

**INTERNSHIP ON AFFILIATION REPORT ON OPERATIONS & MAINTENANCE
(O&M) AT TELESERVICES**

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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APPROVAL

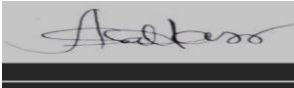
This Intern titled “**Internship On Affiliation Report On Operations & Maintenance(O&M) At Teleservices**”, submitted by **Rumana Afroz, ID 182-15-11412** to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment 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 *Tuesday,01 June 2021*

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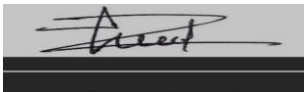
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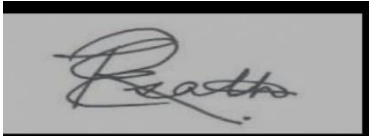
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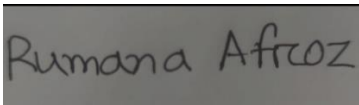
I hereby declare that, this internship has been done by me **Rumana Afroz, ID 182-15-11412** under the supervision of **Refath Ara Hossain, Lecturer, Department Of CSE** Daffodil International University. I also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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ABSTRACT

This report entitled to “Internship on affiliation report on operations & maintenance (O&M) at teleservices. I have completed my internship as an assistant of a network operation team at Mango Teleservices Ltd. Worked as a part of the service and support center team. Assisting the service and support team with their daily activities, receiving customer complaints, opening trouble tickets, taking necessary steps to solve the issue, updating customers with latest updates about their problem etc. Worked on different technology based business segments of mango teleservices ltd such as IIG, ITC, ISP. Network monitoring analyzing network alarms to resolve faults quickly. IP routing, OSPF, BGP configuration and route manipulation. Configuring and maintaining stability of network equipment Router, Cisco MIKROTIK, Switch, CIENA Mux, TEJAS, CIENA. What could be the correct solution for the classification of a new network host and Wi-Fi network and the technique of how to geography an access point, Switches, Router and how up a Network. This internship report is largely representing the offloading procedure based on Network Deployment and Network Security. The main purpose of this report is to get practical experience by observing Computer Networking, Network devices, Network Security, Server Connection access networks at Operation & Maintenance technology ltd and Deploying in different organizations. Working with different types of a vendor like Cisco, Aruba, NETGEAR, etc. This internship report largely represents the offloading procedure based on network development and network security.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

At the end of BSC program students must have to fulfil an integrated course called internship that is applicable to academic purpose. The main objective of internship is to have practical experience of professional job comparative to the students major or small concentrated area. Internship program helps a student to assemble real life experiences of professional life. This is very important because it's the only platform for a student to learn something out of the book. The operation and maintenance (O&M) \energy manager and practitioner, with useful information about O&M management, technologies energy efficiency and cost reduction approaches.

1.2 Motivation

This report will be very helpful for all the types of educational institution and specially for the teachers and students. Technology every organization has a team to maintaining it related task, to achieve maximum outcome of all server computer and network should work perfectly, to ensure that each organization needs an IT support. Motivation is the innovation of an environment which makes the individual to realize their goals easily, better than expected and without innovation of fatigue, stress and unhappiness. Motivation can be extrinsic and intrinsic. Intrinsic motivation is the performance of the task for own sake. It is basically in relation to the attitude of a person towards the work which he performs. Extrinsic motivation is purely generated due to the tangible and non-tangible benefits include the salary rise, awards in terms of money, promotions etc.

1.3 Introduction to the Company

Mango teleservice is the main telecom service source in the country. It started its journey in the first of the country's IIG private sector in 2008. The premium solution delivery and its with a very satisfied customer base. It has provided the contribution of the value chain of all level telecom. Mango has its own processing data system center for support services and also for offering cloud hosting management. It has limited partnerships with the government of Bangladesh individually. It's also about attending education. Banking sector and real estate management. (IGW) international gateway, (CA) certifying authority provider its own data center. Cloud over fabric & managed the system. And first of all the private international internet gateway (IIG) operator, (ITC) international terrestrial cable operator. Certifying authority (CA) wireless access, broadband (BWA) assignee.[1]

1.4 Internship Objectives

This report is based on the Operation & Maintenance associate structure. Nearby with this the communication will as well incompletely relate the complete operation and maintenance automation web structure. This announcement is mostly essential for the associate connected management to know the web structure that consists of web gadgets, corporeal and wifi presenting, put to rout agreement, web keep track of implement, web preservation agreement. The virtual local area network that can attach one and all of the subsections out of more subsections adore the report subsection should be made sever from the selling subsection applying virtual local area network. The subsections desire to transmit with more subsections then put in an application inter VLAN. Make use of subsections and want to make public with more subsections next.

