

Design, Implementation and Monitoring of ISP's Network Scenario

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of
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APPROVAL

This Internship titled “**Design, Implementation and Monitoring of an ISP’s Network Scenarion**,” submitted by Shakil Ahmed 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 (BSC) and approved as to its style and contents.

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I hereby declare that, this internship report is completed by me, Shakil Ahmed, ID No: 152-15-6178 to the department of Computer Science and Engineering, Daffodil International University has been done by me and under the supervision of Muhammad Muhaiminul Islam, Lecturer, Department of CSE Daffodil International University.

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ABSTRACT

This report focuses on design, implementation and monitoring of an ISP's network. Ensuring minimal downtime and maximum continuity of a network service is the main goal of an Internet Service Provider Company. Internet Service Provider (ISP) can provide various services like data connectivity service, Internet service, Security ensures, Fiber optic networks, Network infrastructure design and maintenances and support. In enterprise network infrastructure, ISPs provide backup links that can keep up a network even when unplanned outage occurs. To ensure maximum availability of a designed network it is difficult when power outage or load shedding occurs. If we can design a network that is more beneficial, more secure, highly reliable and faster, then it will be more useful for any organizations. Besides, if we can ensure maximum continuity of a network by using redundant links, power backup by using renewable energy source and proper monitoring then the quality of service of the network will also increase.

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Chapter-1

Introduction Part

In this part brief description about Information and Technology (IT) and importance of IT will be discussed. Computer networking is a major part of Information and Technology.

1.1 Background of the Study: We live in "Data and Technology" century. In this century data and innovations is a fundamental piece of our cutting edge life. We won't advance without Information and Technology. IT has diverse sorts of classes, among them Computer Networking is its significant piece framework. Presently every single association is very relying upon Computer Networking. A considerable lot of different associations are adjusting PC organizing innovations. Furthermore, they are winning a considerable measure of income from these administrations. I had a chance to work with most driving IT and Internet Service Provider (ISP) specialist co-op that is Prisma advanced system. I see myself as opportune to get an opportunity to investigate their advancement strategies, working models, bargains and mechanical conduct. Also, I was meaning to investigate the Networking Industry and what it would seem that like basically, how they cooperate with their customers, how they outline a framework and what are their guidelines in their ecological work.

1.2 Statement of Problems: I found the opportunity to work in Network Operation Center (NOC) in Prisma digital system. We know PC organizing is the primary piece of our cutting edge life. I chose to think about PC systems administration and how can it function, how to outline a wide region system and spine arrange, what are the imperative keys to plan a gainful system, how might I configuration practical system and how to alleviate downtime of a system. We know arrange downtime relies upon numerous different issues. One of them is control issue. Because of absence of power stack shedding can be happened and that has caused numerous gadgets disconnected. We can utilize UPS for reinforcement control, yet it has just temporarily then again fuel of generator is all the more exorbitant to long time keep up that gadgets.

1.3 What is network

Network is an aggregation of PCs, servers, unified PCs, mastermind devices, peripherals, or diverse contraptions related with each other to allow the sharing of data. An awesome instance of a network is the Internet, which relates countless wherever all through the world.

1.4 Type network

1. Local Area Network(LAN)

A neighborhood, or LAN, comprises of a PC arrange at a solitary site, normally an individual office building. A LAN is extremely valuable for sharing assets, for example, information stockpiling and printers. LANs can be worked with generally modest equipment, for example, center points, arrange connectors and Ethernet.

2. Metropolitan Area Network(MAN)

A metropolitan district network, or MAN, includes a PC orchestrate over an entire city, school grounds or little region. A MAN is greater than a LAN, which is regularly confined to a single building or site. Dependent upon the course of action, this kind of network can cover a domain from a couple of miles to a few miles. A MAN is every now and again used to interface a couple of LANs together to shape a more prominent network. Exactly when this kind of network is especially proposed for a school grounds, it is every so often suggested as a grounds zone sort out.

3. Wide Area Network(WAN)

A wide district network, or WAN, has an immense domain, for instance, an entire country or the entire world. A WAN can contain different more diminutive networks, for instance, LANs or MANs. The Internet is the best-known instance of an open WAN.

1.5 OSI MODEL

There seven layer of osi model I will describe osi model.

Application (Layer 7)

OSI Model, Layer 7, supports application and end-customer shapes. Correspondence assistants are recognized, nature of organization is perceived, customer approval and security are considered, and any prerequisites on data sentence structure are recognized. Everything at this layer is application-specific. This layer gives application organizations to record trades, email, and other framework programming organizations. Telnet and FTP are applications that exist absolutely in the application level. Layered application structures are a bit of this layer.

Presentation (Layer 6)

This layer gives autonomy from contrasts in information portrayal by making an interpretation of from application to organize configuration, and the other way around. The introduction layer attempts to change information into the frame that the application layer can acknowledge. This layer designs and encodes information to be sent over a system, giving opportunity from similarity issues. It is at times called the sentence structure layer.

Session (Layer 5)

This layer sets up, oversees and ends associations between applications. The session layer sets up, organizes, and ends discussions, trades, and discoursed between the applications at each end. It manages session and association coordination.

Transport (Layer 4)

OSI Model, Layer 4, gives straightforward exchange of information between end frameworks, or has, and is in charge of end-to-end mistake recuperation and stream control. It guarantees finish information exchange.

Network (Layer 3)

Layer 3 gives exchanging and steering advances, making sensible ways, known as virtual circuits, for transmitting information from hub to hub. Steering and sending are elements of this layer, and additionally tending to, internetworking, blunder dealing with, clog control and parcel sequencing.

Data Link (Layer 2)

At OSI Model, Layer 2, information bundles are encoded and decoded into bits. It outfits transmission protocol knowledge and administration and handles mistakes in the physical layer, stream control and edge synchronization. The information connect layer is separated into two sub

layers: The Media Access Control (MAC) layer and the Logical Link Control(LLC) layer. The MAC sub layer controls how a PC on the system accesses the information and consent to transmit it. The LLC layer controls outline synchronization, stream control and mistake checking.

Physical (Layer 1)

OSI Model, Layer 1 passes on the bit stream - electrical drive, light or radio flag — through the system at the electrical and mechanical level. It gives the equipment methods for sending and getting information on a bearer, including characterizing links, cards and physical viewpoints. Quick Ethernet, RS232, and ATM are conventions with physical layer parts.

