INTERNSHIP REPORT ON BANK NETWORK CONNECTIVITY MONITORING SYSTEM

BY

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering

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DHAKA, BANGLADESH

August 2019

APPROVAL

It is my pleasure to certify that the Internship Report is submitted to the Department of CSE, Daffodil International University.by Md. Sayeed Arafat, ID: 162-15-8023, for the completion of the course Project Paper (Course: CSE 499) in the program of Bachelor of Science in Computer Science and Engineering is an original piece of work done under my supervision.

This Internship Report is recommended for submission to the Department of CSE, Daffodil International University.

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DECLARATION

I hereby declare that the internship report on "Bank network Connectivity Monitoring system" submitted to Department of CSE, Daffodil International University is an original work for my Project Paper (CSE 499) in the program of B.SC in CSE. I have completed my report under the supervision of Md. Masud Rabbani, Lecturer, Department of CSE, Daffodil International University.

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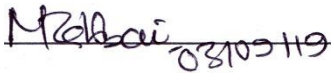

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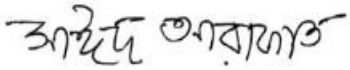

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My internship report would not be completed properly if I did not get the proper instruction from my supervisor along with my department. I was highly excited to do such kind of work.

Firstly, I would like to thank my respected supervisor Md. Masud Rabbani, Lecturer , Daffodil International University, for making me understand the whole process and giving consultation whenever I have needed. Then, I want to give special thanks to Md. Million Hussein Assistant Engineer of Sonali Bank limited, Head office ,Motijheel, Dhaka. Who permitted me to do survey, to work as Network support engineer , to do practical work and for overall help. I am also thankful to Md. Zonayed Ahmed, for his help and good behavior. I am indebted to **Dr.Syed Akhter Hussein** Professor and Head Department of CSE Daffodil International University and to my parents for motivate and hearten me to do my project.

After all, it was a great experience for me to complete the project with the support of those who helped and inspired me a lot.

ABSTRACT

The internship report aims to present the Bank network connectivity monitoring system. To complete the internship , three months field visit is required. All the data are collected from the practical field work of three months field visit and observe in Sonali Bank, Head office Motijheel, Dhaka . After observation and field working important information regarding field visit and observe, three months have been worked with the help of Bankers , and the stuffs of the Bank. Moreover, the report carries a picture of Bank network connectivity monitoring system in Sonali Bank, Head office,Motijheel, Dhaka. Besides, the possible scopes for achievement in the banking network area are also included in the report. In short, the paper conveys Bank network connectivity monitoring system .

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Chapter 1

Introduction

1.1 Introduction

My report Is To set myself As an intelligent individual in the fruitful profession of that arena . Internship is an essential for bent headway. I should need to achieve some phenomenal quality in order to substantiate myself as a skilled one. It spreads moved aptitudes for the framework capable that are customary over all. This objective consolidates the ability to manage a running server and configuring LAN network framework report pecking request with clear understanding of organizations to be used. It was not an easy task to me to work in a banking sector as a Network support engineer as a fresher but I have done successfully all the tasks to complete my field internship.

1.2 Motivation

I am looking to complete of my Bachelor Degree program in CSE as a student of last semester. I pick my entrance level position at Sonali Bank Limited since I found that the Sonali Bank Limited has got the better of every client satisfaction and organizations because of their stunning reputation. I got a chance to work with them and I caught the chance very fruitfully . It was a positive experience to me to work in a huge reputed bank, everyone wants the get an opportunity to work here so I was lucky to get a chance to serve here. Sonali Bank is a remarkable and assumed government bank in Bangladesh. I believe that I could show my experience by the help and support of Sonali Bank Limited and their stuffs.

1.3 Internship Objectives

- To set up a standard ICT Security Policy and ICT Security Management
- To support the banks and FIs for verified and stable arrangement of its ICT Platfrom
- To Establish a verified domain for the handling of information
- To distinguish data security ricks and their administration
- To impart the obligations regarding the assurance of data
- To organize data and data framework those should be Ensured.

1.4 Introduction to the Company

Risen as Nationalized Commercial Bank in 1972, after the Bangladesh Bank (Nationalization). (1) Sonali Bank Limited is controlled by a Board of Directors involving 11 (Eleven) people. The Bank is passing by the CEO and Managing Director, who is an outstanding Banker and an assumed capable. The corporate head quarter of the bank is arranged at Motijheel, Dhaka, Bangladesh, the essential business point of convergence of the capital. (1)

1.5 Report Layout

In This Report I demonstrated The presentation, inspiration, objective, presentation of organization, presentation about my temporary job association, and furthermore about the organization, organization item for showcasing and association structure of the organization.

After that I demonstrate my temporary job dawdle task with exercises occasions and undertaking errand and exercises

CHAPTER 2

Organization

2.1 About the Company

Risen as Nationalized Commercial Bank in 1972, after the Bangladesh Bank (Nationalization) (1).Sonali Bank Limited is controlled by a Board of Directors involving 11 (Eleven) people. The Bank is passing by the CEO and Managing Director, who is an outstanding Banker and an assumed capable. The corporate head quarter of the bank is arranged at Motijheel, Dhaka, Bangladesh, the essential business point of convergence of the capital. (1)

2.1.1 Vision & Mission

Vision:

Socially devoted driving monetary association with overall closeness (2)

Mission:

Made plans to widen an entire level of noteworthy worth things that help different necessities of people going for overhauling their lives, (2) making a propelling power for the accessories and contributing towards fiscal improvement of the nation (2)

Moto :

Your confided In accomplice in creative banking. (2)

2.1.2 Corporate Profile

Corporate	Sonali Bank Limited
President	Mr. Ashraf Moqbul
executive director	Mr.Md.Obayed Ulla Al-Masud
executive	Mr.Md.Hasanul Banna
position	Government Company
source	Risen as Nationalized Commercial Bank in 1972, after the Bangladesh Bank (Nationalization) Order No. 1972
appropriation	03 June, 2007
tradesman's accordance	15 November, 2007
Head Office	Motijheel Dhaka, Bangladesh
sanction stock	Taka 4530.00 Core
total stock	Taka 4530.00 Core
number of employee	17,051(Officers-15741+Staff-1310)
Total branch	1215
Telephone	9550426-31
Fax code	9552007

Corporate Profile (4)

2.2 Product and Market Situation

Sonali Bank Limited is a Government Bank In Bangladesh .there most professional and masterminded relationship in the business field. Made plans to broaden a whole level of critical worth things that help extraordinary necessities of individuals going for driving their lives, making a moving force for the associates and contributing towards cash related advancement of the nation.

