

INTERNSHIP ON BANKING (UCB) NETWORKING SYSTEM

SUBMITTED

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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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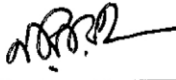
This Project/internship titled “**Internship on Banking (UCB) Networking System**”, submitted by Pritam Kundu, ID No: 162-15-8079 to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 13-09-2019.

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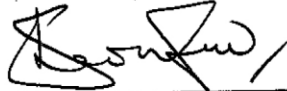
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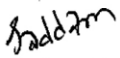
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ABSTRACT

As a student of CSE, I have completed my internship report in Bank Network Connectivity Monitoring System. The report is a requirement of the internship program for my Bachelor of Science course degree. An organization is a lot of gadgets (regularly alluded to as hubs) associated by correspondence joins. A hub can be a PC, printer, or some other gadget fit for sending or potentially getting information produced by different hubs on the system. Presently today an enormous number of individuals everywhere throughout the world utilization web innovation with their hesitate life. Along these lines, the systems administration is such a great amount of significant in our advanced life. Presently a-days each and every individuals, business and web based business, each work station is completely relying upon programming based correspondence and web technology. Computer framework and fringe are associated with structure a system. They give different focal points, for Example- messaging, video gathering, and utilizing dynamic website pages, sharing data by utilizing.

TABLE OF CONTENTS

CONTENTS	PAGE
Acknowledgement	III
Abstract	IV
List of table	V-VI
List of figure	VII
CHAPTER	
CHAPTER 1: INTRODUCTION	1-3
1.1 Introduction	1
1.2 Motivations	1-2
1.3 Internship Objectives	2
1.4 Introduction to the Company	3
1.5 Report Layout	3
CHAPTER 2: ORGANIZATION	4-13
2.1 About The Company	4
2.2 Bord of Directors of UCB	5-7
2.3 Product and Market Situation	8-9
2.4 Target Group	10
2.5 Organizational Structure	11
2.6 Green Banking solution of UCB	12-13
CHAPTER 3: TASK , PROJECT S AND ACTIVITIES	14-27
3.1 Daily Task and Activities	14-15
3.2 Events and Activities	15
3.3 Project Task and Activities	15
3.4 Introduction of basic Networking	16-17
3.5 About IP Address	17-18
3.6 Overview of United Commercial bank (UCB)	18-19
3.7 Network Support	19-23

3.8 GRE (Generic Routing Encapsulation) Tunneling	24
3.9 CISCO 881G-4G GSM Based Router Configuration	25
3.10 UCB Bank Network Design & Configuration	26
3.11 Mail & Phone Call Support	27
3.12 Challenge	27
CHAPTER 4:Competencies and Smart Plan	28-29
4.1 Competencies Earned	28
4.2 Smart Plan	28
4.3 Reflections	28-29
CHAPTER 5: Conclusion and Future Career	30
5.1 Discussion and Conclusion	30
5.2 Scope for Further Career	30
REFERENCES	31
APPENDICES	32-35

LIST OF FIGURES

FIGURES

Figure2.4: Show the organizational Structure UCB Bank	11
Figure 3.1: Type Of Communication System of basic networking system	17
Figure 3.2: shows Type Of Classful Ip Addressing	18
Figure 3.3 LAN connectivity network Design	20
Figure : 3.4 WAN connectivity network Design	21
Figure 3.5: monitoring software Nagios (Critical Link)	22
Figure 3.6 : Nagios monitoring software all Network monitoring system	23
Figure 3.7: Tunnel connectivity network Design	24
Figure 3.8: CISCO 881G-4G GSM based Router	25
Figure 3.9: UCB Bank Network Design	26
Figure 3.10: UCB bank Network Tunnel Configuration	33
Figure 3.11: Successful Ping result	34

CHAPTER 1

Introduction

1.1 Introduction

Internship Program of daffodil international university is under-Graduation requirements for the CSE students. This investigation is a fractional necessity to the entry level position program of CSE educational plan at the daffodil global college. The primary motivation behind temporary job is to get the understudy presented to the activity world. Being an understudy, the principle challenge was to make an interpretation of the hypothetical ideas into genuine experience.

The temporary job program and the investigation have following purposes:

- To get and arrange detail learning hands on obligations.
- To experience the genuine business world.
- To contrast the genuine situation and the exercises learned in Daffodil International University.
- To satisfy the prerequisite of CSE program.

1.2 Motivation

In the study period, mostly understudy increase hypothetical learning yet now daily, in the activity market is not a viable alternative for rule work involvement. Hence, before landing into position, understudy ought to have some certifiable work involvement in the significant field of concentrate on the profession decision that interests him/her. The scholastic world and the working scene are two totally extraordinary setting. The information and experience are gain from working at an organization helps anybody when it comes time to achieve an all day specialist. The real focuses to offer Internship at DIU are as following, Students break free from the hypothetical universe of reading material and class courses and lead into this present reality of uses of learning.Helping understudies to express constancy, activity, creativity and polished methodology in the undertakings they are allocated. Empowering the understudies to viably communicate in a workplace inside a pecking order of representatives. The proficiency in working in gatherings and under higher experts is tried during this course.

- **Executive summary:**

Predominantly United Commercial Bank Ltd. is recognized as one of the renowned private banks in Bangladesh. In UCB , Information technology division has total seven wings. These wings are

1. Information security and Service Management (ISSM)
2. Channel management system (CSM)
3. Infrastructure -Data Center (DC) and Disaster Recovery Site (DRS)
4. Application support system
5. Application solution system
6. Network Management System (NMS)

With the help of IT division UCB provides services to all the valued clients and customers, this division also helps UCB to be connected to its branches, ATM, and DR site. IT division basically provides technical support to branches and ATM, through IP Phones, emails and IUCB portal. So IT division plays a significant role for the smooth operation of bank's business.

1.3 Internship Objectives

Internship is a program that upgrades the capacity of the alumni and a degree to do commonsense works in an association identified with the understudy's major to pick up the work involvement. Daffodil International University offers a 06-acknowledge course as Internship for the graduating understudies in its course instructive program with the objective of enabling understudies to come into contact with certifiable applications concerning the learning and aptitudes grabbed in both theoretical and rational courses of the school. As the outside world is especially engaged for anyone after graduation, Internship gives the understudy phenomenal open entryway in the organization world and to get prologue to various extensions of the organization world. The passage level position period is for at any rate three months. Collaborator understudies are coordinated under a particular worker all through their impermanent activity period. Besides, the assignment gets movement by sticking to the Supervisor's direction. Understudy exhibits a report on his/her endeavor work. A passage level position is an opportunity to get some answers concerning how a business wears down both a colossal scale and on an ordinary reason. We may find welcome us the

calling and need to look for after it, or we may come to comprehend that it's not what we at first predicted, and pick we have to look for after a substitute calling. Choosing a definitive and trained choice about our job route should be a target of passage level position understanding.

1.4 Introduction to the Company

United Commercial Bank Ltd (UCB) is one of the biggest private part business bank in Bangladesh. The Bank was fused on 26 June 1983. The administration possesses shares in the bank. The bank is recorded in both Dhaka Stock trade and Chittagong stock trade. In 2016 remote programmers utilized skimmers to take individual information from the banks ATM and utilized that information to clone cards.

1.5 Report Layout

The organization of my report is assorted by 5 chapters. Chapter 1: Discussion about Introduction, Motivation, Internship Objectives, Introduction to the Company and Report Layout. Chapter 2: About Introduction to United Commercial Bank (UCB), Product and Market Situation, Target Group, SWOT Analysis and Organizational Structure. Chapter 3: Daily Task and Activities, Events and Activities, Project Task and Activities and Challenges. Chapter 4: Competencies Earned, Smart Plan and Reflection. 5: Discussion and Conclusion and Scope for the Future Career.

CHAPTER 2

ORGANIZATION

2.1 About the Company

With a strong responsibility of the monetary and social advancement of Bangladesh, United Commercial Bank (UCB) has started its journey in mid 1983 and has since had the option to set up itself as one of the biggest original banks in Bangladesh (1). With a tremendous system of 687 branches, ATM 490, UCB Express 20 and Agent Banking 95 . the Bank has officially made an unmistakable model in the domain of Private Sector Banking through customized administration, creative practices, dynamic methodology and productive Management.

The Bank has extended its field in various and assorted portions of banking like Retail Banking, SME Banking, Corporate Banking, Off-shore Banking, and Remittance and so forth. Other than different store and credit results of Retail Banking, the Bank caters fare and import advance to meriting up-and-comers which thusly helps the general economy of the nation through expanded acquiring of remote trade. Other purchaser items like UCB Cards have been indicating huge achievement and development since its origin in 2006 and before long turned into the pioneer in nearby market with around 40000 card holders.

The Bank additionally furnishes its customers with both approaching and active settlement administrations. Subsequently the ostracizes locate a simple method to send cash through legitimate channel.

The Bank, which means to accept a primary employment in the monetary activities of the country, is unequivocally busy with the progression of trade, exchange and industry by placing assets into framework augmentation and new development gathering to have advantage.