1.6 What is routing

In internetworking, the way toward moving a parcel of information from source to goal. Steering is typically performed by a devoted gadget called a switch. Directing is a key component of the Internet because it empowers messages to go starting with one PC then onto the next and in the long run achieve the objective machine. Every middle person PC performs directing by going along the message to the following PC. Some portion of this procedure includes examining a steering table to decide the best way.

1.7 What is Switching

In exchanging parcels are transferred from source to goal utilizing MAC address. Exchanging is done inside the system.

Chapter-2

Literature Review

I will examine about the foundation research of our task. We will likewise talk about various kinds of systems administration gadgets that are usually use in systems administration segment. To plan a business arrange what are the necessities and configuration process that will be talked about here.

2.1 Background Research

In this cutting edge age, Computer correspondence and data are the most vital and gainful parts for systems administration and in addition on financial division. For the interconnection of individuals, to speak with each other and to meet the every day prerequisites of day by day life, systems are winding up more critical. The business systems must have be proportional as for time and ought to be constantly under immaculate upkeep and checked to see amid the difference in rush hour gridlock stack. In this way, appropriate arranging is must to outline a business organize before execution happens. A decent system dependably has the majority of its documentation for future reference and very much arranged.

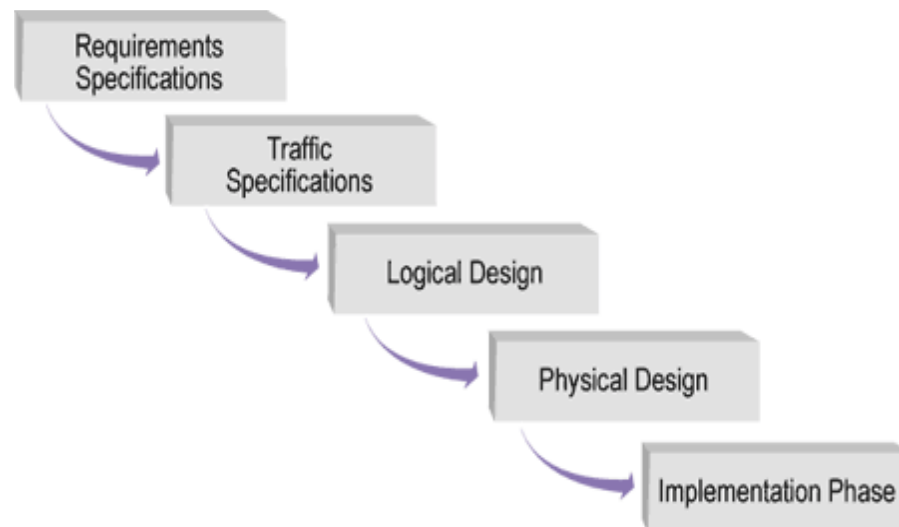


Figure 2.1: Network design steps.

2.2 Network Device

Switch: In systems administration part, Switch is a PC organizing gadget that interfaces different gadgets together on a PC arrange, by utilizing bundle changing to get, process and forward information to the goal device. Multiple information links are connected to a change to empower correspondence between various organized gadgets.



Figure 2.2: Switch

Router: In internet or in a packet switched networks, a router is call a device or software in a computer, which specifies the next free destination point on the network to which a packet should be forwarded. In OSI (Open System Interconnection) model, a router performs as Network Layer. Commonly Cisco, Juniper, HP, Delink and Blink, Netgear, Nortel, Linksys ets.



Figure 2.3: Mikrotik Router

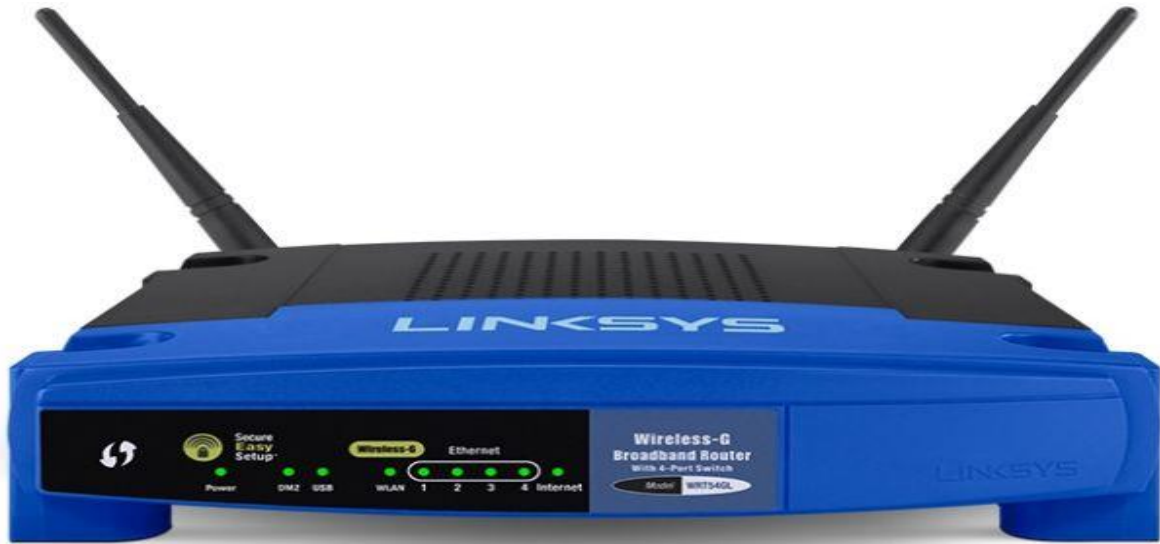


Figure 2.4: Router

Media Converter: Media Converters is such a kind of networking device which enable connections of UTP copper-based Ethernet equipment over a fiber optic link to take advantage of the benefits of fiber by extending links over greater distances using fiber optic cable, protecting data from noise or any interference and making advantage for increasing additional bandwidth capacity for the future wide network.(Media converter batter lazer -7 to -20 anoter lazer not support).



Figuer 2.5: Media Converter

DB Meter: In every practical sense every estimation in fiber optics implies optical power assessed in db. Power in a fiber optic structure looks like voltage in an electrical circuit. It's indispensable to have enough power, however not too much. Too little power and the gatherer will in all likelihood be not able perceive the banner from confusion; a considerable measure of vitality over-loads the recipient and causes botches too.

