



Lab 5.1.2 Correcting Problems at the Network Layer

Objective

Complete the laboratory exercise by correcting the problems you isolated in the previous lab, and to practice what you learned in this lesson.

In this exercise, you will use various Cisco commands to correct network problems.

The steps include:

- Implement the plan you developed during the case study
- Verify that the data flow in the network matches your network baseline

Scenario

You are part of the second-level network support team for Acme. This morning, Acme implemented multipoint subinterfaces for their distribution layer routers in preparation for the eventual connection of additional access routers. They also implemented point-to-point subinterfaces on the access routers. You just received a page to check your email for details on a network outage that was escalated to Level 2 support. Your email displays the activity log:

Table 10: Network Support Activity Log

Command	Description
09:17 am	Acme Sales department reports they can no longer connect to anything. HTTP and ping are not working.
09:44 am	We updated some group parameters on the server for the Sales Department. We believe we have resolved the issue. [MIS]
09:53 am	Acme Sales is complaining about receiving network error messages about address conflicts. Other users are reporting that they are can no longer reach anything via their browsers or Telnet sessions. [Joe is working on the problem.]
10:03 am	Network connectivity errors are reported by the network management system on the distribution router. We noticed that the router is not discovering any remote networks [Mohammed is working on the problem.]
10:04 am	Network connectivity issues are reported between the core devices and the access router. Noticed activity on the Syslog server relating to connectivity issues. [Lynn is working on the problem.]
10:09 am	Request escalation of this ticket to Level 2 support. The network is not functioning. In retrospect, it was probably a bad idea to have Joe, Mohammed, and Lynn simultaneously changing the configurations. We would look at it some more, but we need to leave for a team meeting. [From Lucille, Level 1 team lead]

Required Resources

These are the resources and equipment required to complete this exercise:

- Access to a protocol analyzer (either software or hardware)
- A network baseline documenting the laboratory installation
- A troubleshooting log listing isolated physical, data link, and network problems
- An implementation plan for correcting documented physical, data link layer, and network problems

Step 1

Implement the troubleshooting plan. Connect to the workgroup devices as needed.

Step 2

Carry out your troubleshooting implementation plan to correct all network problems.

Step 3

Verify that the network data flows match the updated network baseline and that you have not introduced any new problems into the network.

Step 4

Answer the following questions:

Does your network data flow match the network baseline? _____

Can you use Telnet to connect to the host named Cisco (simulated on ISP)? _____

Can you browse Web files on CCNP4_Server? _____

Can you use Telnet to connect to CCNP4_Server from your PC? _____

Can you FTP a file from CCNP4_Server to your PC? _____