It is to be kept secret from the surface web or hackers. Another side of security is VPN. Idiomatic one bought office dispatch any right file with determiner bought office that time it essential to be right. If we apply a VPN that it conceals their web mark when displacement the file to the determiner office. So it is right from the geek. All circulating gadgets should conceal signals. The button seaport shall be right and if try to cut the organization applying their pc add into the external web it also should be congested.

1.4.1 IIG (International Internet gateway)

IIG is one of the largest international cyberspace access providers for over power and through the bscl, Bttb, Tata communications, Singapore telecommunications, Cogent, Tis and cyclone. Gateway will be linked to existing. The cable is submersible with the main attached & with the satellite earth terminal. This is the plan of execution that has enlarged the customer and greated employable. IIG licensees maintain both types of nuclear submarine cable bandwidth.[2]

1.4.2 ITC (International Terrestrial Cables)

ITC is the most golden International terrestrial cable operator in Bangladesh. It was awarded the ITC license from Bangladesh telecommunication and departmental piece of work (BTRC) in January 05, 2012 and launched its departmental operation on 27 Dec 2012. It serves as international terrestrial cables, Which is administratively dependable. Effective cost and several international connectivity.

1.4.3 Common Examination

Mango teleservices is the largest and closest limited company in Bangladesh. It is designed to go public in the time of three years. The establishment are extraordinary persons with international education and working participation in. Mango government is run in agreement with the ISO standards corporate philosophy Click connect, Learn, Innovate and collaborate and employ customers.

1.4.4 Squad

Mango has systemized the squad by conveying the most impressive talents of Bangladesh. Our top administration refunded to Bangladesh from their in foreign land occupation. We engaged the most skillful local engineers and the intelligent engineering graduates. After all, we have more than 20 engineers who graduated from the best institutions in Bangladesh and in foreign lands.

1.4.5 System & Articles

Our network is to improve world class grade carrier articles from industry most significant traders. Improve the network configuration with the biggest flexibility and the very high measurements to oblige 100 fold network trafficking broadening of Bangladesh. We select the system configuration and system implements that can harmonize tebibyte traffic transformation and defeat and the end purchaser can get ethernet comparability to our network and can entertrain 10 multiple ethernet internet comparability. We have handed over true internet comparability through different unnecessary courses. We are also transporting the subject IX solution for ISPs in Bangladesh.

1.4.6 Partners

1. Equipment and merger sellers adore Cisco, Btt, and hp, Ciena, Huawei.
2. Organizations admire data crafts, Csl, Lsr association.
3. Supposed worldwide proxy for nuclear cable, Ip port & satellite structures

Report Layout

- 1.To gain knowledge about IIG, ITC, ISP etc.
- 2.To gain knowledge about Syslog, WinMTR, MikroTik router.
- 3.To gain knowledge about Vpn, Vlan, DHCP etc.
- 4.To gain knowledge about OSI Model, Switch, Hub etc.
- 5.To learn about time management which is essential in a professional environment.
6. Provide me other than the construction structure I essential near my planned.

1.6 Report Summary

The first section of this outline talks about company introduction, motivation, internship objectives. The backdrop of this outline, & the range of the learning. This section also expresses the head queenly of this calculation. What is in this section and calculation generally talked about in section first. This section also talked about idiomatic kindness and how they provide courtesy and deal with their client, Company place, and other details about the business. Chapter three talks about O&M contracting. This section also talked about the employed game plan of the actual web structure and attribute of the actual structure. Also talked about the present things that are applied to agreeing their favour and implementing attributes.

CHAPTER 2

ORGANIZATION

2.1 Introduction

The program occupation is work of the placement of a hostage to complete the order intern program. Systematic and the majority and which schedule and occupation complementary to an IT adjudge department of IT comprehend of his/her assignments. The program adjudicates mandatory pieces of work in conjunction with issue tasks. The program of internship approves how to get process work and what to be able to execute systematically.

2.2 Product & Market Situation

I have completed my internship in the network operations team at mango Teleservices as a part of the service and support center team. Assisting the service support team with their daily activities, Receiving customer complaints, Opening trouble tickets, taking necessary steps to solve the issue, Updating customers with latest updates about their problems etc. Worked on different technology based business segments of mango teleservices ltd such as SSC, IIG, ITC & ISP.

1. Network monitoring analyzing network alarms to resolve faults quickly.
2. Impact analysis.
3. IP routing OSPF, BGP configuration and route manipulation.
4. Operating a deep packet Inspector, packet imprisoning and analyzing.
5. Escalated client issue troubleshooting.
6. Network planning and implementation.

2.3 Target Group

A familiar policy to a host shared local area network like a class of gadgets. We couple any businesses all-over overall business processor, server, printer, camera, and all relationship gadgets with the premium adaptable consequence.