Measuring power

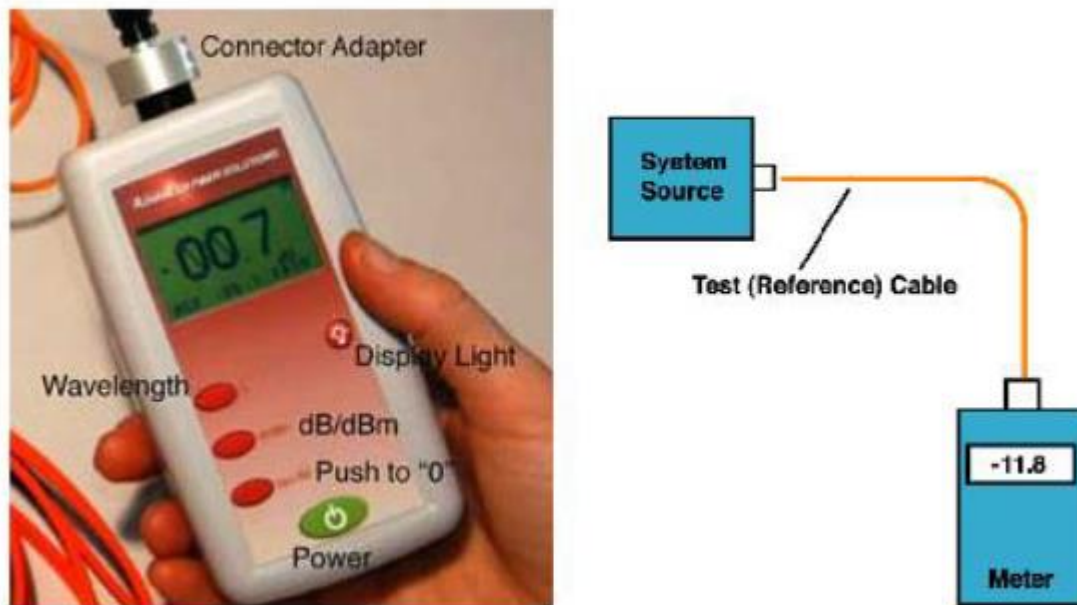


Figure 2.6:DB meter

ONT



Figure 2.7:ONT

Basic ONT/Modem Information and Troubleshooting. The ONT (additionally called the modem) associates with the Termination Point (TP) with an optical fiber link. It interfaces with your switch by means of a LAN/ethernet link and deciphers light flags from the fiber optic line from your TP into electronic signs that your switch can read .

2.3 Cabling

Isp or network system mainly use many type of cabling system .I will describe for two type

Fiber Optic: An optical fiber is an adaptable, straightforward fiber made by drawing glass (silica) or plastic to a measurement somewhat thicker than a human hair. Optical filaments are utilized regularly as a way to transmit light between the two finishes of the fiber and find wide utilization in fiber-optic correspondences, where it allow transmission over longer separations and at higher transfer speeds than wire links.

Advantage of fiber optic:

1. Transmission of higher data transmission to longer separation.
2. Information can be transmitted carefully as opposed to analogically.
3. Costs less to keep up.
4. Considerably lighter and more slender than different links.

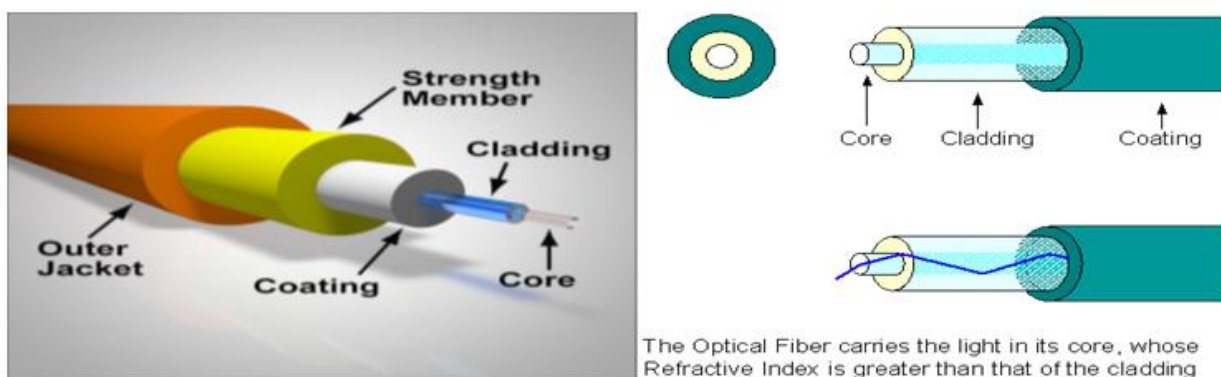


Figure 2.8:Fiber optical cable

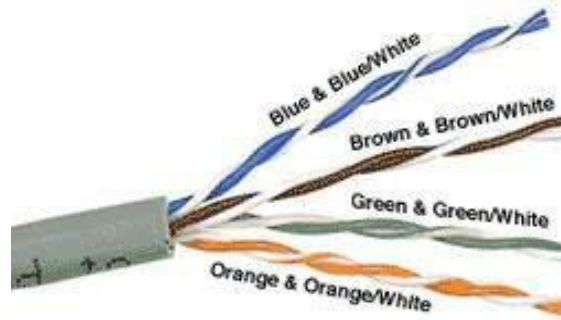


Figure 2.9:Internal Cable Structure and Color Coding

We utilize UTP (Unshielded Twisted Pair) Ethernet link of at any rate Category 5 (Cat 5). Feline 5 is required for fundamental 10/100 usefulness, you will need Cat 5e for gigabit (1000BaseT) activity and Cat 6 or higher gives a measure of future sealing.

RJ45 Pin #	Wire Color (T568B)	Wire Diagram (T568B)	10Base-T Signal 100Base-TX Signal	1000Base-T Signal
1	White/Orange		Transmit+	BI_DA+
2	Orange		Transmit-	BI_DA-
3	White/Green		Receive+	BI_DB+
4	Blue		Unused	BI_DC+
5	White/Blue		Unused	BI_DC-
6	Green		Receive-	BI_DB-
7	White/Brown		Unused	BI_DD+
8	Brown		Unused	BI_DD-

Figure 2.10:Table of Color Coding

Chapter-3

Internship Activities

This report is about ISP organize plan and support from Network Operation Center (NOC). The fundamental works of NOC is to guarantee the best possible upkeep benefit, giving dependable association with the customers, guarantee high security of the system and giving required data identified with the system to customer.

