

**WORKING PROCESS OF DATA AND INTERNET SERVICE MANAGEMENT OF
BTCL**

By

MD. Hafizul Islam

ID: 162-15-8044

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

Supervised By

Narayan Ranjan Chakraborty

Assistant Professor

Department of Computer Science and Engineering

Daffodil International University



DAFFODIL INTERNATIONAL UNIVERSITY

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APPROVAL

This internship titled “data and internet service management of BTCL ” Submitted by Md. Hafizul Islam, ID No: 162-15-8044 to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial completion of the requirements for the degree of B.Sc. in Computer Science and Engineering and accepted as to its style and contents. The presentation has been held on 6th August, 2019.

BOARD OF EXAMINERS

Dr. Syed Akhter Hossain

Professor and Head

Chairman

Department of Computer Science and Engineering

Faculty of Science & Information Technology

Daffodil International University

Abdus Sattar

Internal Examiner

Assistant Professor

Department of CSE

Faculty of Science & Information Technology

Daffodil International University

Shah Md.Tanvir Siddiquee

Internal Examiner

Assistant Professor

Department of CSE

Daffodil International University

Dr.Dewan Md. Farid

External Examiner

Associate Professor

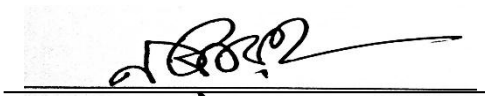
Department of Computer Science and Engineering

United International University

DECLARATION

I hereby declare that this internship report is prepared by me, Md: Hafizul Islam, ID: 162-15-8044 to the Department of Computer Science and Engineering, Daffodil International University. Under the supervision of, Mr. Narayan Ranjan Chakraborty Department of Computer Science and Engineering, Daffodil International University. I also declare that neither this internship report any part of this report has been submitted elsewhere for the award of any Degree or Diploma. I also announce that I collect information from Bangladesh Telecommunication Company Limited (BTCL) and the Internet.

Supervised by:



Narayan Ranjan Chakraborty

Assistant Professor

Department of CSE

Daffodil International University

Submitted by:

Md: Hafizul Islam

ID: 162-15-8044

Department of CSE

Daffodil International University

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ABSTRACT

“Data and Internet Service Management of BTCL and working process”. This reporting requirement of the internship program for my Bachelor of Science course degree. The first part of the internship report gives an overview of the history of Bangladesh Telecommunications Company Limited, its role in IT sectors, Network administration and Security System. Described the running network system. Then discussed the performed tasks and responsibilities during the internship, finding problems during maintaining the system and way of solving them. There have main responsibilities data connection check, domain names, rules & regulation, bandwidth provides, Submarine cable capacity, Telephone’s data exchange maintaining, Network operation controlling. That’s why I choose this interesting subject “Data and Internet Service Management of BTCL and working process”. This report was written about the purpose of the specific server using and service on NIX, GGC, GPON, BRAS, NOC, ADSL, ISP, LLI,VPN, IP, choosing software’s, Bandwidth Transmission process and Domain creating, rules and regulation.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

As a segment of my B.Sc, I have fulfilled My Internship at Bangladesh Telecommunications Company Limited. I am working my internship in the networking department where I have accomplished networking management and support. my main goal is supported to the elder network administrator and gather knowledge about bandwidth service maintenance. During my internship period I have learned to implement routing protocols, connecting various networking devices, domain, internet providing via telephone landline phone, virtual private network procedure, national internet changing and different types of server. Data communication and network change businesses internet user growth very faster. Because of this, I deeply think about the internet. Internet Create a new job.

1.2 Motivation

My internship program motivated B.Sc. students following degrees at Computer Science, Expert Systems, Hardware, Networking system Analysis to work in the IT Directorate of Science and Technology. The internship does not only give experience but also teaches a student how to communicate, how to work properly, how to maintain official requirements. As an intern, I am magisterial of myself. An internship gives me a vast knowledge, huge skill development in networking site. An internship can make a student responsible and a professional. A student can take field experience by doing an internship. As a result, the internship grows the ability Networking is my first choice because I am interested in computer networking and I am highly decided I want to build my career as an information technology engineer. Information technology engineer very demandable in the first world is too high and information technology is becoming a prior subject in our country also. If we make a strong networking system then we provide a “Digital Bangladesh” other way is not possible.

1.3 Internship Objectives

The main objective of my internship program is to understanding the current conditions of the job market and also to prepare myself as a skilled person in the competitive job market. The internship is very essential for skill development. To achieve some special quality and real-life job experience in order to prove myself as a skilled one internship. It has a large effect on our IT sector, we will able to use the Internet, Software export, Call center, E-Commerce, Tele -Education, Video Conferencing more vastly. By identifying these factors we can be sure about the revolutionary change over our IT sector, during our working time in BTCL we achieved various experiences and knowledge. Here are some objectives of internship.

- ❖ Computer and network knowledge.
- ❖ Development of networking components & technologies.
- ❖ Learn basic sharing with broadband.
- ❖ Development of knowledge data, internet, LAN & router.
- ❖ How to access internet protocol (IP) addressing and TCP/IP protocol.
- ❖ Knowledge of Submarine cable in BTCL.

1.4 Introduction to the Company

Bangladesh Telecommunications Company has a very big infrastructure to transmit data and internet service. Bangladesh Telecommunication Company is the largest company in Bangladesh. This company provided many service it has large internet service and landline services. It has many services such as NIX, IIG, ADSL, IGW, ICX, ISP, and NIX, NTTN, PSTN Operator and cc domain (.bd). The Internet can be transmitted via telephone landline connection or broadband wide. All of the services provided by the Bangladesh Telecommunications Company Limited. It's the most interesting part is only this company also transmit data or the internet by telephone. So there are many servers' rooms and divisions for controlling all of these. There are many latest technologies for internet service. BTCL has management team certified and associated with Huawei and Cisco.

1.5 Report Layout

Now I discuss the objective of internship, Motivation of internship and introduction to the Company in my report paper. I have portrayed the approach of my internship. About the company, target group, organizational structure. In this report, I have written about daily tasks and activities. In this report I have written about the Conclusion and Future Scope. I also discuss the Future Scopes of information technology or network administration. I discuss the conclusion and future career in information technology. In the last pages have all the references and appendices now I am adding.

CHAPTER 2

ORGANIZATION

2.1 About the Company

The transmit branch under the posts and transmit department were created in 1853 in the then British India and were controlled afterward under the transmit Act of 1885. Pakistan Transmit and Telephone Department were created in 1962, after the independence of People's Republic Of Bangladesh in 1971, Bangladesh Spread and telephone Department were setups nether the Ministry of Posts and telecommunications. BTCL is the main public telecommunications company in Bangladesh. It has the largest infrastructure for providing data and internet services which comprises of optical fiber network with high capacity routers and switches across the country. This company address 37/E, Telejogajog Bhaban, Eskaton Garden, Dhaka-1000, The Entire Undertaking of the BTTB were transferred to BTCL through a Deed of Agreement between Ministry of Post Telecommunications and BTCL signed on 30-June-2008. From 01-July-2008 BTCL begin its journey.

BTCL is connected with global upstream through SEA-ME-WE4, SEA-ME-WE5, and ITC.

BTCL has PoPs around the whole country, even at Upazilla and Union levels which ensure minimum fiber length to connect each customer of the internet. I was given a BTCL logo which is in figure.



Figure 2.1: Introduction of Bangladesh Telecommunication Company Limited (BTCL) [6]

2.2 Target Group

It has many services such as NIX, IIG, ADSL, IGW, ICX, ISP, and NIX, NTTN, PSTN contractor and cc domain (.bd). BTCL into a vibrant progressive organization and lead the country's telecommunication sector, Data & Bandwidth service by establishing a sound and cost-effective infrastructure. Provide telecommunication and Internet services to the nation with the state-of-art telecommunication technology at an affordable cost without compromising ability. To deliver customers with enhanced values, the following steps are being implemented:

2.3 BTCL SWOT Analyses:

Strengths:

- ❖ Customer support
- ❖ Flexibility
- ❖ Domain
- ❖ Internet service via Landline phone.

Negative:

- ❖ Staffing levels.
- ❖ Lack of skillful planning.
- ❖ Technical training.

2.4 Organizational Structure

BTCL is the largest company in Bangladesh Its organization is also very big. BTCL organized by the government. The organizational structure of BTCL mogbazar exchange is the figure.