2.3 Target Group

Organizing sites spread steering and exchanging, arrange security and the executives, application execution and conveyance, VoIP, brought together correspondences and joint effort, remote LANs, Software Defined Networking, Wide Area Networks and portability.

At the point when your PC or system is down, you need an exceedingly prepared proficient to fix it for you. Every individual from our specialized group has long stretches of involvement with system plan, establishment, and security arrangements, expulsion of infections and pop-ups and investigating Internet or boot issues.

2.4 Swat Analysis

The IT Swat examination is an organized technique comfortable with assess the Strengths, Weaknesses, Openings, and Threats influencing an IT organize. The investigation includes recognizing inner and outside issues that are good and ominous to expanding the general system wellbeing and security of the earth. After the SWOT investigation has been played out, a rundown of proposals and recommendations will be created dependent on feasible objectives and targets of the association.

2.5 Organization structure

Here Show The Organization Structure

Chairman
CEO And Managing Director
Deputy Managing Director
General Manager
Deputy General Manager
Assistance General Manager
Senior Principal Officer
Principal Officer
Senior Officer
Officer IT

Figure 1: Shows Organizational Structure of Sonali Bank Limited (3)

Chapter 3

Daily Task Events And Activities

3.1 Daily Task And Activities:

- Month 1: The Practical Work for My Project Program is following this :
- introduction of basic networking
- about IP Address
- VLSM.
- CIDR.

- Month 2: In the Practical Work for My Internship program is following this :
- Network Lab on Basic Networking.
- Overview of Sonali Bank Network

- Month 3: In the Practical Work for My Internship program in following this :

- Network monitoring tools
- Solar winds ,LVMS,CBS
- Practical Support
- Overview And Conclusion

3.2 Events and Activities

- Observing and Maintaining System and Computer Connected Network.
- Investigating switches and switches.
- Investigating neighborhood.
- Fixing framework deficiencies.
- Specialized help for Branch utilizing the system.
- Administrator and observing of system use.

3.3 Introduction of Basic Networking

A Communications refers to the transmission of this digital data between two or more Computers and a PC system or information organize is a telecommunications network that authorize computers exchange data. (5)

Components of Data Communication:

1. Sender
2. Receiver
3. Message
4. Transmission Medium
5. Protocol

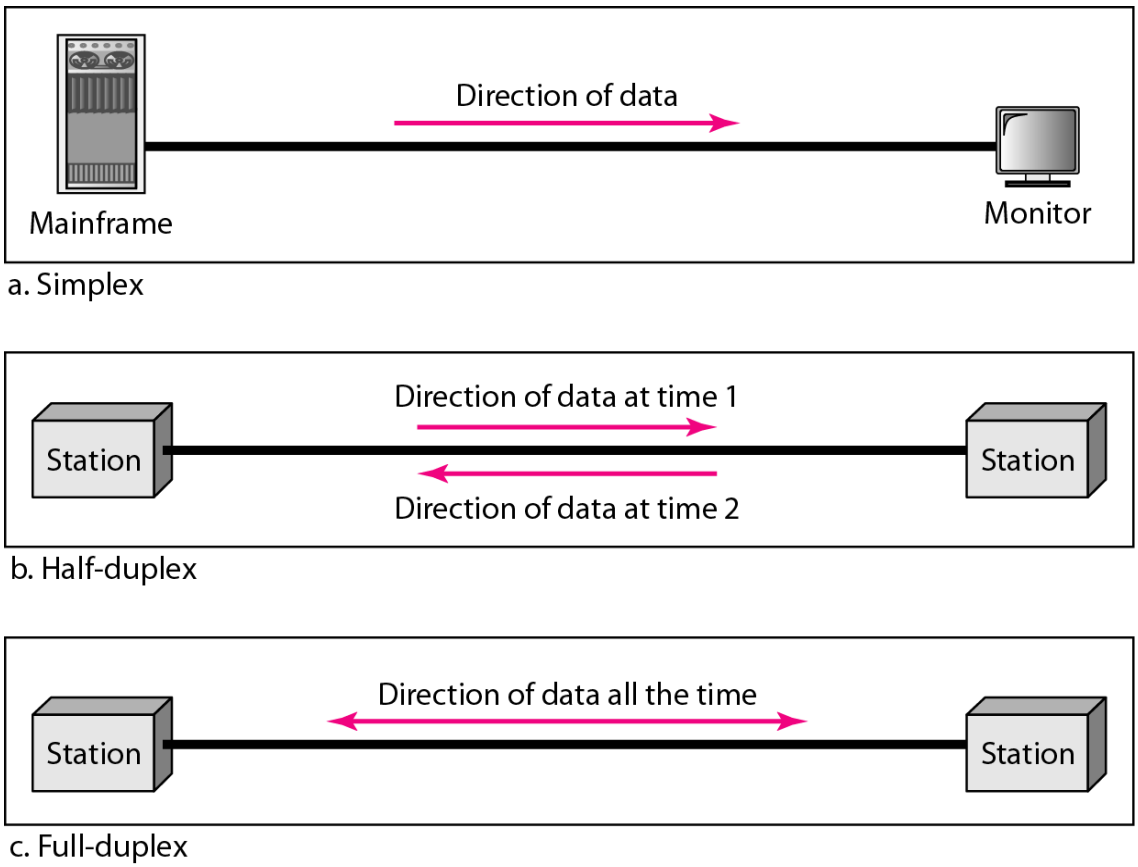

Figure 2 : Type Of Communication System

a.simplex: In This type of transmission mode data can be sent only through one direction i.e. communication is unidirectional. We cannot send a message back to the sender. Unidirectional Communication is done in Simplex Systems.

Examples: simplex mode is loudspeaker, television broadcasting, television and remote, keyboard and monitor.

b.half duplex

In Half duplex system, we can send data in both directions but it is done one at a time that is when the sender is sending the data then at that time we can't send the sender our message. The data is sent in one direction.

Examples: Example of Half duplex is a walkie- talkie in which message is sent one at a time and messages are sent in both the directions.

c. full duplex

In Full Duplex System We can send data in both directions as it is bidirectional. Data can be sent in both directions simultaneously. We can send as well as we receive the data.

Example: Example of Full duplex is a telephone network in which there is communication between two persons by a telephone line through which both can talk and listen at the same time.