3.1 ISP NOC support technique: Monitoring of the whole network is the main task of NOC department. For monitoring purposes Prisma digital NOC uses Network Performance Monitoring tools like Wathermap,bandwath ,uplink and Downlink of optical fiber and Cacti.

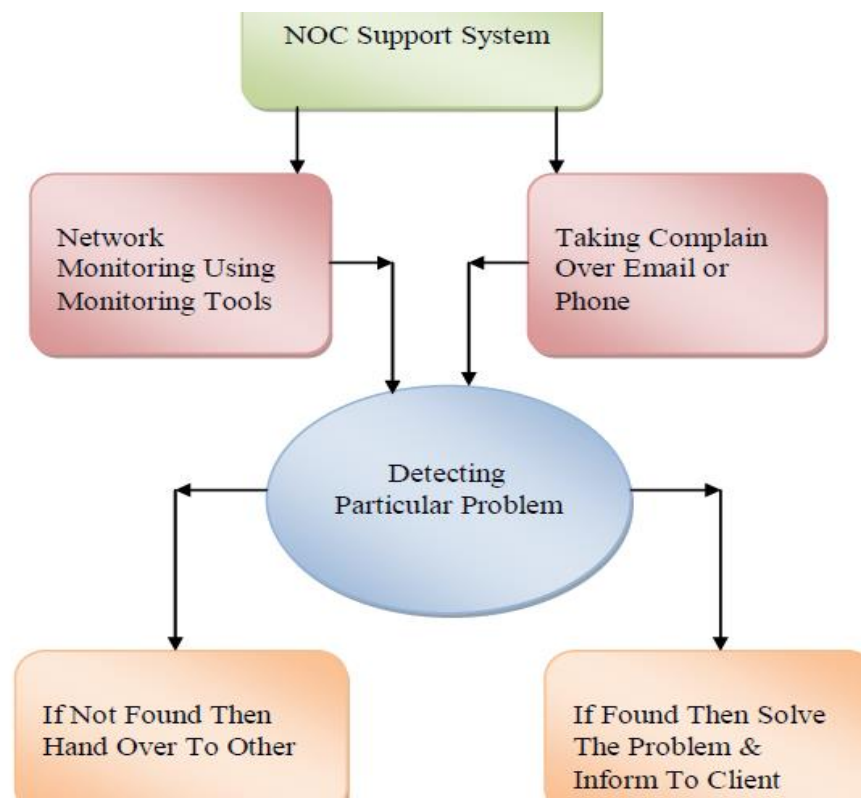


Figure 3.1: ISP NOC support technique

3.2 Network Monitoring Using Monitoring Tools:Firstly i will deceive network monitoring tools.

- 1.Cacti
- 2.Weathermap
- 3. MRTG
- 4. Winbox
- 5. Switch port status

Cacti: Cacti is an entire system diagramming arrangement intended to outfit the energy of RRDTool's information stockpiling and charting usefulness. Prickly plants give a quick poller, propelled diagram tinplating, numerous information obtaining strategies, and client administration highlights. The greater part of this is wrapped in a basic and simple to utilize interface that bodes well for LAN-scrutinized establishments to complex systems with several gadgets

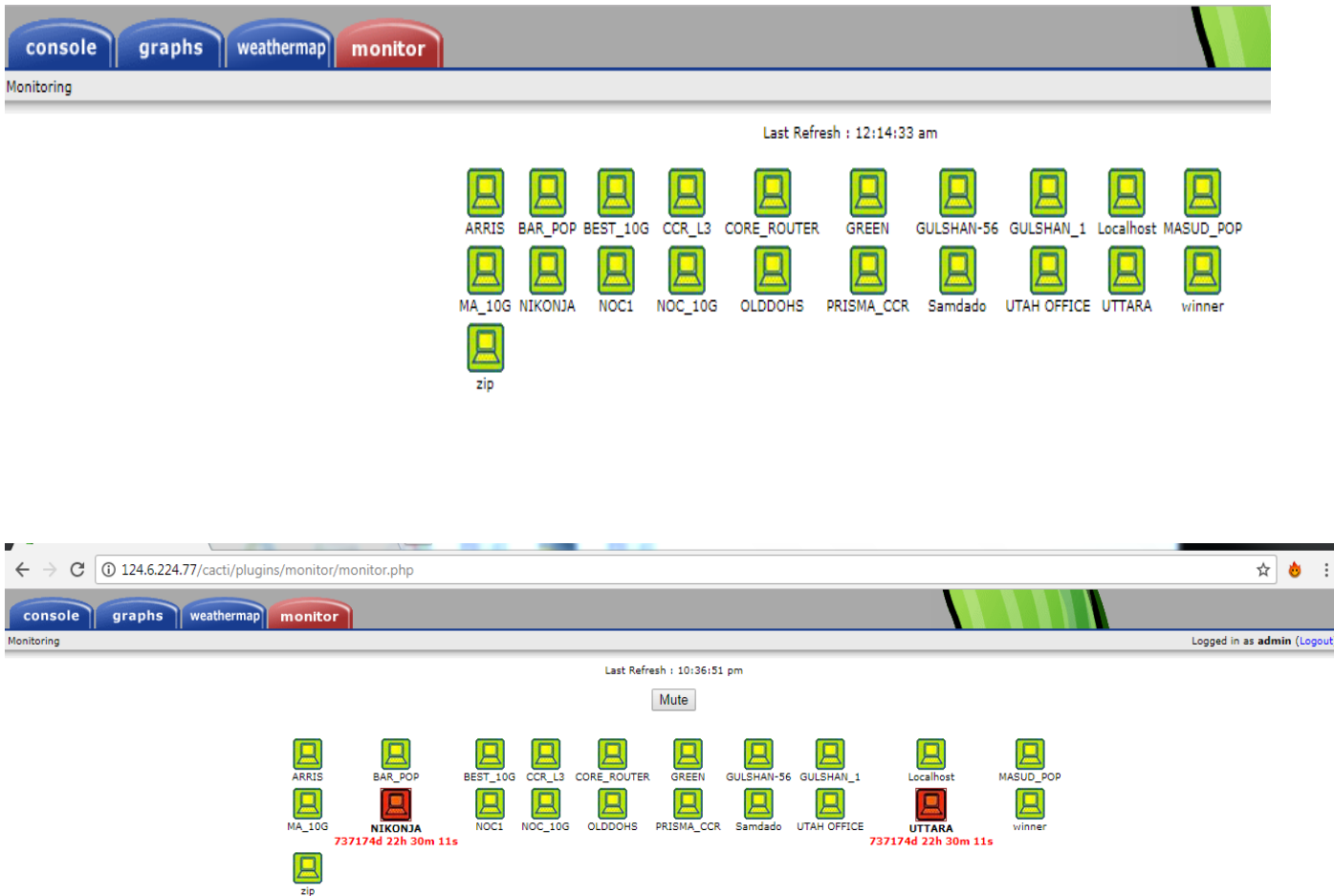


Figure 3.2: Cacti

Monitoring pop in cacti software . This software pop and down work.If pop is going down then maintenance work have to be down. POP down cacti software found red single pop up monitor found green single .

