



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

Project Task 3
SECR1213 - NETWORK COMMUNICATION
Semester 3, 2024/2025

Section 01

Group : Mozilla

NAME	MATRIC NUMBER
NAZATUL NADHIRAH BINTI SABTU	A23CS0144
NURUL ATHIRAH SYAFIQAH BINTI MOHD RAZALI	A23CS0163
NUR AINA SYAFINA BINTI KAMASUAHADI	A23CS0152
WAN NUR RAUDHAH BINTI MASZMANIE	A23CS0195

LECTURER: DR.MUHAMMAD ZAFRAN BIN MUHAMMAD ZALY SHAH

DATE: 5 DECEMBER 2024

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1. LIST OF DEVICES AND SPECIFICATIONS

Device	Specifications	Price Per Unit (RM)	Quantity	Subtotal (RM)
PowerEdge Tower Servers Product Details: https://www.server2u.com/shop/t640-xp8168-refurbished-dell-emc-poweredge-t640-tower-server-2xxp8160m-768gb-6x1-92tb-57402?gad_source=1&gclid=CjwKCAiA9bq6BhAKEiwAH6bgoEoGrl8Io-32YG1FfgFlaAesb2XIk0phgROAWT2ZYLx1fNneiungMRoCZEAQAvD_BwE#atrr= 	<p>Dell EMC PowerEdge T640 Tower Server</p> <ul style="list-style-type: none"> i. Memory: 768GB RAM ii. Processor: 2 x Intel Xeon Platinum 8168 Processor iii. HDD: 6 x 1.92TB SSD iv. RAID Controller: Dell PowerEdge T640 Tower Server v. Power Supply: 1 x 750W vi. Deliver fast insights with up to 8 NVMe drives and 2 x 10GbE connections. vii. Scale computes resources with Intel® Xeon® Scalable processors that deliver a 27% increase in cores and 50% increase in bandwidth over the previous generation. viii. Address massive data growth with up to 18 x 3.5" or 32 x 2.5" drives and 8 PCIe slots. ix. Provide advanced imaging and VDI with up to 4 x 300W GPU accelerators 	28,821.00	60	1,729,260.00

<p>Router</p> <p>Product Details:</p> <p>https://www.router-switch.com/c8500-12x.html</p> 	<p>C8500-12X</p> <p>i. Aggregate Throughput: Up to 195 Gbps</p> <p>ii. Ports: 12 x 10GbE SFP+ ports 4 x 1GbE RJ45 ports (dual-purpose uplinks)</p> <p>iii. Processor: Cisco QuantumFlow Processor (QFP)</p> <p>iv. WAN Edge Support: Optimized for SD-WAN and multi-cloud deployments</p> <p>v. Security:</p> <p>vi. Integrated IPsec VPN Advanced firewall capabilities</p> <p>vii. Redundancy: Dual redundant power supplies</p> <p>viii. Management: Managed via Cisco DNA Center for automation</p> <p>viii) Form Factor: 1U rack-mounted</p>	183,586.10	2	367,172.20

	<p>ix. Cooling: Fan-based cooling for efficient heat dissipation</p> <p>x. Encryption: Hardware-based encryption for secure data transmission</p>			
Firewall Product Details: https://www.router-switch.com/fpr2140-ngfw-k9.html	FPR2140-NGFW-K9 - Cisco Firepower 2100 Series Appliances <ul style="list-style-type: none"> i. Dimension (HxWxD): 1.73 x 16.90 x 19.76 in. (4.4 x 42.9 x 50.2 cm) ii. Form factor (rack units): 1RU iii. I/O module slots: 1 NM slot iv. Network modules: (FPR-NM-8X10G) 8 x 10 Gigabit Ethernet Enhanced Small Form-Factor Pluggable (SFP+) network module v. Maximum number of interfaces: Up to 24 total Ethernet ports (12x1G RJ-45, 4x10G SFP+, and network module with 8x10G SFP+) vi. USB: 1 x USB 2.0 Type-A (500mA) vii. Storage: 1x 200 GB, 1x spare slot (for MSP) viii. Noise: 56 dBA @ 25C, 77 dBA at highest system 	116,195.92	1	116,195.92