3.3.2 IP Address: An IP Address is an identifier doled out to every PC and other gadget (e.g., printer, switch, cell phone, and so on.) (5) associated with a TCP/IP arranges that is utilized to find and recognize the hub in interchanges with different hubs on the system (5).

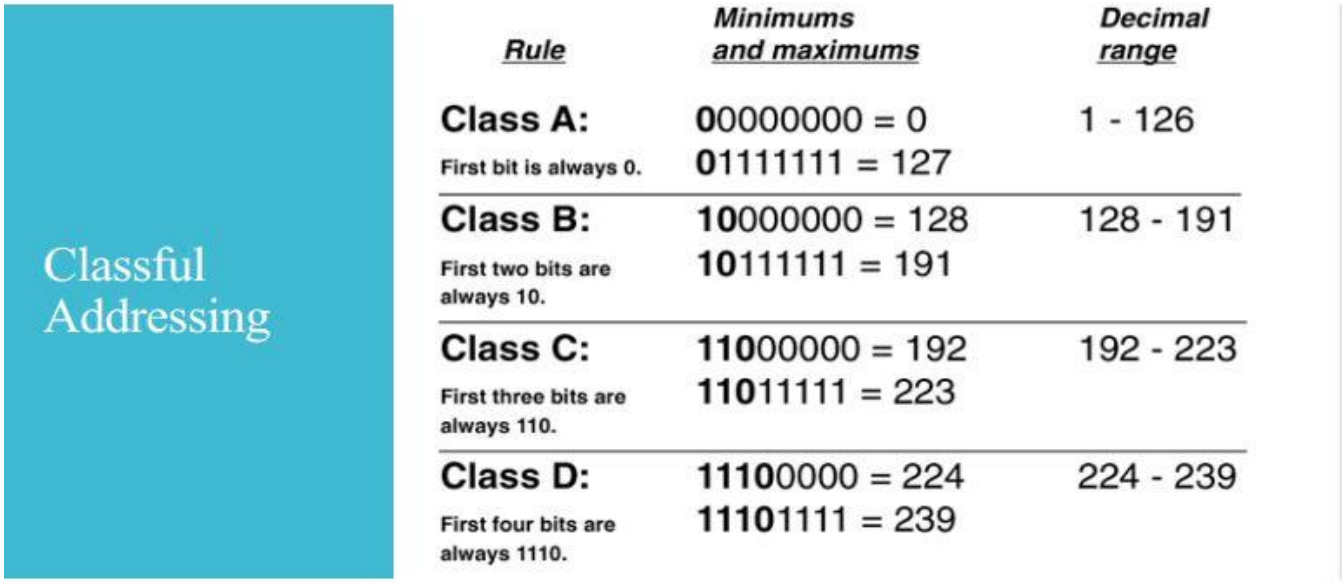

Figure 3: Classification IP Addressing

3.3.3 Variable Length Subnet Mask (VLSM) :

A Variable Length Subnet Mask (VLSM) is a numerical veiling arrangement, or IP address subset, in view of generally speaking system prerequisites. (5) A VLSM enables a system executive to utilize long veils for systems with few has and short covers for systems with numerous hosts. (5)

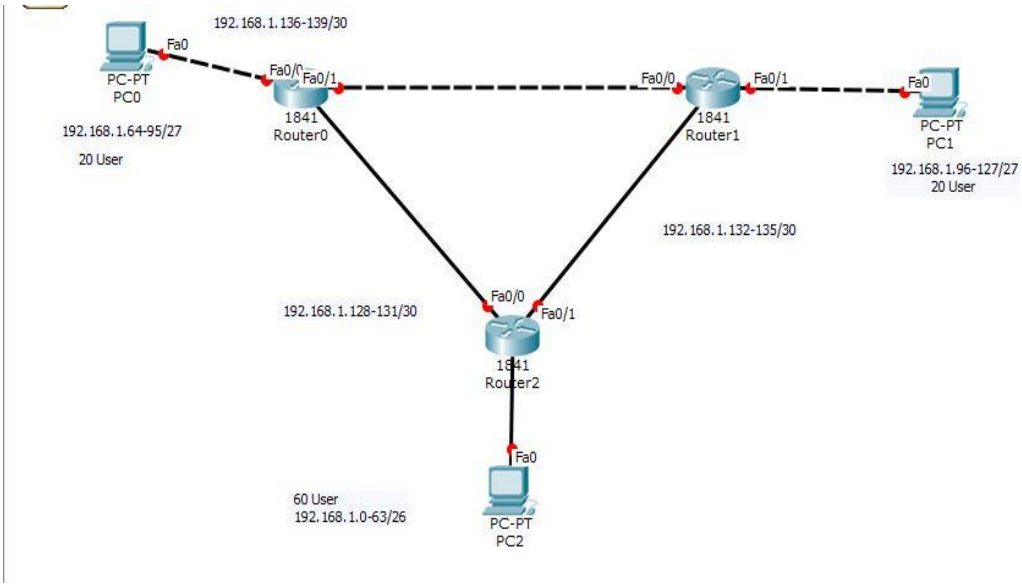

Figure 4 : Variable Length Subnet Mask

3.3.4 Classless Inter Domain Routing (CIDR):

sub netting is moving the subnet veil size to one side CIDR is moving the subnet cover size to one side. Super netting is a tending to conspire wherein a few class squares can be consolidated to make a bigger scope of addresses. (5) For instance, an association that needs 1,000 locations can be conceded four adjacent class C squares. The association would then be able to utilize these addresses to make one super network.Supernetting diminishes the quantity of Is in the cover. For instance, if an association is given four class C addresses, the cover changes from 24 to 22 (5)

3.3.5 Basic Networking Lab

IP 192.168.0.10 Cover 255.255.255.0 0 and 255 – system and communicate System Address (or Network ID). (5) This is the location that distinguishes the subnet of a host. Communicate Address. (5) An IP Address that enables data to be sent to all machines on a given subnet instead of a particular machine. (5)

