

Plan Your Network Project

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ABSTRACT

Planning for a Network Hardware Refresh is not an easy task as each project has a different set of requirements and unique objectives. Projects are done to accomplish End of Life and Support challenges or due to the requirement of a complete set of new features that were not available in the older technology. Whatever the case may be network projects need to plan carefully as the enterprise network is the last layer of enabling communication for critical business functions. Let us have a look at the planning tasks involved in the Network Project.

Keywords: Network engineering; Network project tasks; Technical project management; Enterprise network

INTRODUCTION

This article explains how to plan a network hardware refresh project and what kind of different devices are involved.

METHODS

Network Engineering using OSI model.

ARTICLE

It is essential to keep the network up and running in a healthy state. Network Infrastructure works as the backbone to run its critical business functions. An organization cannot perform its critical process without a live network connection to its on-premises and cloud resources [1]. To maintain the network in the current state, it has become mandatory to perform a hardware refresh promptly [2]. In this article, we will find out how to create a Network Hardware Refresh proposal for a medium-sized enterprise.

Project requirements

We should first create a team of experts who will be dedicated to the Network Hardware Refresh Project. A project team may consist of the following individual for creating a proposal:

- Sales Manager
- Director-Regional Sales
- Project Manager
- Senior Network and Security Architect
- Wireless Engineer
- Project Manager

To create an impressive proposal for the organization, one of the first steps will be to perform some research on its operations and request for a site survey [3]. A site survey can provide the project team and especially to the technical side, relevant information that will help to create a strong foundation and proper starting point to create a decent proposal. Usually, in a site survey, a sales manager, wireless engineer, should accompany a network architect and the project manager so that all of them can gather data based on their roles. We should interview different people during the site survey to gather relevant information about the organization's business operations [4]. It will be a good idea to find out future growth requirements that may affect the network design.

During the site survey, we should request the available floor plans. If the organization does not have an existing floor plan, the project team should create one, which should indicate the location and size of all the rooms, hallways. A floor plan is an extremely critical input for the wireless engineer to calculate how many access points will be required and decide on their locations. Project Team should also request for an inventory of existing network hardware.

The Project Team will try to gather below information during the site survey.

Employees strength and type of devices

How many servers, printers, desktops, and laptops will need network connections? In general, how many wireless users will log in to the network [5]?

Organization's growth plan

What is the growth plan for the enterprise in the next one to three years to ensure the proposed network design is scalable and will support the organization's future information technology needs?

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Existing network inventory and connections

To propose what the organization will need in the future to complete its IT requirements, it is crucial to understand what they have today. Project Team will request for existing hardware inventory, network layouts, and details on existing network connections [6].

Server and application requirements

Enterprise network infrastructure works as a backbone for the enterprise server and applications. It is essential to understand any current concerns from the existing network design. If there are any specific requirements for an app, then it needs to be documented [7].

Network security requirements

In today's world, any information technology infrastructure is vulnerable to outside attacks like malware infection, unauthorized access. It is essential to provide the necessary security to the network function [8].

Initial requirements can be taken from the RFP, and the project team will understand the same in more depth during the information gathering process.

Wireless network requirements

To propose an excellent wireless design project team should try to get answers to below questions

How many users will use the wireless network daily?

- What will be the coverage area?
- What kind of devices will connect to the system?
- What security features need to available?
- Does existing devices are capable of handling those security methods?

A wireless engineer can use software like Ekahau to prepare a heat map for the area and based on the report provided by the software he can recommend the number of access points along with their locations for installation.

Network uptime and reliability requirements

It can be very challenging to design a network infrastructure that guarantees 100% uptime as if we increase hardware and network link redundancy; the project cost goes up exponentially [9].

To create an efficient and reliable network, which can satisfy the organization's requirements and fits into their budget, we need to be practical in our approach. Project Team needs to understand what the business goals are, how much downtime each application can afford in the environment before the banks start experiencing financial losses. Once the project team has the necessary details team can work on achieving the required targets [10].

Approved budget

In many scenarios, the project budget is one of the most important factors, which help to decide what should be selected in the network design, what level of redundancy can be achieved and where we need to make compromises. The project team can perform a cost-benefit analysis to find out which services and features are critical for business operations and share the same report with the enterprise management to seek their approval.

Once the team has collected all the necessary information, they will perform a below set of activities to create a proposal for the

Organizations Network Hardware Refresh project.

Create an analysis report

The project team will gather inputs from all the experts and will create an analysis report, which will work as an essential input to make recommendations for the network design and put together a proposal.

Design selection

The Project Team members may have different opinions on various aspects like performance, available budget, cost, and benefits analysis, and they may propose multiple solutions for the network design. Once we have all the answers, the team performs a detailed analysis keeping in mind various factors like based on the available budget what compromises they should make without impacting the performance or reliability, which design is more scalable.

Create a proposal

Once the design is, the finalized team is ready to create a plan with detailed responsibility matrix, timelines, and what support is need from the management and staff. The program should also list clearly what will be accepted as an outcome of the project and how it will be measured.

First draft review and corrections

It is essential to review the proposal with senior IT staff members before sharing the same with the organization's management. The team should record the received inputs and incorporate necessary changes.

Final review with team and evaluation

Once the proposal has been reviewed and updated, it should be shared with the enterprise management, followed by an in-person meeting to explain the plan in detail and allow the administration to ask any questions.

RESULTS AND CONCLUSION

It is critical to understand the business functions, growth plan, and enterprise application architecture to make recommendations on the Network Hardware refresh proposal. If we can identify all the stakeholders and involve them in the initial review process, it will help to finalize the correct design, and it will increase the chances of project success.

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