	performance			
Wireless Access Points Product Details: https://www.networkhardware.com/en-my/products/netgear-wbe758-11nas-netgear-1pt-insight-managed-wifi-7-wbe758-11nas?variant=47635341410509&gad_source=1&gclid=CjwKCAiAMC6BhA6EiwAdN5iLd0jMgXUM2FjAv6FK2HfXXUXO_RrSxnYk4YtL4jRpn5D7A2y-jilhxoC4ecQAvD_BwE	NETGEAR WBE758 WiFi 7 Access Point i. Transmission Speed: Up to 18.4 Gbps ii. Frequency Bands: Tri-band (2.4 GHz, 5 GHz, 6 GHz - Wi-Fi 7) iii. Wireless LAN Standard: IEEE 802.11be (Wi-Fi 7) iv. MIMO Technology: Supports advanced MIMO for efficient multi-user communication v. Ports : 1 x 10G Multi-Gig Ethernet port vi. Power: PoE++ (Power over Ethernet) supported for easy deployment vii. Security: WPA3 encryption for top-level security	5,284.00	2	10,568.00
Patch Panels 48 Product Details: https://my.element14.com	NKPP48FMY Patch Panel, Cat5E/CAT6, 48 Port, 2Rack U i. Connector type:	525.67	10	5,256.70

com/panduit/nkpp48fmy/patch-panel-cat5e-cat6-48port/dp/2706537	<p>Fibre Optic Patch Panel</p> <p>ii. No of Ports: 48 Ports</p> <p>iii. LAN Category: Cat5e, Cat6</p> <p>iv. Product Range: TUK SGACK902S Keystone Coupler</p>			
Patch Panels 24 Product Details: https://my.element14.com/panduit/cpp24fmwblly/connector-mod-patch-panel-24port/dp/2363258 	<p>CPP24FMWBLY Connector, Mod Patch Panel, 24Port, 1U</p> <p>i. Connector Type: Modular Patch Panel (supports Mini-Com series connectors)</p> <p>ii. No of Ports: 24 Ports</p> <p>iii. Product Range: Mini-Com Series</p> <p>iv. LAN Category: Compatible with Cat5e and Cat6 Ethernet cables</p> <p>v. Panel Type: Unshielded (UTP) for standard installations</p> <p>vi. Mounting: Rack-Mountable (1U height)</p> <p>vii. Material: Durable metal for long-lasting performance</p> <p>viii. Compatibility: Works</p>	376.48	5	1,882.40

	<p>with Panduit Mini-Com series jacks and modules</p> <p>ix. Size: 19-inch rack, 1U height</p> <p>x. Weight: Approximately 1.4 kg</p>			
Switch 48 Product Details: https://www.router-switch.com/ws-c2960l-48ts-ll.html	<p>WS-C2960L-48TS-LL Catalyst 2960-L Switch</p> <p>i. Port Count: 48 x 10/100/1000 (Gigabit Ethernet) ports</p> <p>ii. Uplink Ports: 2 x 1G SFP (Small Form-Factor Pluggable) ports for fiber connectivity</p> <p>iii. Switching Capacity: 176 Gbps</p> <p>iv. Forwarding Rate: 130.95 Mpps (million packets per second)</p> <p>v. Form Factor: Rack-mountable (1U)</p> <p>vi. Power over Ethernet (PoE): No PoE support (Standard model, no power delivery to devices like IP cameras)</p> <p>vii. Layer: Layer 2 Switch (primarily used for switching and VLAN management)</p> 	6,167.78	10	61,677.80