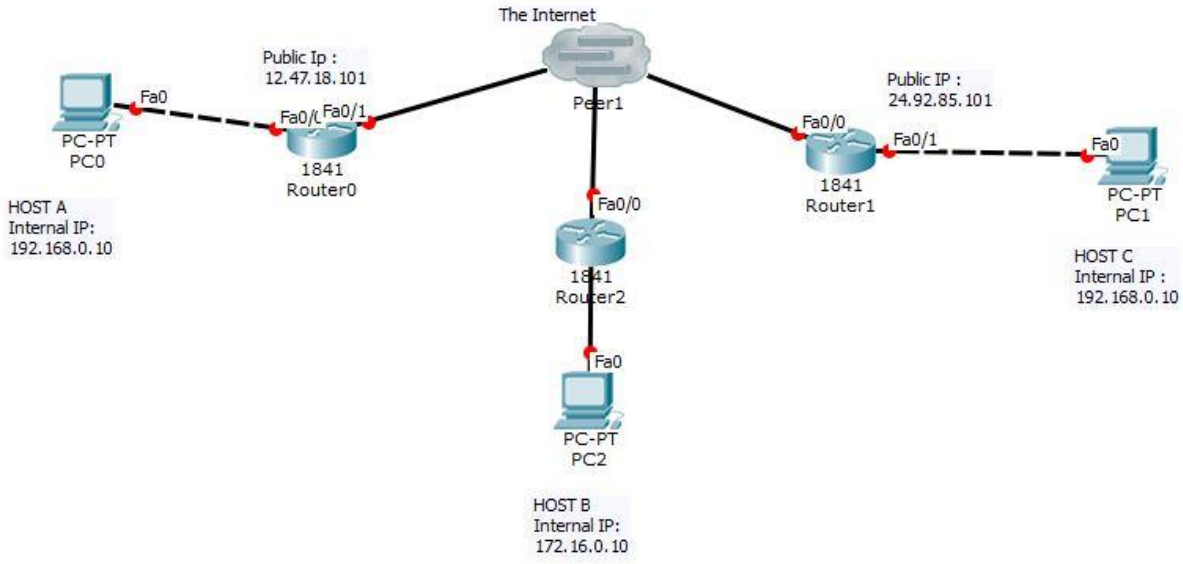

Figure 5: Basic Network IP Addressing

3.3.6 Sonail bank overview: Sonail bank is the biggest business bank is claimed by Bangladesh. (6) Sonali bank limited connected Bangladesh Telecommunication limited BTCL Approval ISP Vendor Company with agreement their partnership and brought bandwidth. (6)

List of some Vendor Company:

- BD Communication Limited
- Agni
- Brace Net
- Adn
- Metro Net
- Ranks-IT
- Drik-ICT
- Innovative Online

