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Class of Service

Document ID: 12238

Introduction

Prerequisites

- Requirements
- Components Used
- Conventions

Identifying Acceptable Routes

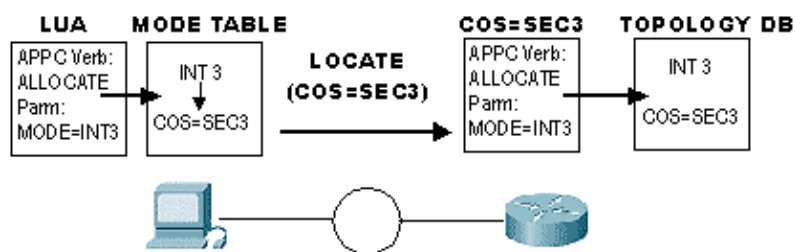
Selecting the Least Cost Route

Sending the BIND

NetPro Discussion Forums – Featured Conversations

Related Information

Introduction



1. When Logical Unit (LU) A requests a session, a MODE is specified. The MODE specifies a particular level of service and the session characteristics that are required to meet that level of service.
2. The end node (EN) uses the MODE name to map to class of service (CoS) and passes the CoS to the network node (NN) in the LOCATE.
3. The NN searches the CoS table for the particular CoS entry and determines which paths through the network meet CoS requirements.
4. The NN then compares the cost of each of the selected paths and selects the one with least cost.

Prerequisites

Requirements

Readers of this document should have knowledge of how to define a IBM CoS Table on a mainframe.

Components Used

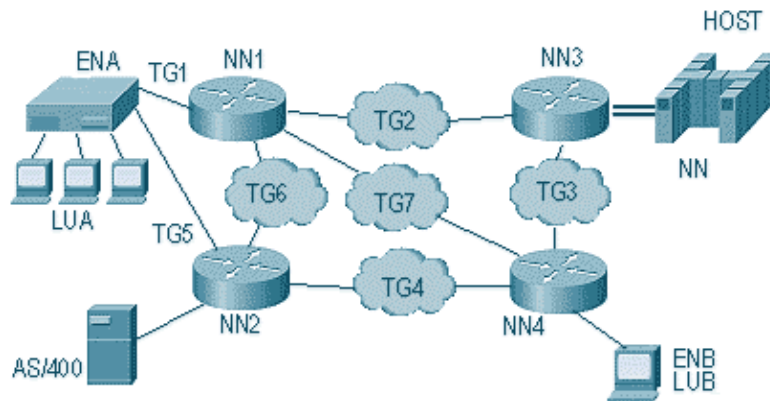
This document is not restricted to specific software and hardware versions.

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.

Identifying Acceptable Routes



1. In this example, the selected CoS has two requirements:

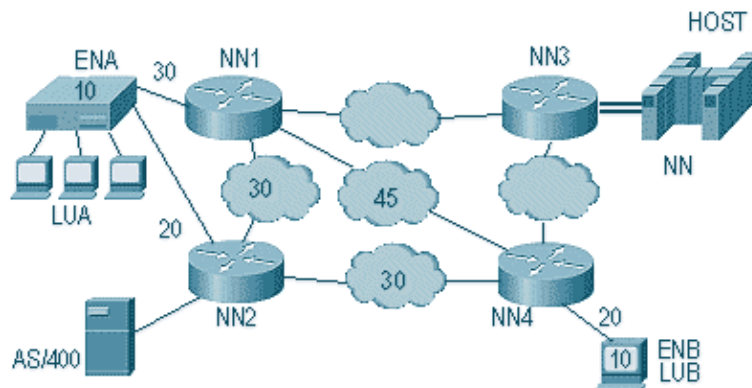
- ◆ Highest security
- ◆ 256 kbps or greater

The line speed must be at least 256 kbps and the highest level of security must be maintained.

2. NN1 will go to the topology database and compare these two requirements against each transmission group (TG) and NN to determine which ones meet the requirements.
3. After it maps each TG and NN, NN1 determined that these three acceptable routes met the CoS criteria:

- ◆ ENA TG1 NN1 TG7 NN4 TG8 ENB
- ◆ ENA TG1 NN1 TG8 NN2 TG4 NN4 TG8 ENB
- ◆ ENA TG5 NN2 TG4 NN4 TG8 ENB

Selecting the Least Cost Route



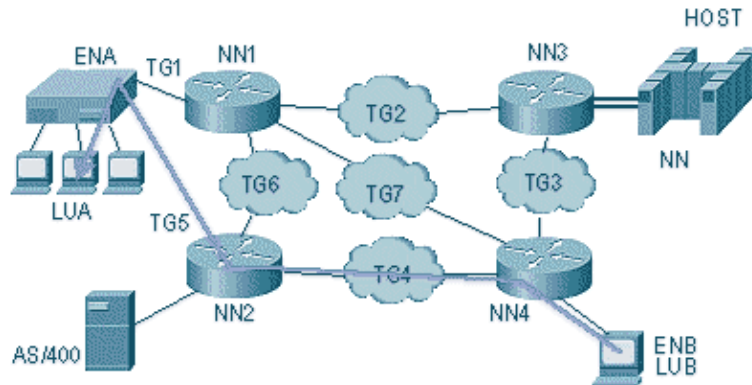
1. Each NN and TG is assigned a weight based on CoS characteristics. For example, a T1 TG may have a higher weight than a 256 kbps TG.
2. Using the three paths that meet CoS requirements, the weights of the individual TGs and NNs on each path are totaled to find the least cost path, which is highlighted:

- ◆ ENA TG1 NN1 TG7 NN4 TG8 ENB 170
- ◆ ENA TG1 NN1 TG6 NN2 TG4 BB4 TG8 ENB 205
- ◆ ENA TG5 NN2 TG4 NN4 TG8 ENB 150

3. The least cost path is returned in the LOCATE (Found) to ENA.

The process to select the best path based on CoS is processor-intensive. Rather than calculate the path each time, CoS trees can be cached that show all of the acceptable paths through the network and their associated costs. This reduces processor overhead, but it increases memory requirements proportional to the size of the network and the number of CoS supported.

Sending the BIND



Once ENA receives the LOCATE (Found), a BIND can be built and sent to initiate the LUA LUB session.

```
BIND RSCV ( ENA-TG5-NN2-TG4-NN4-TG8-ENB )
```

The Route Service Control Vector (RSCV) is passed back to ENA on the LOCATE (Found). The same vector is appended to the BIND. By looking at this vector, the nodes on the session path will know where to send it and from where it came.

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