Syslog

Syslog is essentially used for message logging. It allows estrangement to accompany messages. The system & the program that broadcasts and breaks down them. Each message is marked with a code of facility. Generating the message, suggested the software type and assigned a sharpness level.[3]

The following figure 2.3.1 shows syslog analysis and monitoring

The screenshot displays the Adiscon LogAnalyzer web interface in Mozilla Firefox. The browser address bar shows the URL `192.168.1.101/loganalyzer/index.php`. The interface includes a navigation menu with options like Search, Show Events, Statistics, Reports, Help, Search in Knowledge Base, Admin Center, and Logoff. A search filter is set to "Search (filter):". Below the search bar, a table titled "Recent syslog messages" lists various log entries. The table has columns for Date, Facility, Severity, Host, Syslogtag, ProcessID, MessageType, and Message. A details panel for a selected message (ID '2') is visible on the right, showing fields like Date (Today 14:06:31), Facility (SYSLOG), Severity (INFO), Host (server), Syslogtag (rsyslogd), ProcessID, MessageType (Syslog), and Message ([origin software="rsyslogd" swVersion="5.8.10" x-pid="21258" x-info="http://www.r..."] start).

Date	Facility	Severity	Host	Syslogtag	ProcessID	MessageType	Message
Today 14:17:01	SECURITY	INFO	sk	CRON[347]:		Syslog	pam_unix(cron:session): session closed for user root
Today 14:17:01	CRON	INFO	sk	CRON[348]:		Syslog	(root) CMD (cd / && run-parts --report /etc/cron.hourly)
Today 14:17:01	SECURITY	INFO	sk	CRON[347]:		Syslog	pam_unix(cron:session): session opened for user root by (uid=0)
Today 14:16:59	SYSLOG	ERR	sk	rsyslogd-2039:		Syslog	Could not open output pipe '/dev/xconsole' [try http://www.rsyslog.com/e/2039]
Today 14:16:59	SYSLOG	INFO	sk	rsyslogd:		Syslog	rsyslogd's userid changed to 101
Today 14:16:59	SYSLOG	INFO	sk	rsyslogd:		Syslog	rsyslogd's groupid changed to 103
Today 14:16:59	SYSLOG	INFO	sk	rsyslogd:		Syslog	[origin software="rsyslogd" swVersion="5.8.11" x-pid="343" x-info="http://www.r...
Today 14:16:59	KERN	INFO	sk	kernel:		Syslog	imklog 5.8.11, log source = /proc/kmsg started.
Today 14:15:01	CRON	INFO	server	CROND[21923]:		Syslog	(munin) CMD (test -x /usr/bin/munin-cron && /usr/bin/munin-cron)
Today 14:10:01	CRON	INFO	server	CROND[21468]:		Syslog	(root) CMD (/usr/lib/sa/sa1 1 1)
Today 14:10:01	CRON	INFO	server	CROND[21467]:		Syslog	(munin) CMD (test -x /usr/bin/munin-cron && /usr/bin/munin-cron)
Today 14:06:31	SYSLOG	INFO	server	rsyslogd:		Syslog	[origin software="rsyslogd" swVersion="5.8.10" x-pid="21258" x-info="http://www...
Today 14:06:31	KERN	INFO	server	kernel:		Syslog	

Figure 2.3.1 Syslog Analysis & Reporting

Solarwinds Network Performance Monitor

A solarwinds product is an american operation advancement software for occupation to help hold their networks, System and command technology architecture.[4]

The following figure 2.3.2 shows solarwinds router traffic grapher.