2.2 Board of Directors:

2.2.1 Chairman

- **Mrs. Rukhmila Zaman (2)**

Rukhmila Zaman, a young lady business visionary of the Country, is the Chairman of UCB and furthermore the Managing Director of Aramit Group, a main assembling Conglomerate of the Country.

She is additionally associated with various financial associations and contributing for upbringing the young ladies in the standard of economy.

2.2.2 Vice-Chairman

- **Mr. Bazal Aluned**

Bazal Ahmed is the Vice-Chairman and also a member of risk management committee of UCB.

He is the child recently Mr. M. A. Bari; a support Director of the Bank. This marvelous business person is additionally the Managing Director of Taj Accessories (Pvt.) Ltd. also, Saikat Textile Ind. Ltd. one of the main endeavors in the piece of clothing/material area of the nation. Simultaneously he is the owner of Taj Trading.

Mr. Ahmed was brought into the world in a decent Muslim group of Sylhet. He is aligned with loads of social and instructive associations to quicken the advantage of the network.

2.2.3 Director & Chairman, Executive Committee

- **Mr. Anisuzzaman Chowdhury**

Anisuzzaman Chowdhury, a young and dynamic industrialist of the country, is the Chairman, Executive Committee of UCB.

He is also Director of Ronny Chemical Industries Ltd. and Bitucom Ltd. He is the youngster as of late Mr. M. A. Bari; a help Director of the Bank. This great representative is moreover the Managing Director of Taj Accessories (Pvt.) Ltd. additionally, Saikat Textile Ind. Ltd. one of the primary undertakings in the bit of attire/material region of the country. At the same time he is the proprietor of Taj Trading.

2.2.4 Independent Director & Chairman, Audit Committee

- **Akhter Matin Chaudhury**

Akhter Matin Chaudhury, a Fellow of the Institute of Chartered Accountants in England and Wales, a Fellow of the Institute of Chartered Accountants of Bangladesh and a Fellow of the Institute of Chartered Secretaries of Bangladesh, is one of the Independent Directors and Chairman of Audit Committee of UCB.

Mr. Chaudhury qualified as a Chartered Accountant in 1976 in the United Kingdom, where he lived and worked for different associations for a long time. He came back to Bangladesh in 1987 to join BOC Bangladesh Ltd., a global modern gases organization, where he served in different limits, including General Manager (Finance) and Company Secretary, and eventually on the Board as Director (Gases). He left BOC in 1998 to help establish Eshna Consulting Team Ltd., an administration counseling organization, of which he was the Managing Director.

In 2000, Akhter Chaudhury joined Organon (Bangladesh) Ltd., since renamed NuvistaPharma Ltd., and has been its Managing Director since 2001, expecting the extra job of Chairman since 2006.

Mr. Chaudhury sits on the Executive Committee of the Bangladesh Association of Pharmaceutical Industries and is Vice President of Metropolitan Chamber of Commerce and Industry, Dhaka.

Akhter Chaudhury takes a functioning enthusiasm for Youth Development. Towards this he is the Chairman of Bangladesh Youth Leadership Center.

Mr Chaudhury is enthusiastic about quality training and addresses MBA and EMBA understudies on Strategic Planning. He likewise serves on the Board of Advisers of BRAC Business School at BRAC University.

2.2.5 Director and Chairman, Risk Management Committee

- **Mr. M.A.Sabur**

M. A. Sabur, a main mechanical business visionary, is the Director and Chairman, Risk Management Committee of UCB. He is additionally the Chairman of Masco Group and Maxim Group, driving fare houses in material area of the nation.

A MBA, M. A. Sabur is the child of Late Alhaj Raham Ali. He has a place with a good Muslim family and hails from Kanchon of Narayanganj District. He is an

individual from IBA Alumni Association, Dhaka University Alumni Association and additionally a golfer, being lifetime individual from Kurmitola Golf Club, Dhaka and Bhatiary Golf Club, Chittagong. M.A. Sabur is effectively connected with different instructive and socio-social associations of Dhaka and Chittagong.

This renowned character is managing the Bank in investigating new chances of business obtainment in this focused market.

Md. Jahangir Alam Khan is tutoring the Bank to guarantee responsibility and secure all the Interest of the Bank to accomplish wanted guidelines

2.2.6 Directors:

- Hajee Yunus Ahmed Chowdhury
- Hajee M. A. Kalam
- Mr. Nurul Islam
- Mr. Asifuzzaman Chowdhury
- Mrs. Roxana Zaman
- Mr. Bashir Ahmed
- Mrs. Afroza Zaman
- Syed Mohammed Nuruddin
- Mr. Syed Kamruzzaman
- Mr. Farid Uddin Ahmed Jonaid Shafiq
- Mr. Muhammed Shah Alam
- Professor Dr. Md.
- Mr. Mohammed Shawkat Jamil

2.2.7 Company Secretary

- Mr. ATM Tahmiduzzaman FCS

2.3 Product and Market Situation

2.3.1 Product (3)

- 3 UCB Multi Millionaire
- 4 UCB Money Maximizer
- 5 UCB Earning
- 6 UCB DPS
- 7 Western Union Money Transfer
- 8 Western Union Money Transfer Online Service
- 9 Credit Card
- 10 One Stop Service
- 11 Time deposit Scheme
- 12 Money Savings Scheme
- 13 Deposit Insurance Scheme
- 14 Inward & Outward Remittances
- 15 Travelers Cheques
- 16 Import Finance
- 17 Export Finance
- 18 Loan Syndication
- 19 Underwriting and Bridge Financing
- 20 Trade Finance
- 21 Industrial Finance
- 22 Foreign
- 23 Currency Deposit A/C
- 24 NFCD
- 25 RFCD
- 26 Consumer Credit Scheme

2.3.2 Market Situation

The United Commercial Bank (UCB) is one of the private branches in Bangladesh and since its establishment in mid-1983, it has been able to establish 187 branches in six unique regions. Joining the commercial banks offers a wide range of commercial companies and personal banking activities, bringing corporate banking, retail banking and personal banking directly from industry to agriculture, from real countries to programming. The UCB Uttara subsidiary is one of the branches that encourage banks to offer a variety of offices. He has General Banking and General Advance is like the Forex department.

Customers are important to every company that Banki hav in Bangladesh is basically an extra time for "management work". My report depends on the administration of the authorized commercial bank. In this report, I tried to improve the general management status of UCB as a bank guarantee and to communicate it to customers.

The data of the initial segment is brought with you and the competent authority supplies them to the customer. The second part of the report contains ideas for employment, my obligations and responsibilities for activities and some proposals for financial status. The third part contains the activities section of my participation in the basic level. He spoke of Ucb

Administrative advertising, employee behavior and customer participation. The last part contains the survey inspections and results. For the exam, I chatted with 20 clients who attended UCB and saved money. Based on their answers, I deciphered the information and tried to find out the true management nature of the bank. Before making any decision based on this report, you may notice that information may be needed, but that it could be useful to build further investigations.

2.4 Target Group

2.4.1 Vision

It has become Bangladesh's best private commercial bank in terms of competition, capital adequacy, resource quality, good governance and stable liquidity growth.

2.4.2 Mission

Efficient, customer-oriented, customer-oriented, and based on a large corporate governance structure, the production of United Commercial Bank Co., Ltd.

Continuously improve our business strategy, systems and performance through innovation at all levels.

2.4.3 Goals

To develop solid mainstay of capital, To advance exchange, trade and industry, To find methodologies for accomplishing efficient development, To improve and expand the scope of item and administrations, To create human asset by expanding work openings, To upgrade resource of investors, To offer standard money related administrations to the general population, To keep business ethical quality, To create welfare arranged financial administration, To offer most astounding conceivable advantage to clients.

2.4.5 Vital Statement

Supporting the development, expansion and improvement of the influence of elements and management in all aspects of banking activities, in order to increase the value of the business of the investor and provide customers with the most important potential benefits.

2.5 Organizational Structure

Here show the Organizational structure of United Commercial bank limited (4) in fig 2.1. As per Policy Guidelines on Prevention of Money Laundering and Combating Financing of Terrorism of the Bank and the instruction given by BFIU vide their master circular through BFIU Circular the Central Anti-Money Laundering Compliance Committee (CAMLCC) or Central Compliance Unit (CCU) of UCB is hereby constituted headed by the Additional Managing Member Secretary BCDD In order to set out a strong internal control framework within the organization, the Central Anti-Money Laundering Compliance Committee (CAMLCC) will be responsible for management against ML, TF & PF issues of the Bank.

