Stormy Traffic

Objective

Explain the purpose of the Spanning Tree Protocol (STP) in a switched LAN environment with redundant switch links.

Scenario

It is your first day on the job as a network administrator for a small- to medium-sized business. The previous network administrator left suddenly after a network upgrade took place for the business.

During the upgrade, a new switch was added. Since the upgrade, many employees complain that they are having trouble accessing the Internet and servers on your network. In fact, most of them cannot access the network at all. Your corporate manager asks you to immediately research what could be causing these connectivity problems and delays.

So you take a look at the equipment operating on your network at your main distribution facility in the building. You notice that the network topology seems to be visually correct and that cables have been connected correctly, routers and switches are powered on and operational, and switches are connected together to provide backup or redundancy.

However, one thing you do notice is that all of your switches' status lights are constantly blinking at a very fast pace to the point that they almost appear solid. You think you have found the problem with the connectivity issues your employees are experiencing.

Use the Internet to research STP. As you research, take notes and describe:

- Broadcast storm
- Switching loops
- The purpose of STP
- Variations of STP

Complete the reflection questions that accompany the PDF file for this activity. Save your work and be prepared to share your answers with the class.

Resources

- Internet access to the World Wide Web

Reflection

1. What is a definition of a broadcast storm? How does a broadcast storm develop?

2. What is a definition of a switching loop? What causes a switching loop?

3. How can you mitigate broadcast storms and switching loops caused by introducing redundant switches to your network?

4. What is the IEEE standard for STP and some other STP variations, as mentioned in the hyperlinks provided?

5. In answer to this scenario, what would be your first step (after visually checking your network) to correcting the described network problem?