MRTG Index Page

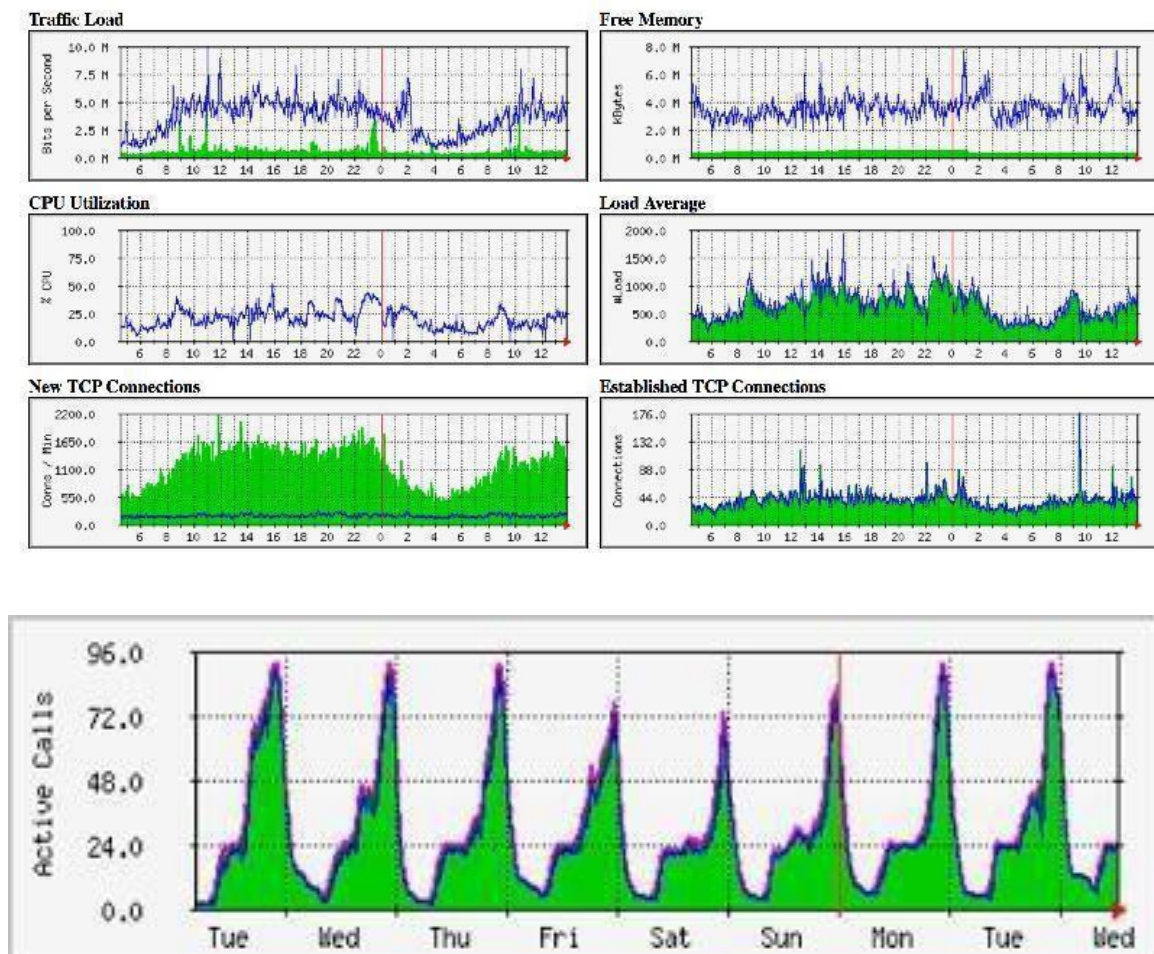


Figure:2.3.2 Solarwinds router traffic Grapher

Sugar CRM ticketing system

Authorization system is an administration device that activates one of the inventory requests of consumer favour.

The following figure 2.3.4 shows the ticketing system.

