

## Network Maintenance Development (Instructor Version)

**Instructor Note:** Red font color or Gray highlights indicate text that appears in the instructor copy only.

### Objective

Describe the different levels of router log messages.

**Instructor Note:** This activity is best completed in groups of two to three students.

### Scenario

Currently, there are no formal policies or procedures for recording problems experienced on your company's network. Furthermore, when network problems occur, you must try many methods to find the causes – and this troubleshooting approach takes time.

You know there must be a better way to resolve these issues. You decide to create a network maintenance plan to keep repair records and pinpoint the causes of errors on the network.

### Resources

- Word processing software

### Directions

**Step 1: Brainstorm different types of network maintenance records you would like to keep.**

**Step 2: Sort the records types into main categories. Suggested categories include:**

- Equipment (Routers and Switches)
- Traffic
- Security

**Step 3: Create an outline to guide the network maintenance planning process for the company.**

### Instructor – Example Activity Solution

#### Network Maintenance Records Options

- I. Equipment (Routers and Switches)
  - a. Reliability
    - i. Reasons for Down Time
    - ii. Percentages of Down Time
  - b. IOS upgrades and patches
  - c. Error messages
    - i. Dates/times
    - ii. Type of error
    - iii. Description of error
    - iv. Method to resolve the error
- II. Traffic
  - a. Wired and wireless traffic utilization
    - i. Network traffic utilization by application
    - ii. Network traffic congestion

- b. System and servers
    - i. Applications utilization
      - 1. Email
      - 2. Web-based software
    - ii. Errors with applications
    - iii. Methods used to resolve errors
- III. Security
  - a. Updates
  - b. Authentication methods
  - c. Encryption methods
  - d. Error messages
  - e. ACLs
  - f. Wired and wireless security
  - g. Methods to resolve errors

### Identify elements of the model that map to IT-related content:

- Network maintenance
- Network recordkeeping
- Analysis of network maintenance