Lab 3.2.4.2 Evaluating a Cabling Upgrade Plan

Objectives

- Examine the existing floor plan of a customer.

- Propose a cable upgrade plan to accommodate extra floor space.

Background / Preparation

A medium sized company has existing space on the second floor of an office tower and has just acquired the rest of the second floor. They have asked you to examine their existing floor plan and assist them in the placement of a new IDF, placement of cables to support all of the new office space, and to help determine if any new devices are required.

This lab can be done individually or in groups.

The following resources are required:

- Existing Floor Plan (provided)

Step 1: Examine the existing floor plan.

a. From the information provided on the existing floor plan, label the following items:

1) POP – Point of Presence

2) MDF – Main Distribution Facility

3) IDF – Intermediate Distribution Facility

4) Vertical/Backbone Cabling

5) Horizontal Cabling

b. What type of cabling could be used for the vertical/backbone cabling? Explain your answer.

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Step 2: Evaluate plan for new floor space.

AnyCompany has just merged with a small web design group and has acquired the remaining space on the second floor to accommodate the web design team. This new space is represented on the diagram as the floor space highlighted on the right side of the floorplan. It has been decided to add a second IDF to support the workstations in the new area.

a. Suggest a possible location for the new IDF. What room / location did you choose and explain why you think it is suitable?

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    b.   What type of cable would you suggest for the vertical cabling required to connect the new IDF to the existing MDF? Explain your reasons.

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    c.   The new space contains mostly offices. Assume that each office will be provisioned with 2 data drops. Also plan for 2 drops in the auditorium to support Internet access for presentations and training sessions. How many additional data drops need to be ordered?

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    d.   You have been asked to determine the number of new 24 port switches required for the new IDF. Remember to plan on approximately 25% growth. How many new switches will AnyCompany need to purchase?

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    e.   How many horizontal cables will terminate on patch panels in the new IDF?

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Step 3: Examine the floor space and wiring plan.

    a.   What equipment other than switches would you expect to find in the new IDF?

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    b.   What equipment other than switches would you expect to find in the MDF?

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    c.   Using existing cable runs, could you use UTP to connect the devices in room 2.20 or 2.30 directly into a switch in the MDF?

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Step 4. Reflection

With one or two classmates, discuss the following:

a. Is it better to have an IDF in this floor space or should the company run the horizontal cables for each device directly back to the existing MDF?

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b. How many cables will be required from the MDF to the IDF to support the switches? Explain your answer.

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