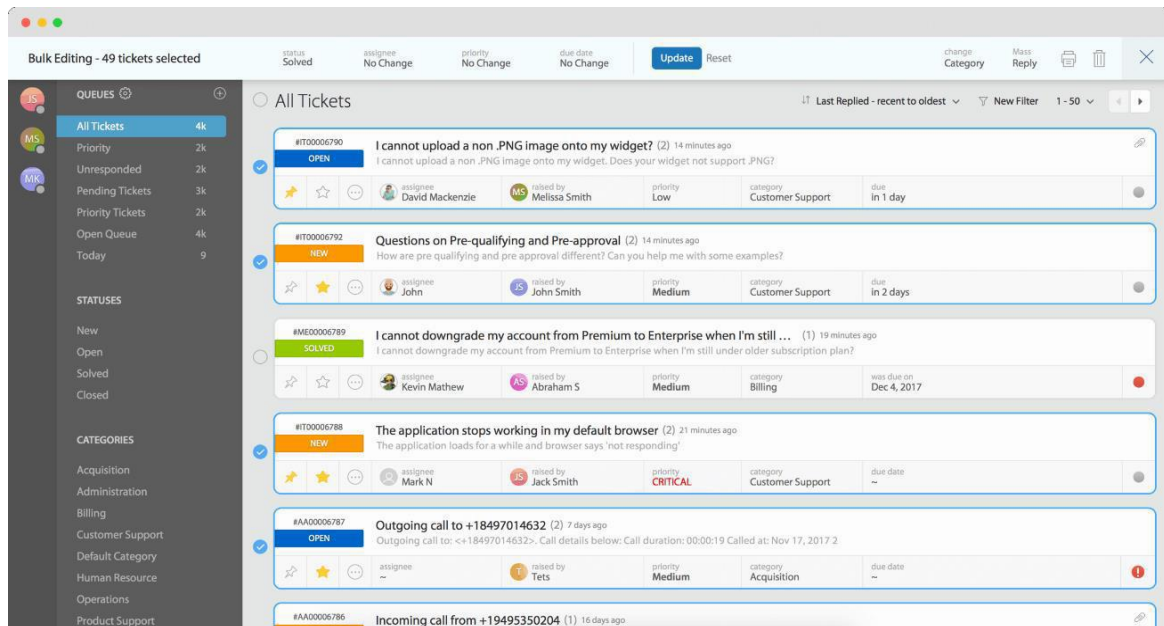


Figure 2.3.4: Ticketing System

Network Diagnostic Tool

The following figure 2.3.5 shows WinMTR

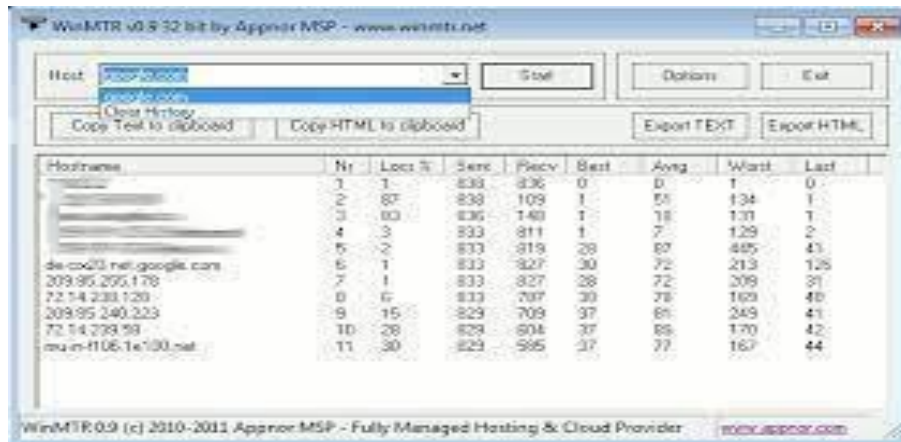


Figure 2.3.5: WinMTR

MikroTik Routers & Wireless

The following figure 2.3.6 shows WinBox[10]



Figure 2.3.6: WinBox

Network Monitor

Network monitoring is universal in every part of IT production. web monitoring is a dangerous IT procedure where all of the circulating process part like switches, packet, firestop, servers etc are detector for fault and entertainment evaluation to maintain and push on their accessibility.[5]

The following figure 2.3.7 shows solar winds.

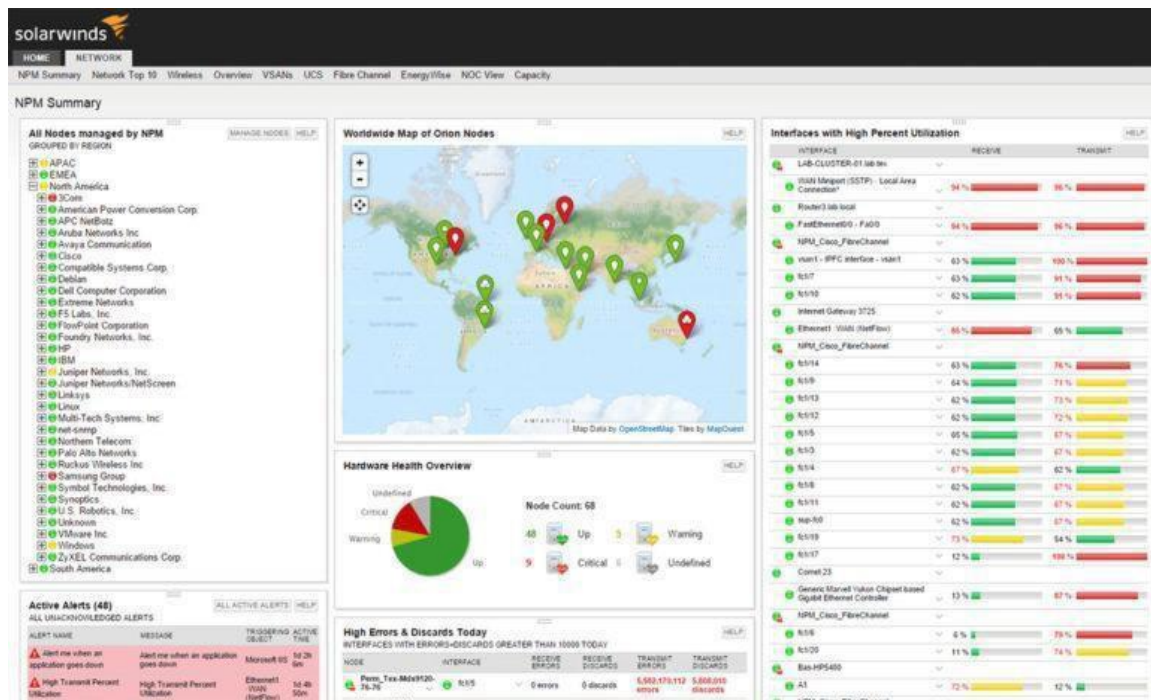


Figure 2.3.7: Solar Winds

2.4 SWOT Analysis

Mango Teleservice Ltd is principle salesperson telecom service in bangladesh which has more than 150+ employees.this company lays out data services as well as voice services also. Mango Teleservices LTD has international gateway (IGW) and interconnection

exchange (ICX) licence identical bangladesh computers commanding commission. This company delivers systems like dhaka, khulna and chittagong both voice and data.

