

Lab 5.1.10 Purchasing LAN Switches – Instructor Version



Objective

- Introduce the variety and prices of network components in the market
- Gather pricing information for Ethernet switches and NICs for a network

Background / Preparation

Put together a proposal for replacing hubs with switches at a branch office. Research at least two different solutions and develop a proposal. The project details are the following:

- The company has a branch location still using an Ethernet hub network. Congestion issues are getting to be a serious problem as more and more services are being added to the network. Currently each of the four floors has one or more hubs in a wiring closet supporting 30-35 computers except the ground floor, which has 65 computers.
- The four floors plug into an 8-port 10-Mbps switch that was added earlier to reduce the congestion problems. While that solution was a major improvement it cannot keep up all of the time anymore. The two servers and router to the Internet also connect to the 8-port switch.
- The branch cabling is relatively new and certified to Category 5 standards. The company is not interested in any major cabling changes at this time.
- At least 75% of the 160 current workstations have NICs with 10/100, full duplex capabilities. All laptop computers have the newer NICs. All new machines include similar NICs.
- Consider what should be done with the existing switch. Are there higher bandwidth options for connecting the two servers?

The requirements include the following:

- Replace all hubs with switches.
- Replace the 10 Mbps NICs for existing desktop PCs.
- Each host connection should be 10/100 Mbps minimum.

Step 1 Research equipment pricing

Start by going to www.cisco.com and selecting “Products & Solutions” and following the links to “Switches” to gather basic information. Look specifically at the Catalyst 29xx and 35xx models.

Use at least three other sources for technologies and pricing. When doing Web searches, try www.cdw.com, www.google.com, or any other preferred search engines.

Step 2 Compile a table of your results

Use Microsoft Excel, Word, or any comparable products to compile a table of the results.

The first page is The Executive Summary where the recommended choice of products and the total cost is written. Include a short 8-15 line reason why this implementation was selected.

The second page is a comparison table showing the choices that were looked at and the features or factors that were compared such as price, performance, and so on.

The third page explains any security concerns discovered in the research. Summarize them as a bulleted list. Summarize whether the concerns are serious and if they can be overcome.

Optional Step 2 Create a 4-8 slide PowerPoint presentation

Instead of creating the above Excel or Word documents, create a four to eight slide PowerPoint presentation covering the same requirements.

Assume that there will be a presentation of the material.

If time allows, do both of these. That would often be the norm.

Answers will vary.