Minor Project- Report

Aug-2021-2022

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Course Name & code: Computer Networks Lab- 19CS5DLCNL

Semester:5th Semester Date:

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| TITLE OF THE PROJECT | Wired Inter Campus Network | | | |
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| USN | 1DS19CS710 | 1DS19CS716 | 1DS19CS720 | 1DS19CS721 |
| INDIVIDUAL  CONTRIBUTION | Designing and simulations, and providing configuration | Designing and simulations and provide configurations | Designing and simulations and provide configurations | Designing and simulations and provide configurations |
| GUIDE | Mrs.Swapna  Prof. Rammya  Prof.Deepak.G | | | |
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| PROJECT ABSTRACT : | This project is to design a suitable network system for universities in developing countries. The aim was to design a network with high  security and low cost. This project will help to enhanced education of developing countries. The advantages of networking can be seen  clearly in terms of efficiency, security, manageability and cost as it allows collaboration between users in a wide area. To improve college  campus network design, the technology used was creating LAN, WLAN and using cheap device to reduce cost of the network. But the  network can also become better using routing protocols and other protocol. So, we are going to use such protocols using less number of  devices and will also maintain the cost of the network less. To design such network, we are going to use software Cisco-Packet Tracer. | | | |
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| Introduction | Networking is refereed as connecting computers electronically for the purpose of sharing information. Resources such as a file,  applications, printers & software are some common information shared in a networking. The advantages of networking can be seen clearly  in terms of security, efficiency, manageability & and cost effectiveness as in allows collaboration between users in a wide range. The  Switches and Router this device that play an important role in data transfer from one place to another using different technology such as a  radio waves & wire.  LAN network is made up of two or more computers connected together in a short distance usually at home, offices buildings or  school. WAN is a network that covers wider area than LAN and usually covers cities, countries and the whole world. Several major LAN  can be connected together to form a WAN. As a several devices are connected to network, it is important to ensure data collision does not  happen when this device attempt to use data channel simultaneously. A set of rules called carrier sense multiple access/collision detection  are used to detect and prevent collision in networks. | | | |
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| Design |  | | | |
| PLATFORM USED  (H/W & S/w tools to be used | Cisco packet Tracer | | | |
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| Project Source Code Link (Github/ Google DRive) | https://drive.google.com/drive/folders/13-xXN6VaTAnBDYPqEXcC0kzGQPWHlcPV?usp=sharing | | | |
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| Conclusion /FUTURE ENHANCEMENT | In this network design, an integrated network design for universities in the developing countries has been presented. This network design is composed of many sections. First, we started to explain the design constraints. Many universities in the developing countries are eager to design a network that meets standards of developed 72 countries but has always been faced with cost implementation barrier. Secondly, this design accounts for challenges that will be faced when designing network in developing countries due to the lack of a rich economy like developed countries. Another challenge that developing countries have is equipment availability, requiring careful selection of components. Also, security is an important section in this network design. Strong security solutions are detailed including as firewall, backup, virtual switch and DNS server options. This configuration includes some software applications, such as antivirus, password, and encrypted passwords. This design allows for future expansion, as universities using this design can connect 3115 additional hosts, allowing for per host costs, like cabling. The additional hosts can be included without exhausting the available IP address. Also, if there are high budget, they can develop the network system to become more powerful, have a high level of security and many servers can be added to the network. Lastly, as cheap and effective as the methods of designing a network in this research are, it is not limited to only developing countries. Developed countries that are trying to cut cost in any of their network design projects can also adopt the methods used in this network design.  With the advent of the Internet age, the impact of our education is unprecedented, and it also provides a rapid leap for education opportunities, education should be oriented towards modernization, facing the world, facing the future, we must fi rst facing the network. Education can only make a combination with network in order to keep up with progress and development of times. The premise of network education is the construction of the network, and as the construction of the campus network is not only the construction of the network hard environment, but also must include the campus network maintenance and security, campus network resources and the effective application of the campus network and other three Link. Only the full and effective application of the campus network in order to make the entire teaching model and the educational concept of a complete change in order to apply the new century to cultivate high-quality creative and complex talents needs for the campus network construction, not applicable to all schools program, even for a school, it is impossible to have the best program, only the better program. | | | |
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