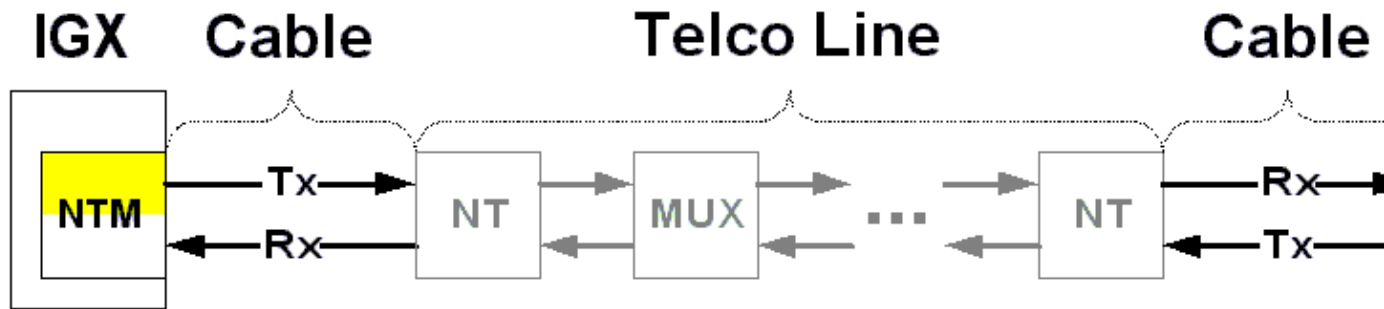
Connections may generate FastPackets even when the talker is quiet. This can happen if the VAD thresholds are set incorrectly. Refer to Voice Tuning for Cisco WAN Switching Networks for more information about VAD tuning.

The rate at which the voice queue fills can vary significantly, as the rate of FastPackets per connection depends on caller behavior, talk patterns, and background noise. Packet drops on trunk queues typically do not follow predictable patterns. However, more Voice Pkt Drps errors occur during peak hours than off-peak hours.

A few discarded cells do not impact service. If a small number of packet drops occur, monitor the trunk for a few days and take action only if the discards reduce voice quality. If this is the case, the most likely symptom reported will be choppy voice.

2. The trunk parameters defined in the SuperUser-level **cnftrkparm** command are not configured properly.

The likely location of equipment errors is indicated in yellow in the following illustration:



**Pkt Drop**

**NTM = Network Trunk Module**  
**NT = Network Termination**

**Tx = Transmit Rx = Receive**  
**MUX = Multiplexer in Telco line p**

11.gif

## Troubleshooting

You can use the following to troubleshoot Voice Pkt Drps error occurrences:

1. Use the SuperUser-level **dsprkutil** command to verify current trunk utilization.
  - a. Use the **clrtrkerrs** command frequently to clear trunk error statistics.
  - b. When the **dsprkerrs** command shows that packets are being dropped, use the **dsprkutil** command to verify current trunk utilization. If the Peak Interval Utilization field is higher than 85%, the packet drops are the result of queue overflows.
  - c. Route voice connections over alternate trunks for immediate relief.
2. You must evaluate, and correct as needed, the connection parameters in your network to resolve the problem permanently. For voice connections, the utilization parameter affects trunk bandwidth allocation.
  - a. Use the **dspon** and **dspchcnf** commands to verify connection settings.
  - b. Use the **cnfchutl** command to change the utilization parameter. The lower the configured utilization for a voice connection, the greater the number of voice connections that are loaded onto one trunk by the routing algorithm. The higher the number of voice connections, the higher the probability of TX Voice Pkt Drp errors.
3. The configured utilization value must reflect actual activity on the connection in order for the switch software to allocate the correct amount of bandwidth required on the NTM trunk. Packet drops result when the configured utilization of many voice connections is lower than their actual use.
  - a. Use the **cnftrkstats**, **dsprkstatcnf**, and **dsprkstatthist** commands to collect and view target trunk statistics. The statistics require significant network process module (NPM) processing time. Enable them only for troubleshooting activities.
  - b. Use Cisco WAN Manager statistics to evaluate trunk use over the long term.
4. Use the **cnftrkparm** command to verify all trunk parameters.

Compare the problem trunk settings to the default values or to other trunks that have similar traffic without packet drops. The Transmit Queue Depth settings of the following fields are important **cnftrkparm** command parameters for voice connections:

◆ rt-VBR

◆ TS

◆ Non TS



**Caution:** Consider network-specific requirements before changing the Transmit Queue Depth

because any changes will affect all voice connections on this trunk.

---

## Related Information

- [How to Distinguish Between Different IGX NTM Models](#)
  - [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](#)
- 

[Contacts & Feedback](#) | [Help](#) | [Site Map](#)

© 2008 – 2009 Cisco Systems, Inc. All rights reserved. [Terms & Conditions](#) | [Privacy Statement](#) | [Cookie Policy](#) | [Trademarks of Cisco Systems, Inc.](#)

---

Updated: Apr 30, 2009

Document ID: 13357

---