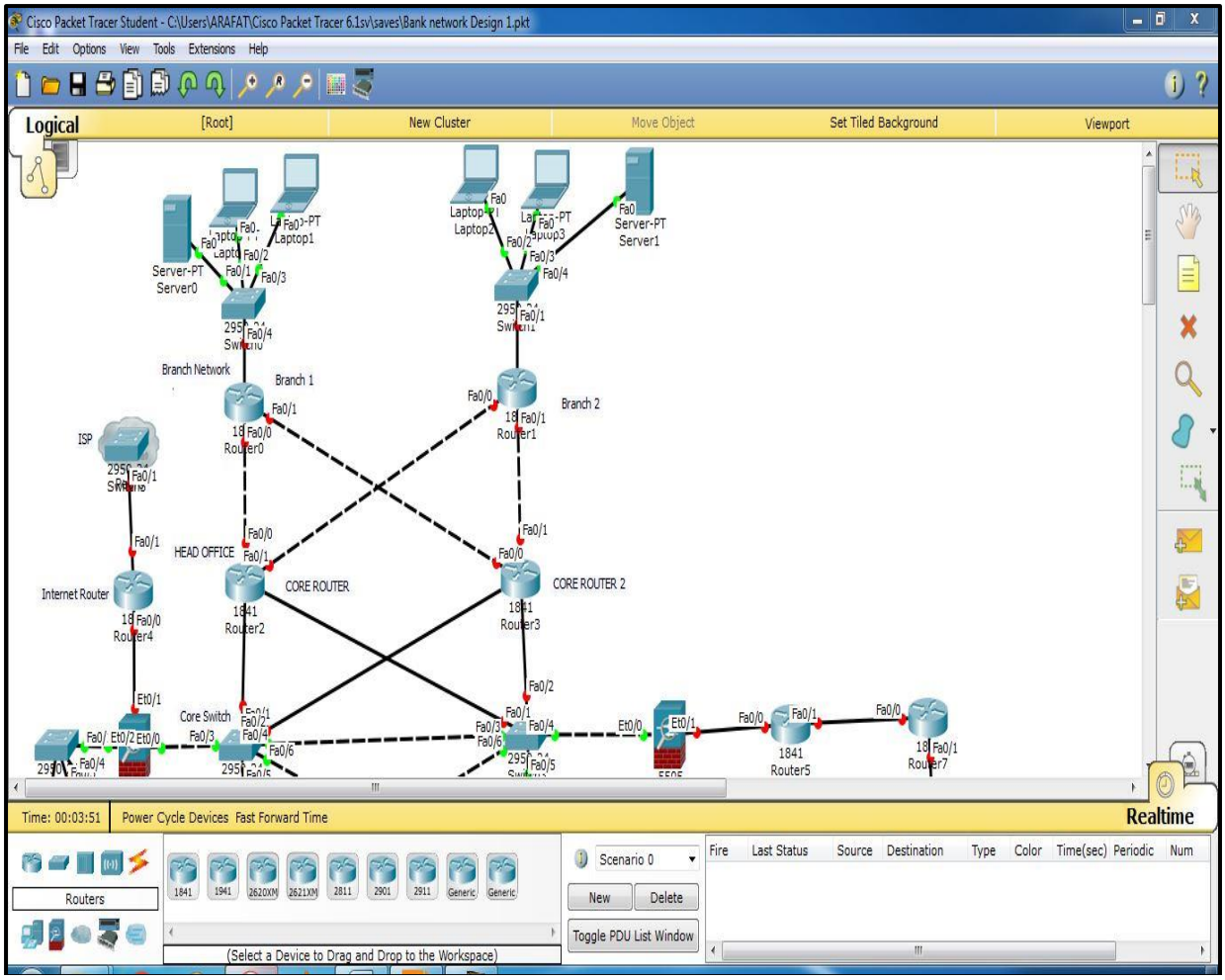

Figure 6 Sonali Bank Network Design 1

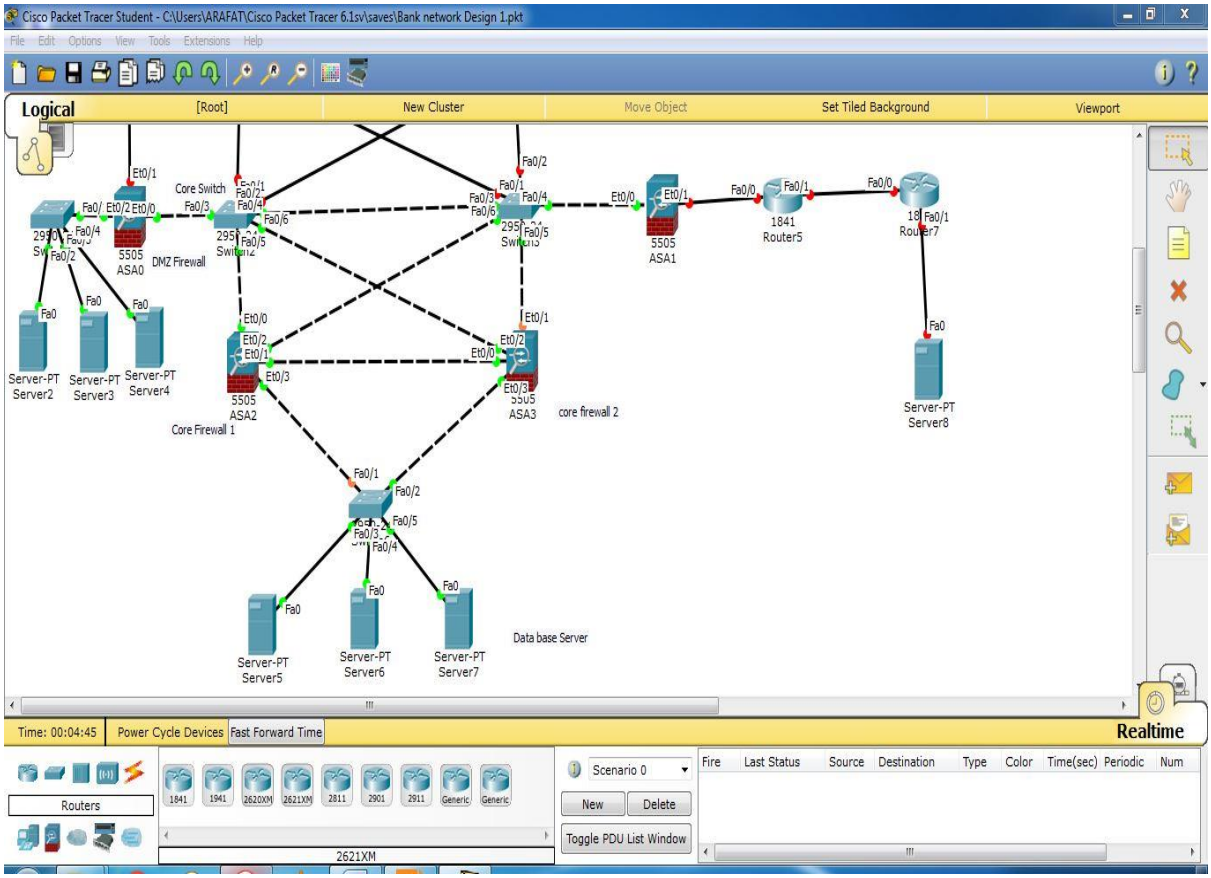

Figure 7 Sonali Bank Network Design 2

- Joined Network Operation through Data Center including Disaster Recover Site (DRS) to (6) Which all extraordinary offices, braches and ATM slows down are related through WAN with 24×7 hours went to action.
- Head office, Zonal office, Branch or ATM corner having Server to which all or a bit of the PCs (6) of that regions are related through LAN.
- Head Office, Zonal Office, and Branch or (6) slow down having autonomous computer(s).

3.3.7 Network Monitoring Tools: Sonali Bank limited Centralized Network operation through use some network Monitoring Tools

- **LVMS**
- **SOLAR-WINDS**
- **CBS**

LVMS :

Connection Link Vendor Management System (LVMS) the information, rather than colossal records, are put away in backend databases in computerized structure. (6) A similar programming can be made accessible in different parts of a bank utilizing a WAN. (6) The bit of leeway, a branch can work on system A system associated connection of IP Address from ISP Provider interface .any part of the bank interface down or moderate. (6)

A **Link Vendor Management System (LVMS)** Software should have the following features :-

- QUERY
- INPUT
- UPDATE
- REPORT
- WEB REPORT
- REPORT ARCHIVE
- DOWN TIME
- COMPLANIT TIME
- COMPLANIT GRAPH
- KPI GRAPH
- EDIT CONTACT
- IP CHANGE

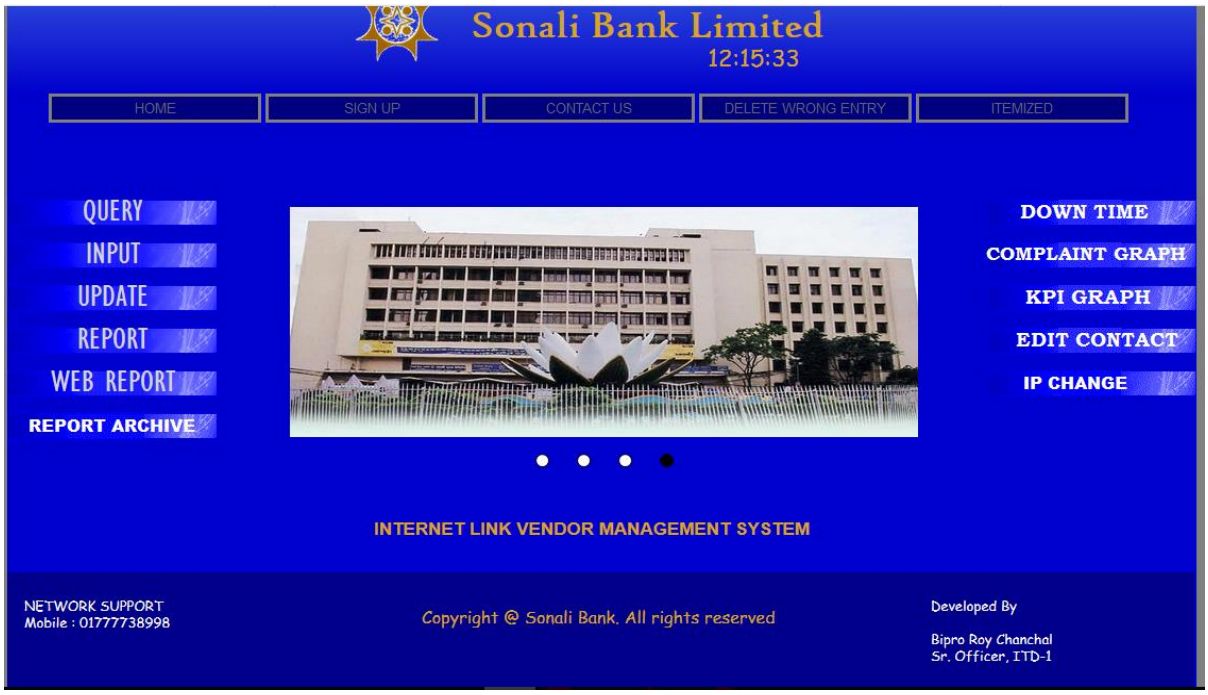

Figure 8 Link Vendor Management System (LVMS)