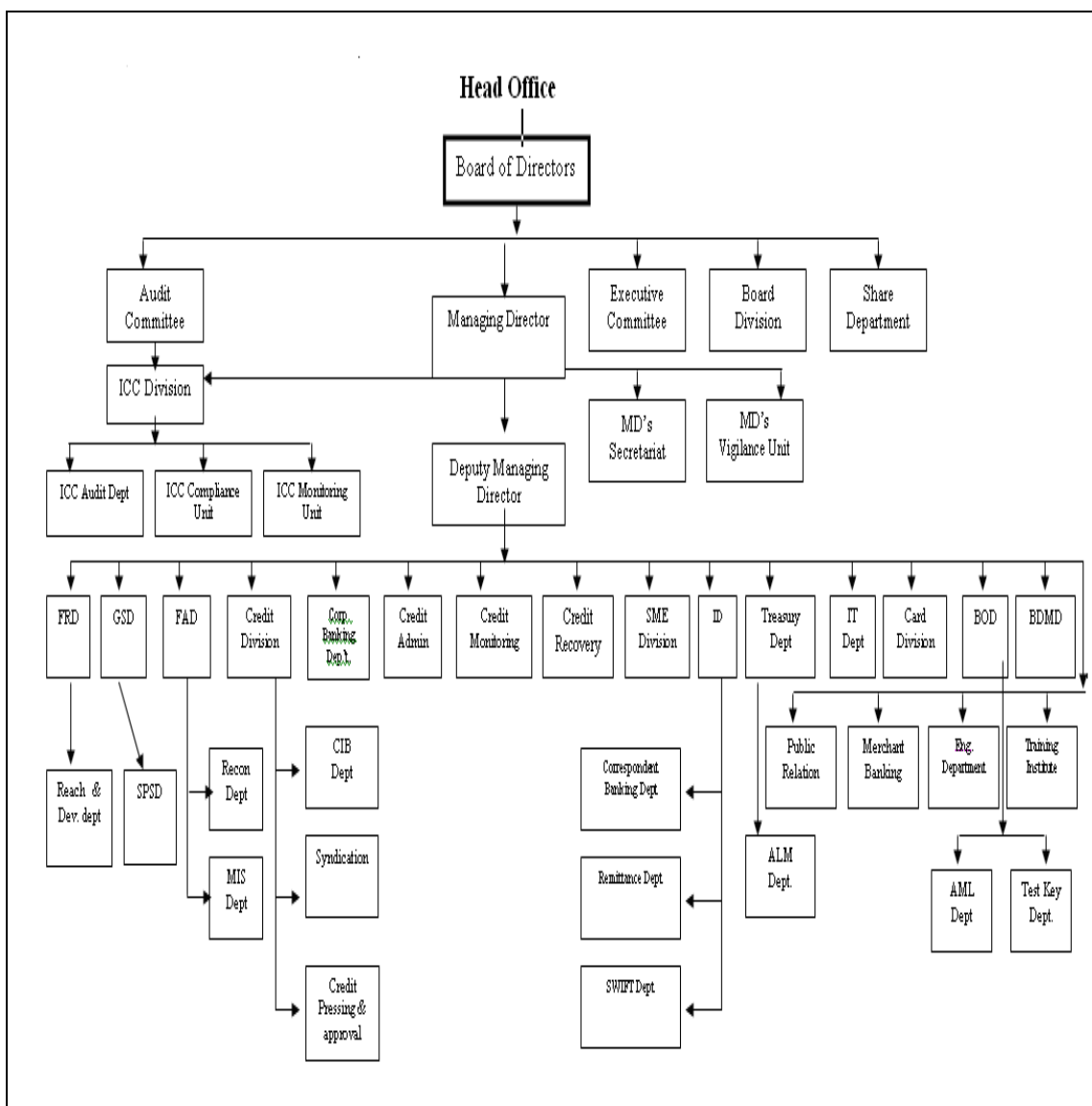


Figure 2.1: A Screenshot of Shows Organizational Structure of United Commercial Bank Limited.

2.6 Green Banking solution of UCB

The Green Banking Policy of United Commercial Bank C. Ltd. has just been approved by the "Green Financial Unit" program. According to this policy, the Bank will allocate sufficient support for the relevant exercises in the following spending plans. (5)

According to the Bank of Bangladesh regulations, a different approach is considered an environmental risk management (ERM) policy, consistent with credit risk management policies. The board of directors also approves the corporate risk management policy. In addition, the "Green Office Guide" project was drafted with the ultimate goal of improving internal environmental management, which is currently in the final phase.

At the same time, the corresponding exercises and projects were attempted in line with the Green Banking Guidelines of the Bank of Bangladesh:

The variable-flow cooler (VRF) air-cooled air cooler introduces around 25% of the electricity utilization rate at the bank's headquarters.

Since 2011, the bank has started introducing vital light bulbs in its recently established branches.

As a basic activity to establish a conditional branch, the Bank demonstrated the solar energy framework at the Noapara branch in Chittagong and several branches will gradually provide similar frameworks.

The various departments of the World Bank have decentralized operating rules, brochures and management options, just like the collection of statements by e-mail, the reduction of the use of the card.

The Focal UPS (UPS) is introduced on each floor, reducing the need for all reinforcement checks.

A separate network switch room on each floor reduces redundant connections in the data center.

UCB is a pioneer in the exchange of electronic funds transfer network (BEFTN) of Bangladesh, which reduces dependence on paper exchange.

60 ATMs were introduced, reducing mission times and the use of check books.

All bank printers are equipped with a two-sided press office and have an "ecological text style". The human resources management program introduced the era of remuneration consultants, which reduces manual management.

Internal CIB programming was introduced to allow branches to enter information when needed, integrating paperless workflows.

Introduction of internal MIS programming for the acquisition of operational information, centralized processing and KPI, which reduces the use of paper and saves time and hours of work.

UCB currently provides web-based financial management to its valued customers across 158 branches. Our valued customers also use the bank management via SMS provided by the bank.

UCB has chosen powerful central banking software (CBS) that covers all financial assets, including offshore banking and Islamic banking. With the use of CBS, UCB will be ready to provide more and more paperless and eco-friendly financial management.

In order to mechanize the workflow, improve operational efficiency and reduce carbon emissions, UCB has also adopted corresponding measures and activities, which are ongoing for business purposes for green banking:

Perform Enterprise Resource Planning (ERP) programming for Office Automation

Run the intranet portal

Run another green disaster recovery site (DRS)

The IT department of UCB has closely followed the banking security rules in Bangladesh and has its own method, confirmed by the Bank of Bangladesh. This approach is an ICT security guide for banks and non-bank financial institutions (May 2015 variant 3.0). The internal comments of UCB's IT department ensure that these rules are carefully implemented. The basic objective of these agreements is to help banks and NBFIs to verify ICT-based agreements. The figure shows the organizational hierarchy of the technological department of the UCB information division.

CHAPTER 3

Tasks , Events And Activities

3.1 Daily Tasks and Activities

I am completing my intern from **United Commercial Bank Ltd (UCL)** in **Network operation Center (NOC)** under their **Informaton Technology(IT)** department.They treated me as like their employee.IT Department maintain their works and activities with 5 dayes in a week from Sunday to Thursday.Working houre in IT Division is 10:00 AM – 6:00 PM. Basically, my intern time was same 10 :00 AM – 6:00 PM from Sunday to Thursday. I have started my internship from 16 May 2019 and going on.

Make Future IT information Technology monitoring, maintenance and IT trained me on their

1. Information security and Service Management (ISSM)
2. Channel management system (CSM)
3. Infrastructure- Data Center (DC) and Disaster Recovery Site (DRS) sites
4. Application support system
5. Application solution system
6. Network Management System (NMS)

Every Day needs to send a fault report when they started duty and Every Evening shift also provide a fault report before ending their duty. Fault report contains all sites down list of whole country under UCB. A database that named NOC_Database is use for sites details.

In internship period I had to do this type of works which assigned by the authority.

- 1 Creating and sending Fault Report.
- 2 Monitoring sites (for assign terminals)
- 3 SMS Sending (for fault sites, and Transmission to individuals zone of UCB)
- 4 Mail Sending (for fault sites to Vendor/Third parties), and
- 5 Support phone call for help maintenance work.
- 6 Help to Network team.
- 7 Configure Cisco Branch Router

- 8 Configure cisco ATM Router
- 9 GSM Configure sisco router

3.2 Events and Activities

By all of this easily, I may complete my internship works. The work environment It is an evaluation of the monitoring and logically maintenance work to maintain Information Technology system.

Planning is basic for transitory positioning is the primary place, when a company handel some parts in the midst of passage level position, by then it is required to offer getting ready to address the issue. Issue has been identified& planning can be handling it. Planning can be delineated aptitudes, thoughts, improved execution in brief position condition. In this temporary job on daffodil online constrained I have learned and played out the accompanying errands:

- 1 Discaus IP address for all class of IP with Subnet.
- 2 Learning and comprehension About Network Components.
- 3 Network Management System (NMS)

3.3 Project Task and Activities

I have lot of achieve from United Commercial Bank Limited . it is a beautiful It was a chance to job with NOC team. I can waction some ceperate project with them and helped the team. Here is some:

- 1 Update Network Component inventory.
- 2 Create group on Internet SMS.
- 3 Create Summary report.
- 4 Help to Network team.
- 5 Configure Cisco Branch Router
- 6 Configure cisco ATM Router
- 7 GSM Configure sisco router
- 8 Update some existing project.

