# Assessment Task 2

|  |  |
| --- | --- |
| **Assessment Title:** | Project– Network design and proposal |
| **Assessment Instructions:** | This assessment is a practical task to test your knowledge/skill on design small networks.  In this assessment, you must read a case profile and conduct a series of activities around developing a design proposal for a networking project. There is an observation to further check your skills in confirming information and communicating effectively with a client.  There are three parts in this assessment.  Part 1 – Document Client network needs  Part 2 – Role Play/Observation - Clarify and confirm clients network needs  Part 3 – Provide Project plan and Obtain approval and security clearance  You need to submit the writing tasks and the observation checklist for the assessor to mark. This assessment is open book.  This assessment will be conducted in class or online. Where using video via online methods the assessment must be conducted according to the Video guidelines.  You must complete all tasks to a satisfactory level to receive a satisfactory result. |
| **Duration of the Assessment:** | 3 hours |
| **Required Knowledge** | You must demonstrate knowledge in:   * industry accepted hardware and software products, including those used for networks * building requirements that may be used in installing, configuring and securing an office * data and voice transmission technologies and protocols * hardware and software installation procedures * organisational procedures including: * software and hardware testing methods * network setting testing methods * software, hardware and network setting problem resolution procedures * local area network (LAN) capabilities and characteristics, including: * network types * internet protocol addressing * switch and hub operation * network connections, both wired and wireless * networking technologies, including network operating systems and cabling standards * network tools, set-up and configuration procedures * security implications and methods for a home office network * software packages supported by the organisation * industry standards applicable to small networks * installation and configuration tools |
| **Resources required for this Assessment:** | |
| **Supplied by Institute/workplace** | Standard computer room –Networked PCs and servers, MS Office (include, Visio and Project),  Case study profile (Small office home office case study) and proposal template downloadable through SuniConnect.  System Design Proposal Template  Installation Plan Template  Video guidelines |
| **Supplied by student** | N/A |

|  |
| --- |
| **Network design and proposal**  You are an ICT specialist working for SOHO. Review the “**Small office home office case study,”** to familiarise yourself with your client’s needs.  This assessment has three parts:  **Part 1 – Document Client network needs Part 2 – Role Play/Observation - Clarify and confirm clients network needs Part 3 – Provide Project plan and Obtain approval and security clearance** |

|  |
| --- |
| **Part 1** – Tasks 1-4  Based on the information in the case study prepare a simple project proposal to document your client’s needs using the template provided. Refer to each section to determine the information required. For Task 4 you will need to obtain specifications and prices from vendors. Once you have your client requirements documented, you will need to obtain approvals. |
|  |

|  |
| --- |
| **Part 2** – Task 1  You are required to present your design to your assessor who will act as the client to confirm the design meets the client’s needs and to obtain sign off. |
|  |

|  |
| --- |
| **Part 3** – Task 1-2  Based on the information in the case study, you are required to develop an installation plan, and obtain approvals and security clearance from the relevant authority. |
|  |

|  |
| --- |
| **Part 1** – Using the template below document the Clients network needs as per the case study: |