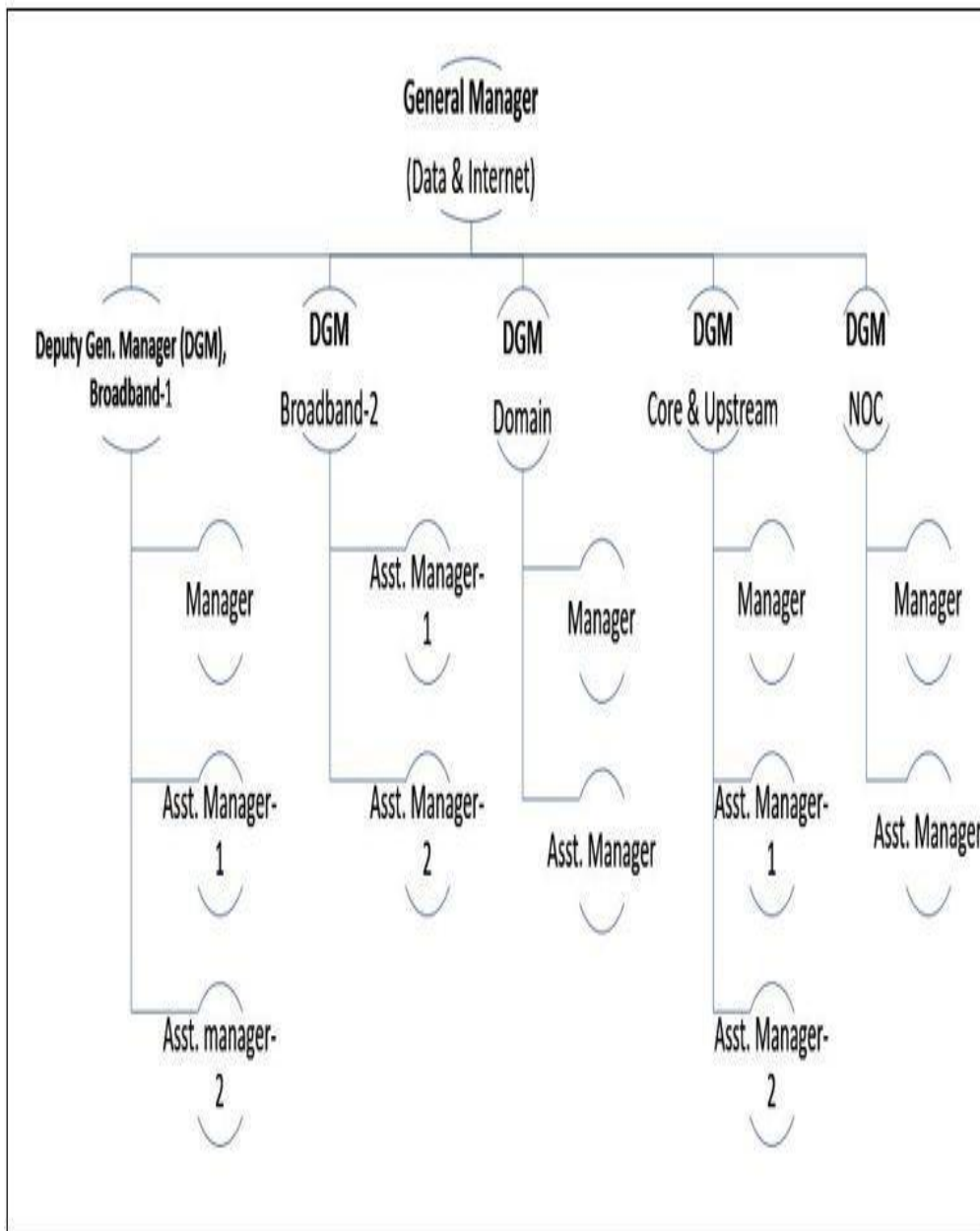


Fig 2.4: Organizational Structure [6]

CHAPTER 3

TASKS, EVENTS AND ACTIVITIES

3.1 Daily Tasks and Activities in BTCL:

Month-1: At the first month of internship on Bangladesh Telecommunication Company Limited (BTCL), they have teaching and practice me the following topics:

- ❖ The basic routing configuration.
- ❖ SEA-ME-WE-4, SEA-ME-WE-5.
- ❖ International Internet Gateway (IIG).
- ❖ Service Provider of nationwide.
- ❖ Leased Line Internet (LLI).
- ❖ Virtual Private Network (VPN).
- ❖ Google Global Cache (GGC).

Month-2: When I have finished a one-month internship in BTCL they tech me the following topic:

- ❖ National Internet Exchange (NIX).
- ❖ Domain.
- ❖ Asymmetric Digital Subscriber Line (ADSL) internet.

Month-3: When I have finished my 2 months on BTCL then they tech me the following topic:

- ❖ Broadband Remote Access Server (BRAS).
- ❖ Digital Subscriber Line (DSL).
- ❖ Network Operation Center (NOC).

3.2 Events and Activities

- ❖ Maintaining the Network Service and Computer Systems.
- ❖ How to checking the optical fibers.
- ❖ How to Checking the Server rooms.
 - ❖ How to create a user account, how to give permissions and how to set passwords.

- ❖ Monitoring the Network operation.
- ❖ Domain users and password maintaining and Client Support over the phone.

3.3 Project Task and Activities

- ❖ The foreign upstream provider's traffic maintenance.
- ❖ How to providing Real IP in the client.
- ❖ How to connect the secure network by VPN.
- ❖ providing the Country Code Top Level Domain in Bangla Language sell.
- ❖ How to Maintaining the Email Server.
- ❖ Provide the ADSL Internet On customer.

3.4 Basic Networking Components

There are two types of Networking Components.

- ❖ Internet.
- ❖ Network.

The Internet is a worldwide process of connecting computer networks

That use The Value Internet communications Suite (TCP/IP) to serve
billions of users global.

- ❖ A network contain two or more computers connected simultaneously and they can Transmit and share resources.

Types of Network:

There are four type of network such as:

- ❖ **Transmission Media:** Wired (Coaxial cables, Fiber-optic cables and Wireless).
- ❖ **Network Size:** LAN, MAN and WAN.
- ❖ **Management Method:** Peer-to-Peer and client/Server.
- ❖ **Topology:** Bus, Star, Ring etc.

Description: A Cisco router can enter the internet so softly and it is used for routing configuration. Cisco has a number of separate routers; amongst them are the popular 880 series, 2900 series, and 3900 series. Collected from “<http://www.firewall.cx/cisco-technical-knowledgebase/cisco-routers/250-cisco-router-basics.html>”. A switch is used to connect segments of a LAN. A switch filters and forwards packets between.



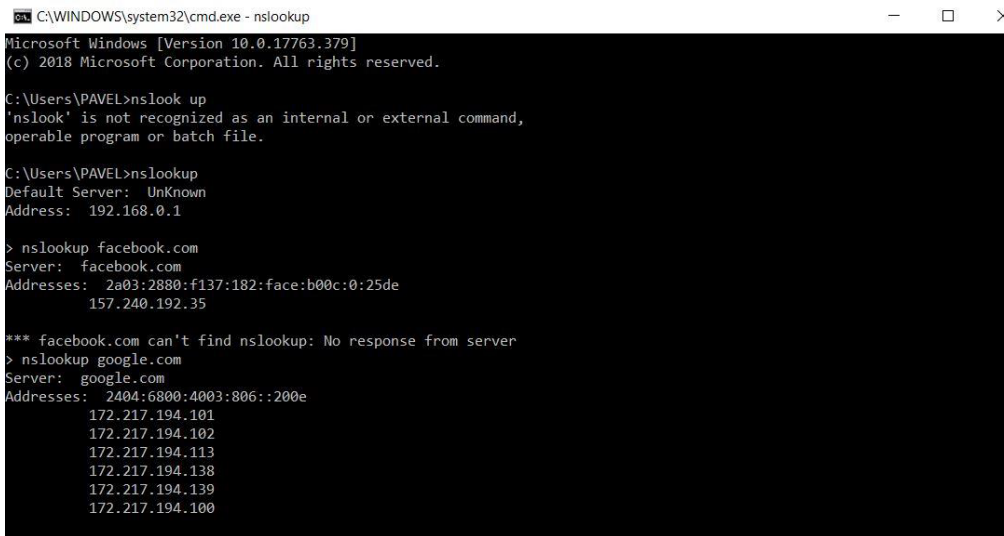
Fig 3.4.1: Cisco Router [1]



Fig 3.4.2: Cisco Switch [2]

Showing IP addresses for any website:

- ❖ CMD mood
- ❖ nslookup (website name)



```
C:\WINDOWS\system32\cmd.exe - nslookup
Microsoft Windows [Version 10.0.17763.379]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\PAVEL>nslookup
'nslookup' is not recognized as an internal or external command,
operable program or batch file.

C:\Users\PAVEL>nslookup
Default Server: UnKnown
Address: 192.168.0.1

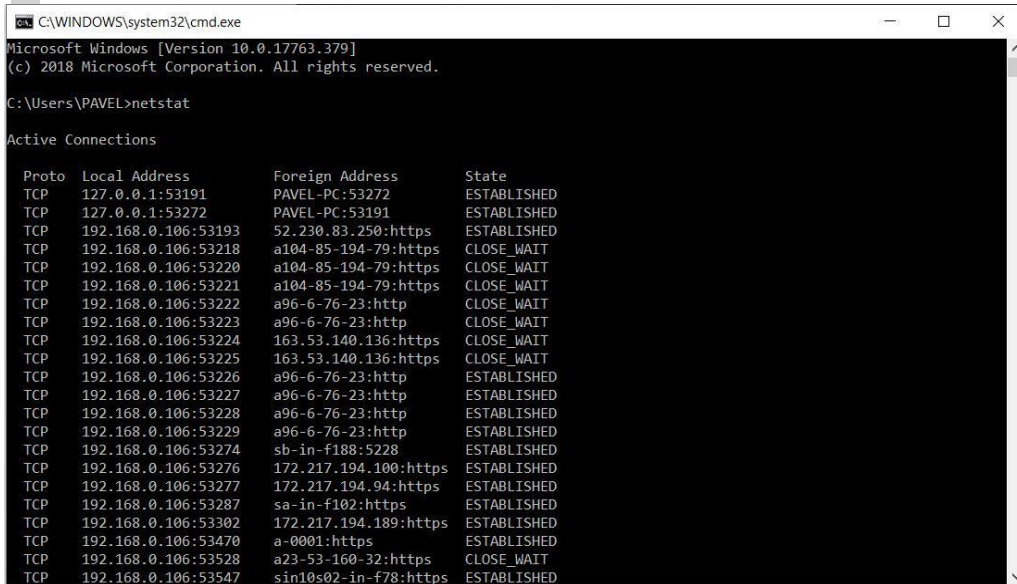
> nslookup facebook.com
Server: facebook.com
Addresses: 2a03:2880:f137:182:face:b00c:0:25de
          157.240.192.35

*** facebook.com can't find nslookup: No response from server
> nslookup google.com
Server: google.com
Addresses: 2404:6800:4003:806::200e
          172.217.194.101
          172.217.194.102
          172.217.194.113
          172.217.194.138
          172.217.194.139
          172.217.194.100
```

Figure 3.3: A screenshot of Server addresses.