3.4 Introduction of Basic Networking

Figure 3.1 shows Type Of Communication System of basic networking system. (6) A system is a lot of gadgets (frequently alluded to as hubs) associated by correspondence joins. A hub can be a PC, printer, or some other gadget fit for.

1) Simplex

A simplex correspondence occupy just sends information in a solitary heading. For example, a radio station guideline speaking sends sign to the gathering of spectators yet never gets signals from them, tolerating sign. In any case, this most likely won't be sure about the grounds that the pair of fiber strands are as often as possible joined to one connection. The extraordinary bit of simplex mode is that its entire exchange speed can be used in the midst of the transmission.

2) Half duplex

Into a balance of duplex mode, data can be transmitted in the two course on a sign. Walkie-talkie is a typical half duplex contraption. It has a "push-to-talk" get which can be used to turn on the transmitter yet mood killer the beneficiary. In this manner, when you push the catch, you can't hear the individual you are speaking with yet your accessory can hear you. A touch of slack of half-duplex is that the single track is more affordable than the twofold tracks.

3) Full duplex

A full duplex correspondence direct can transmit data in the two headings on a sign conveyor meanwhile. It is worked as two or three simplex associations that licenses bidirectional synchronous transmission. Acknowledge telephone for example, people at the two terminations of a call can talk and be heard by each other meanwhile in light of the way that there are two correspondence ways between them. In like manner, using the full duplex mode can exceptionally grow the adequacy of correspondence.

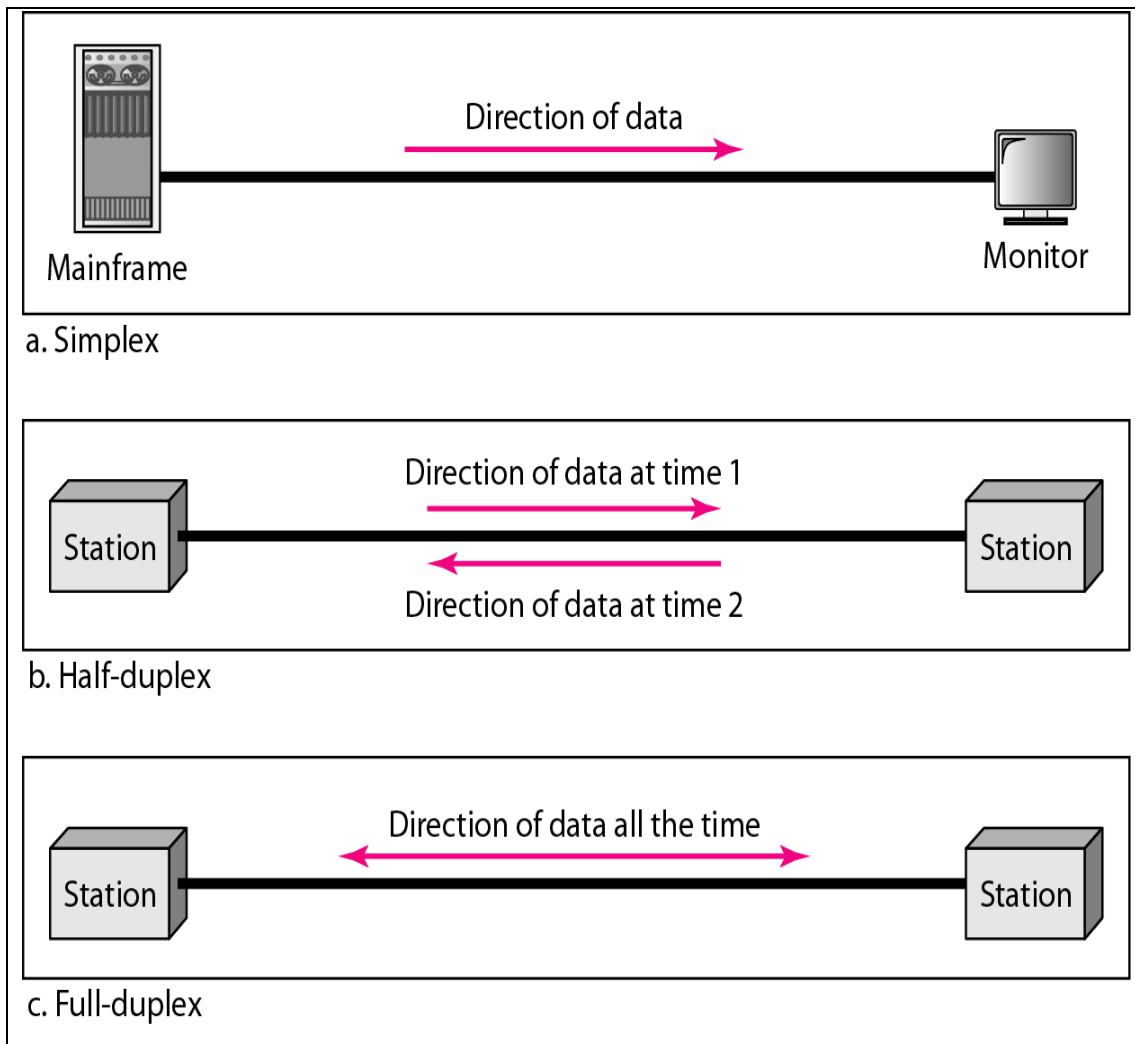


Figure 3.1 :A Screenshot of Type Of Communication System

3.5 About IP address

Figure 3.1 shows Type Of Classful Ip Addressing .Internet protocol is a numerical address.it use pc or other devices.

An Internet Protocol address (IP address) is a numerical name demonstrated every gadget related with a PC makes that uses the Internet Protocol for correspondence. An IP address serves two rule limits: host or structure interface ID and zone tending to. Web Protocol structure 4 (IPv4) depicts an IP addresses a a 32 - bit number. Regardless, in light of the headway of the Internet and the exhaustion of open IPv4 addresses, another change of IP (IPv6), utilizing 128 bits made in 1995, and sorted out as RFC 2460 out of 1998. IPv6 affiliation has been relentless since the mid-2000sAbout IP address

<i>Rule</i>	<i>Minimums and maximums</i>	<i>Decimal range</i>
Class A: First bit is always 0.	00000000 = 0 01111111 = 127	1 - 126
Class B: First two bits are always 10.	10000000 = 128 10111111 = 191	128 - 191
Class C: First three bits are always 110.	11000000 = 192 11011111 = 223	192 - 223
Class D: First four bits are always 1110.	11100000 = 224 11101111 = 239	224 - 239

Figure 3.2: A Screenshot of Classful Ip Addressing

3.6 Overview of United Commercial Bank Limited (UCB)

United Commercial Bank Limited (UCB), the largest commercial bank in Bangladesh, is owned by Bangladesh. United Commercial Bank Limited (UCB) connected Bangladesh Telecommunication limited BTCL Approval ISP Vendor Company with agreement their partnership and brought bandwidth .

List of some Vendor Company :-

- Metro Net- MetroNet Bangladesh Limited started its journey in 2001
- Inovative online- Innovative Online Limited (IOL) is a premier provider of Service based on Hi-speed Fiber Optic and Radio Link.
- Premium connectivity Premium Connectivity Limited (PCL) -A licensed ISP- Nationwide operator in Bangladesh, is getting ready to offer Internet and data communication services.
- Link 3 - Technologies Ltd. is a full service IT Solution Provider that has been operating in Bangladesh market for over 18 years with a very high level of success.
- Brac Net- A pioneer in IT Solutions and a specialist in Internet and Data Connectivity since 1996.
- BBTS - Broad Band Telecom Services Limited (BBTSL) is one of the Leading ICT Solution Service Providers in Bangladesh 2002
- AND - ADN Telecom Ltd, the leading ISP, MPLS, IPLC, and IP Telephony

service provider in Bangladesh,2003

- ALAP
- BDCOM Limited - BDCOM is an official licensee of Bangladesh Telecom Regulatory Commission (BTRC) to provide Nationwide Internet Service, Data Communication Service, IP Telephony Service and Vehicle Tracking System.

3.7 Network Support

Network support team provides connectivity solution between Head office to branches, ATM ,DR. Components of network devices are (1) core router (2) switch (3) ATM router (4) Branch router. Connectivity can be given in two ways lan and wan (5) network workstations (6) IP Phones.

total number of branches for UCB is 168, all these branches are connected to head office through vendors, with the help of vendor link two different kind of connectivity are maintained, Lan connectivity physical layer connectivity also known as layer two and layer 3 device connectivity maintained with optical fiber. Other connectivity is Wan connectivity wireless connectivity maintained by RF(radio frequency) link. for each connectivity two vendors are assigned, for redundancy purpose. to maintain this connectivity through vendors UCB maintains business contracts with 11 different vendor companies. Now these connectivity are not only maintained for branches, ATM and DR are also connected through these vendors, and these vendors are given different IP and gateway. if any branch gets slow connectivity, or ATM link is down during banking hour then network team is informed about it. Team members try to solve problem from their end if problem still persist then vendor is informed to check from their end. if the problem is not solved within one or two days ticket is generated, which impose penalty on vendor payment. In the mean time as a redundant link a 4G modem can be used to perform important banking activities.