Weathermap:Weathermap is cabling monitoring software.monitoring to see sites are going smoothly or not.Checking bandwidth by wathermap .Also checking there is fiber cut or not by weathermap.

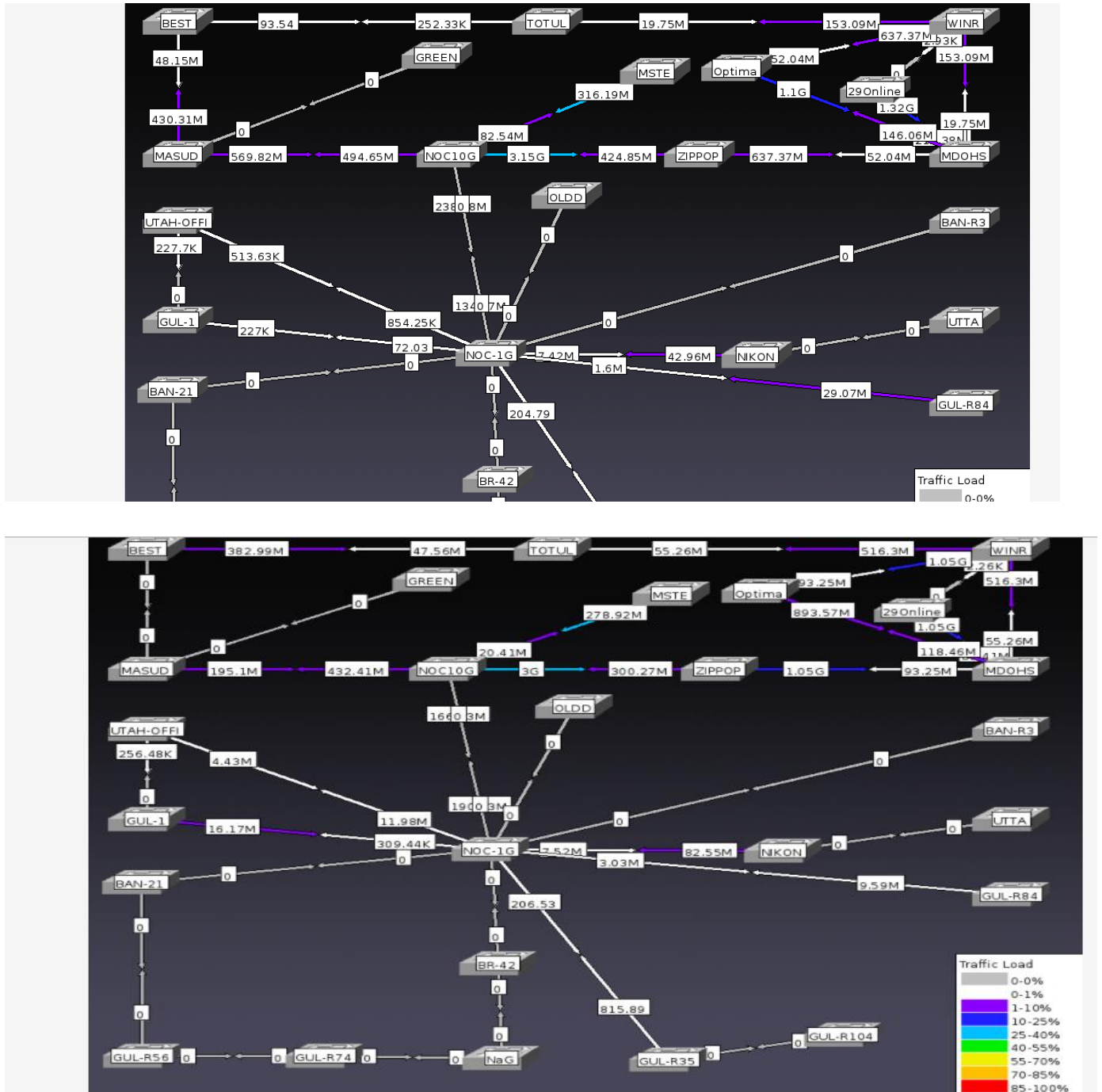


Figure 3.4:Weathermap

MRTG: MRTG remains for Multi Router Traffic Grapher, is an utility that is basically works for heads and clients to monitor the information exchange happening through a switch or other sort of gadget. The gadgets that help the Simple Network Management Protocol can be liable to observing through MRTG.