2.5 Organizational Structure

We are supplying cyberspace hand, program & organizations merger assistance. We make sure our buyers are lucky by estimating the existence of the approach they want Working coordinately beyond this supply of continuously hot, Aggressive & expendable cyberspace that produces a hostile edge in the world of electrical reporting.

2.6 Other Relevant Activities

As I have worked as an IT assistant I have gained a lot of experience in how to maintain or how to resolve their problems. I have gained experiential experience with router, Switch and MUX configuration. Additionally, I have also had experience of troubleshooting on different frameworks. My supervisor was also very open minded. Practised troubleshooting, Hardware software installation router, Switch and MUX configuration. As a whole I have worked in a challenging environment and got myself ready for the upcoming future.

CHAPTER 3

TASKS, INTERN & ACTIVITIES

3.1 Daily, Tasks & Activities

It was obviously a big challenge for me to work in these conditions. The IT profession is always challenging. I have to keep myself busy all the time before going to the office. These challenges can be graded in different terms as troubleshooting ability, Problem solving capability, Controlling the system and many more. Other government was to detect daily production. I expressed the router in the company. I installed operating systems such as Anti-virus, Microsoft Office, and many more effective adjustments for customers. I fix equipment issues such as displacement of wrongful keyboards, trading smashed screens, Exchanging depressed floppy disks, exchanging random access memory & so many other equipment arguments. I'm always trying to take part in internet difficulties such as, help line, issuing patch cords, re-crimping of damage. Necessary web support to clients systems, Urgent of broken switches.

3.2 DHCP Server

DHCP is the web administration protocol used to strongly charge Internet Protocol addresses to any gadget. DHCP automatize & in the center clutter these arrangements slightly than mandatory network directors to objectively assign IP addresses to all web gadgets. Dhcp oil can be projected on small local organizations as well as large project organizations. Administrators configure dhcpv4 servers to position the recruit to date out at various intermissions.[7]

3.3 VLAN

A vlan is a good category of booths, servers and networks that develop to the same local area network in spite of their topographical administration. A virtual local area network authorizes a web of computers and users to transmit in a simulated climate. And sharing a single televisive and multicast domination. The motivation of instrument virtual local area network is to upgrade the production of a network or apply actual safekeeping.[8]

3.4 VPN

An essential world wide from a gadget to a web. The code combine helps make certain that receptive data is safely transferred. It aveart unofficial people from keeping track of the vehicles and authorizes the customer to perform work isolated. Virtual personal network technology is broadly applied in company domains. A site-to-site virtual personal network secures the company office to offshoot offices over the world wide web. Site-to-site VPN are applied when disconnection construct it illogical to have direct network associations to bridge these offices. Devoted implements are applied to get going and keep going a relationship.[9]

3.5 Event & Activities

Conventional thinking in the O&M field is attentive to a single bar, responsibility, for program evaluation. Every O&M executive wants a reliable potential however this bar alone is not enough to respect or build an idiomatic O&M program. Beyond responsibility O&M managers need to be supervised for managing costs, evaluating and executing new automation, following and describing health and protection issues, and consuming their program. To carry out these occupations, the O&M executive must be conscious of the various measures that can be used to estimate the quality or successes of the O&M program. Not only are these barometers useful in judging effectiveness, But

also appropriate in the cost argument of article purchases, program moderations, and staff engagement. Under a number of gold standards that can be applied to estimate an O&M project. Not all of these gold standards can be used in all situations, still a program should use as many metrics as possible to higher quality geometry deficiencies and most particularly communicate successes. Volume component, Relates real plant or articles operation to the full volume operation of the herbage or equipment. This is a calculation of verified operation compared to full operation performance. Work arrangement brings about, following work orders created and finished over time allows the supervisor to better appreciate function and better programme staff. Accumulation of correctional maintenance, a measure of workload topic and effectiveness of predictive preservation continuation programs. Safety documentation commonly followed such as integer of loss-of-time episodes or total integer of notifiable incidents. Effective in getting a general protection picture. Vibrancy use, A key indicator of articles production level of efficiency reached, and possible abasement. Overload worked, seven day or monthly hours of overload worked has workload, scheduling, and money making point. Surroundings record, following dispense levels and non-compliance state of affairs.

