IT5010D: Assignment #1

Practical Project – Case Study

Report

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| **Due Date:** | *18-11-2022 23:59pm* |

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# Executive Summary

(Explain the scenario and summarise your work in a short paragraph.)

The Plan for this site is as follows we will need to purchase the necessary network equipment to keep the site easy to monitor and control offsite, if need be, for maintenance using Spiceworks. Also, it is easy to expand if the client wishes to. So we will need all-in-one computers, IP phones, network switches, routers, cables etc...

We will be you establish secure LAN connections in the office space also, have a secure connection to the internet, and have monitored telecommunication in place. Install NAS for back up and restore purpose.

# Network Diagram

(Enter a network Diagram here and give an explanation. You can use [www.draw.io](http://www.draw.io) to draw the network

Diagram

Description automatically generated diagram online. Make sure all components are labelled.)

# Quotation

(Fill in the table to answer Tasks A, C and E)

|  |  |  |  |
| --- | --- | --- | --- |
| **Items** | **Cost** | **C. Rationale and Justification for each component**  *(Provide brief justification about why you chose this specific item.)* | **Reference**  APA (7th ed.) format. E.g., (Rasmussen, 2021, para. 2) |
| **A.** Hardware/Software Components |  |  |  |
| Network devices |  |  |  |
| **B.** Computing equipment and network components |  |  |  |
| Servers (if applicable) |  |  |  |
| Infrastructure |  |  |  |
| Printers |  |  |  |
| Related hardware |  |  |  |
| Software |  |  |  |
| Acessories |  |  |  |
| Security protocols |  |  |  |

Equipment as follows with the reference links

**UDM-PRO - $890.00**

https://www.pbtech.co.nz/product/NETUBI2201/Ubiquiti-UniFi-UDM-PRO-Dream-Machine-PRO

https://store.ui.com/collections/unifi-network-unifi-os-consoles/products/udm-pro

All-in-one, enterprise-grade UniFi OS Console and security gateway designed to host the full UniFi application suite.

LAN ports: (8) GbE RJ45, (1) 10G SFP+

WAN ports: (1) GbE RJ45, (1) 10G SFP+

Threat management and traffic/client identification

This is key hardware for everything we are doing, this will provide internet access secure connection, monitoring,

**Switch PoE - $663.74**

https://store.ui.com/collections/unifi-network-switching/products/usw-16-poe

https://pp.co.nz/product/rack-mountable-hubs-and-switches/ubiquiti-unifi-switch-usw-16-poe-switch-managed-16-x-10-100-1000-8-poe-2-x-gigabit-sfp-desktop-rack-mountable-poe-42-w-/AB06058/

This is needed to provide seamless connectivity between UDM-PRO and switch plus it has (see below) which is perfect to small / medium size network

(8) GbE, PoE+ RJ45 ports

(8) GbE RJ45 ports

(2) 1G SFP ports

42W total PoE availability

**4 x Computers x $1452.75**

https://www.pbtech.co.nz/product/WKAASU5401010/ASUS-Zen-AiO-24-M5401WUAT-WA010R-Business-All-in-O?type=ex-demo

This is compact all in one computer which comes with everything we need to setup call center

-windows

-antivirus

-network

**Printer - $2961.25**

https://www.pbtech.co.nz/product/PTROKI03748/Oki-MC853DN-A3-Printer-23ppm-1200-x-600-dpi-Colour

Any workspace needs a printer / this fast a reliable model. A compact, powerful A3 colour multifunction printer offering excellent print quality and copy functionality, the MC853 is ideal for small workgroups. Easy to use with a customizable interface, it combines low total cost of ownership with the functionality of higher-priced devices.