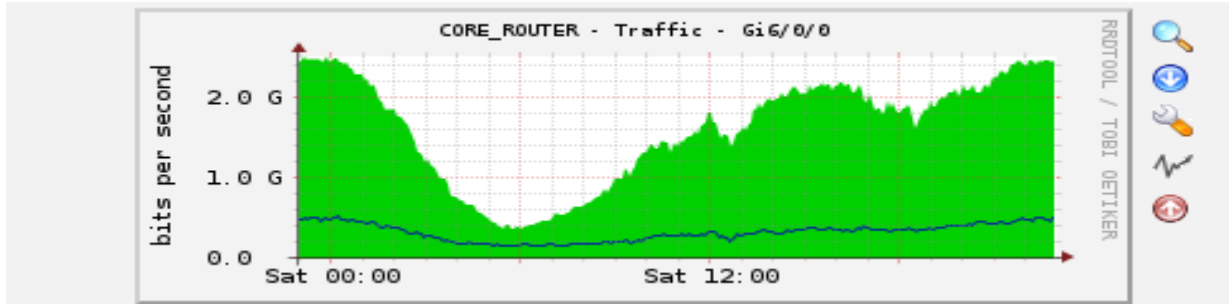


Figure 3.5:MRTG

Figure 3.6: Traffic analysis for individual link showing on MRTG

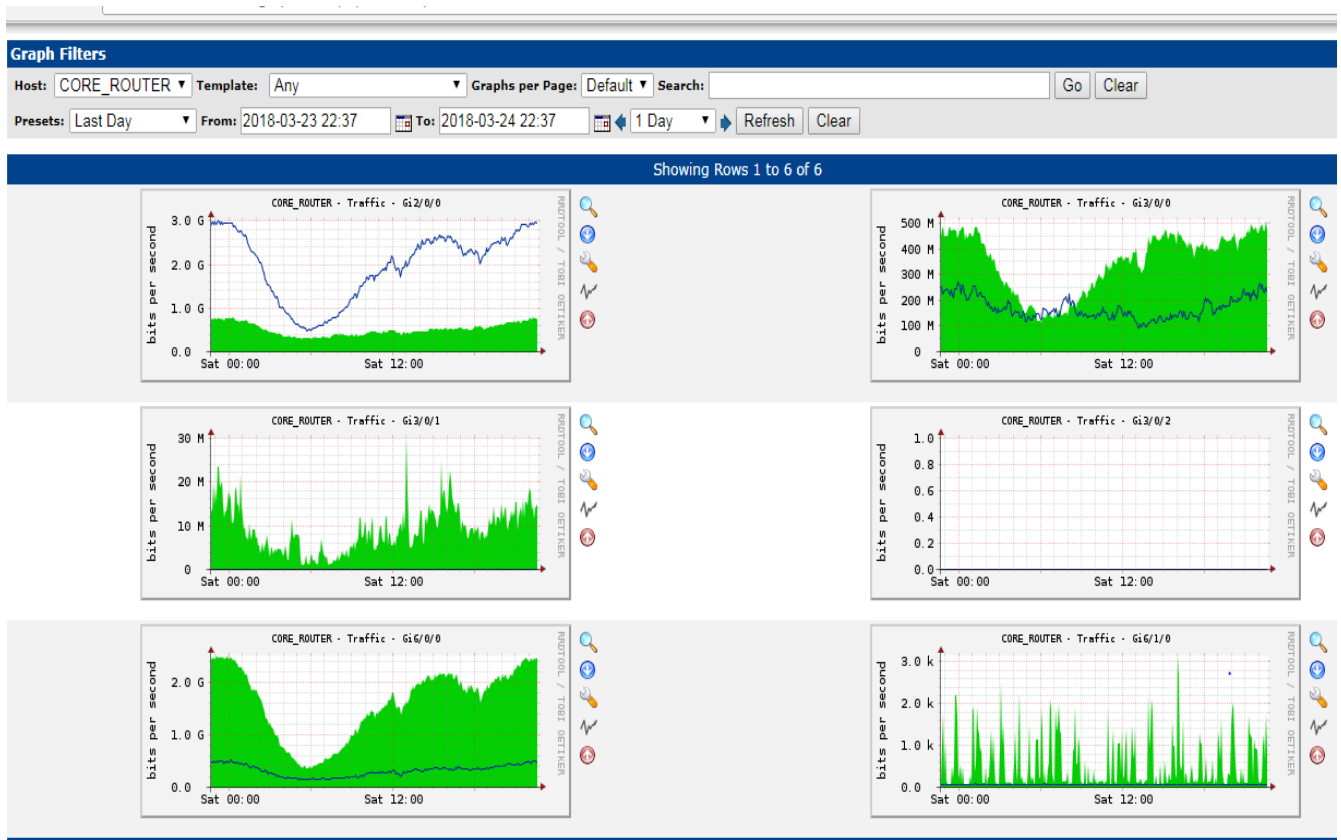
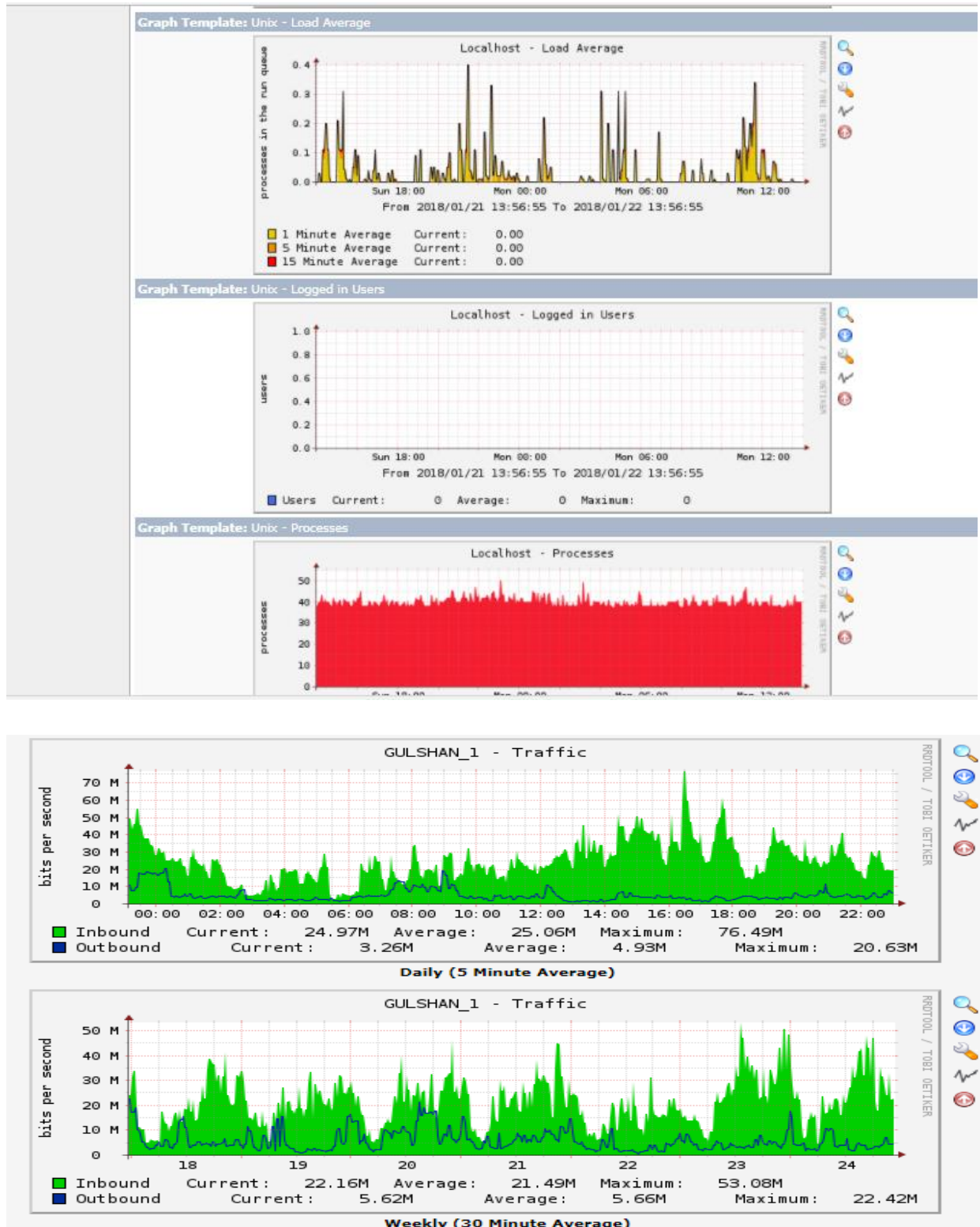


