
Network Drawing Activity

A small company has hired you to assist them in selecting a network topology and communication media to use in the building of a new network. The company is small, but growing. Currently in the company campus, there are four different work areas with 25 computers in each area. They need to be networked, and in addition they need to have the ability to link to a larger network within the city limits.

Job One—On your first meeting with the Acme team they tell you they would like to have some examples of basic network designs. On this piece of paper, or using your paint program, draw and label examples of three basic network topologies for Acme.

Job Two—Explain the advantages and disadvantages of each of the topologies you summarized for the Acme Team. Based on your knowledge to this point, what topology would you recommend?

Job Three—Acme has discussed your options and done some reading on their own. They have some questions about coaxial cable versus twisted pair cable. Draw up a comparison chart for them using MS Word and then make a recommendation on which should be used according to your current knowledge.

Job Four—Acme has decided to go with a coaxial based Ethernet system. Go online and price out for Gary

1000 feet of thicknet coaxial cable

100 connectors

Terminators

Describe the cost for each and the types of connectors/terminators required. Since you want to do the best job you can, go for the gold plated high-quality components.

Job Five—Since Gary wants Thicknet, he's going to have to abide by what rule? Describe this rule to him and explain why it will mean extra cabling.

Job Six—I am going to give each team a scenario. I want each team to create from that scenario the following:

1. A proposal to the company that addresses the following:
 - a. Different types of topologies, including
 - i. BUS
 - ii. Token-Ring

- iii. Star
- iv. Cascading star
- v. Mesh
- b. Different types of architectures
 - i. Ethernet
 - ii. Token-Ring
 - iii. ARCNet (just a brief overview because no one creates a new ARCNet network any more)
 - iv. FDDI
- c. Access methods of each
- d. Which topology is best for their needs
- e. Drawing of the proposed network including:
 - i. Servers
 - ii. Cabling (label type)
 - iii. Connectors
 - iv. Workstations
 - v. Access method
- f. Include
 - i. Graphics
 - ii. Cable types
 - iii. Connector types
 - iv. Special cables if needed
 - v. Access speeds
 - vi. Label how the information moves around the network.
 - vii. 5-4-3 rule if it applies
 - viii. Network type (peer to peer vs client/server)

Create a proposal for each scenario and be prepared to present the proposal to the class. Use either PowerPoint or a report and use VISIO for the drawings. Address all issues for full credit. See rubric below for exactly what you will be graded on.

Rubric

Requirement	Excellent (10)	Good (8)	Poor (5)	Not Observed (0)
Explanation of the option of different kinds of topologies, including bus, star, cascading star, token ring, and mesh.				
Explanation of the options of different types of architectures, including Ethernet, token-ring, ARCNet, and FDDI)				
Access methods used by each topology.				
Suggestion of which topology would best fit their needs.				
Drawing of the network, which includes:				
All computers on network (servers and workstations)				
Label cable types				
Label connector types				
Label access speeds				
Label access method				
Describe topology and architecture				
Worth 100 points. Points awarded:				