Showing state lines with other sites:

- ❖ CMD mood
- ❖ net stat



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows [Version 10.0.17763.379]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\PAVEL>netstat

Active Connections

Proto Local Address          Foreign Address        State
TCP    127.0.0.1:53191         PAVEL-PC:53272       ESTABLISHED
TCP    127.0.0.1:53272         PAVEL-PC:53191       ESTABLISHED
TCP    192.168.0.106:53193    52.230.83.250:https   ESTABLISHED
TCP    192.168.0.106:53218    a104-85-194-79:https  CLOSE_WAIT
TCP    192.168.0.106:53220    a104-85-194-79:https  CLOSE_WAIT
TCP    192.168.0.106:53221    a104-85-194-79:https  CLOSE_WAIT
TCP    192.168.0.106:53222    a96-6-76-23:http     CLOSE_WAIT
TCP    192.168.0.106:53223    a96-6-76-23:http     CLOSE_WAIT
TCP    192.168.0.106:53224    163.53.140.136:https  CLOSE_WAIT
TCP    192.168.0.106:53225    163.53.140.136:https  CLOSE_WAIT
TCP    192.168.0.106:53226    a96-6-76-23:http     ESTABLISHED
TCP    192.168.0.106:53227    a96-6-76-23:http     ESTABLISHED
TCP    192.168.0.106:53228    a96-6-76-23:http     ESTABLISHED
TCP    192.168.0.106:53229    a96-6-76-23:http     ESTABLISHED
TCP    192.168.0.106:53274    sb-in-f188:5228      ESTABLISHED
TCP    192.168.0.106:53276    172.217.194.100:https ESTABLISHED
TCP    192.168.0.106:53277    172.217.194.94:https  ESTABLISHED
TCP    192.168.0.106:53287    sa-in-f102:https     ESTABLISHED
TCP    192.168.0.106:53302    172.217.194.189:https ESTABLISHED
TCP    192.168.0.106:53470    a-0001:https         ESTABLISHED
TCP    192.168.0.106:53528    a23-53-160-32:https  CLOSE_WAIT
TCP    192.168.0.106:53547    sin10s02-in-f78:https ESTABLISHED
```

Figure 3.4: A screenshot of Active connection state lines with other sites.

3.5.1 SEA-ME-WE-4

Description:

There is four-country have a submarine cable system and optical fiber such as South East Asia-Middle East-Western Europe. This cable is near 17,800 Km long and take measures the initial internet backbone. SEA-ME-WE-4 that carries telecommunications between Singapore,

Malaysia, Thailand, Bangladesh, India, Sri-Lanka, Pakistan, United, Arab-Emirates, Saudi Arab, Sudan, Egypt, Italy, Tunisia, Algeria, and France. Collected from “https://en.wikipedia.org/wiki/SEA-ME-WE_4” Our country gets Bandwidth speed 220 Gigabytes/sec. This optical fiber brings Cox’s bazar to the BTCL Mogbazar telephone exchange. Now the sow diagram A SEA-ME-WE-4.

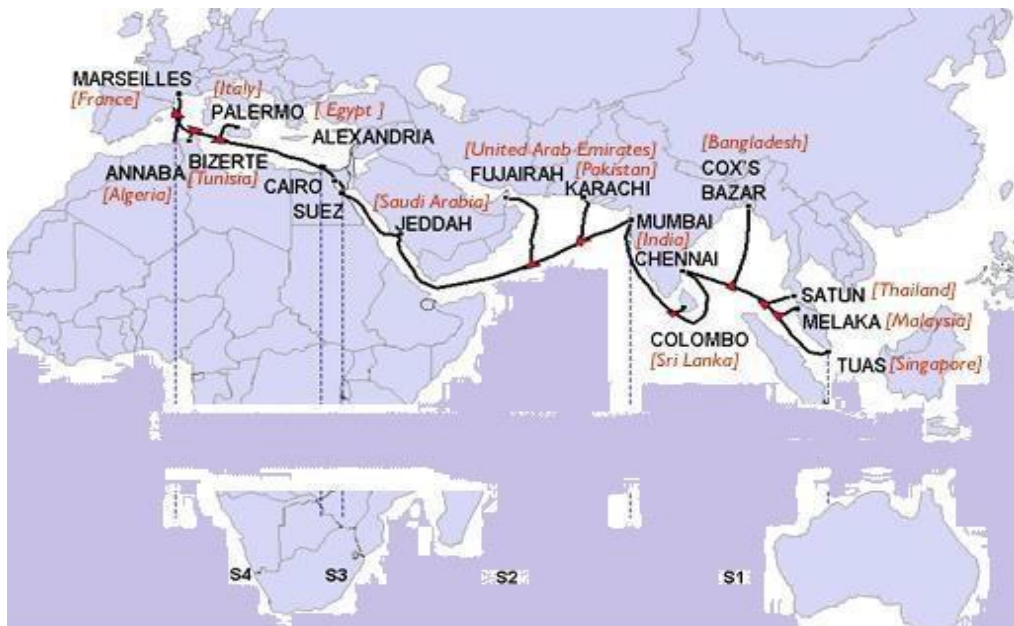


Fig 3.5.1: SEA-ME-WE-4 diagram [3]

3.5.2 SEA-ME-WE-5

Description:

There is four-country have a submarine cable system and optical fiber such as South East Asia-Middle East-Western Europe 5 is an optical fiber submarine cable system. This cable is approximately 19,000 Km long and take measures the initial internet backbone. SEMEAWE-5 that carries over telecommunications between the Malaysia, Indonesia, Thailand, Myanmar, Bangladesh, India, Sri Lanka, Pakistan, United Arab Emirates, Oman, Qatar, Saudi Arabia, Egypt, Italy, and France. Collected from “https://en.wikipedia.org/wiki/SEA-ME-WE_5”.Our country gets Bandwidth to the speed of 1600 Gigabytes/sec. BTCL financed the project to provide SEMEAWE-5 Backhaul, and Dhaka-Benapole and Dhaka-Akhaura transmission backbone. It provides a nationwide transmission facility for ISP operators. Under given below a diagram in figure no. 3.5

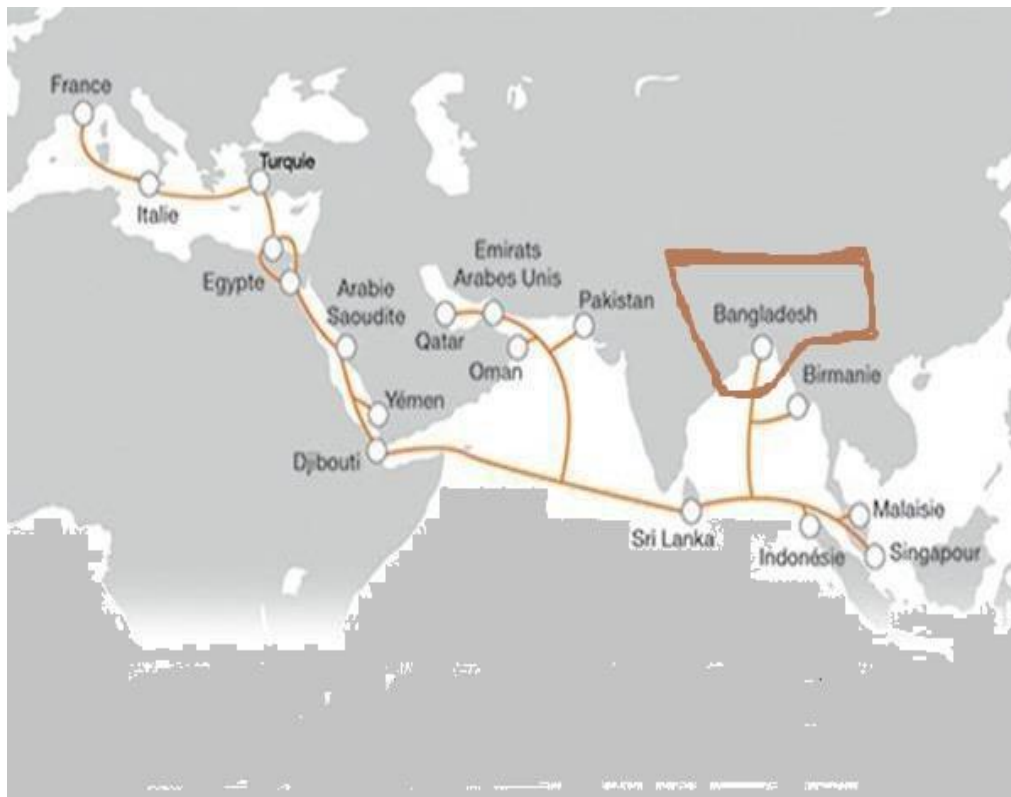


Fig 3.5.2: SEA-ME-WE-5 diagram [3]

3.6 International Internet Gateway (IIG)

- ❖ BTCL is attached to foreign up streaming providers similar SingTel, TATA, Equinox, Akamai, Google, Face book etc. to bring internet traffic to Bangladesh.
- ❖ BTCL provides the Internet Bandwidth to other IIG or ISP operators.
- ❖ BTCL is attached with global upstream through SEA-ME-WE4, SEA-ME-WE5 and ITC.
- ❖ It has the largest infrastructure for providing with data and internet services which comprises of optical fiber network with high capacity routers and switches across the country.

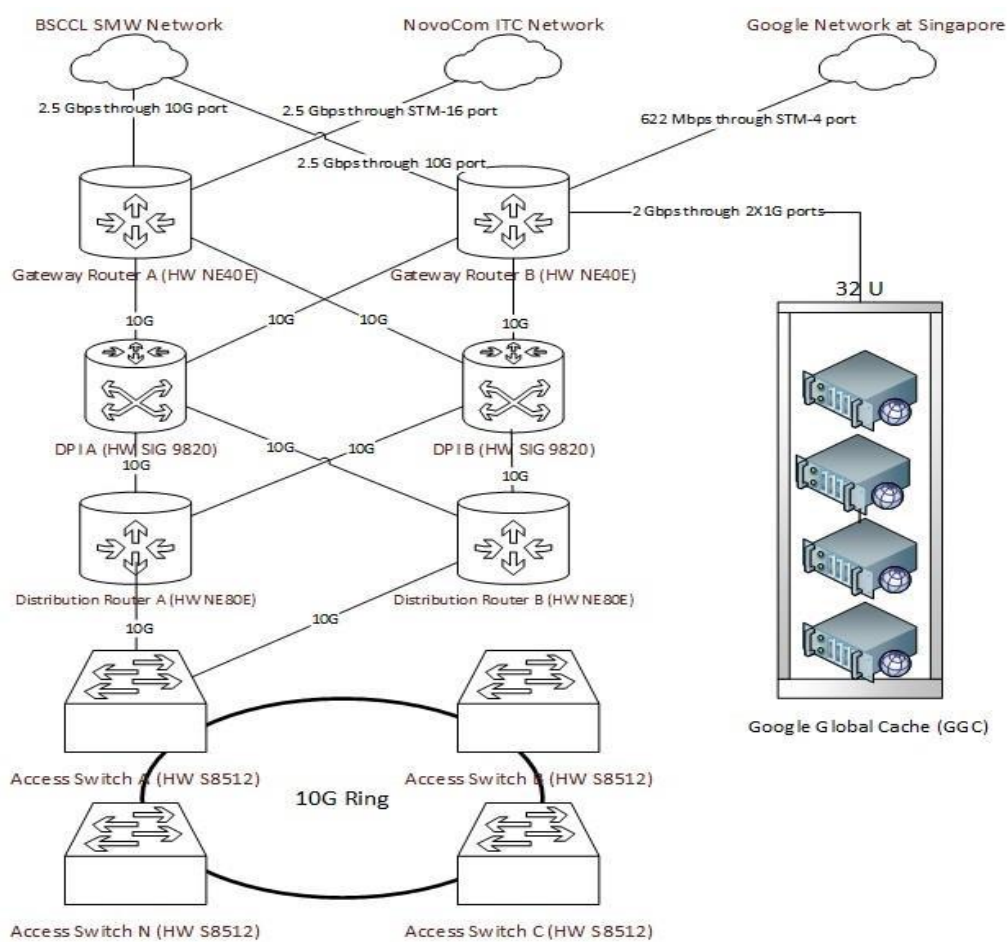


Fig 3.7: International Internet Gateway Block Diagram.

3.7 Nationwide Internet Service providing

Bangladesh telecommunication company limited provide nationwide internet service various companies whole of the country like.

Description: Bangladesh has many private ISP companies. Every ISP company need Internet service and need a big amount of internet data So Bangladesh telecommunication company limited to provide all internet data to the all private ISP company. Now I show you a big private company symbol. I am collecting all company data in Google.



Fig 3.7: Nationwide Internet

Collecting from Google:



Fig 3.8: Connected nationwide companies by BTCL [6]

3.8 Leased Line Internet (LLI)

Bangladesh's telecommunication company limited provides the Leased Line Internet.

The leased line internet is the premium version internet.

Features of Leased Line Internet:

- ❖ Dedicated bandwidth of (Mbps to 10Gbps+).
- ❖ Full duplex (download speed == upload speed).
- ❖ Leased Line Internet Connected by real IP address.

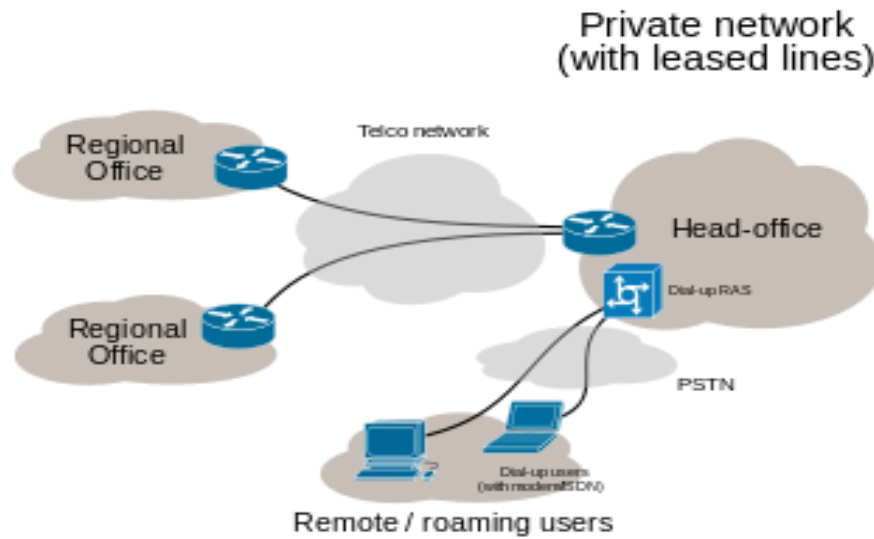


Figure 3.8: Leased Line Internet.

3.9 Virtual Private Network (VPN)

Virtual private network is a network technology that creates a secure network connection over a public network or a private network owned by a service provider. A virtual private network is used in Administrative offices, Military, PM Office, Election commission office, etc. A normal VPN diagram given in figure 3.10.1 under given below.

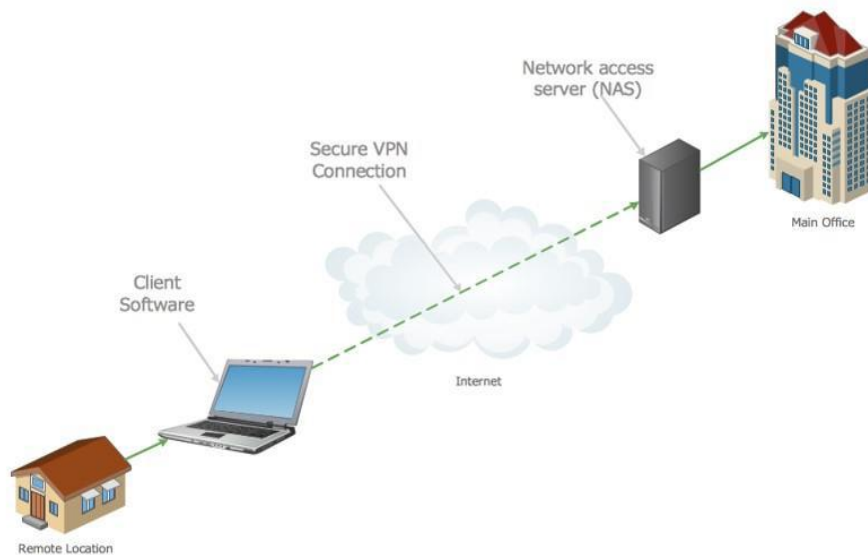


Fig 3.10.1: VPN Diagram [5]

Description: Now I can show A screenshot given below figure number 3.10.2 where have routing Configuration and there can be a (VPN) connection by command.

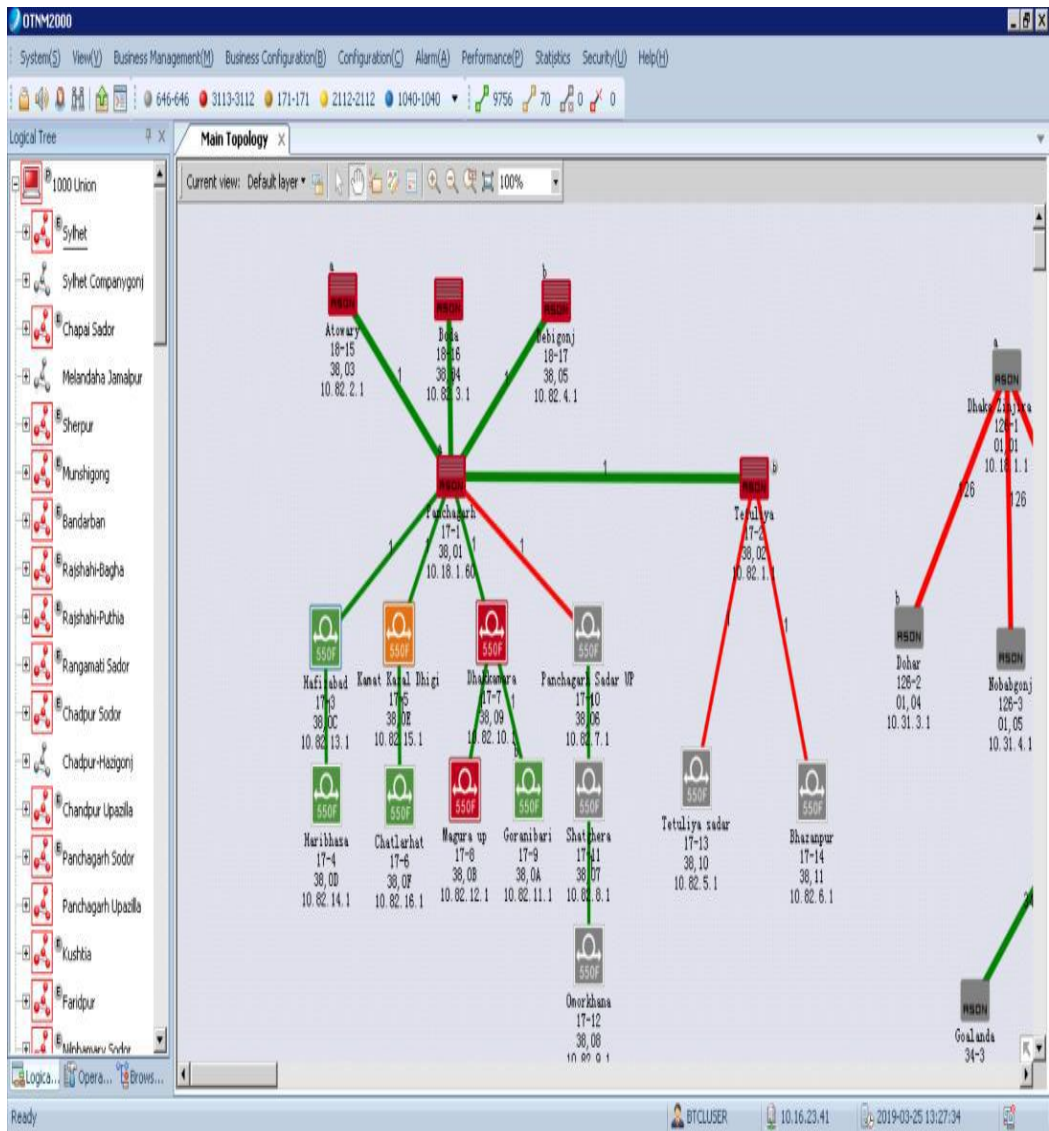