**SOHO Network Design Proposal (Template)**

Ref No: 202109077032B

|  |  |  |  |
| --- | --- | --- | --- |
| Client Name: XYZ PTY LTD Address: 10, Mystreet St. Mildura, VIC Contact Number: 03 5022 XXXX  Consultant Name: Tyler Cole-Frost Contact Number: 03 5022 XXXX Version: 1 | | | |
| Initial consultation Yes  No | | Date: 00/00/0000 | |
| **1. Client requirement** | | | |
| Supported devices (1.1):  Business Hardware to be supported 3 Desktop Computers 1 Laptop 1 Desktop printer 4-bay Desktop NAS Storage w/ 2 gigabyte Ethernet interfaces. 1 Business-grade Printer Ethernet cable  Family Hardware to be supported  1 Laptop 2 Tablets 2 Phones + 1 Phone (heavy internet use) 1 Smart TV 1 Smart Speaker  Potential interference (1.2): Devices that could cause potential interference   * Kitchen Microwaves (2.4ghz) * Bluetooth (2.4ghz) * Mobile phones (2.4ghz) * Audio visual devices; baby monitors, wireless speakers, wireless Microphones. (2.4ghz)   Access control (1.3): - WPA2-AES or WPA2-TKIP provides the configuration settings enabling the desired access controls asked by the client consider mac address filtering (L2) and IP Filtering (L3) | | | |
| **2. Network hardware requirements** | | | |
| **Wired and wireless devices (2.1):**  Router  TP-Link Archer AX6000 WiFi 6 Router $439  I have suggested purchasing TP-Link Archer AX6000 WiFi 6 Router.  I believe this addresses the issue posed by heavy use of personal devices during business operating hours. This router allows the simultaneous connection of multiple devices and with the benefits of enjoying optimum speed for each device.  Switch  TP-Link Archer AX6000 WiFi 6 Router $439  This router can also be used as a switch providing up to 8 gigabit ethernet ports and a 2.5gbps WAN Port.  NAS  NAS will be connected to the switch integrated router via ethernet cable  **Wi-Fi protocols (2.2):**  I have recommended using a router with Wi-fi protocol 802.11ax (Wi-Fi 6) as it supports 2 different levels of frequency, I feel this addresses the possibility of interference and offers the ability to use an alternative frequency if necessary.  Internet connections (2.3):  **Internet**  I have recommended using the premium NBN 100 Plan (with typical speeds of 100mbps 9am to 5pm weekdays)  I have suggested this plan due to the benefits it provides, it addresses both the clients expectations and suggestions.  [nbn Internet Plans From Telstra Small Business](https://www.telstra.com.au/small-business/internet/nbn)  Price $1 for the first month then $140 a month after that ($1680 Annually)  NBN 100 provides a consistent speed when 6-9 users are connected at any time. I believe this plan addresses issues with speed, reliability, and consistency with internet connection.  Can cancel anytime though will be disconnected immediately and any funds paid will not be subject to a refund.  I have also provided a key fact sheet with additional information relating to the NBN plan and specifics for company documentation.  [key-fact-sheet-nbn-services-all-types.pdf (telstra.com.au)](https://www.telstra.com.au/content/dam/tcom/personal/help/pdf/cis-business/nbn-key-facts/key-fact-sheet-nbn-services-all-types.pdf)  Cables and connections (2.4): **Cables**  I have recommended connecting all Desktop computers, Printers and to the Switch integrated router via Cat 5e Cabling**.** 1000Base-T – Cat 5e  **Topology (2.5):**  I have used a “Star network topology”  **Security features (2.6):**  SPI Firewall, Access Control, IP & MAC Binding, Application Layer Gateway, Malicious Site Checker, Port Intrusion Prevention, Infected Device Isolation, Notification and Log. | | | |
| **3.Network Diagram** Provide a physical network diagram; it should include topology and connections | | | |
|  | | | |
| **4.Device and Supply –** Obtain vendor and supplier specifications and component prices | | | |
| Device or resources | Specifications | Vendor contact information | Cost |
| Internet connection | **Physical** 24/7 Support No lock in contract.  **Function** 4G Mobile backup Unlimited calls to standard Australian landlines and mobiles.  **Performance** Unlimited Data 100mbps download 32mbps upload. | [nbn Internet Plans From Telstra Small Business](https://www.telstra.com.au/small-business/internet/nbn)  [key-fact-sheet-nbn-services-all-types.pdf (telstra.com.au)](https://www.telstra.com.au/content/dam/tcom/personal/help/pdf/cis-business/nbn-key-facts/key-fact-sheet-nbn-services-all-types.pdf) 1800 334 884 between Mon - Fri 8am - 8pm AEST  Any questions can also be answered via online messaging support service | $1 for the first month then $140 a month after that ($1680 Annually) |
| Router  TP-Link Archer AX6000 WiFi 6 Router | **Physical** Wi-Fi On/Off Button Power On/Off Button LED On/Off Button WPS Button Reset Button  1× 2.5 Gbps WAN Port 8× Gigabit LAN Ports  **Function** Protocols: IPv4,  IPv6  **Performance** WiFi Speeds: **AX6000** 5 GHz: 4804 Mbps (802.11ax, HE160) 2.4 GHz: 1148 Mbps (802.11ax) | [Archer AX6000 | AX6000 Dual-Band Gigabit Wi-Fi 6 Router | TP-Link Australia](https://www.tp-link.com/au/home-networking/gaming-router/archer-ax6000/)  For Australian Users Tel:1300 87 5465 (1300 TP-Link)Fee: Depending on 1300 policy  E-mail: [support.au@tp-link.com](mailto:support.au@tp-link.com) Service Time: 24 hours a day, 7 days a week | $439 |
|  |  |  |  |
| **Name: Tyler Cole-Frost Signature: Date: 29/11/2023** | | | |