Figure 3.3 shows LAN connectivity network Design it is a local area Network.it use to two or three Users. with the help of vendor link two different kind of connectivity are maintained Lan connectivity physical layer connectivity also known as layer two and layer 3 device connectivity maintained with optical fiber. For Lan/ethernet connectivity from branch to head office through isp link, firewall security is provided through mac address filtering. When any traffic is routed from branch to head office, traffic is initially filtered through internet firewall (filters mac address) before hitting core switch

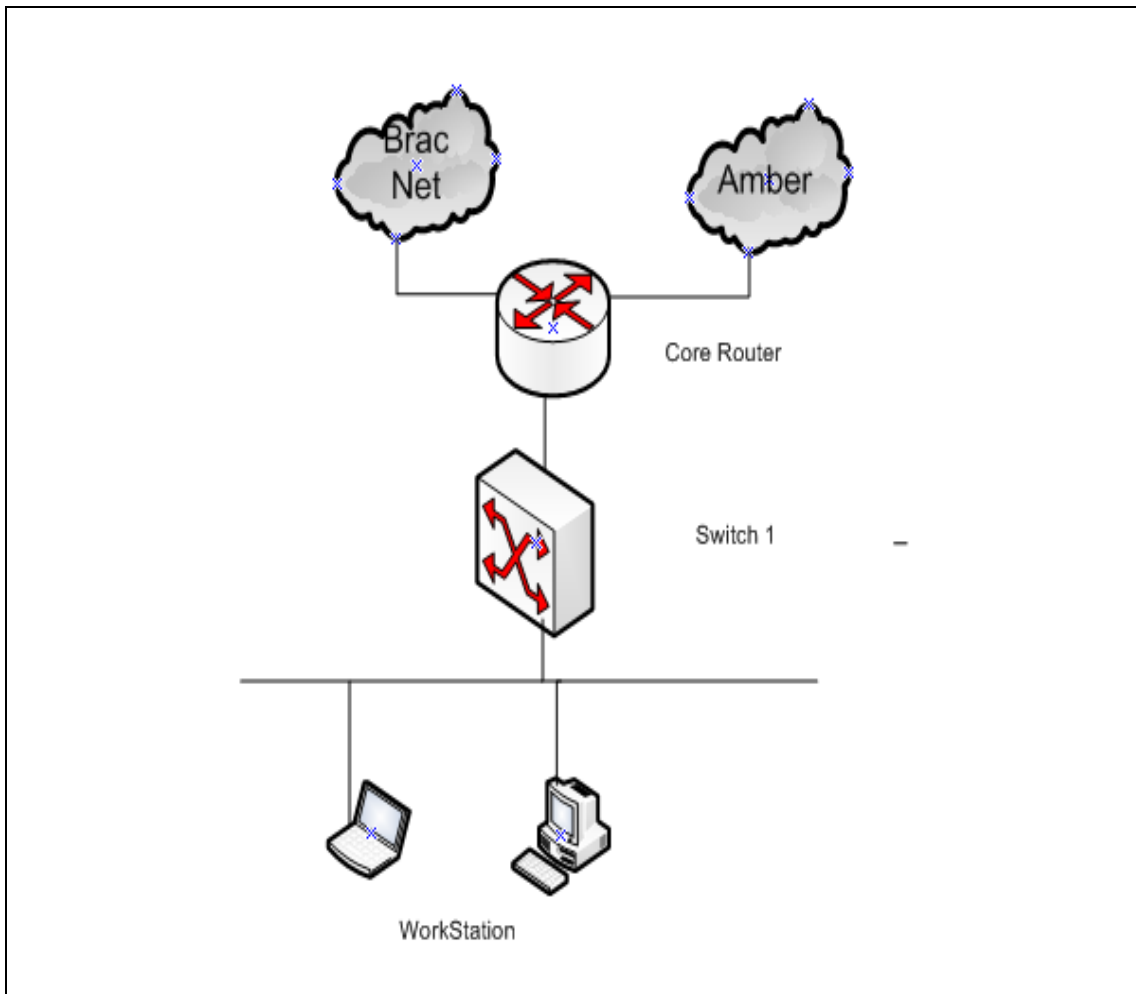


Figure 3.3: A Screenshot of LAN connectivity (6)

Figure 3.4 shows WAN connectivity network Design. Wide area network is WAN. It is often a connected network. Example a school network. Other connectivity is WAN connectivity wireless connectivity maintained by RF (radio frequency) link. For each connectivity two vendors are assigned, for redundancy purpose. To maintain this connectivity through vendors UCB maintains business contracts with 11 different vendor companies. Now these connectivity are not only maintained for branches, ATM and DR are also connected through these vendors, and these vendors are given different IP and gateway.

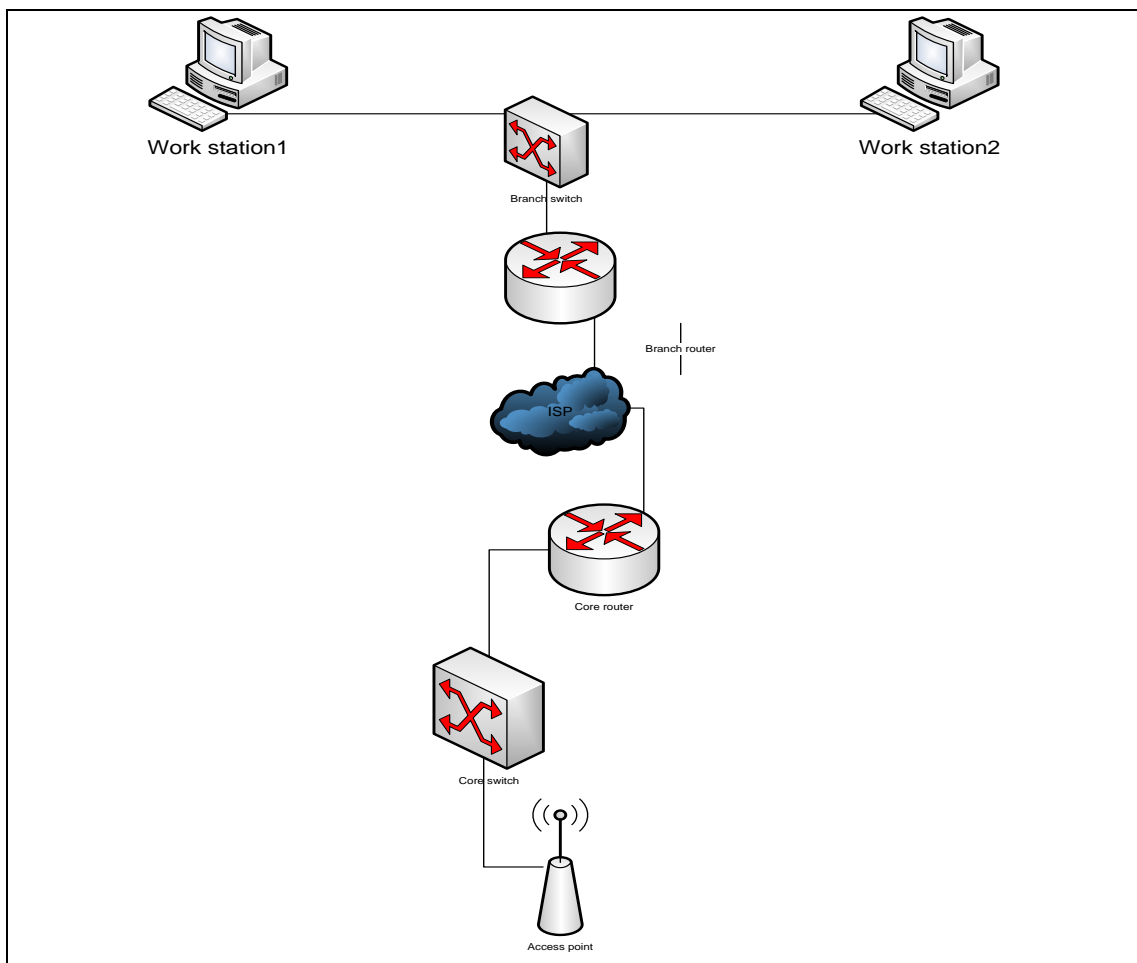


Figure 3.4: A Screenshot of WAN connectivity (6)

For WAN connectivity same MAC address security cannot be used, because it is not secured for WAN connectivity. The links to the branches can be monitored by Nagios software, and check connectivity through ping. Destination and gateway IPs are pinged for checking connectivity. For evaluating network performance both LAN and WAN two parameters are checked these are latency and throughput and packet loss of

any link. Network latency is the measure of time taken the packet for one round trip, when packets are sent by sender. Throughput is defined as the quantity of data received/sent per second. Packet loss measures number of lost packets when 100 test packets are sent by host, for testing a link or gateway it has measuring of mtu.