SOLAR-WINDS : Solar Winds the information, rather than gigantic records, are put away in backend databases in computerized form. Solar winds use organize observing ,Vendor Company or isp organization associated interface with information base Php my administrator programming . (6) Solar winds additionally connected with phpmyadmin database with ISP supplier merchant Company connect. (6)

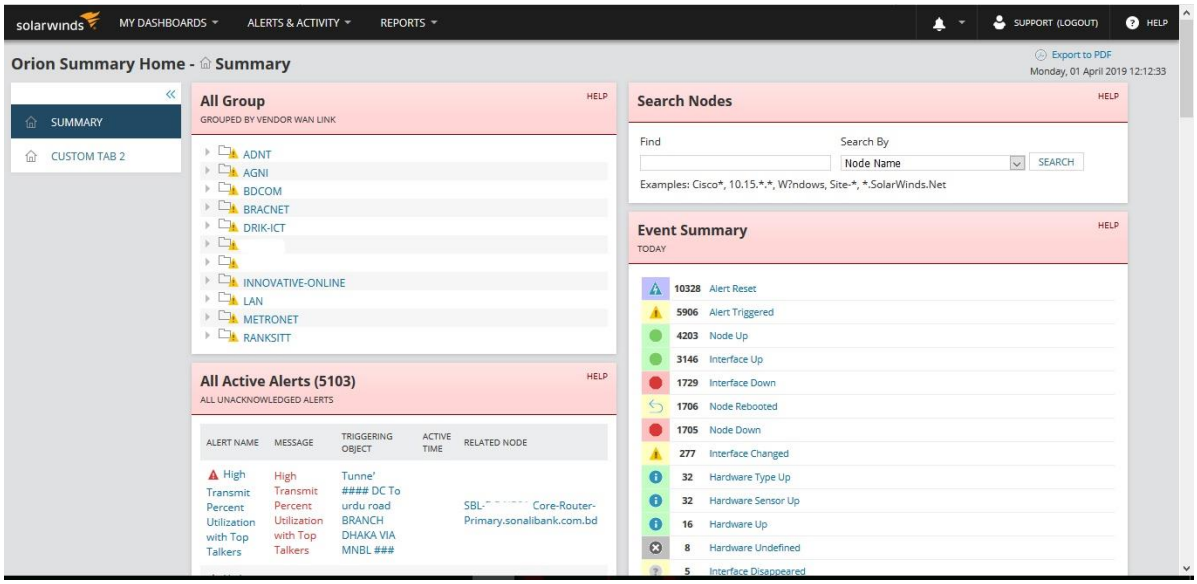

Figure 9 Solar Winds 1

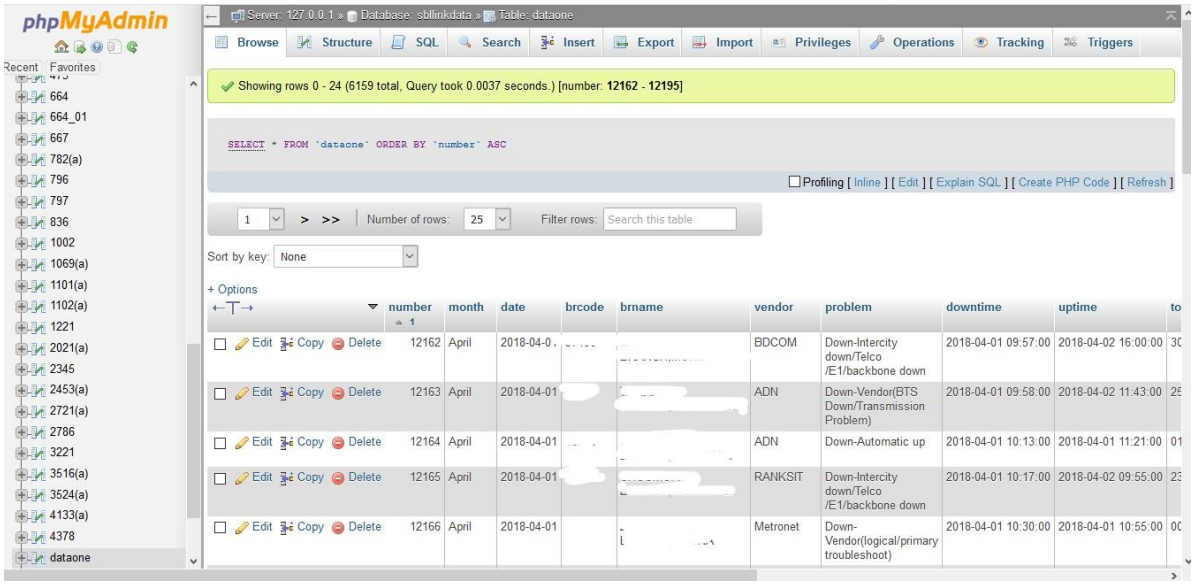

Figure 10 Solar Winds 2

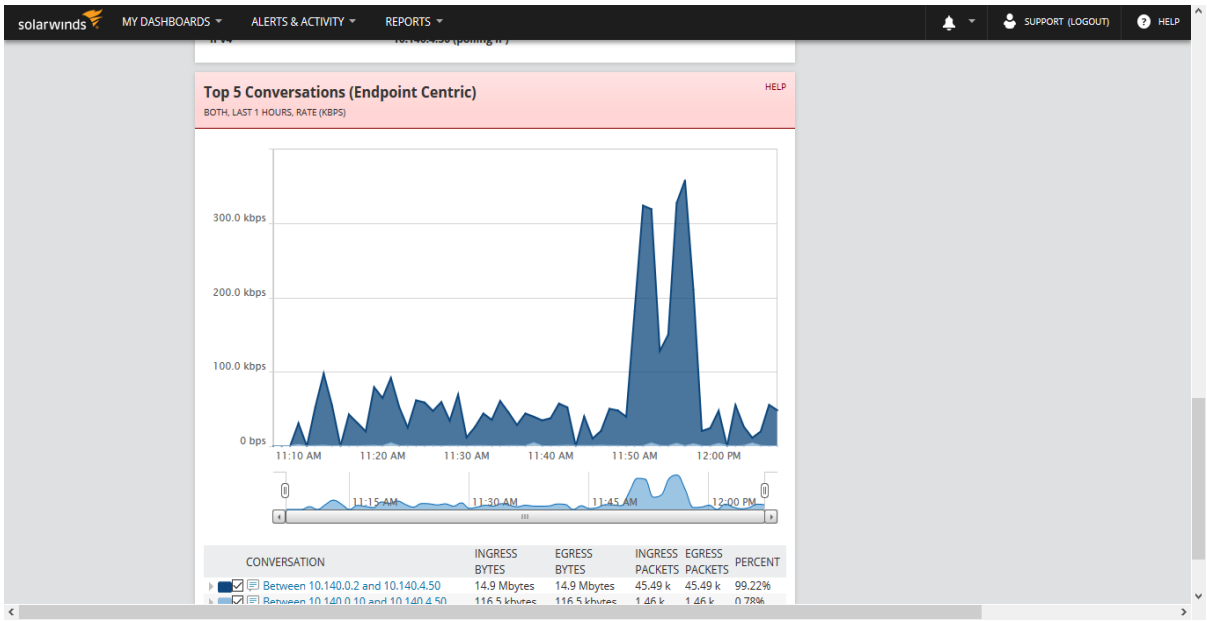

Figure 11 : Solar Winds 3

CBS : Center Banking System (CBS), the information, rather than gigantic records, are put away in backend databases in computerized structure. (6) A similar programming can be made accessible in different parts of a bank utilizing a WAN. The bit of leeway, a client can work for him from any part of the bank and on the off chance that the bank possesses Internet Banking or ATM offices, at that point the client can work for him from for all intents and purposes anyplace. (6)

Figure 12: Sonali Intellect Core Banking System (CBS)

3.3.8 Cabling Using Networking Tools:

Two sorts of system links can be utilized when constructing a system A straight-through link and a hybrid link A straight-through link (7) (additionally called a fix link) is utilized to associate a PC to a switch or a change to a printed or a change to a switch A hybrid link is utilized to interface two like gadgets, for example, a center point to a center or a PC to a PC.The contrast between a straight-through link and a hybrid link is the way the transmit and get lines are wired in the connectors at each finish of the links A hybrid link has the transmit and get lines turned around with the goal that one gadget gets off the line to which the other gadget transmits. (7)

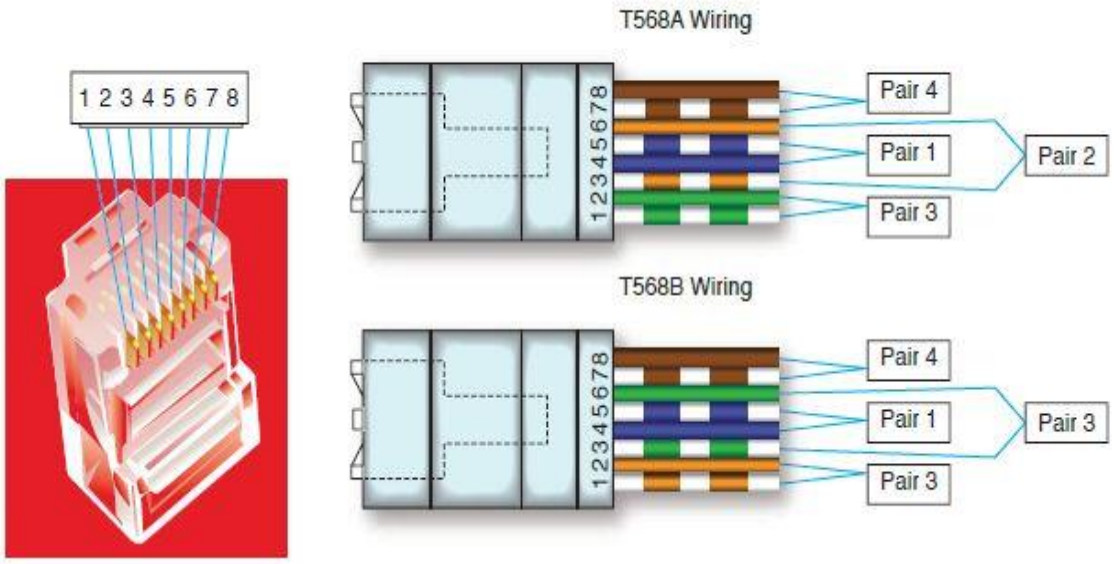

Figure 13 Cabling Using Networking Tools

Straight Through Cable: A straight-through link (likewise called a fix link) is utilized to interface a PC to a switch or a change to a printed or a change to a switch. (7)

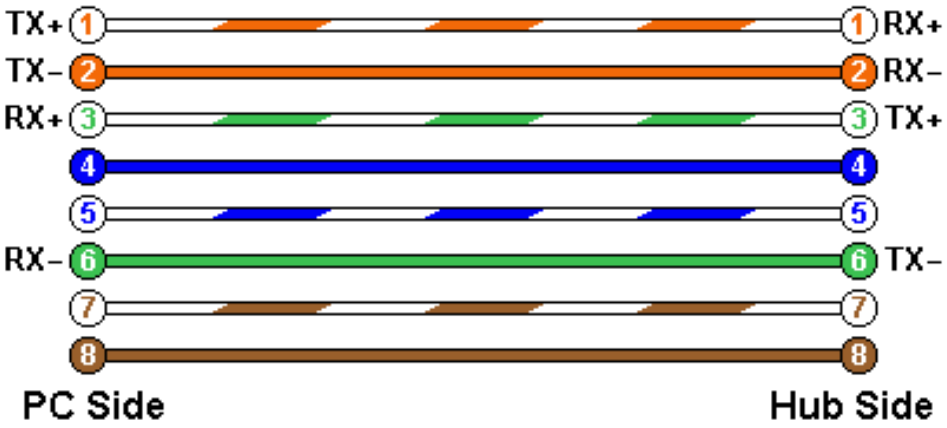

Figure 14 Straight Through Cable

A crossover cable: A hybrid link is utilized to interface two like gadgets, for example, a center point to a center or a PC to a PC . (7) A hybrid link has the transmit and get lines turned around with the goal that one gadget gets off the line to which the other gadget transmits. (7)