Switch 24 Product Details:  https://www.router-switch.com/ws-c3850-48xs-s.html	WS-C3850-48XS-S Catalyst 3850 Switch SFP+ <ul style="list-style-type: none">i. Ports: 48 x SFP+ portsii. Network management Interface: Ethernet management port: RJ-45 connectors, 4-pair Cat-5 UTP cabling, Management console port: RJ-45-to-DB9 cable for PC connectionsiii. CPU: Multicore CPUiv. RAM: 8 GBv. Flash Memory: 8GBvi. Number of AP per switch/stack: 100vii. Number of wireless clients per switch/stack: 2000viii. Total number of WLANs per switch: 64ix. Wireless bandwidth per switch: Up to 40 Gbps	75,615.59	5	378,077.95
Ethernet cable Product Details: https://my.rs-online.com/web/p/ethernet-cable/2078191?srsltid=AfmBOoqEvwjObqgYM98zdIfk4Ce49sDvUix4QmtbkMjRePRsJiqqoxVb	RS PRO, 100m Cat8, White, S/FTP Shielded, Unterminated <ul style="list-style-type: none">i. Bandwidth: Supports up to 2000 MHz (2 GHz).ii. Data Transmission Rate: Capable of speeds up to 40 Gbps.	10.35	52	538.20

				
Ethernet Connector Product Details: https://www.globalsources.com/Modular-jack/Cable-Connector-1200681989p.htm	Cat8 Ethernet Cable Connector RJ45 i. Supported Bandwidth: Up to 2000 MHz. ii. Data Transfer Rate: Up to 40 Gbps. iii. Shielding: Fully shielded to reduce electromagnetic interference. iv. Material: Gold-plated contacts for improved signal quality and corrosion resistance. v. Wire Gauge: Supports AWG 22-26 stranded or solid wires. vi. Design: Tool-free or crimp style, depending on model. vii. Durability: Rated for multiple insertions (typically >750 cycles).	8.58	500	4,290.00
 Cap Rubber Boot Product Details: https://www.digikey.my/en/products/detail/adam-tech/MTP-88-C8-SR-A3	MTP-88-C8-SR-A3 i. Fiber Count: 88 fibers. ii. Connector Configuration: 8 rows of fibers, often used in high-density networks.	0.45	500	225.00

<p>/13586903?gclsrc=aw.ds &&utm_adgroup=&utm_source=google&utm_medium=cpc&utm_campaign=Pmax%20Shopping_Product_Zombie%20SKUs&utm_term=.</p> 	<ul style="list-style-type: none"> iii. Transmission Range: Short-range iv. Insertion Loss: Typically low, around 0.35 dB or less v. Return Loss: Generally better than 40 dB for multimode fibers (SR). vi. Durability: Rated for 500 mating cycles or more. 			
<p>Faceplate</p> <p>Product Details:</p> <p>https://my.element14.com/panduit/nk1fwhy/vertical-faceplate-1-module-white/dp/1316470</p> 	<p>NK1FWHY</p> <ul style="list-style-type: none"> i. Type: Vertical faceplate ii. Orientation: Vertical mounting iii. Material: High quality durable plastic iv. Application: Compatible with keystone jacks and modules for structured cabling systems. v. Dimensions: Compact, suitable for standard wall box installation. 	18.26	70	1,278.20
<p>Keystone Jack Panel</p> <p>Product Details:</p> <p>https://www.hb-digital.de</p>	<p>RJ45 Cat 8.1 Tool-less Keystone Jack</p> <ul style="list-style-type: none"> i. Category: Cat 8.1 	37.14	96	3,565.44

<p>e/100-Pcs-Keystone-module-RJ45-CAT-81-GHMT-certified-LSA-tool-less-rj45-keystone-jack</p> 	<p>(supports up to 40 Gbps).</p> <ul style="list-style-type: none"> ii. Bandwidth: Up to 2000 MHz. iii. Installation: Tool-less design for quick and easy termination. iv. Compatibility: Supports AWG 23-26 solid or stranded wires. v. Shielding: Fully shielded for protection against EMI/RFI. vi. Material: High-quality housing with metal shielding for durability. 			
<p>Network Management Devices</p> <p>Product Details:</p> <p>https://my.rs-online.com/web/p/uninterruptible-power-supplies/2877928?cm_mmc=MY-PLA-DS3A--google--PLA_MY_EN_PMAX_High-Impression_20240118--&matchtype=&&adsrl=8558441598&&&</p>	<p>APC SRT8KXLI 230V Input Rack Mount UPS - 8000VA (8kW)</p> <ul style="list-style-type: none"> i. Capacity: 8000 VA (8 kW) ii. Input Voltage: 230V iii. Output Voltage: 230V (adjustable) iv. Form Factor: Rack-mountable (2U height) v. Battery Type: Sealed Lead-Acid Battery vi. Battery Runtime: Varies by load 	50,253.54	2	100,507.08