Figure 3.5 shows monitoring software Nagios (Critical Link).it monitor all critical network link of vendors. When any branch link down, Its monitore by the Nagios Software.all critaical information and all running network show thi software.United commertial bank is use nagios software version 4.3.4

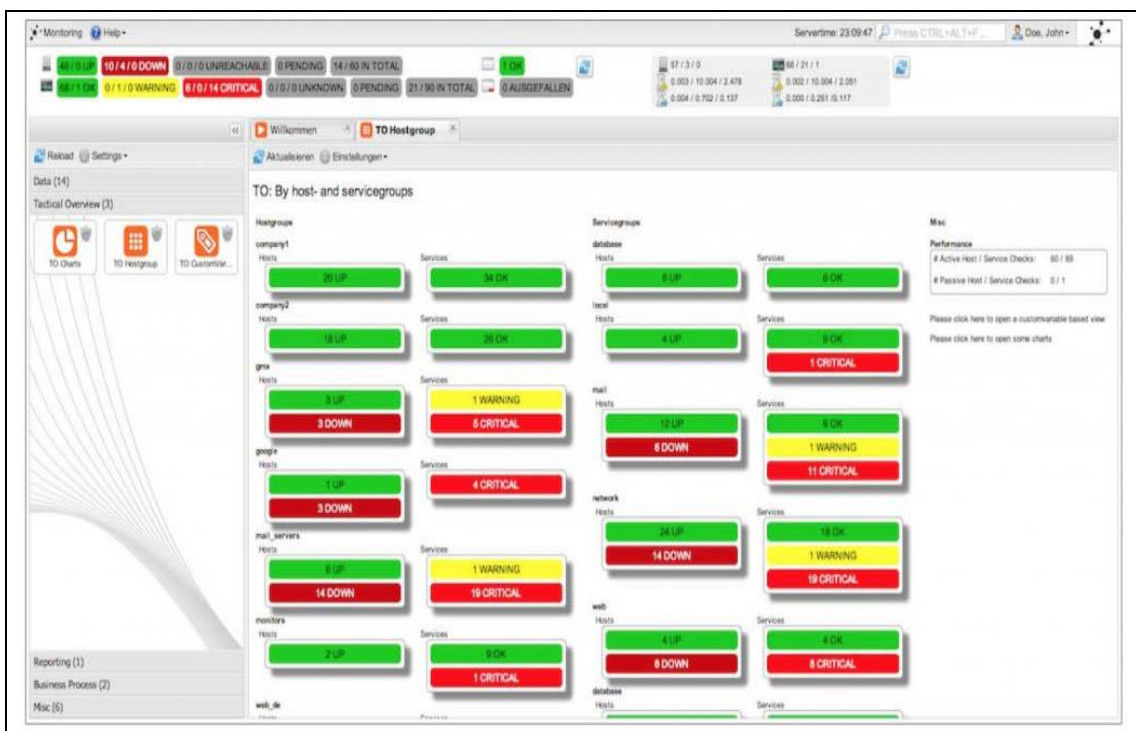


Figure 3.5:A Screenshot of a Nagios monitoring software (Critical Link)

Figure 3.6 shows Nagios monitoring software all Network monitoring system .it monitor all network system. All Branch and ATM are monitoring iun this nagios software. These isp vendors are connected to all districts and division of Bangladesh to provide their service. These isp vendors in division are all connected to the corporate isp branch. Now, how these connectivity are provided to UCB division branches. All isp vendors are connected through ring network with their head office, then connectivity through wan connectivity

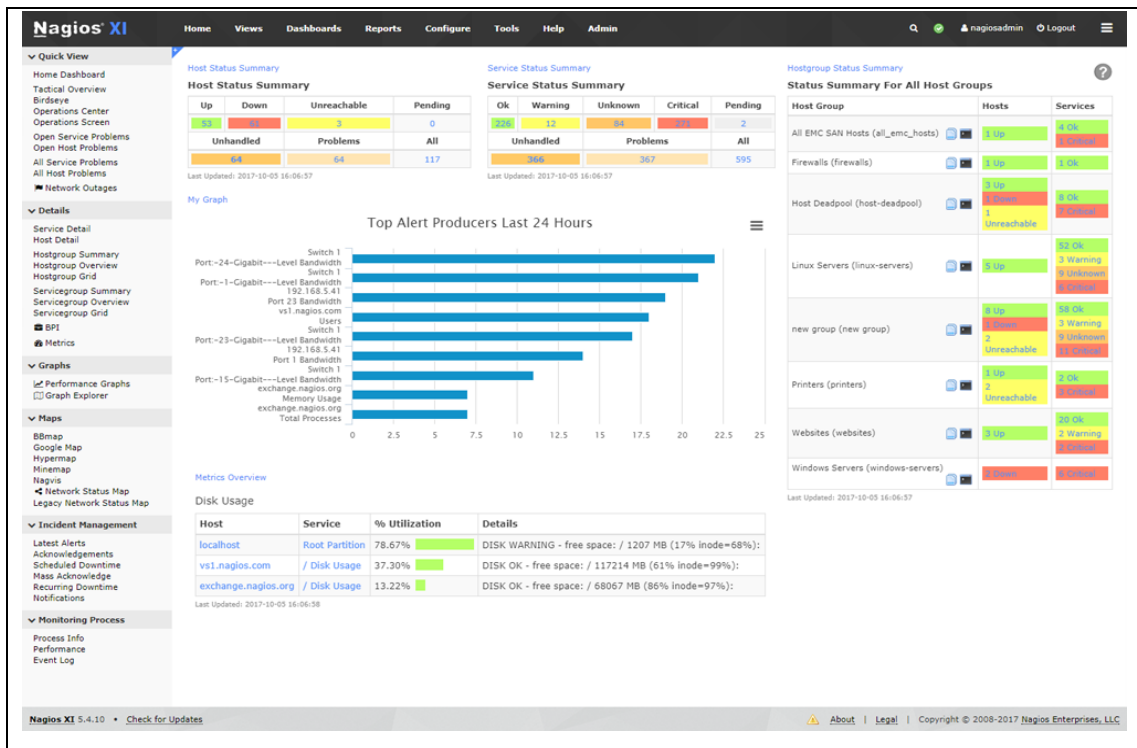


Figure 3.6: A screenshot of Nagios monitoring software all Network monitoring system

3.8 GRE (Generic Routing Encapsulation) Tunneling

Figure 3.7 shows Tunnel connectivity network Design.its show Tunnel configuration of a system. (7) when head office links are configured for all the branches and ATM these links are configured through ISP. so a secured tunnel is required to pass encrypted data from head office to branch and vice-versa. These tunnel are assigned with source and destination IP for both core router 1 and core router 2. Heare United commertial Bank UCB uce MTU

