

# Networking Design and Administration

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## Assignment 2: Hints

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### a (P3, P4, M4)

Using the results of your Investigation Report, propose a suitable LAN for the company, which includes a:

#### 1. (P3) Network specification

- Describe the user's needs
- Provide a list of requirements.
- For the main office and one branch, produce a **generic** layout showing devices, cabling, servers and services.
- Now take your generic plans and specify the following in more **detail**:-
  - Hardware devices, software, cabling, communication speeds, servers, domains, database structures.
  - Specify network addressing scheme
  - For each server, specify the services it will offer. E.g., mail service, file, print, web, application, directory services, DNS, security such as a web proxy or firewall. Specify the software that will run each service. E.g.
    - ◇ GroupWise for mail server on Novell based OS
    - ◇ IIS for a Windows based server or Apache on Unix based server
    - ◇ MSProxy for Windows based server or BorderManager for Novell or WebSense for various server operating systems
    - ◇ Which directory services should be installed?
  - For the client computers, specify the operating system and any other software needed such as anti-virus software
  - Specify back-up procedures
- Suggest alternative approaches to the above. Recommend one design solution.
- Produce a costing report. Cost of cabling, network devices, computers, computers operating system software, servers, server operating system licensing, directory services software, connection to Internet.

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### 2. (P4) Schedule for implementation

- *Network implementation schedule.*
  - ◇ *Delivery of cabling and cabling cabinets.*
  - ◇ *Installation of cabling*
  - ◇ *Testing of cabling*
  - ◇ *Delivery of network devices*
  - ◇ *Installation, configuration and testing of network devices*
  - ◇ *Installation of WAN connection*
  - ◇ *Delivery of servers*
  - ◇ *Installation of servers in server room or cabinets*
  - ◇ *Installation of server OS*
  - ◇ *Installation of server software*
  - ◇ *Configuration of servers*
  - ◇ *Installation of Directory Services*
  - ◇ *Testing of servers*
  - ◇ *Delivery of client PC's*
  - ◇ *Installation of client OS*
  - ◇ *Configuration of client addressing scheme*
  - ◇ *Testing of clients*
  - ◇ *Testing of LAN connectivity*
  - ◇ *Testing of WAN connectivity*
  - ◇ *Train technical staff*
  - ◇ *Train users*
  - ◇ *Test security*
  - ◇ *Fault finding period*
  - ◇ *Stress testing period*
  - ◇ *Additional fixing and follow up period*
  - ◇ *Going live period*

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### 3. (M4) Security policy

- Explain network security issues
- Specify user and group privileges
- Specify file access privileges
- Specify web access privileges
- How will you secure network against hacking
- Will you limit staff access to external sites?

### b (M3)

1. Explain how your specification meets the requirements of the users

**At least ? pages**

### c (D3)

1. Evaluate the resources, roll-out procedures and requirements for setting-up and testing the new LAN.

**At least ? page**