Fig 3.10.2: A screenshot of VPN connection configured.

3.10 Google Global Cache (GGC)

Bangladesh telecommunication company limited has an own Google cache server in its own premises and equipment installed by Google Cache service is temporary storage machinery that speeds the delivery of web content and the end-users. Cache servers hold copies of the content and rich media, including audio, video, images, and static text, at various points throughout the network for later retrieval. Now the showing figures part 1 and part 2.

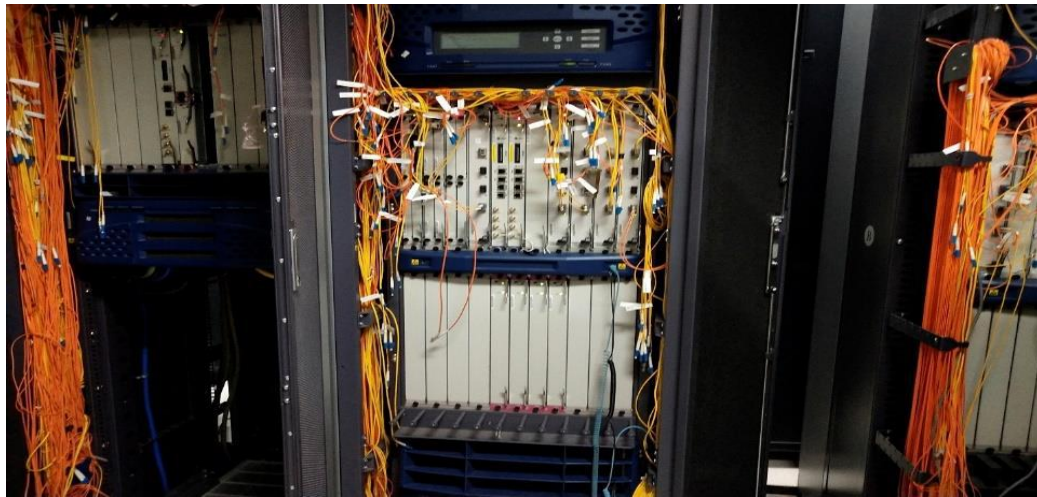


Fig 3.10.1: Google Global Cache server part 1.



Fig 3.10.1: Google Global Cache server part 2.

3.11 National Internet Exchange (NIX)

Bangladesh Telecommunication Company Limited has its own national internet exchange service which turns as a neutral meeting point of the ISP Company. This qualifies more beneficial using international bandwidth and develops the standard of services for the customer of the member of the ISP Company. By avoiding several international hops and thus reducing latency. BTCL has all types of interfaces available for NIX connectivity.

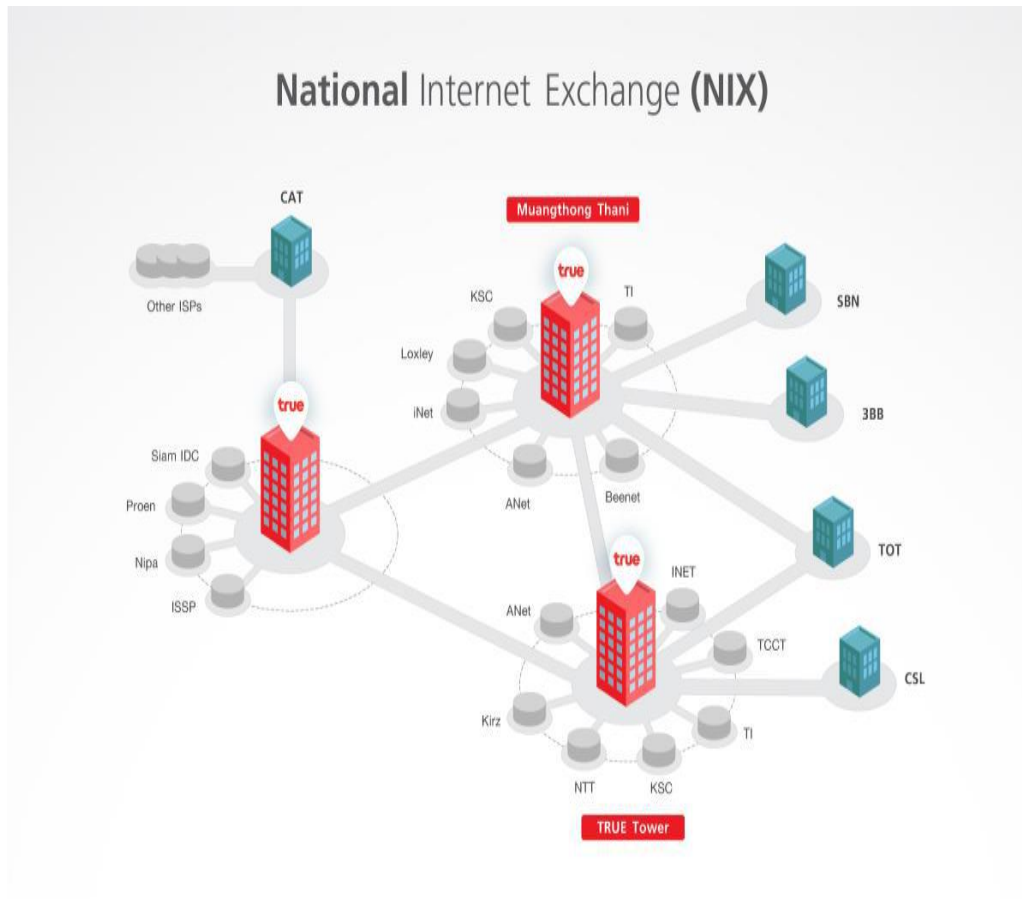
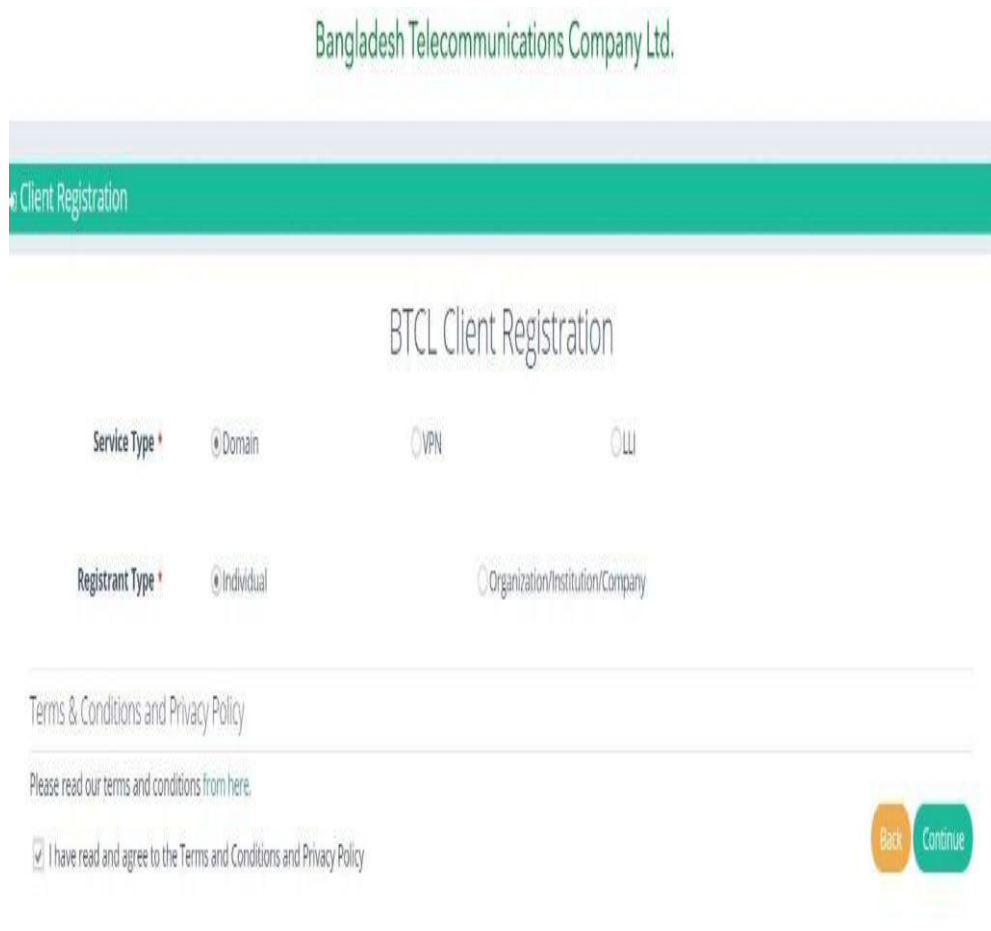


Fig: 3.12 National Internet Exchange process

3.12 Domain service in BTCL

Bangladesh Telecommunication Company limited has two ccTLD (Country Code Top Level Domain) owners by the BTCL . when the domain sells from the customer then customer fills the register box. Now I want to show the register box.



Bangladesh Telecommunications Company Ltd.

Client Registration

BTCL Client Registration

Service Type * Domain VPN LI

Registrant Type * Individual Organization/Institution/Company

Terms & Conditions and Privacy Policy

Please read our terms and conditions from here.

I have read and agree to the Terms and Conditions and Privacy Policy

Back Continue

Fig 3.13.1: A Screenshot of first step create an Domain [6]

When complete the first step then completes the second step now shows the second step screen short create a domain.

Client Registration

Person Info

First Name*

Last Name

Father Name

Mother Name

Gender: Male

Email*

Mobile Number*

Telephone Number

Fax

Date of Birth*

Occupation

NID Passport*

Address

Country*

City*

Post Code

Address*

Login Info

Username*

Password*

Captcha*

Confirm Password*

Fig 3.13.2: A screenshot of second step create a Domain [6]

Bangladesh Telecommunication Company Limited has its own Email server from which it gives with below E-mail addresses to the internal users. It uses official work and gives these types of mail the customer when buying a domain. Here the BTCL Mails:

- xx@btcl.com.bd
- yy@btcl.gov.bd

3.13 Asymmetric Digital Subscriber Line (ADSL) internet in BTCL

BTCL provide the broadband services. BTCL has a own ADSL or internet. It provides high-speed internet and faster data packet. The internet subscription the cooper line.

