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## H. Dip. in Computing

### Guided Technology Project

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#### Introduction:

You work as an independent ICT consultant. You have recently been contracted to design and implement a network infrastructure and services solution as per the specification outlined below.

#### Project overview:

Dublin Pharmaceutical Limited (DPL) are an expanding sales and research medical company established 15 years ago.

Due to its recent expansion, DPL are moving to a new greenfield site in the Dublin Docklands. In addition to this, the business is going to establish a data collaborative partnership with another pharmaceutical company also based in the Docklands.

The company currently has approx. 1000 employees located in its main office divided into THREE distinct divisions: research and development (R&D) – (300 employees), manufacturing (550) and Sales/Marketing(150). The R&D division, while located in the same premises, must be securely segregated from the other divisions. All divisions will require an external Internet connection. DPL R&D division require an intranet site accessible **only** to that division and the partner company.

The company have advised that all software solutions must be open-source.

#### NETWORK INFRASTRUCTURE OVERVIEW (Network Design)

The network design should include but is not limited to the following:

- Highly available and fault tolerant network design
- Secure inter-communications within internal divisions
- Communication between partner sites
- Segregated Wireless LAN solution for guest access
- VOIP solution
- Automated IPv4 address allocation
- Logical network subdivisions
- Access Control
- Name resolution services
- Secure local and remote management of networking devices
- Device Security best practices

## **SERVICES PROOF OF CONCEPT OVERVIEW**

In addition to the network design, you are also required to provide a proof of concept implementation.

This section will require a minimum client, server and firewall implementation.

This should include but is not limited to the following:

- Detailed Inbound and Outbound security as specified in the project overview
- Automatic IPv4 address allocation
- Web Server services
- Custom intranet portal design
- Remote Access services
- Secure File Transfer capabilities
- Account management home directories

**The ability to research and justify your decisions to meet the needs of DPL is paramount in this project. An acceptable network design and proof of concept solution is expected alongside detailed documentation as specified in the Guided Technology Project Handbook.**

## **IMPORTANT NOTES:**

- **Emulated or simulated software may be used for the network design.**
- **Virtualization software may be used for the Services Proof of Concept.**