<p>gad_source=1&gclid=CjwKCAiA9bq6BhAKEjwAH6bqoKH7CgswDQlmnP27P_5ijFnFXzFHktzrR9Ba6J2nTYvtGEpTwZcRThoC6EYQAvDBwE&gclsrc=aw.ds</p> 	<p>vii. Outlets: 8 x C13, 2 x C19 Efficiency: Up to 98% in Energy Saver Mode</p> <p>viii. Display: LCD for real-time monitoring</p> <p>ix. VIII. Connections: USB & Serial for local management, SmartSlot for add-on cards</p> <p>x. Surge Protection: Built-in surge protection</p> <p>xi. Dimensions: 3.5" (H) x 17.1" (W) x 28.4" (D)</p> <p>xii. Weight: 41.7 kg (92 lbs)</p>			
			Total	RM 2,819,149.89

1.1. Research and References

Based on research conducted, we decided to include firewalls, routers, switches, and a server in our list of devices. These components are crucial for establishing a secure and efficient

network system. Cisco Packet Tracer, a widely used network simulator, emphasizes the importance of these devices in designing realistic network topologies. It provides a diverse range of tools, including support for routers, switches, ASA firewalls, and Meraki appliances, making it invaluable for learning and testing networking concepts (CBT Nuggets, 2020). This aligns with the practical requirements for deploying and testing networking technologies in both educational and professional environments.

1.2. References includes and are appropriate

A reference list on the research we had done is also attached at the end of report.

1.3 & 1.4 Characteristics of LAN devices and its specifications to accomplish the needs and requirements.

The selected devices for our project which is routers, firewalls, servers, switches, and wireless access points are tailored to create a secure and efficient LAN setup. These devices have been chosen based on their specifications to fulfill the project requirements. The Cisco C8500-12X router, with an aggregate throughput of up to 195 Gbps, provides enterprise-grade routing with advanced security features such as integrated IPSec VPN and firewall capabilities. Its 12 x 10GbE SFP+ ports and 4 x 1GbE RJ45 uplinks ensure scalability and high-speed connectivity, making it ideal for an academic institution's growing network demands.

The Cisco Firepower 2140 firewall offers comprehensive multi-layered security with features like advanced threat protection, intrusion prevention systems (IPS), and deep packet inspection. Its robust design ensures uninterrupted network operations by safeguarding against external threats and vulnerabilities.

For data storage and processing, the Dell EMC PowerEdge T640 server was chosen for its powerful capabilities, including 768GB RAM, dual Intel Xeon Platinum 8168 processors, and 6 x 1.92TB SSDs. It supports up to 8 GPU accelerators and scalable configurations, making it highly efficient for managing large volumes of data and supporting critical network applications.

The Cisco Catalyst WS-C3850-48XS-S switch is integral to the network's wired connectivity. With 48 x 10GbE SFP+ ports, Layer 3 switching capabilities, and support for up to

2000 wireless clients, it ensures high-speed, reliable communication within the network. Its advanced VLAN management and high throughput make it a key component of the LAN infrastructure.

For wireless connectivity, the Netgear WBE758-111NAS access points were selected. These access points feature cutting-edge Wi-Fi 7 technology, offering speeds up to 18.4 Gbps and tri-band operation (2.4 GHz, 5 GHz, and 6 GHz). Their advanced MIMO technology supports efficient multi-user communication, ensuring seamless wireless coverage throughout the campus.

Additionally, Cat8 Ethernet cables with a data transmission rate of up to 40 Gbps and a bandwidth of 2000 MHz were chosen for high-speed, stable wired connections. To organize and manage the cabling infrastructure, Panduit NKPP48FMY patch panels with 48 ports were selected for their durability and compatibility with Cat5e and Cat6 cables.