Features of (ADSL):

- ❖ ADSL internet speed (up to 1.5Mbps).
- ❖ ADSL Download speed is higher than upload speed.
- ❖ Telephone line Connected via copper cable.
- ❖ BTCL recently gives with GPON internet connection with higher speed (up to 10Mbps) via

Land Phone internet line. BTCL provided from the telecom division.

- ❖ ADSL uses FDM technology to classify telephone lines
Into regular telephone lines, upstream channels, and downstream channels,
avoiding

Interference .the one of the white port is 100g data port.



Fig 3.14: ADSL connectivity diagram [7]

3.14 ADSL switch

ADSL switch which Huawei brand maintaining the telephone interchange and landline bandwidth. The blue wire internet transfer rate 100 Gbps and Orange wire internet transfer rate 10Gbps.

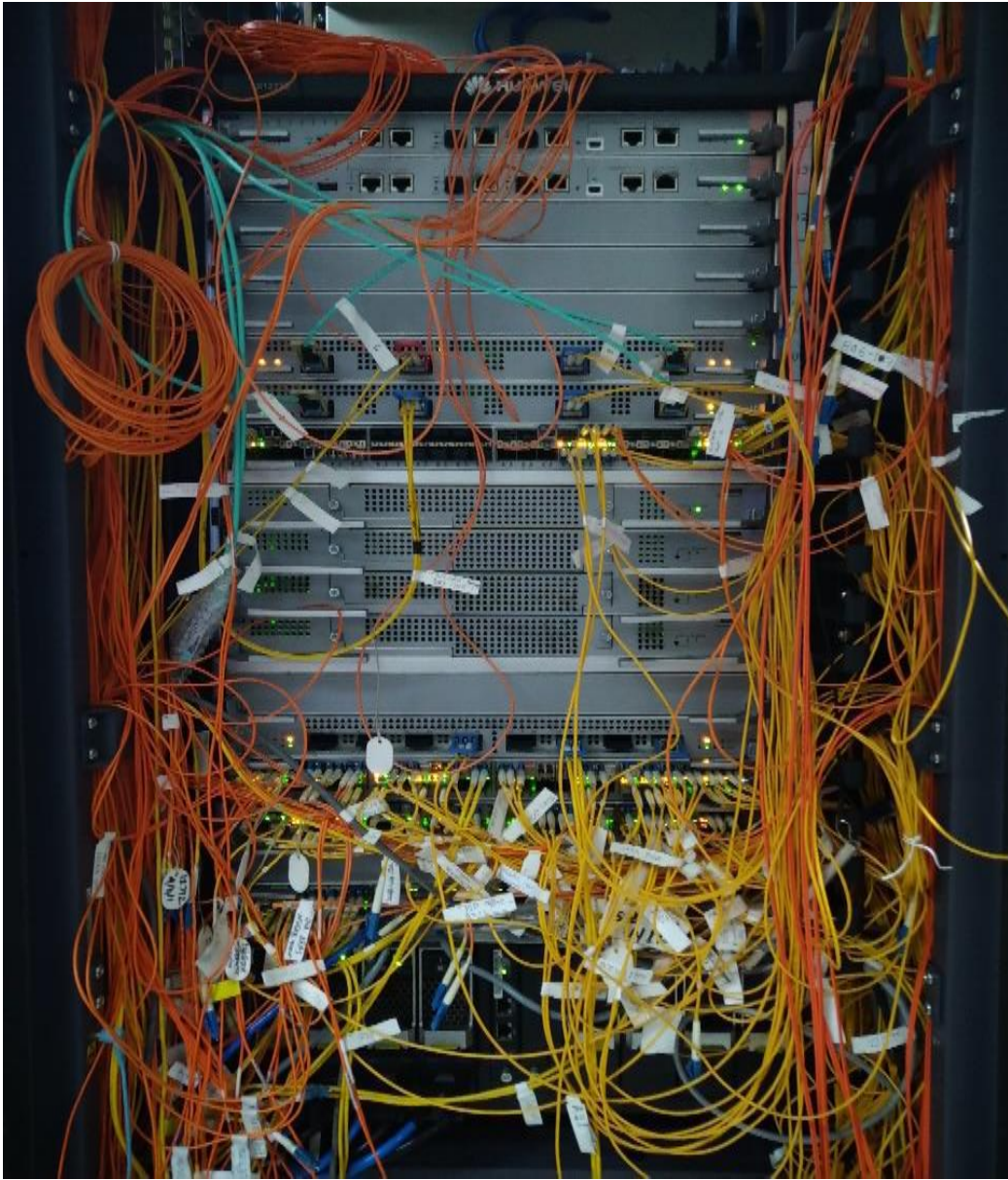


Fig 3.15: ADSL Switch [7]

3.15 ADSL Billing Server

A customer who wants to take BTCL ADSL connection, firstly they come to the BTCL office and pay an amount 400/- and fill up an application form. This is a

demand note. Then an advice note is given to the Local BTCL main office. Then it is signed by the DE of BTCL and sends it to the Junior Assistant Manager. Then data entry at the billing server. Afterward, data are checked by the JAM and reassert and then details are re-checked by the Assistant Manager and approved. Afterward selected the data, a message incorporates the user name of the customer and a password sent to the customer. Finally BTCL local office MDF room, the outside workers reach the line to the user home.

ADSL Phone Number	Client ID	Application Status	Account Status	View/Edit & Summary	Approve/Verify	Deny	Delete	Blacklist
62808	head80	Approved	Active(Safe)	Edit/Summary	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Fig 3.16: ADSL Billing Server [6]

3.16 NETWORK INTEGRATED MANAGEMENT SYSTEM (NIMS)

The customer's ID details and location can be viewed and monitoring by this software. Under given below two screenshots in figure number 3.17.1 & 3.17.2.

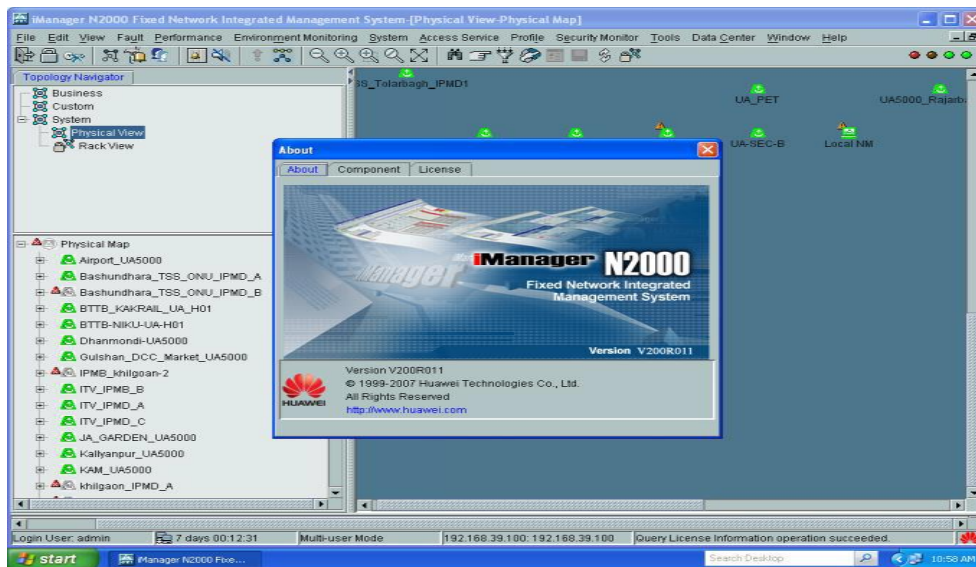


Fig 3.17.1: A screenshot of Network Integrated Management System.

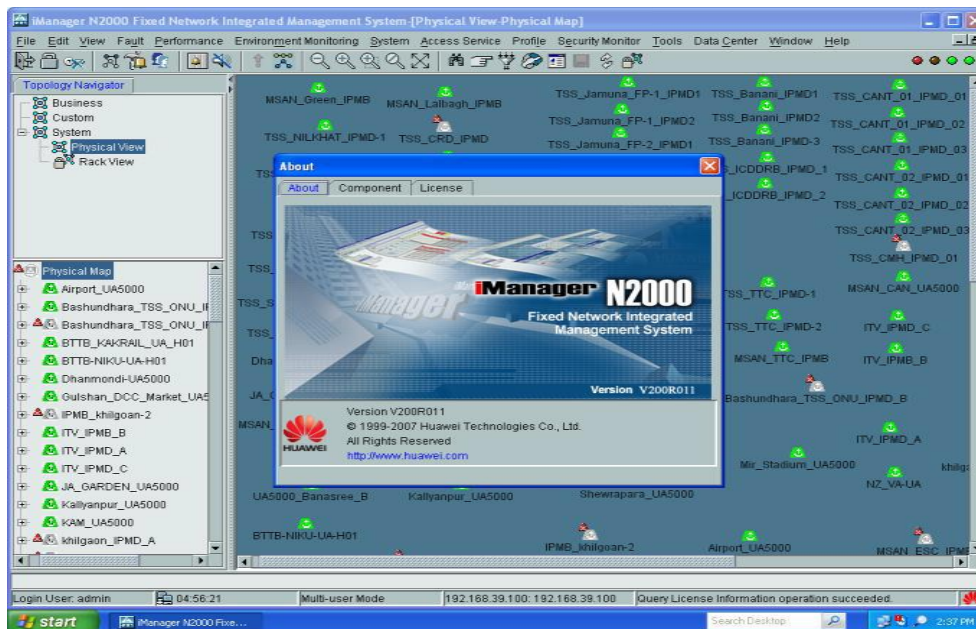


Fig 3.17.2: A screenshot of Network Integrated Management System.

3.18 Network Operation Center (NOC)

Every network company has a communication room or network operation room so BTCL has a communication room. BTCL network operation room control the network operation. if any place needs the internet then contract the network operation room. Cutting the optical fiber any place, then maintenance the network operation room. The overall function is to maintain optimal network operations crossways a difference of platforms, communications channels, and the medium. I have given the figure of the BTCL NOC room in figure 3.18.

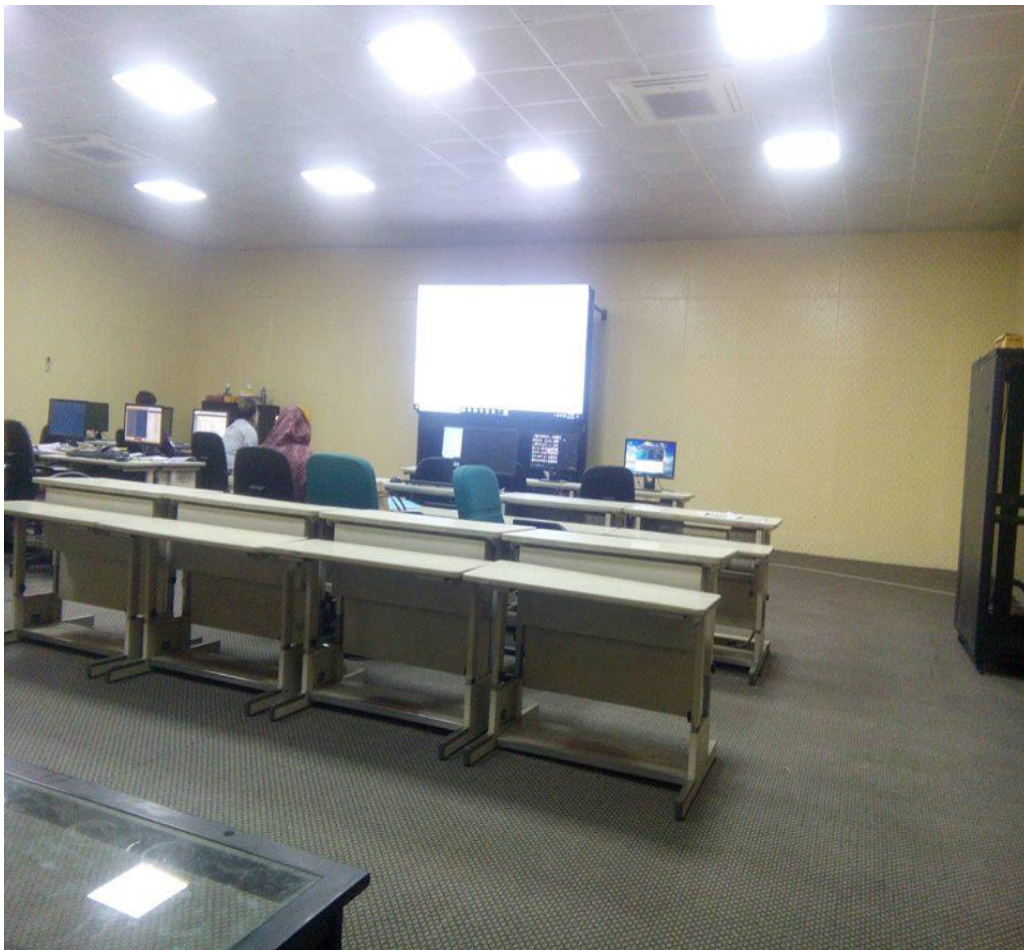