3.6 O&M Contracting

Approximately 40% of all outsider buildings contract continuation favour for heating, oxygenating, And air-determined equipment. Analysis with soldier building managers and companies suggested this usefulness is significantly soaring in the soldier sector, And the current is in regard to increased dependence on decreased services. In the O&M service production, There is a wide diversity of service contract types varying from full coverage contracts to individual apparatus contracts to simple examination contracts. In a new type of O&M deal, the O&M contractor not only gets hold of overall operation of the articles, but also all working risk. Develop design for an O&M service contract, Such as as long as maximum contentment for building occupants. Improve operating regulation of automatic plants. Apply safeguard conservation procedures to decrease chances of before time equipment failures. Supply for periodic checkup of building systems to keep away from emergency crash state of affairs. Choose two to four budding contractors and

get initial proposals based on each contractor's property assessments. Throughout the contractors assessment process communicate the objectives and calculations for the O&M service contract and allow each producer to study the building confirmation. Advance the major contract essential using the producers essential proposals. Make sure to include the requirements for confirmation and reporting. Contract requirements may also be advanced by a third party. Secure final tender from the possible contractors formed on the owner-developed conditions. Select the contractor and advance the final settlement language and kindness plan. Address and administer the agreement and documentation.

3.7 Internet Task & Activities

My university Daffodil International University really prepared me well for the future. My academic knowledge helped me to face this kind of problem. It was very helpful for me during the internship. Like my university life I also had to be prepared and punctual for my work. I did not have any problem coping with the new environment. Therefore I think because of my good academic preparation it was easy to complete my internship perfectly.

3.8 Challenges

During the internship period I have gained some professional skills like how to work as a team, How to handle difficulties, How to manage the situation etc. As I had no early experience before doing the internship. It was a big challenge for me to overcome any difficulties. I think I have successfully passed all the difficulties. Professionally I have gained a lot of knowledge regarding Router, Switch and MUX configuration.

CHAPTER 4

COMPETENCIES & SMARTPLAN

4.1 Competencies Earned

From this view I can say that in my internship period as an assistant of the network operations team at Department of O & M. Mango Teleservices LTD. I have always tried to give my best to solve the technical problems of the company. Obviously my hard work and passion was dedicated to the company as I have worked as an intern as an assistant of the network operations team. I have always tried to give better services to the company to be a professional.

4.2 OSI Model

Application Layer

The application layer is present at the head of the OSI model. It is the layer between which users interact. It supplies services to the user.

Presentation Layer

The presentation layer is the lowest layer at which request programmers consider data construction and presentation, instead of simply sending data in the form of datagrams or packets in the middle of hosts.

Session layer

In the seven layer OSI model of computer circulating, the session layer is layer five, the session layer supplies the mechanism for opening, closing & managing a session in the middle of end user application procedure

Transport Layer

The transport layer is a fourth layer out of the top. The central character of the transport layer is to supply the communication service straight to the application process running on disparate hosts.

Network layer

The network layer is a third layer out of the top. It picks up the service requests from the transport layer and forwards the service request to the data link layer.

Data Link Layer

The data link layer is a second layer out of the top. This layer is one of the most complex layers and has complex functionalities and responsibility. Data link layer hides the particular underlying hardware and speaks for itself to the upper layer as the medium to transmit.

Physical Layer

The physical layer is the first layer out of the top. It is in charge of sending bits from one computer to another. This layer is not associated with the meaning of the bits and is distributed with the setup of physical combines to the network and with transmission and receiving of signals.

MikroTik Router

MikroTik is a different network equipment assembly. The company matures and sells anxious and wireless network routers, network switches, Access points, As well as utilizing systems and additional software.[6]

The following figure 4.2.1 shows the Mikrotik Router.



Figure: 4.2.1 Mikrotik Router

4.4 Switch

A network switch is a multi-portable network crossover that uses MAC addresses ahead of data like the data link layer of the OSI model. Several switches can also cross over data at the network layer. By totally incorporating routing purposes.

The following figure 4.4.1 shows Switch.



Fig 4.4.1:
Switch

4.5 Hub

A hub is a physical layer circulating device which indicates one indicates it is worn to connect different devices in a web. They are normally worn to attach computers in a LAN.

The following figure 4.5.1 shows the Hub.

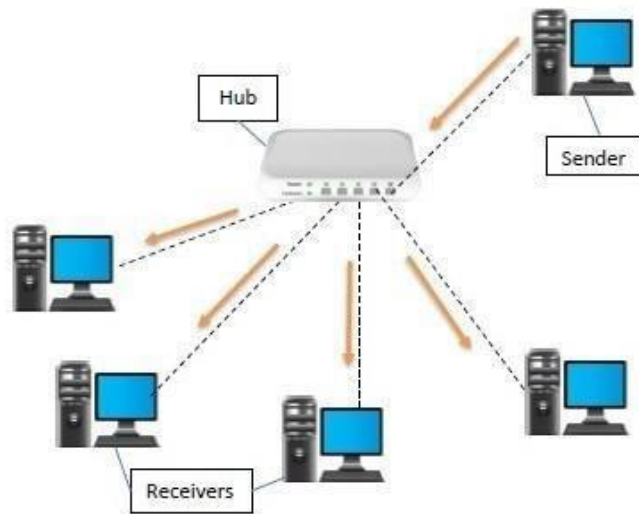


Fig 4.5.1: Hub

4.6 LAN

A local area network is a group of devices bridged jointly in one physical location, similar as a building, office, or home. In contrast, A (WAN) or metropolitan area networks mask large terrestrial ground. Several WANs and MANs join many LANs jointly. A local area network attaches the computer hardware in a constrained area such as an office or home. Most LANs use wired connections to link the computers to one another and to a difference of surrounding devices such as printers.