Figure 3.7: MRTG INDEX PAGE (Traffic summary of different router and wathermap)



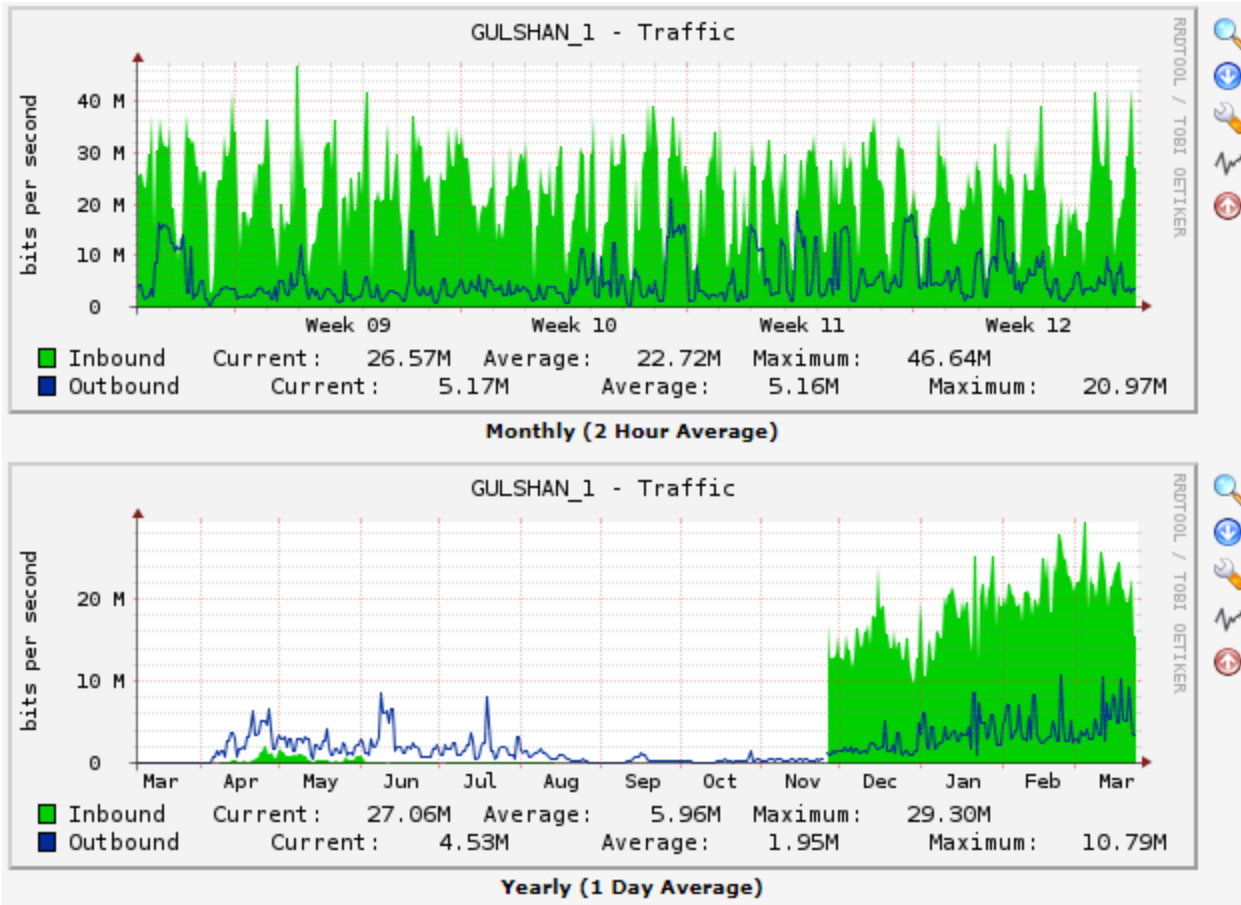


Figure 3.8: The image below is call customer manageable software. Through this image the customer can see how much bandwidth use is doing.



- Create
- View Graphs
- Management
- Graph Management
- Graph Trees
- Data Sources
- Devices**
- Weathermaps
- Collection Methods
- Data Queries
- Data Input Methods
- Templates
- Graph Templates
- Host Templates
- Data Templates
- Import/Export
- Import Templates
- Export Templates
- Configuration
- Settings
- Plugin Management
- Utilities
- System Utilities
- User Management
- Logout User



