SYNOPSIS OF Campus Architecture

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BACHELOR OF ENGINEERING
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Introduction

This College Network Scenario is about designing a topology of a network that is a LAN (Local Area Network) for a College in which various computers of different departments are set up so that they can interact and communicate with each other by interchanging data. To design a networking scenario for a college which connect various departments to each other's, it puts forward communication among different departments. CNS is used to design a systematic and well planned topology, satisfying all the necessities of the college (i.e. client). CNS come up with a network with good performance. CNS is also providing security and authentication to forbid unauthorized logins.

CCNA: Cisco Certified Network Associate .CCNA is a well-liked certification in computer networking that is developed by Cisco Systems. CCNA is discovered by the Cisco, to identify basic capability in installation and maintenance of medium-sized networks. The technology is used for connecting various devices like routers, switches and different end devices to communicate with each other and interchanging data. To construct a methodical and reliable network, is scalable too. Portability is one of the characteristics of this work application of the CNS.

Feasibility Study:

To Design the network outlook for the community college network scenario produces the substructure for all other exposure in the service framework such as security of the network, wireless area network, mobility as well as putting the justification to provide safety and security, operational efficiencies, virtual learning environments, and secure classrooms. This paper describes the network design scenario approved by Cisco, as well as where we can apply these scenario within the various locations of a community college network. Finally, key network foundation services such as switching, routing, multicast, and high availability are given for the full college network scenario

Methodology/ Planning of work

In order to design campus network I used cisco packet tracer .Cisco Packet Tracer is a networking simulator used for teaching and learning program by offering a unique combination of realistic. Benefits of Packet Tracer are:

• Offers a realistic simulation and visualization

• Permits users to design, build, configure, and troubleshoot complex networks

• Allows students to explore concepts, conduct experiments, Currently released cisco packet tracer included new feature like new device, sensor, and Programming Languages with classically networking device, those device stated below . Things and Components available in Packet Tracer 7.0

• Smart Things are smart object attached to the Registration Server or Home Gateway through a network interface. They are divided into 4 subcategories: Smart City, Home, Industrial, and Power Grid.

• Components are smart objects that link to microcontroller (MCU-PT) or single boarded computers (SBC-PT). Not have a network interface and rely on the MCU-PT or SBC-PT for network access. This smart object can communicate through analog or digital slots..

Module & Team Member wise Distribution of work

In this networking project the team work distribution are as follows:

Shourya Tayal (Project Completion and Research paper)

Ravi Anand (Project Completion and Research paper)

Innovations in Project

1. This network is based on client-server architecture.

2. Tree topology is used here.

3. All client switches are present for the levels of college and they are associated to a server switch. 4. All the departments are categorized into various VLANs, which are connected to the all switches based on the sequence in which they are accommodated on the storey.

5. Likewise, various departments limited into VLANs and share switches corresponding to their levels.

6. A request is made by any system of any department and it is forwarded to client switch which furthermore transmits it to the server.

7. Port-securities are there that are executed on various ports of the switches and gives reliability.

8. The data is then transferred to its connected router.

Software and Hardware Requirements

Recommended H/w:

CPU: Intel Pentium III 1.0 GHz

Display resolution: 1024 x 768

Storage: 300 MB free disk space

RAM: > 512 MB

Run the module i.e. for a live project (a network), the hardware requirements are:

5 Switches (Cisco 2950 switch)

1 Router (Cisco 1841 router)

Computer Systems (Generic)

1 Computer system for server

Cross over cable

Straight through cable

Software Interfaces :

The requirements required in the CNS are as follows:

Operating System: - Microsoft Windows 7.

Adobe Flash Player.

Cisco Packet Tracer

Communication Interfaces :

1)The execution of the system will be in the existing network.

2)The system is mainly based on a client-server application where the server providing data to access all the services

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