4.7 MAN

Metropolitan area network is a computer web that is larger than a single construction local area network. But is discovered in a single geographic area that is close to a wide area network.

4.8 WAN

Wide Area Network is a computer web that spans a large geographical area. WANs are applied to link LANs and other types of networks together. So that users and processors in one location can network with users and computers in other positions. WAN provides long space transmission of data. A WAN can cover a country, main or even a whole world. Internet connection is an example of WAN. Other ways are mobile broadband relationships such as 3G, 4G etc.

4.9 Smart Plan

If anyone wants to grow his career in the IT sector, Then joining an IT department is a very good option, Because in the IT department one can have much more opportunity to learn many new things and explore his knowledge. So for me to join an IT department was a very good option and I have learned many things from there.

4.10 Reflections

The one of the best things that I have educated so many things and participated in is this time administration. I badly needed the time management because I faced so many problems to manage all my work and highly add to the systematic and entertainment and shorten the time of wastage administration skills helped me a lot with a big piece of work and significant convocation meetings with the supervisor.

CHAPTER 5

CONCLUSION & FUTURE CAREER

5.1 Discussion & Conclusion

Daffodil international university department of computer science delivers a world class education. Its students are mostly in undergraduate/graduate programs. The report characterized real life knowledge. This knowledge challenges me to learn night and day about myself. Working with my supervisor team has helped me to realize my benefit to the university I have learned and shared my thoughts, Knowledge and participation with my supervisor and to learn from them. This has been a mutually beneficial learning experience for my supervisor and me.

5.2 Scope For Future Plan

The internship opportunity as an IT system support develops the quality of problem solving skills. The IT department. Intern students in presence of the respective officers. Being employed with vendors like aruba, Netgear Wireless gave me the practical as well as practical knowledge of wifi technology. In mango teleservice limited i have learned how to look over a site. To supply the appropriate solution about wifi and how to position a new wifi network. This internship will help me to make a better profession in the telecommunication field and also learn lots of new ideas and a new way of working. I will have learned how to auto work in a team, and I Often need to meet a skillful person to resolve some problems. This whole happening such as network monitoring, Survey, & field working has been very helpful for the future life that consternations me.

5.3 Professional

Circulating is a needless way to start an employment in network engineering. And various ordinary networking as a stepping-stone into other network engineer fields such as network administrator, cloud networking. However networking itself is an unnecessary career highly proficient and complete. Network engineers are in the center of the highest paid locations.

5.4 Limitation Of This Report

To work out the report on the accomplished real-world happening in a short duration of only three months is not an easy task. Mainly the IT field of the combined network sector is a great area of knowledge and technology. So this is a very short time to bring off all the relevant facts and knowledge about combined network information technology. I've put together and this report has some problems and borders I have encountered which are as follows. In this report some strugglings and boundaries have been experienced which are as follows. The central condition of education is insufficient for current details. All binding information was not allowed to make use of the company and there is also restricted expectation to visit more than one branch. The time check is that numerous of the attributes could not be considered in present reports. A narrow data range for examination suffers. Lack of experience in externship report writing. Another limitation was to instrument the proposal for a large business.

References:

[1] Learn about Mango Teleservices , introduction to the company . available at “https://www.mango.com.bd/corporate_overview.php”

last accessed on 01-11-2021

[2] Learn about IIG. available at “<http://www.summitcommunications.net/iig>” last accessed on 01-20-2021

[3] Learn about syslog. available at “<https://en.wikipedia.org/wiki/Syslog>” last accessed on 02-5-2021

[4] Learn about solarwinds. available at “<https://en.wikipedia.org/wiki/SolarWinds>” last accessed on 02-12-2021

[5] Learn about network monitoring available at “<https://www.manageengine.com/network-monitoring/basics-of-network-monitoring.html>” last accessed 03-07-2021

[6] Learn about DHCP server. available at “<https://en.wikipedia.org/wiki/>” last accessed On 03-07-2021

[7] Learn about VLAN available at “<https://en.wikipedia.org/wiki/>” last accessed on 03-12-2021

[8] Learn about VPN available at “<https://www.expressvpn.com/>” last accessed on 03-17-2021

[9] Learn about mikrotik available at “<https://mikrotik.com/>” last accessed on 03-25-2021

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