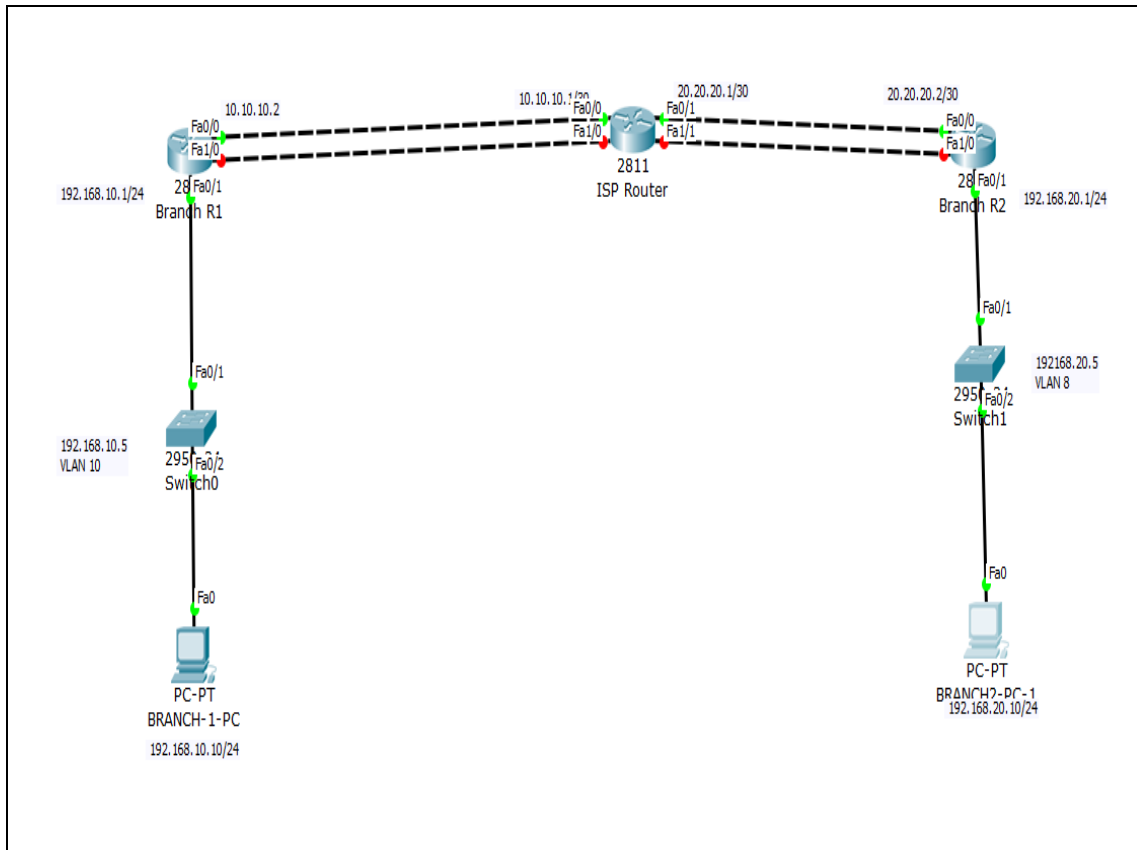


Figure 3.7: A Screenshot of GRE (Generic Routing Encapsulation) Tunneling

3.9 CISCO 881G-4G GSM based Router Configuration

Figure 3.8 shows CISCO 881G-4G GSM based Router .this type router is use to our bank branch office and ATM also. (8) I configure GSM base CISCO Branch & ATM router and ready to Distributed Branch and ATM . at first I was connected to antenna and then first config GSM .In this router we use Banglalink or GP IP activated SIM. Then I configured initial configuration and then ready to distribute.Cisco router configuration process is a secure configuration process in united commercial bank.

So I configured this router very carefully and securely.I configured this router more than 200 pieces (CISCO 881GSM based Router)



Figure 3.8: CISCO 881G-4G GSM based Router

3.10 UCB Bank Network Design and Configuration

Show Figure 3.9 UCB Bank Network Design & Configuration. For Lan/ethernet connectivity from branch to core 1 core n & datacenter through ISP link. For Lan/ethernet connectivity from branch to core 1 core n & datacenter through ISP link, firewall security is provided through mac address filtering. When any traffic is routed from branch to head office, traffic is initially filtered through internet firewall (filters mac address) before hitting core switch. For Wan connectivity same mac address security cannot be used, because it is not secured for wan connectivity Successful Ping result of a system on one network to other network .here 4 packet send and 4 packet successfully send .no packet loss here.

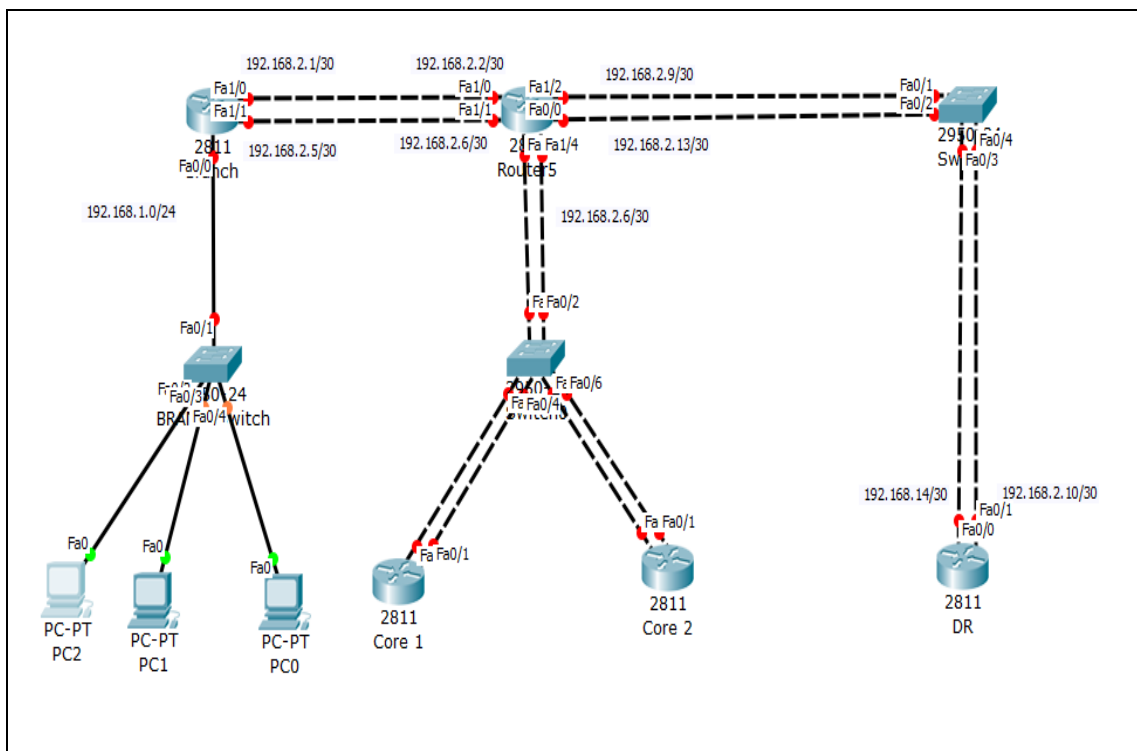


Figure 3.9 : A Screenshot of UCB Bank Network Design & Configuration from Cisco Packet Tracer

3.11 Mail & Phone call Support

After sending SMS NOC team to mailing to the responsible vendor for take actions. If the site/sites/Transmission down for POWER issue or TBL own site then there is no need to send mail, but when alarm says there is no power issues and vendor is like that Summit, Fiber@Home, Banglaphone and Citycell then NOC team needs to mail this, For mail to: (Vendor), and CC: (Zone of UCB).

To helping vendor, site engineer and all other information NOC has Telephone services. body.

3.12 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 months 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

Networking market dependent on quality and rivalry so as to increase higher achievement, you need to win capabilities. For instance, on the off chance that anybody gives system and observing data yet their data isn't responsive enough. That implies they have not great skills in this division. In the event that you need to hold your situation in the systems administration advertise, at that point you should need to increase high possibility else you lost your incentive on the systems administration showcase. What's more, for earned incredible abilities one needs to become familiar with some fundamental and specialized level work that bring them achievement. What's more, for doing as such one needs to buckle down in light of the fact that as we as a whole realize diligent work is a key to any effective history.

4.2 Smart Plan

- Most prominently learn about NOC Monitoring system.
- It is critical to to monitoring all the terminals if you want to performance better.
- Check out many devices and smart technology for unique screen resolutions and ideas.
- Release/gain idea in a unique way.

4.3 Reflections

My idea NOC is exceptionally secure spot for any system constrained organization where unapproved individuals can't be permitted. NOC group checking entire system arrangement of United Commercial Bank Limited. I get the open door for entry level position here and working with them to help specialized side for system observing reason for make an impression of my work, assurance and stranded. My very much orchestrated portfolio is a feature of my imaginative work and another key to my prosperity

Then again, if need to chip away at the top notch stage as a consultant one must have need portfolio which is the reflection of his work. Each specialized designer and supporter has prerequisite of a system portfolios. It shows out your best work before your office the executives/organization that capable them to choose your legitimacy. The majority of the organization absolute first take care of a person portfolio reflection so as to choose is the individual is appropriate for work or not.

CHAPTER 5

Conclusion and Future Career

5.1 Discussion and Conclusion

From that entry level position, I will pick up a great deal of experience that will be useful in my future works. I will ready to make a ton of task regarding a matter of system observing and furthermore support to create it in an effective way. In general, I need to state that this entry level position is useful for my observing and system the executives transporter that make me fruitful in wherever in system segment. I have taken in the part of valuable and potential actualize that again help me to do work in a system base organization. Each experience I gather structure the temporary position will most likely be profited me in my not so distant future.

5.2 Scope for Further Career

Internship goals provide a very good clear concept about practical and semantic about network base system. My internship implemented a proof of concept for a decision making system using imitated knowledge. Finding a great work can be a real challenge,

- To be work network company.
- Data and information Collection.
- Good communication.
- Ability to team work.
- Work as a network monitoring concern.
- 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.