**Ip Phone x 4 - $107.21**

https://www.pbtech.co.nz/product/IPHYLK4954027/Yealink-SIP-T31P-T31P-IP-Phone-2-VoIP-Accounts-23

Ip phones are great with our POE switch. plus, we can monitor and have secure call connection

**Headset x 4 - $159.85**

https://www.pbtech.co.nz/product/HSTJAB2301/Jabra-Enterprise-2309-820-105-BIZ23000-Duo-NC-Land

These are hands-free units that provide great quality of life

**Cat6 Cable - $249.00**

https://www.pbtech.co.nz/product/CABDNX0999/Dynamix-C-C6-ST-R-GREEN-305M-Cat6-Green-UTP-STRAND

Cable is needed to wire everything plus have great Lan speed connection

**Software -**

<https://www.spiceworks.com/> ; <https://nz.norton.com/> ; [Ubiquiti Account](https://account.ui.com/login) ; [Ubiquiti - Downloads](https://www.ui.com/download-software/)

Antivirus, Spiceworks, Ubiquiti

Something to monitor the incoming calls and to monitor the Help desk, and all the Managing hardware resources managing software resources

**Synology DS420+ With 4X Seagate 8TB NAS HDD Bundle - $2,978.99**

https://www.pbtech.co.nz/product/BDLSYN04202/Synology-DS420-With-4X-Seagate-8TB-NAS-HDD-Bundle

This is very good practice to have and use remote storage for backing up data.

**Internet connection**

$329.27

# (D) Communication Channel Security

(Explain how you will secure the communication channel between the two sites.)

To ensure safe and secure communication, we will need to follow these steps:

 Setup

 The firewall is a priority. not only on devices but also set up a web application firewall (WAF).

 A Virtual Private Network (VPN) encrypts network to ensure online privacy for all your users. A VPN blocks your activities, data, browsing history, communications, and other personal information from hackers. It also protects your files and information while using a public network.

establish a network security maintenance system that involves processes such as:

* Performing backups
* Running activity reports
* Keeping software up-to-date

Installing anti-virus and anti-malware software: By ensuring that anti-virus and anti-malware software is up-to-date, you are also ensuring that your devices are running software with the most recent bug fixes and security updates.

# (E). Support Call Prioritisation

(Explain how you will prioritise the calls. You can list the rules that you have defined and practiced using Spiceworks.)

In Spiceworks, customer identification, such as a user ID, is entered. Next, fill in as much information about that customer, such as name, phone number, email, location, department, time of call, and hardware and software configurations. The system also assigns the call a unique identifier, often called a call ticket or incident number.

Allow customers support through many different channels, including email, online help chat, text messages, social media channels, mobile apps, and the telephone.

Ticket and record as much of the above information before it is displayed to the Help Desk agent.

The incident is associated with the ticket. These might include a description of the problem, the components involved, and an indication of its priority. A ticket contains all the details of the incident, its status, and any progress that has been made on it. The person working on it enters notes on the ticket. The progress made on tickets can be monitored from initiation to completion. Tickets can be prioritised automatically based on several predefined variables.

Route calls to specific people or areas. The tickets are routed into queues where practitioners can take ownership of a ticket by picking it off the line. That practitioner’s ID is automatically recorded against the ticket.

It indicates what is being done and then enters a description of the resolution they provided when the incident is resolved. Completed tickets are marked as closed, and some systems automatically send an email to the customer to tell them that the incident has been resolved.

Function for automatically escalating calls and tickets. First, a predefined set of criteria is established. When an outstanding call or ticket meets these criteria, it automatically escalates to the next level. Automatic escalation systems notify the relevant Help Desk agents using various communication methods, including text messages, pagers, telephones, alarms, or simply a flag against the ticket. The tickets will also appear in that particular ticket queue.

Priority level 1-5

1.Critical Events / Business down

2.Critical Events / Business impacted

3.Events not critical / Business not impacted

4.Event not critical / Business not impacted

5.little problem easy fix

1. **Summary**

(Reflect on your learning and the challenges of designing a network solution)

The biggest challenge was the helpdesk ticketing system, as I know very little about that, but networking I found a little bit easier because I have been doing it for some time now. I did learn quite a bit from this assignment, even though it was a little hard. There's so much that goes into helping people with their IT problems. that I didn't know about.

# References

(APA (7th) format can be found in Canvas on the ‘Referencing Format’

e.g., Rasmussen, C. (2021, October 12). Icy ‘glue’ may control pace of Antarctic ice-shelf breakup. National

Aeronautics and Space Administration.

https://www.nasa.gov/feature/jpl/icy-glue-may-control-pace-of-antarctic-ice-shelf-breakup)