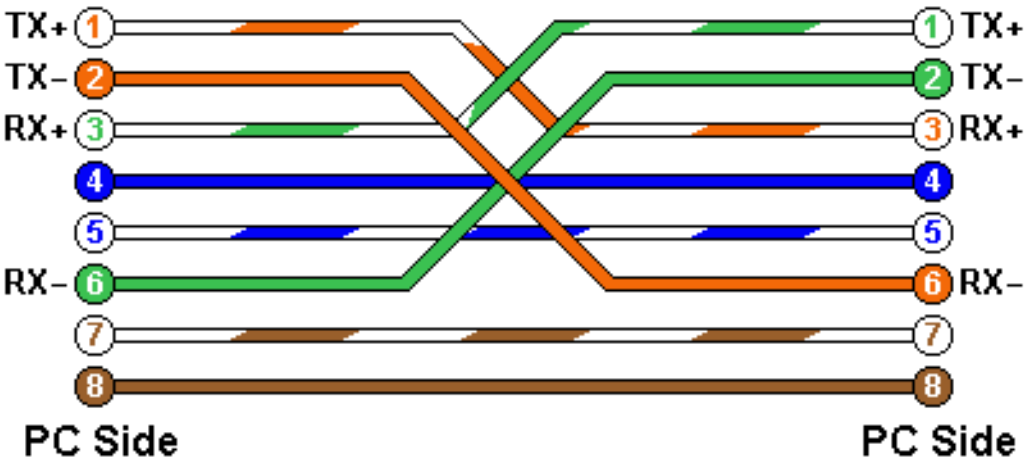

Figure 15 A crossover cable

3.4 Challenges:

- To Competencies Earned I would like to suggest the following things:-
- Server falls flat for long time
- New programming named CBS (center Banking Software) is currently running for couple of months. So on the off chance that somebody needs the announcement or any information identified with exchange multiple moths then the past programming named Baxibank is required.
- Electronic token framework isn't in utilized.
- PCs are not state-of-the-art

Chapter 4

Competencies and Smart Plan

4.1 Competencies Earned :

- To Competencies Learned I would like to suggest the following things:-
- All the announcement identifying with exchange ought to give in the CBS Programming
- Solar winds and LVMS Software Use Network Monitoring System
- All the Bank Software Related Basic Bank Network Design
- Ip tending to , Router Configuration ,Network Sharing System

4.2 Smart Plan :

- Bangla interface ought to be presented as quickly as time permits.
- Branch office ought not to be associated with neighborhood broadband administration. For this situation I recommend that the branches should utilize BTCL network access.
- Head office should consider creating cell phone portable application for giving better administrations.
- System Monitoring framework ought to be increasingly adaptable.
- The entire announcement identifying with exchange ought to give in the CBS programming.
- System Monitoring framework ought to build up their correspondence among branches.

4.3 Reflections :

- Small example estimate
- Less time to finish report
- A few respondents were neither persuaded nor keen on communicating their legit feelings.
- Results are determined physically.

Chapter 5

Conclusion and Future Career

5.1 Conclusion And discussion:

Networking System of Sonali Bank is not content with the organization. If the bank plans to expand the customer base of Networking they should focus more on speed, usability, and security and solace, quick response components of Networking. Proper Network Security is required accordingly. Customers should similarly be made aware of deceptive practices like sniffing, disparaging, phishing, pharming and distinctive malignant programming which can be used by developers. Thought should in like manner be given in the encryption of the information which is exchanged between the customers and the bank.

5.2 Future Career & Scope:

In actuality, getting a new line of work can be a major test of anybody of our nation, particularly on the off chance that we have no involvement. That is the reason I pick entry level position, since it can assist me with improving my profession opportunity into an encounter. Along these lines, this temporary position gives me to discover scope in future life:

- Work in ISP based stage.
- Work at as an IT supervisor of an organization.
- Work at as a Network Engineer.
- Work at as a specialized help and security supervisor.

Reference

1. Introduction to the Company << https://www.sonalibank.com.bd >> (Last visit on 7/25/2019 10:36 PM)

2.Learn about the Sonali bank vision mission<<https://www.sonalibank.com.bd/aboutus/vision & Mission >>(Last visit on 9/4/2019 9:10:01 AM)

3. Learn about the Organizational Structure of Sonali Bank Limited <<https://www.sonalibank.com.bd/aboutus >>(Last visit on 8/21/2019 7:27:18 PM)

4. Learn about the Sonali bank Corporate Profile <<https://www.sonalibank.com.bd/aboutus/ Corporate Profile >>(Last visit on 8/21/2019 7:27:18 PM)

5. Data and Computer Communications 8th. In W. Stallings,<< Data and ComputerCommunications 8th. William Stallings.>> (Last visit on 9/4/2019 9:10:01 AM)

6. Learn about the Sonali bank Limited Network Design August 5, 2019, from<< https://www.sonalibank.com.bd >> (Last visit on 9/4/2019 9:10:01 AM)

7. Learn about the Cabling Using Networking Tools ,Straight Through Cable, A cross over cable August 5, 2019, from <<https://www.google.com/search>>(Last visit on 9/4/2019 9:10:01 AM)

Appendix A

Internship Reflection :

- Small example estimate
- Less time to finish report
- A few respondents were neither persuaded nor keen on communicating their legit feelings.
- Results are determined physically.

Appendix B

Company Details :

Corporate	Sonali Bank Limited
President	Mr. Ashraf Moqbul
executive director	Mr.Md.Obayed Ulla Al-Masud
executive	Mr.Md.Hasanul Banna
position	Government Company
source	Risen as Nationalized Commercial Bank in 1972, after the Bangladesh Bank (Nationalization) Order No. 1972
appropriation	03 June, 2007
tradesman's accordance	15 November, 2007
Head Office	Motijheel Dhaka, Bangladesh
sanction stock	Taka 4530.00 Core
total stock	Taka 4530.00 Core
number of employee	17,051(Officers-15741+Staff-1310)
Total branch	1215
Telephone	9550426-31
Fax code	9552007

INTERNSHIP ON
(SONALI) BANK NETW