References

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- [2] Learn about the Bord of Director<<<https://www.ucb.com.bd/index.php?page=know-ucb/about-us>>>(Last visit on 8/09/2019 7:50 PM)
- [3] Learn about the Product and market situatin<< <https://www.assignmentpoint.com/business/banking/evaluation-of-service-marketing-of-united-comercialbank.html>>> (Last visit on 21/08/2019 07:25 PM)
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- [5] Learn about the Green Banking Solution <<<https://www.ucb.com.bd/index.php?page=know-ucb/green-banking>>>(Last visit on 12/08/2019 07:40 PM)
- [6] Learn about the<< *DATA COMMUNICATION AND NETWORKING Fourth Sdit I on. Forouzan, Behrouz A*>> 2019. (Last visit on 08/07/2019 06:40 PM)
- [7] Learn about GRE Tunneling <<<https://www.cisco.com/c/en/us/support/docs/security/vpn/ipsec-negotiation-ike-protocols/14381-gre-ipsec-ospf.html>>>(Last visit on 7/09/2019 08:40 PM)
- [8] Learn about CISCO 8100 Router <<<https://www.cisco.com/c/dam/en/us/support/docs/SWTG/ProductImages/routers-881-secure-fast-ethernet-multi-mode-4g-lte-isr-router.jpg>>> (Last visit on 12/08/2019 07:40 PM)
- [9] Learn about Router Model<< <https://www.cisco.com/c/en/us/support/routers/881-secure-fast-ethernet-multi-mode-4g-lte-isr-router/model.html>>>(Last visit on 11/08/2019 08:300 PM)

Appendix A:

Internship Reflection

The main purpose of my practice in the expert environment is the specific answer to the certification topic, which is the knowledge that is applied in the classroom. I am a live demonstration of clients, experts and experienced leaders, as well as representatives of various representatives who benefit from an understanding of behavior and increased links. In order to meet my internship requirements, I practiced legal business practices. They are the central goal/vision of informed connections, how to communicate with partners, how to control, how to organize, how to choose, how to understand the lifestyle of the expert union and the level of responsibility and contribution to the union

Appendix B: code

Show Figure 3.10:- UCB bank Network Tunnel Configuration

figure Branch router configuration code

```
hostname UCBL-BRANCH-01
```

```
enable password cisco123
```

```
exit
```

```
conf t
```

```
interface f0/1
```

```
no sh
```

```
ip address 192.168.10.1 255.255.255.0
```

```
exit
```

```
int f0/0
```

```
no sh
```

```
ip address 10.10.10.2 255.255.255.252
```



```
exit
```

```
ip route 20.20.20.0 255.255.255.252 10.10.10.1
```

```
exit
```

```
interface Tunnel10
```

```
ip address 30.30.30.1 255.255.255.252
```

```
mtu 1476
```

```
tunnel source FastEthernet0/0
```

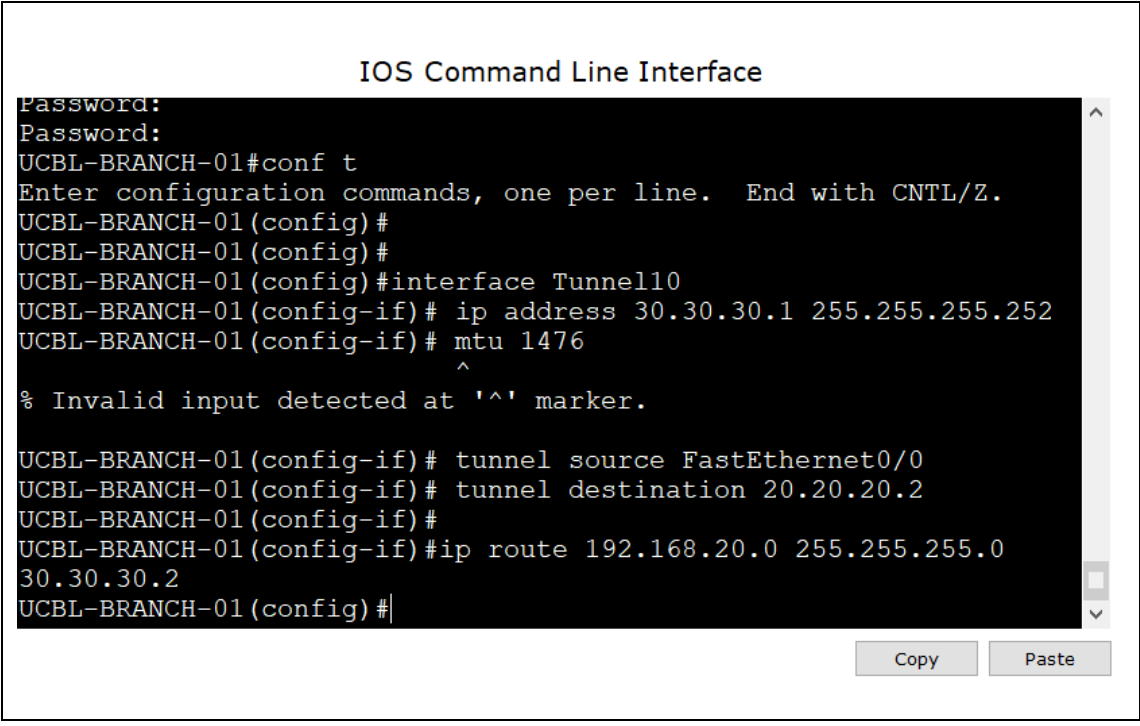
```
tunnel destination 20.20.20.2
```

```
ip route 192.168.20.0 255.255.255.0 30.30.30.2
```

Appendix C:

Figure 3.9 : A of UCB Bank Network Design & Configuration details.[Page no 26]

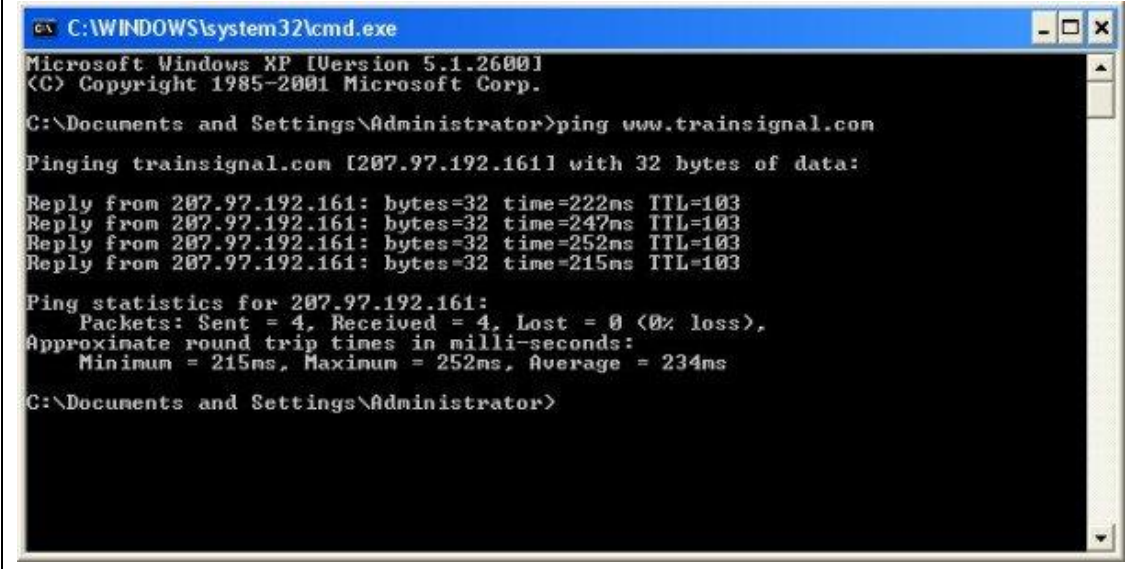
Show Figure 3.10:- UCB bank Network Tunnel Configuration. This tunnel send encrypted file sender to receiver end.



```
IOS Command Line Interface
Password:
Password:
UCBL-BRANCH-01#conf t
Enter configuration commands, one per line. End with CNTL/Z.
UCBL-BRANCH-01(config)#
UCBL-BRANCH-01(config)#
UCBL-BRANCH-01(config)#interface Tunnel10
UCBL-BRANCH-01(config-if)# ip address 30.30.30.1 255.255.255.252
UCBL-BRANCH-01(config-if)# mtu 1476
^
% Invalid input detected at '^' marker.
UCBL-BRANCH-01(config-if)# tunnel source FastEthernet0/0
UCBL-BRANCH-01(config-if)# tunnel destination 20.20.20.2
UCBL-BRANCH-01(config-if)#
UCBL-BRANCH-01(config-if)#ip route 192.168.20.0 255.255.255.0
30.30.30.2
UCBL-BRANCH-01(config)#
```

Figure 3.10:- Tunnel Configuration of UCB bank Network

Show Figure 3.10:- Successful Ping result of a system on one network to other network .here 4 packet send and 4 packet successfully send .no packet loss hare.



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\Documents and Settings\Administrator>ping www.trainsignal.com

Pinging trainsignal.com [207.97.192.161] with 32 bytes of data:

Reply from 207.97.192.161: bytes=32 time=222ms TTL=103
Reply from 207.97.192.161: bytes=32 time=247ms TTL=103
Reply from 207.97.192.161: bytes=32 time=252ms TTL=103
Reply from 207.97.192.161: bytes=32 time=215ms TTL=103

Ping statistics for 207.97.192.161:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 215ms, Maximum = 252ms, Average = 234ms

C:\Documents and Settings\Administrator>
```

Figure 3.10:- Successful Ping result

- **Appendix B: Company Detail**



Head Office

Name	United Commercial Bank Ltd.
Address	Bulus Center, Plot-CWS-(A)-1, Road No-34 Road, Gulshan Avenue, Dhaka - 1212,
Telephone	02-55668070
Fax	02-55668070-3000
E-mail	itd@ucb.com.bd
Website	www.ucb.com
Type of Organization	Bank

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