Student’s name:

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Date:

1. How might you obtain the details of the current network layout and its parameters?

Network layout refers to physical arrangement of nodes in a given network. To identify the distinct nodes in the same network, you can use a broadcast ping or particular IP scan tools, or ARP cache discovery. These techniques are only useful inside a single network because of the way they interact with broadcast borders. Latency, packet loss indicators, jitter, bandwidth, and throughput are some of the most prominent measures used to assess network traffic performance.

1. List the types of key stakeholders you might hold consultations with.
2. Operational managers. They manage their companies' data center operations by hiring, leading, and mentoring teams of Network Engineers.
3. End users. End customers can offer you with valuable information about what functions the new program should be able to perform.
4. Executives. They aid in the identification of career opportunities, the formation of a successful team, and the keeping up with industry trends.
5. Developers. They construct, expand, and scale data networks.
6. Network managers. Configuration (of network equipment and connections), performance monitoring, and fault management are among their responsibilities.
7. What information should be documented in relation to the current network?

Network documentation is an essential part when setting up a network structure. Any information that assists administrators and IT professionals in keeping the network up and operating should be included in network documentation. Some of the information may include:

1. A map of the whole network, including hardware locations and the cabling that connects them.
2. Server data, such as data about specific servers, backup schedules, and backup locations. Information on current software versions, dates, license, and support.
3. Information on vendors and contractors.
4. Service contracts.
5. Problems and remedies are detailed and dated
6. How do you identify current client needs?

Listening and asking the correct questions are both necessary for identifying needs. Always check for additional or related needs after identifying them. Utilize your knowledge and experience to discover and provide the appropriate products, services, and solutions to suit the needs of your consumers. Identifying client needs may include determining the level of the organization, available infrastructure, the speed of the internet needed by the client, and business objectives of the client.

1. What are the areas that client’s future needs might be related to

Customer wants are the explicit and implicit needs that your customers have when they interact with your company, your competitors, or when they seek out the solutions you offer. To figure out what your customers want, get input from them at every stage of the process. Customer future needs include security, storage, traffic, signal coverage and scalability.

1. What do you document according to organizational requirements, in relation to the current and future needed

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6. What are the types of diagnostic tools and measurement processes you might consider and select for the site survey?

Any IT team's plan should include network analysis. Even across multi-vendor networks, you'll need access to performance measurements and the ability to monitor logical components of the SDN environment, such as APICs, tenants, application profiles, endpoint groups, and physical entities. Tools that can be used to diagnose network include power meter, frequency analyzer and spectrum analyzer. Measurement techniques may include alpha index among others.

1. How would you ensure the calibration of test equipment?

Calibration refers to the process of determining an instrument's accuracy. The procedure is taking a reading from the instrument and comparing it to a reading taken from a standard instrument. Calibration of an instrument also entails fine-tuning its precision and accuracy to ensure that its readings are consistent with the defined standard. When calibrating, adhere to the standards, make uncertainty analysis, check tolerance values, and maintain accuracy ratio.

1. List five examples of physical infrastructure, building use, aesthetics and other issues that will impact on future network performance and acceptance

Physical infrastructure that can affect network performance and acceptance may include mountains, buildings, power and forests. Building use on the other hand may include network coverage, network speed, supply and demand of the given network infrastructure. Other factors include bandwidth coverage, malfunctioning devices, poor physical connection and DNS problems. Aesthetics issues that may affect the network performance and acceptance include access points and prevailing standards.

1. What are the details that will need to be recorded in the site survey?

A wireless site survey, also known as Radio Frequency site survey or a wireless survey is the process of planning and building a wireless network to offer coverage, data rates, network capacity, roaming capability, and quality of service. A site visit is frequently included in the survey to check for RF interference and determine the best access point installation locations. This necessitates an examination of the facility's floor layouts, as well as the use of site survey techniques. Interviews with IT management and wireless network end users are also necessary to identify the wireless network's design specifications.

1. What are the network details that need to be documented?

Network documentation is the process of keeping records of computer networks in order to provide data center managers with information about the devices in the data center and how they are organized. Network documentation should keep record of a map of the whole network, including hardware locations and the cabling that connects them and server data, such as data about specific servers, backup schedules, and backup.

1. Why is it important tom assess the optimum location and position of access points repeaters, routers and other equipment.

The better a device's connection is, the closer it is to an access point. As a result, placing an access point in a room with a lot of Wi-Fi traffic makes perfect sense. Similarly, you don't want to put an access point where there are only a few devices connected. The repeater produces a new network based on the signals from the originating network, and the clients who join to it are thus on a different network.

1. How would identify the power requirements for the cabling plans and repeater links.

Power requirement is the quantity of input energy measured in watts necessary for an electrical equipment to work. This is in contrast to power output, which is a measure of a heat pump's level of performance. When cabling, identify the power requirement for each equipment, power consumption in each workstation should be added and identify each equipment that has a high power consumption.

1. What are the client and user requirements that should be considered when determining the frequency to be used?

User requirements, also known as user needs, explain how a user interacts with a system, such as what activities they must be able to conduct. User requirements are acquired or developed from user input that users require in order to do their duties on the system successfully. User requirements to be considered include the cost of installation, bandwidth coverage and signal coverage.

