

Unit 8 Building a network

Teacher's notes

Preparation

Before you use this lesson plan:

- Make one copy of each worksheet per student.
- Visit the proposed websites to check they are operational.

Warmers

Short (5 minutes)

Ask the students if they know how many people use the computer network where they work or study. Is it a LAN or WAN?

Long (10 – 15 minutes)

Divide the group into pairs of small groups and ask them to draw and label a diagram of a Local Area Network, showing all the important elements and equipment. If they have difficulties, refer them to the diagram on page 140 of the *Infotech Student's Book*. Ask a person from one group or pair to draw their diagram on the board. When they have finished, ask the other groups whether they want to add to or modify this diagram. Allow any discussion to continue for a few minutes.

Set the scene

(5 minutes)

Ask the students to read the *situation*. Explain that they are going to upgrade the network equipment of the company and need to make some decisions about what equipment to buy in order to set a budget.

Present the tasks

(5 minutes)

Explain the procedure:

- 1 Divide into small groups or pairs.
- 2 Use the websites to research and collect information; fill in the table.

The full version of this InfoQuest involves each group researching all the different items of equipment. The activity can be completed in a shorter time if the research responsibilities are divided between the groups.

- 3 Calculate the total cost of the equipment.

Do the tasks

Research (20 minutes)

- If computers are available, allocate one to each small group or pair and let the students do their research.
- If computers are not available, set the research as homework to be performed at home or during free time at work. Emphasise to the students that they do not need to spend more than about 20 minutes collecting information.

Comparisons (10 minutes)

After the research, the research groups or pairs report their figure for the total cost. Ask the groups with the highest and lowest figures to explain and justify their choices. Choose a group whose total cost is in the middle and use their proposal as the basis for agreeing a final choice and, therefore, a figure to propose to the partners of the firm for a budget.

Variations

- The Insight website indicates whether each product is in stock. Set a very close deadline for ordering the equipment and ask the students to take the availability of each item into consideration when making their choices.
- Ask half the research groups to use the Insight website to research the prices and half to use Dabs.com: <http://www.dabs.com>. The final discussion can then also include deciding which supplier to use.

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Aims

- talking about network equipment
- proposing a budget

Situation

You are responsible for upgrading a LAN at a small accountancy firm. You have been asked to research the equipment they need and to propose a budget. The company employs 27 people: 3 partners; 7 financial advisors; 10 accountants; and 7 administration and support staff.

The partners and financial advisors are often outside the office visiting clients. They all have laptop computers which require a wireless connection when they are in the office. All the other staff have desktop computers.

Tasks

- 1 You are going to research the most appropriate equipment for this network.
- 2 You are going to find the prices of this equipment in order to propose a budget.

Task 1 – the research

These websites will give you information about network equipment. Your teacher will tell you which ones to use.

Hewlett Packard UK

http://www.hp.com/cgi-bin/buyguides/uk/en/product_select.cgi

You are going to buy an HP server.

- 1 Visit the *ProLiant server buying guide* on Hewlett Packard's website
- 2 The company principally needs the server for file and print functions. However, they do plan to run other applications such as Microsoft Exchange. Choose and click on an appropriate option from the table.
- 3 On the next page click on the tabs and make a note of the model name and number of the recommended *Optimal*, *Standard* and *Minimum* servers.

Netgear UK

<http://www.netgear.co.uk>

You are going to buy a Netgear firewall and wireless access point.

- 1 Use the *Product* menu at the top of the page to select *Business Products* and then *routers and firewalls*.
- 2 On the next page, click on *Wired Firewalls*. Now click on the picture of a product and check to see whether it meets the company's requirements. Make a note of the model number you choose.
- 3 Now use the menu on the left to select *Wireless*, then click on *access points*, then click on *ProSafe wireless access point products*. Again click on a picture to find out about a product. Choose an appropriate wireless access point for the company and make a note of the model number.

D-Link UK

<http://www.dlink.co.uk>

You are going to buy a D-Link switch.

- 1 Click on the *For Business* link in the top navigation bar.
- 2 In the *Small and Medium Business* menu, click on *Switches*.
- 3 Choose a switch with the appropriate number of ports for the company's needs and make a note of the model number. If necessary, click on the picture of the product to check its specifications.

Insight UK

<http://uk.insight.com>

You are going to buy your equipment from Insight, an online supplier of computer equipment.

- 1 The quickest way to find the equipment you selected is to use the *Search box* at the top of the page. Enter the name and model number of the Optimal server you selected from the HP website and click on *Search*. For each server, there are several different options based on the type of processor. Choose one, make a note of the processor and price including VAT. Now repeat this for the Standard and Minimum server options.
- 2 Use the *Search box* to find prices for the firewall, wireless access point and switch that you choose.
- 3 Calculate the total cost.

Fill in the table.

Equipment	Model number		Price (£)
Server	Optimal		
	Standard		
	Minimum		
Firewall			
Wireless access point			
Switch			
	Total cost (including VAT)		

Task 2 – compare results

Discuss your results in pairs and report back to the class.

Highest	£
Lowest	£
Proposed budget	£