Optimizing SNA Traffic in a Frame Relay Network

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Introduction

Because Systems Network Architecture (SNA) traffic and applications are delay−sensitive, many users want to optimize the flow of SNA within their network. Such optimizations fall into two categories:

- Reducing queuing delays
- Reducing the effect of trunk failures

Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

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

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Conventions

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

Reduce Queuing Delays

Configure SNA permanent virtual circuits (PVCs) so that the %util = 100 and the minimum information rate (MIR) equal the desired committed information rate (CIR) of the connection. This allows ForeSight to maintain very short trunk queue depths.

- Configure all SNA PVCs as high priority PVCs. This allows SNA traffic to receive preferential treatment in the Frame Relay packet assembler/disassembler (PAD) card (FRP) egress queue.
- Set MIR=CIR=peak−rate−bps (PIR) (to as high a value as possible). This allows the connection to receive CBR−like (or leased−line−like) performance.

- Groom SNA PVCs onto routes with the fewest number of hops or routes, or both, with the shortest propagation delay.

Reduce the Effects of Trunk Failures

Make all SNA PVCs have COS=0, and all other PVCs have a higher class of service (COs). This gives SNA PVCs the opportunity to reroute first.

- Tune the network for best reroute performance. Cisco support personnel have the expertise to do this.
- Re−examine tuning periodically. For an overview of network tuning, refer to Network Tuning in the IGX/BPX AutoRoute White Paper.
- Groom SNA PVCs onto routes with the fewest number of hops.

Related Information

- **IGX/BPX AutoRoute White Paper**
- **Cisco WAN Switching Solutions − Cisco Documentation**
- **Guide to New Names and Colors for WAN Switching Products**
- **Downloads − WAN Switching Software**
- **Technical Support − Cisco Systems**

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