

FIT1005
Networks and Data Communications
Assignment 2 – Semester 2 2006

Due Date: Friday 6 October by 12 noon (Week 11)

Submission Guideline

Please hand your assignment in at the FIT School Office on your Campus.

Late submission - An assignment handed in late will receive a late penalty of a 5% deduction per day (including Saturday and Sunday) or part there of, after the due date and time.

Marks

This assignment is worth 25% of the total unit marks.

The assignment is marked out of 100 nominal marks.

If for example you obtained 70 marks for this assignment then your grade will be D.

The unit marks you will obtain will be $25 * 0.70 = 17.5$ marks.

Part A

Marks will be allocated:

- i. Network Design, with description and analysis of current setup based on your assumptions (35)
- ii. Network Diagram (10)
- iii. Cost Estimation (10)

Part B

Marks will be allocated:

- i. Suitable hardware/software technologies required to support Internet access (20)
- ii. Cost Estimation (10)

Report Layout

Presentation Style, Writing, Reference (15)

Scenario

A company that purchases clothing from overseas manufacturers and sells in its stores has a **warehouse site** located in Melbourne. In order to keep track of all its correspondence with the manufacturers, purchase orders, invoices and other business transactions the company has **16 desktop computers, 3 laser printers, 1 scanner and 1 fax machine. These are located in two adjacent offices in Building A and in an office in Building B. Building B is located 150metres away from Building A.** In **Building A one office** has 6 desktop computers, 1 laser printer and 1 scanner, the other office has 6 desktop computers, 1 laser printer and 1 fax machine. **In Building B, the office has 4 desktop computers and 1 laser printer.**

There are no network facilities installed at the **warehouse** site. Each of the printers is attached to one particular desktop. Each time an employee wants to print a document, **the employee** has to transfer the document file into a floppy disk and then print the document from the desktop attached to the printer. With this situation, this desktop can never be exclusively assigned to an individual. The fax machine is not connected to any computer. The scanner is connected to one computer. The company needs to scan pictures of clothes for business purposes on a regular basis and the computer to which the scanner is attached is not assigned to a specific user.

As a network consultant you are required prepare a formal report that addresses the issues outlined in Parts A and B below.

Part A – Local Area Network

The company has decided to have a network connecting all the existing resources. You are required to analyze the situation and determine possible solutions to the network requirements of the company, refer below:

- i. **Network Design**
Suggest a type of LAN architecture that is suitable for the office. Identify all the network hardware and software that are necessary to build the LAN solution you are suggesting. Justify your choice of LAN topology and hardware and software, i.e., why do you think your chosen topology is the most suitable, what are the functions of the hardware and software in your solution.
- ii. **Draw a diagram of the network that shows how you connect the hardware you have chosen in part (i).**
- iii. **Estimate the cost of implementing the network, with a breakdown of cost by component.**

Part B – Internet Access

The company has decided it needs internet access for its employees so they can keep up with the latest trends in fashion design and thus make good purchasing decisions.

The company also wants a Web Site designed and hosted so that customers can order clothes via an online catalogue.

You are required to determine:

- i. **Suitable hardware and software technologies required to support Internet access**
- ii. **How much it will cost to provide Internet access and to design and host the Web site**

General Notes

1. The assignment specification does not mention the configuration of the existing hardware and software or any other resources. In describing the current setup of the company, you are free to assume the existing hardware and software configuration.
2. In estimating the cost, please quote all prices in Australian Dollar. If you get the price quote from an Internet source, please refer it in “Reference” section of the report. You may convert other currency into A\$.
3. The budget for implementing the LAN should be reasonable for a small company and should not exceed A\$30,000.

Report Layout

The report should include Title Page, **ToC**, Executive summary, Introduction, Scope, body of the report, references, glossary or appendices (if provided) etc. You are recommended to use a formal report format. You may consult Q Manual (<http://www.buseco.monash.edu.au/publications/qmanual>) for the format of formal report writing.