2. REPORT

2.1 Are you surprised by the prices? How were you surprised?

Yes, we were quite surprised by the prices of network devices such as servers, routers, switches, and firewalls. The costs were significantly higher than what we initially anticipated, particularly for devices equipped with advanced features like extended range options, enhanced security measures, and robust integration capabilities. The steep price tags reflect the

sophistication and reliability of these devices, but they were beyond our initial budget expectations.

What stood out the most was the investment required for features that ensure long-term network efficiency, such as high-speed performance, scalability, and robust security mechanisms. While the initial costs may appear overwhelming, these devices often justify their price through long-term savings. For instance, their durability, dependable performance, and ability to minimize network downtime contribute to operational efficiency and reduce maintenance expenses over time.

In conclusion, although the prices were surprising, understanding the added value and potential cost savings these devices offer helps us appreciate why they are priced at a premium. Their features and benefits ultimately make them worthwhile investments for creating a high-quality and reliable network infrastructure.

2.2 Have you ever considered cost as a factor for choosing networking devices?

Yes, of course. Cost is always a critical factor especially when the budgets are limited and tight. However, the decision will include maintenance, scalability, energy efficiency and expected lifespan. A device with higher initial costs but lower maintenance requirements may be more cost effective in the long run term.

2.3 What are the major differences between the same devices from different brands?

When comparing switches from Cisco and Huawei, several distinctions arise in terms of performance, scalability, and cost. Cisco switches are known for their robust features, including advanced VLAN management, superior Quality of Service (QoS), and enhanced network security. These features cater to large enterprises that demand high reliability and scalability. Cisco's switches also utilize the Cisco IOS operating system, which is praised for its consistency and extensive support. In contrast, Huawei switches offer a more cost-effective alternative while still delivering competitive features such as high port density and energy efficiency. Huawei's VRP (Versatile Routing Platform) is user-friendly but might lack the advanced options available in Cisco IOS. Moreover, Huawei switches are popular in budget-conscious markets due to their

lower price point and comparable performance for medium-scale implementations (Networkise, n.d.; Lia, 2020).

Servers (Dell PowerEdge Rack Servers and Huawei FusionServer RH Series Rack Servers)

When comparing Dell PowerEdge Rack Servers and Huawei FusionServer RH Series Rack Servers, the first major factor to consider is performance and scalability. Both brands offer Intel Xeon Scalable processors, ensuring strong performance for a variety of workloads. Dell PowerEdge is well-known for its robust performance and enterprise reliability, making it an excellent choice for businesses with established IT infrastructures. Dell's OpenManage management tools further enhance its ability to integrate with other Dell products, making it easier for IT teams to manage complex systems. On the other hand, Huawei FusionServer RH Series excels in providing flexible scalability, making it a great choice for businesses requiring scalable solutions in cloud computing, big data, and AI applications.

In terms of cost-effectiveness, Huawei FusionServer RH Series offers a budget-friendly solution, particularly appealing to companies with limited resources or those looking to scale their infrastructure at a lower cost. Huawei's focus on cost-effective performance allows businesses to grow without overspending on enterprise-level hardware. This makes the FusionServer RH Series especially suitable for small and medium-sized enterprises (SMEs) or those operating in data-intensive environments such as cloud computing and AI workloads. Conversely, Dell PowerEdge, while higher in price, justifies the cost with superior reliability, enterprise-class integration, and extensive support services. For companies heavily invested in the Dell ecosystem, the added cost is often seen as an investment in long-term performance and support.

Finally, expandability and integration are essential for businesses looking to grow their IT infrastructure. Huawei FusionServer RH Series provides highly scalable solutions, designed to handle dense data center computing and software-defined storage, ensuring that businesses can expand without replacing their hardware as their needs grow. Huawei's servers also provide a good balance of performance and flexibility at a competitive cost, making them ideal for businesses focused on maximizing value. Dell PowerEdge, however, is known for its seamless integration with other Dell products, which is particularly beneficial for larger enterprises or those already using Dell's networking and storage systems. Dell's comprehensive support, along with its high reliability in mission-critical environments, makes it the go-to choice for businesses that require consistent uptime and enterprise-level security.