Satisfactory  Not Satisfactory

|  |
| --- |
| **Part 2 – Clarify and confirm Client requirements**  **Task 1. Role play and observation:**    In this task, you are required to present your network design to the client to:  1) Collect and confirm information about XYZ’s requirements  2) Explain the proposal and request approval for the design and installation proposed    You must refer to the proposal that you created above. The design proposal must be signed in the relevant section.  Your assessor will act as the client and will observe your skills as outlined in the observation checklist below. At the conclusion of the role-play, the assessor will provide you with feedback.  You should submit the Design Proposal along with the completed observation checklist. |
|  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Observation Checklist** | | | | | |
| ICTSAS310 - Install, configure and secure a small office or home office | | | | | |
| **Student’s Name:** |  | | | **Student ID:** |  |
| **Student Instructions:** | You will be observed by an assessor completing the following task/s. During the task/s you may be asked oral questions by the assessor to confirm your understanding.  Observations will be recorded by the assessor as **S** if the task/s has been performed to a satisfactory skill level or **NS** if the task/s have NOT been performed satisfactorily.  You must achieve a satisfactory result for the whole of the task. | | | | |
| **Description:** | Present SOHO network design to clients and obtain sign-off. Confirm information and requirements, using effective communication techniques and industry standard technical language intended for audience and environment | | | | |
| **Location:** |  | | | | |
| **Client Details:** |  | | | | |
| **Tasks to be observed** | | **1** | **Comments on performance and/or oral question responses (Required):** | | |
| 1.1. Clarify and confirm information about the clients’ requirements. | | S  NS |  | | |
| 1.2. Summarise and request approval for the SOHO network design proposal | | S  NS |  | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Assessor Report** | | | |
|  | | | |
|  | | | |
|  | | | |
|  | | | |
|  | | | |
| **Assessment Outcome:** | **SATISFACTORY** | | |
| **NOT SATISFACTORY** | Is resubmission required?Yes  No | |
| **Resubmission:** | Competency development strategies discussed with student? | | |
| Agreed due date for resubmission: / / | | |
| **Assessor Name:** |  | | |
| **Assessor Signature:** |  | | **Date:**  / / |

|  |
| --- |
| **Part 3** – Provide Project plan and Obtain approval and security clearance  **Task 1**. Based on the information in the case study, you are required to develop an installation plan. A template has been provided below. |
|  |

* For “Priority” you should indicate low, normal, high with brief reason.
* For “Contingency arrangement” you should list alternative solutions when the planned task cannot be carried out as expected.

|  |  |  |  |
| --- | --- | --- | --- |
| **Installation Plan** | | | |
| Tasks | Timeline (start and end dates) | Priority (high, low) | Contingency arrangement (e.g., when outage, shipment delay etc.) |
| Consult Client and determine/ document client needs. | 22/11/2023 – 22/11/2023 | High – it is important to understand the clients needs to ensure you are providing the right solution for their IT needs | Further consultation may be needed when discussing client needs. |
| Assess clients Physical Space | 23/11/2023 -23/11/2023 | low – It is important to assess the environment you are working in to best suit the clients need. | Additional hardware may be needed to create a more consistent connection dependent on the evaluation of the physical space. |
| Choose a suitable location for the clients Network hub and installation. | 23/11/2023 – 23/11/2023 | Low– it is important to choose a suitable location for any hardware installed and take into consideration potential issues such as interference, how many devices are connected, etc. | If the network hardware cannot be place in a central location, additional hardware may be required to best meet the client’s needs. |
| Install, Configure and test network. | 27/11/2023 – 27/11/2023 | High – It is important that after Installation and configuration the network is tested to ensure installation is completed and meets all the requirements set out by the client. | If testing is unsuccessful troubleshooting and extra configuration and testing may be needed. |

Satisfactory  Not Satisfactory

|  |
| --- |
| **Task 2.** Communicate with client’s contractor liaison officer, draft another email to:  Provide information for security clearance.  Request site access with explicit date and time arrangement.  Request an approval of your plan and design developed in Q1-5 |

|  |
| --- |
| Insert email screen shot or text here    Good afternoon XYZ,  I am seeking your approval for the proposed plan attached.  To complete the required tasks set out within the proposed plan I am requesting to meet on the 22/11/2023 to discuss and properly identify the requirements and options for your SOHO solution.  Additionally, I would like to assess the physical environment and decide on a suitable location for your networking hardware on the 23/11/2023.  Upon completion of the initial assessment I am requesting security clearance to complete the necessary steps to install, configure and test the network.  Regards,  Tyler Cole-Frost |

Satisfactory  Not Satisfactory