Fig 3.18 Network Operation Center [6]

3.19 NETWORK OPERATIONS CENTER (NOC)

Here the whole of the network system and telecommunication system monitoring fully. If any kind of fault can be solved by problem-solving. Its division also called the network management center. Cacti software used for network operation monitoring. If the monitor has a red color then the network has a problem and if the monitor has a blue color it is the right network. Now I want to show the cacti software graph.

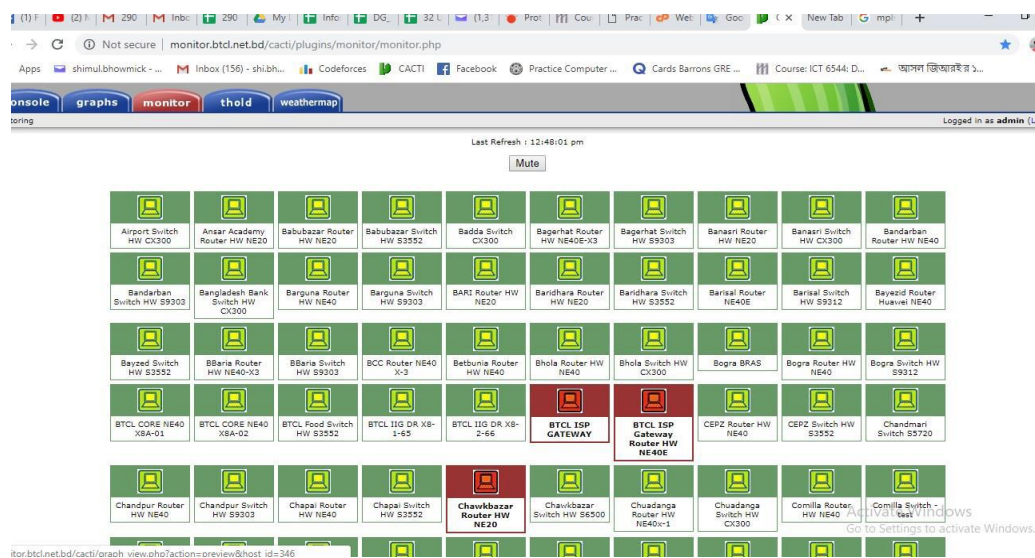
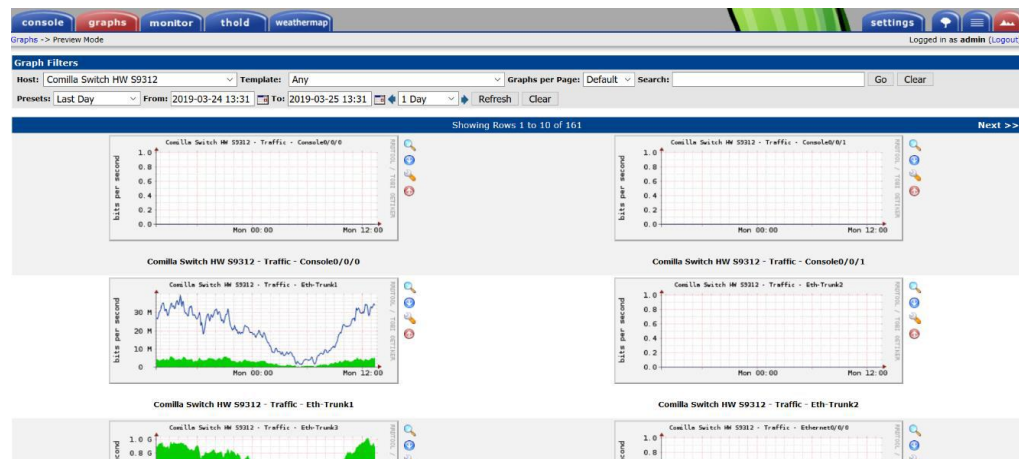


Fig 3.19.1: A screenshot of Router and Switch displayed.

Now show the Bandwidth transfer per second.



Fig

3.19.2: A screenshot of bandwidth passed per second.

3.20 Dia Software

Dia is a structured diagrams source drawing free software. Design the favorite structured diagrams on the network diagrams software. if you want any design software diagrams then you used to dia structured diagrams.. any operating system you used the dia software like windows, Windows 8.1, 8, 7, Windows Vista and Windows XP, Linux and Mac OS X. Now I want to show you the dia graph. this graph collected from www.google.com.

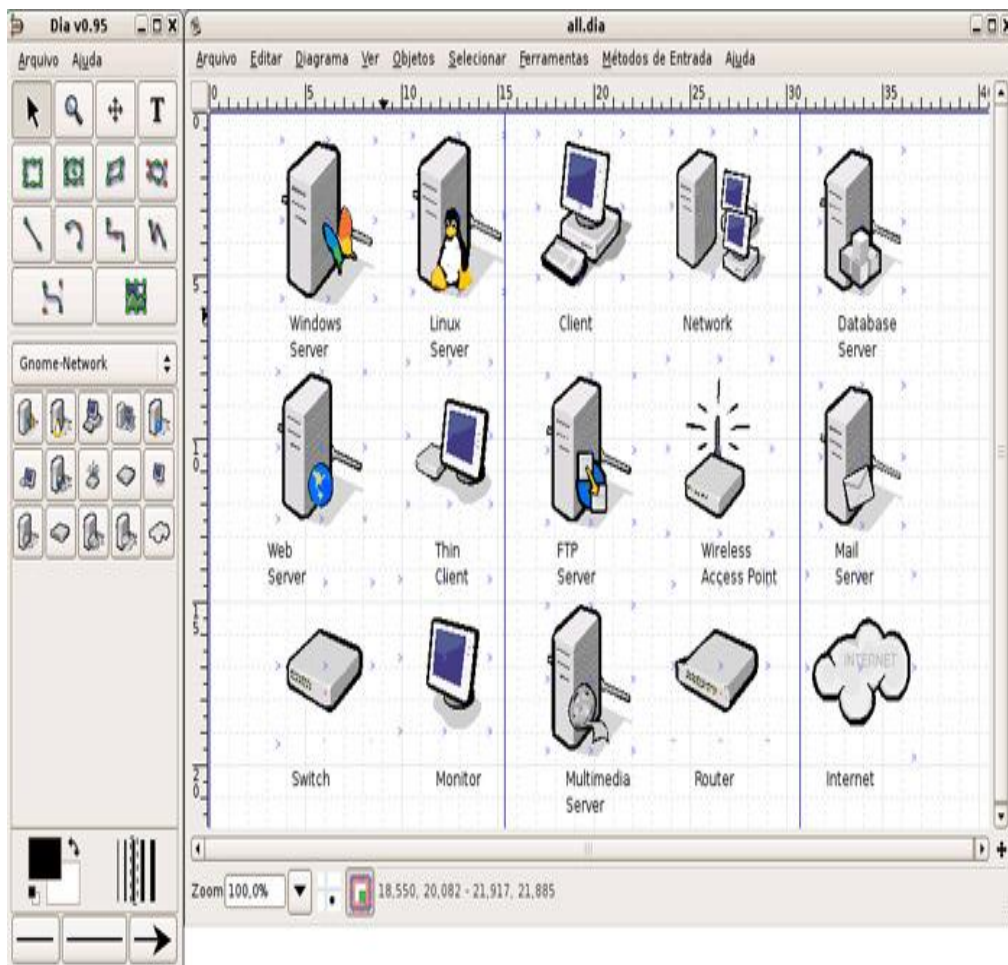


Fig 3.20 Dia structure diagram software [8]

CHAPTER 4

COMPETENCIES AND SMART PLAN

4.1 Competencies Earned

If I wanted to survive in Market Place, I have to develop my skills. I need to develop my skills the way I need to know about the current market place. I need to know how I handle my work and how I manage my work. I need to know the level of decision making, responsibility, and authority I have to do a lot of research on the skills of the job for managerial and supervisory positions. I need to know the status of Market Place and develop my skill appropriately. If all my skills are ok then I can do a good job and develop my career. If the skill is not right then I will never be able to develop my career so I have to keep in mind the market place and the situation. In this short internship period, I am tried to learn Communication and Networking and we could learn something. The current world is very developed and it's keeping with it. Strong Computer knowledge is highly needed in the competitive job market.

4.2 Smart Plan

I analyze the future of my career now. In the internship period, I gather practical knowledge that is helping my future career in the Information technology sector. Day by day, it is a high demand in modern technology. I learned some real-life things in my internship period within a team. Now I try my best to increase knowledge and practice more and more. My plan completely learns about Network Engineering, then implementation in the real world.

4.3 Reflections

