

# NTM Comm Fail Errors

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## Introduction

This document describes the Network Trunk Module (NTM) logged Comm Fail error, which applies to the IGX NTM with T1, E1, and subrate (SR) back cards.

## Prerequisites

### Requirements

Readers of this document should be knowledgeable of the following:

- IGX switch
- NPM (Network Processor Module)
- NTM card with T1, E1, and SR back cards

### 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 Definition

The NTM logs a Comm Fail error when the communication failure test fails. The IGX NPM uses the Comm Fail test to verify whether a trunk is usable for communication between nodes using the same trunk.

The communication failure test runs on each NTM trunk independently. The test interval and timeout parameters are configured using the SuperUser-level **cnfnodparms** command. The communication failure test is initiated by the NPM, which sends a packet or stream of packets filled with a test pattern over the target trunk to the distant-end NPM. Depending upon test results, the following occurs:

- If the packet is correctly received by the distant-end NPM, an acknowledgment goes to the originating NPM over the target trunk.
- If the originating NPM receives the acknowledgment that contains correct information about node

number and trunk number matching the local topology map, then the communication failure test passes.

- If the originating NPM does not receive the acknowledgment within a timeout period, the communication failure test is reattempted.
- If a number of retries fails, the trunk fails the communication failure test. The originating NPM declares the trunk in Comm Fail, which is an integrated alarm. A trunk experiencing Comm Fail may try to reroute all connections, depending upon the setting of the *Enable Rrt on Comm Fail* parameter of the **cnfnodeparm** command.
- If a trunk is in Comm Fail, the test must pass at both ends before the failure clears.

**Note:** Do not confuse a Comm Fail test with a communication break (Comm Break) test. The Comm Break test is used for nodes that are unable to communicate with each other and seek to reestablish communication. A Comm Fail could result in a Comm Break between network nodes.

Configure the parameters of the Comm Fail test using the **cnfnodeparm** command parameters described in the following table:

Using the <b>cnfnodeparm</b> Command	
Parameter	Description
Network Timeout Period	Amount of time (in milliseconds) the originating NPM will wait for an acknowledgment from the distant-end NPM.
Num Blind Timeouts	The number of times the originating NPM will send the Comm Fail test pattern to the target NPM before the Comm Fail test is failed.
Comm Fail Interval	Comm Fail test cycle time for all trunks on the node. Unit of measure is in milliseconds. A cycle time of five minutes for five trunks produces a Comm Fail test every one minute.
Comm Fail Multiplier	Trunks that are not in Comm Fail will be tested every (Comm Failure Interval) (Comm Failure Multiplier). Trunks that are in Comm Fail will be tested every Comm Fail Interval. Unit of measurement is one.
Comm Fail Delay	Amount of delay (in milliseconds) between successive Comm Fail tests. Important to allow real time processing to improve after a processor card switchover or node rebuild.



**Caution:** Default values for Comm Fail test parameters are optimized to ensure node and network function. Do not change values without verifying them in a laboratory environment.

Use the **cnfcftst** command to configure the test pattern used by the NPM for the communication failure test. Changing the test pattern can often detect pattern-sensitive trunk problems.

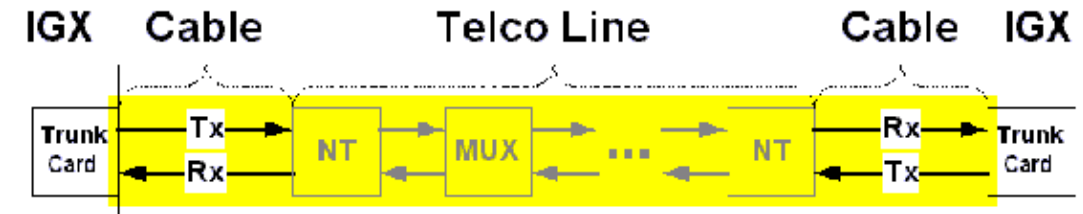
Examples of possible causes for Comm Fails and Comm Breaks include the following:

- Carrier and cable problems
- Trunk card malfunction
- Processor card malfunction

- Hardware
- Configuration mismatches

## Error Example

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



### Comm Fail

**Tx = Transmit**

**NT = Network Termination**

**Rx = Receive**

**MUX = Multiplexer in Telco line path**

## Troubleshooting

Complete the following steps to troubleshoot the Comm Fail error:

1. Use the Service-level **on1** command to verify that Comm Fail Test is enabled.
2. Use the procedures described in Troubleshooting Problems When Adding a Trunk to isolate the problem.
3. If the problem persists, contact Cisco Systems TAC.

## Related Information

- [Real-Time Throttling Mechanisms in IPX/IGX Switch Software](#)
- [How to Distinguish Between Different IGX NTM Models](#)
- [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](#)
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