Routers (Cisco C8500-12X and the TP-Link Archer AX20)

The Cisco C8500-12X and the TP-Link Archer AX20 are both notable routers, but they serve different purposes and cater to distinct user needs. The Cisco C8500-12X is a high-performance, enterprise-level router, designed to handle the demands of large-scale businesses. It boasts advanced security features, support for Gigabit Ethernet, and comprehensive routing options. With twelve 1G Ethernet ports, it offers scalability, making it ideal for environments that require robust performance and reliability. Additionally, it runs on Cisco's IOS XE software, providing users with access to enterprise-grade networking features, including VPN support, segmentation, and application optimization. Cisco's reputation for network security further enhances the C8500-12X as a top-tier choice for high-security applications (Cisco Systems, n.d.).

In contrast, the TP-Link Archer AX20 is a consumer-grade Wi-Fi 6 router, primarily targeted at home and small-office use. While it supports Wi-Fi 6 technology for faster speeds and greater bandwidth efficiency, the Archer AX20 is more suited for basic to mid-range networking needs. It features dual-band connectivity, four gigabit Ethernet ports, and support for MU-MIMO technology, making it ideal for tasks such as streaming and gaming. However, the Archer AX20 lacks the scalability, advanced security features, and enterprise-focused capabilities of the Cisco C8500-12X (TP-Link, n.d.).

While the TP-Link Archer AX20 offers solid performance at a more affordable price point, the Cisco C8500-12X excels in quality and reliability for business environments. The C8500-12X stands out due to its advanced security, scalability, and superior network management features that are essential for high-demand, enterprise-grade applications. Cisco's enterprise-grade features, such as robust VPN support, advanced routing protocols, and extensive network optimization capabilities, make the C8500-12X the superior choice for organizations seeking reliability, security, and long-term performance. Thus, while the TP-Link Archer AX20 is a great option for home and small office use, the Cisco C8500-12X is the best choice based on quality, particularly for large-scale enterprise networks (Cisco Systems, n.d.; TP-Link, n.d.).

Firewalls (Cisco Firepower 2140 and the Fortinet FortiGate 500E)

The Cisco Firepower 2140 and the Fortinet FortiGate 500E are both advanced next-generation firewalls (NGFWs) designed to offer robust security for enterprise environments,

but they cater to different needs. The Cisco Firepower 2140 is equipped with Cisco's Firepower Threat Defense (FTD) software, providing integrated firewalling, intrusion prevention systems (IPS), URL filtering, and application control in a unified platform. It offers deep visibility into network traffic, advanced threat protection, and secure network segmentation, making it ideal for businesses already within the Cisco ecosystem. Its advanced security capabilities, such as deep packet inspection, automated response mechanisms, and VPN support, make it suitable for critical infrastructure protection (Cisco Systems, n.d., retrieved December 4, 2024).

On the other hand, the FortiGate 500E is powered by Fortinet's FortiOS and focuses on high-performance security with a strong emphasis on throughput and scalability. It combines several security features such as intrusion prevention, web filtering, and advanced threat protection, making it a powerful choice for organizations with high-speed, low-latency requirements. Additionally, the FortiGate 500E supports SD-WAN, VPN, and network analytics, offering flexibility for distributed network environments (Fortinet, n.d., retrieved December 4, 2024).

While both firewalls provide comprehensive security features, the Cisco Firepower 2140 stands out in terms of quality due to its deep integration with Cisco's broader security ecosystem, making it the ideal choice for enterprises seeking a unified security approach. Its advanced threat detection capabilities, seamless integration with other Cisco security tools, and centralized management features offer unparalleled network visibility and control. In comparison, the Fortinet FortiGate 500E, while excelling in performance and scalability, lacks the same level of integration with other enterprise security solutions. Therefore, based on quality, the Cisco Firepower 2140 is the superior choice for organizations focused on comprehensive threat management and long-term network security.

