COMP1002 Assignment 2: Report

**Introduction**

This report is written with the intention of proposing a robust and scalable solution of a network and cyber security infrastructure for a direct-to-consumer sales company called DirectSales UK. Due to the current dynamic of today’s business environment, scalability is important to ensure growth and adapt to changing demands. With this in mind, my solutions will not only aim to meet the requirements of the company but will allow for expansion and evolution over time. The report will be structured by beginning with an overview of the system architecture, which is followed by the network architecture and the security architecture, and finally finishing with a conclusion.

**System Architecture**

The system architecture is used in different ways but will provide a high-level view of the solution, describing the components that make up the network and how they interact 1). Creating the architecture of a system requires the aims and requirements to be defined. DirectSales UK have given me a set of initial requirements that need to be followed in order to create a successful solution. In response to these requirements provided, my proposed solution must encompass key aims such as scalability, reliability, performance, security and manageability, which will create a successful infrastructure.

Requirements/aims

2)

Scalability: The proposed solution will aim to be scalable in order to accommodate the needs of the company while allowing for future growth. Making the network scalable will allow the company to grow their operations and user base, which needs to be prepared for as they plan to increase the sales team in two years’ time.

Reliability: Ensuring that the network is always available and providing authentic service is a key aim. The solution will need to consider minimizing downtime and making sure that the main services are always accessible by employees and customers.

Performance: The infrastructure will be designed to maximize user performance, ensuring that communication across the network is fast and reliable. There will be considerations of bandwidth requirements, latency and throughput.

Security: Providing a secure network is one of the most important requirements. The solution will need to include robust and secure security measures which will protect against data leaks, unauthorized access and any other risks or threats to the network and company data.

Manageability: The management of the network is essential for the company to use it efficiently. The management will ensure that everything is being monitored and that is running smoothly. This will allow for improved productivity and security, as well as minimized costs.

Core infrastructure

The initial requirements of hosts that the network needs to have is 140, which is for the staff pc’s, staff Wi-Fi and guest network. The company’s web and e-commerce systems need to have a minimum of 20 hosts. As the company is going to increase in size, the network needs to be built for the scalability, whilst also focusing on the reliability, performance and security.

Network Components –

Hardware:

The network will need either ethernet or fast ethernet cabling. The bandwidth needs to be fast to work efficiently but there’s no point in paying for gigabyte ethernet cabling when its only a small network and doesn’t need to be that fast.

Software:

Network services:

Security Components -

**Network Architecture**

**Security Architecture**

**Conclusion**