Internship gets practical expertise in the field of Network Engineering. It helps to increase experience in the engineering jobs sector. In the internship period, I learned Network Practical knowledge. Information technology is a smart and dynamic profession at present. This experience will help me to be seeking a smart job. The

internship provides advanced tricks and trips that practiced by the professional. Now I know how to manage Switch, Router, Firewall, I & how to solve real-life problems and how to overcome the critical situations and getting the experience to work on a professional team.

CHAPTER 5

CONCLUSION AND FUTURE CAREER

5.1 Discussion and Conclusion

My Internship completed on 24 April 2019. When I complementary my internship I obtain knowledge of all these things talks over in the previous chapter. At present, all communication systems are relying on the internet. So we should need to improve the internet speed. This internship gives me the opportunity to test help in a specific profession before permanents responsibility is made. Suppose for example how broadly used a lot of data in heavy functions as like as video conferencing, when we access cloud-based apps, video streaming, watch BDIX TV server or download a lot of files on various websites. Our bandwidth is taxed for any those high need activeness. Actually, a bandwidth problem can be showed down your company's efficiency, waste your employee's time and result in lost sales.

BTCL is also providing backhaul connectivity for submarine landing station of Bangladesh at Cox's Bazar through a high capacity of 240 GB/s which has redundant optic fiber transmission link between Dhaka (Mogbazar station of BTCL) and Cox's Bazar. Also, BTCL is providing backhaul connectivity for 2nd submarine landing station at Kuakata through a high capacity of 200 GB/s which has a redundant optic fiber transmission link between Dhaka and Kuakata. The excess of the links has been purveying the per rough the Optical Fiber of the Power Grid Company of Bangladesh. These all of the reasons I have taken internship through this company and I have gathered much information and technical opportunities about Data and Internet service maintenance and working process.

5.2 Scope for Future Career

In our country, there are many lots of companies. In these companies, BTCL is the largest and popular telecommunication companies. The main services in this company they provided are landline telephone and providing services a huge amount of data and internet all over in Bangladesh. Therefore, I will try to the success of the next recruitment exam. My future scope is exception a successful internship can help my future career and get experience in the best career opportunity. My future scopes are the intention.

- ❖ The Network Administrator.
- ❖ Network Engineer.
- ❖ Industrial Engineer.
- ❖ To be work in ICT Division and Network Analysis.

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Hafiz

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