Wireless Access Points (The Netgear WBE758-111NA vs Aruba AP-505 US)

The Netgear WBE758-111NAS and the Aruba AP-505 US are both high-quality Wi-Fi access points designed to provide seamless wireless connectivity for enterprise environments. The Netgear WBE758-111NAS is an Insight Managed Wi-Fi 7 access point, supporting advanced features such as high-speed wireless performance, secure guest networks, and easy integration with Netgear's Insight platform. This device is designed for environments that demand strong coverage, high throughput, and simplified management, which makes it an ideal choice for businesses seeking a reliable and scalable solution. The Netgear WBE758 supports Wi-Fi 7

technology, ensuring it delivers the latest performance standards, including enhanced data speeds, lower latency, and better efficiency compared to previous generations (NetworkHardwares, n.d., retrieved December 4, 2024).

In comparison, the Aruba AP-505 US from Aruba Networks is a Unified Access Point designed to support high-performance, secure, and reliable connectivity for a range of applications. It features Aruba's advanced wireless technologies and management tools, ensuring enterprise-grade performance in a variety of environments. The Aruba AP-505 focuses on offering high-speed Wi-Fi 6 (802.11ax) performance, along with enhanced security features like integrated WPA3 and robust encryption options. It is particularly beneficial for businesses needing high-density environments and scalability with easy cloud-based management through Aruba Central (NetworkHardwares, n.d., retrieved December 4, 2024).

While both devices offer strong wireless performance and security, the Netgear WBE758-111NAS stands out due to its support for Wi-Fi 7, which promises superior speeds, lower latency, and improved efficiency. This makes the Netgear WBE758-111NAS the better choice for businesses looking for cutting-edge technology, future-proofing their wireless network with the latest standard for maximum performance and scalability. On the other hand, the Aruba AP-505 offers a solid solution with excellent security and performance for businesses already invested in the Aruba ecosystem but lacks the advanced capabilities of Wi-Fi 7. Therefore, based on quality, the Netgear WBE758-111NAS is the better option due to its superior technology and future-readiness.

MEETING MINUTES

Meeting minutes should follow this sample, filled with meaningful input.

MEETING MINUTES

DATE/TIME	29 November 2024 9:00pm
LOCATION	Online (Google Meet)
AGENDA	Completing task 3
MEETING MC	Nazatul Nadhirah

ATTENDANCE			
NAME	TIME	REASON FOR ABSENCE	
NAZATUL NADHIRAH	21:00	-	
NUR AINA SYAFINA	21:00	-	
NURUL ATHIRAH SYAFIQAH	21:00	-	
WAN NUR RAUDHAAH	21:00	-	
MINUTES			
NO	ITEM DISCUSSED	IDEAS/SUGGESTIONS AND PERSON GIVING IT	PERSON IN CHARGE & DATE
1.	List of devices and quantities needed	Syafina proposed starting with Cisco, Huawei, and TP-Link devices for routers and switches.	Syafina
2.	Research on device capabilities and requirements	Raudhah highlighted the importance of comparing devices suited for academic institutions.	Raudhah
3.	Inclusion of appropriate references	Athirah suggested using manufacturer websites and reputable tech forums for sourcing references.	Athirah
4.	Assessment of LAN devices to meet organizational needs	Naza suggested matching devices against scalability and cost-effectiveness.	Naza

5.	Reflection on device costs and differences between brands	Athirah noted Cisco is premium-priced, while TP-Link offers budget-friendly alternatives.	Team to collaboratively reflect and include insights in the report by 5 December 2024
6.	Major differences in device features among brands	Raudhah emphasized reliability and warranty policies as critical factors for comparison.	Raudhah
7.	Next Meeting	5/12 - task 3 should have been completed and marked to make a correction	-
8.	Meeting Ended	23:00	-
9.	Consultation with subject-matter expert on network feasibility	Insights provided by Dr. Muhammad Zafran on optimizing the selection of devices and ensuring compatibility with the project goals.	Raudhah to document the insights and integrate them into the report by 2 December 2024

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