1. Why is it important to determine the test and modeling routines?

The networking industry benefits from networking models in a similar way. They represent a framework for breaking down the tasks required to create a network into multiple levels, or layers. Network testing is crucial because networks are difficult to create effectively, and even networks that appear to work most of the time may have minor faults that necessitate periodic intervention, such as re-starting network elements. Bugs can sometimes render all communication useless.

1. What information would you use to determine the estimated network traffic and planned growth

The amount of data travelling over a computer network at any particular time is referred to as network traffic. Data packets are broken down into network traffic and transferred over a network before being reassembled by the receiving device or computer. Network traffic and planned growth can be estimated by measuring packets transmission per unit time, bandwidth coverage, signal strength, available workstations.

1. What would be used to test network

Tools used to test network include network scanning, a port scanner is utilized in this technique to detect all the hosts connected to the network. This ensures that the ports are configured to only enable secure network services to pass through. Vulnerability scanning. The Vulnerability Scanner aids in the detection of system or network flaws. Ethical hacking, is hacking done to find out if a system or network is vulnerable, and penetration testing, is a system/network assault used to uncover security weaknesses.

1. Discuss how to use the documented outcome to revise the design.

Documentation in the design process is used to revise the traceability of decisions that determine the development process of a project, they assists in dealing with changes in the network, and prevents the recurrence of previous discussions. Developers utilize documentation to compare theoretical and empirical patterns and evaluate if they are similar or not.

1. How would you test the vendor products and equipment selected for the network?

You can assess your product's viability in a variety of ways. Paid surveys, market research mobile apps, consignment testing, and freelancing market researchers, for example, are all low-cost methods of testing vendor products. Getting real-world input before introducing the product in the network.

1. Why is it important to consult with the emerging industry bodies about the sustainable compatibility, economic running costs and user connectivity access

When consulting industry and technology trends, it is important to ensure access to information and information processing systems is restricted by access restrictions. When properly implemented, they reduce the danger of information being accessed without permission or in an unauthorized manner, as well as the chance of a data breach. Furthermore, despite the technological advancements, economic cost tells us what is expected to be most essential to individuals. Compatibility of software program should be enhanced by ensuring that software work properly across different devices.

1. What information would be included in the finalized components lists for sustainability and vendor claims.

The data for the proposed installation component in your selection criteria is contained in the Component List. The Component list contains information about the vendor product that is scheduled to be installed in your selection criteria. Information included in component list include component ID, components details, position of the item in the network

1. What are implementation plans?

An implementation plan also known as a project implementation plan is a combination of strategy, procedure, and action. It lays out the measures a group will take to attain a common goal. A project's budget, timing, and staff are all covered in an implementation plan. They assist you in gaining insight into the procedures and actions required to implement a change or innovation in your organization.

1. What might you do to ensure that you present the design to the client in a clear and logical fashion?
2. What is it important to make sure that the client is made aware of when providing them with advice on the reasons for the design choice?

Designers frequently have a preferred option when presenting ideas. Most designers would also tell you that their favorite concept is rarely chosen. It's sometimes overlooked due to valid customer worries, but it's more than likely due to the manner you presented it to the client. When presenting the design, present the design in context, name the concept, and never show a bad idea

1. What potentially negative information will you need to inform client of?

The ability to create a customer developer relationship is a critical step in ensuring organizational success. This enables developers to share any information about the product including negative information such as threat surfaces, limitations of the design, possible design failures and usage limitations.

1. What methods might you use to obtain feedback from the client?

Feedback is a valuable tool that can provide your leadership team with information that will help them plan a course for the future of the firm. Customer feedback is the information, thoughts, challenges, and opinions shared by your community regarding their experiences with your organization, product, or services. Ways of collecting customer feedback include email customer contact forums, usability tests, exploratory customer interviews and through social media.

1. How might the design be modified in response to customer feedback?

Modification is the process of improving existing products by making essential modifications to their qualities, nature, size, packaging, and color, among other things, in order to respond effectively to customer feedback. Types of modification include quality modification, style modification, and functionality modification.

1. Explain how to obtain client endorsement after the completion of the final design

Obtaining a client endorsement can be key foundation in creating a demand for a particular product. Client endorsement can be obtained through availing the final documentation to your clients, allowing client participation in the product design process, making clients feel as part of the design process and even asking clients if they can endorse your product.

References

Kim, T., Lee, D., Lim, H., Lee, U. K., Cho, H., & Cho, K. (2021). Exploring research trends and network characteristics in construction automation and robotics based on keyword network analysis. Journal of Asian Architecture and Building Engineering, 20(4), 442-457.

Markey, R., Reichheld, F., & Dullweber, A. (2009). Closing the customer feedback loop. Harvard Business Review, 87(12), 43-47.

Zhou, J., Ji, Z., Takai, M., & Bagrodia, R. (2004). MAYA: integrating hybrid network modeling to the physical world. ACM Transactions on Modeling and Computer Simulation (TOMACS), 14(2), 149-169.