Devices										Add
Type:	Any	Status:	Any	Search:		Rows per Page:	30	Go	Clear	
<< Previous										Next >>
Showing Rows 1 to 22 of 22 [1]										
Description**	ID	Graphs	Data Sources	Status	In State	Hostname	Current (ms)	Average (ms)	Availability	
ARRIS	34	2	2	Up	-	124.6.224.40	2.63	1.84	99.89	<input type="checkbox"/>
BAR_POP	25	6	6	Up	-	124.6.224.229	1.86	2.11	95.72	<input type="checkbox"/>
BEST_10G	17	5	5	Up	-	124.6.224.250	2.62	3.45	99.4	<input type="checkbox"/>
CCR_L3	8	4	4	Up	-	124.6.235.241	7.18	26.57	99.88	<input type="checkbox"/>
CORE_ROUTER	30	6	6	Up	-	124.6.224.33	1.11	19.09	93.91	<input type="checkbox"/>
GREEN	26	2	2	Up	-	124.6.224.228	4.95	3.72	97.74	<input type="checkbox"/>
GULSHAN-56	36	2	2	Up	-	124.6.224.237	2.53	5.21	99.19	<input type="checkbox"/>
GULSHAN_1	29	3	3	Up	-	124.6.224.253	1.97	2.3	99.49	<input type="checkbox"/>
Localhost	1	5	5	Up	-	127.0.0.1	0.12	0.48	100	<input type="checkbox"/>
MASUD_POP	21	6	6	Up	-	124.6.224.245	2.16	3.89	90.41	<input type="checkbox"/>
MA_10G	15	2	2	Up	-	124.6.224.240	1.82	3.5	96.33	<input type="checkbox"/>
MDOHS	40	4	4	Up	-	124.6.224.252	1.66	2.66	99.37	<input type="checkbox"/>
NIKONJA	23	2	2	Down	0d 9h 5m	124.6.224.246	1.18	1.39	98.89	<input type="checkbox"/>
NOC1	2	25	25	Up	-	124.6.224.247	2.76	7.27	99.92	<input type="checkbox"/>
NOC_10G	14	7	7	Up	-	124.6.224.226	1.59	4.88	99.73	<input type="checkbox"/>
OLDDOHS	28	2	2	Up	-	124.6.224.242	5.35	3.1	97.3	<input type="checkbox"/>
PRISMA_CCR	22	8	8	Up	-	124.6.224.60	7.07	25.86	99.87	<input type="checkbox"/>
Samdado	33	2	2	Up	-	124.6.224.234	9.42	15.34	99.43	<input type="checkbox"/>
UTAH OFFICE	39	2	2	Up	-	124.6.224.243	2.47	5.61	99.57	<input type="checkbox"/>
UTTARA	24	1	1	Down	0d 9h 5m	124.6.224.235	1.68	2.27	98.69	<input type="checkbox"/>
winner	4	8	8	Up	-	124.6.224.238	124.52	6.95	99.18	<input type="checkbox"/>
zip	3	4	4	Up	-	124.6.224.239	1.67	3.58	99.49	<input type="checkbox"/>
<< Previous										Next >>
Showing Rows 1 to 22 of 22 [1]										

Winbox: Winbox is one of the interfaces to design the Mikrotik Operating System switch which is as of now a prevalent running on the working framework Microsoft windows and MAC. It is more useful for graphical UI and furthermore has comfort framework. Here are a few particulars of Mikrotik switch utilizing Winbox.

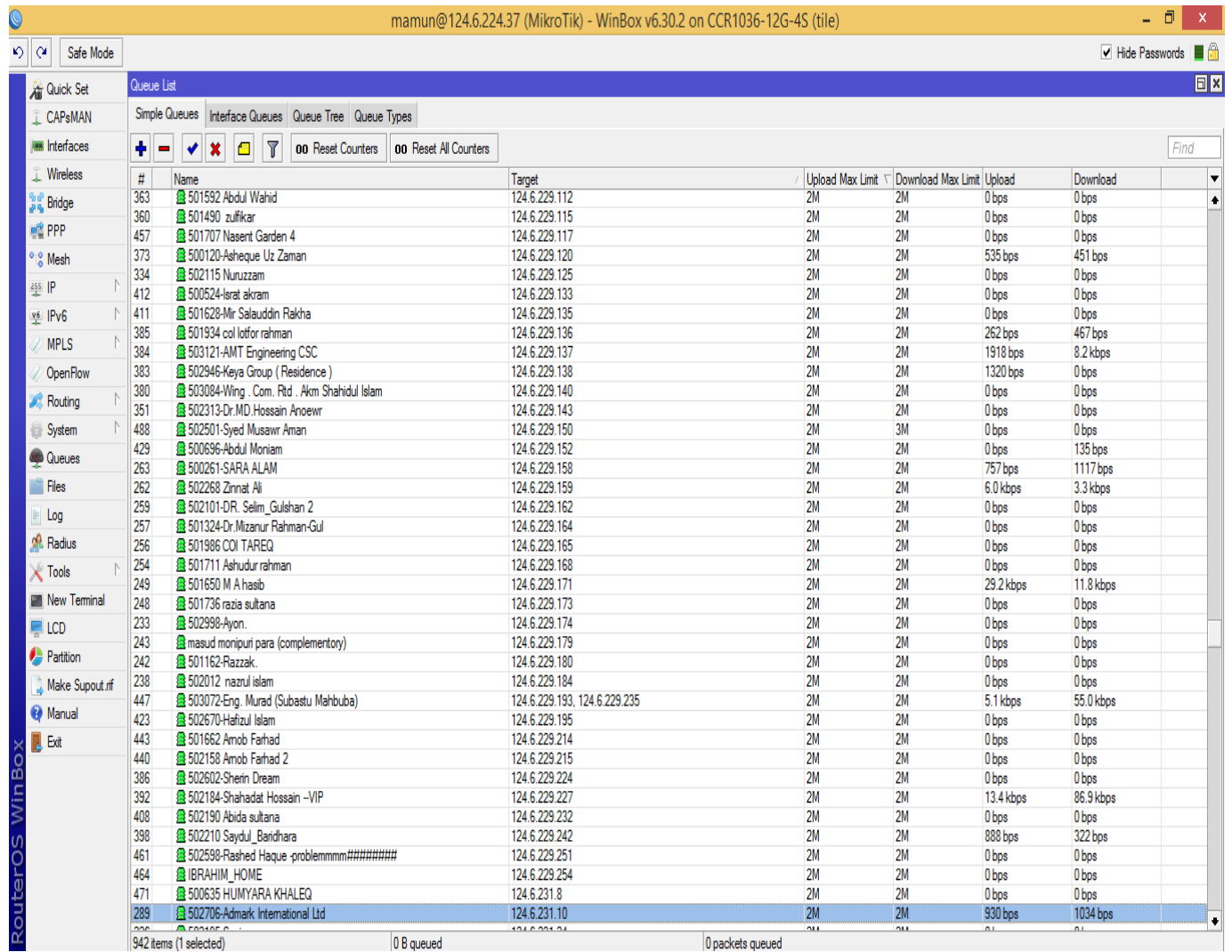
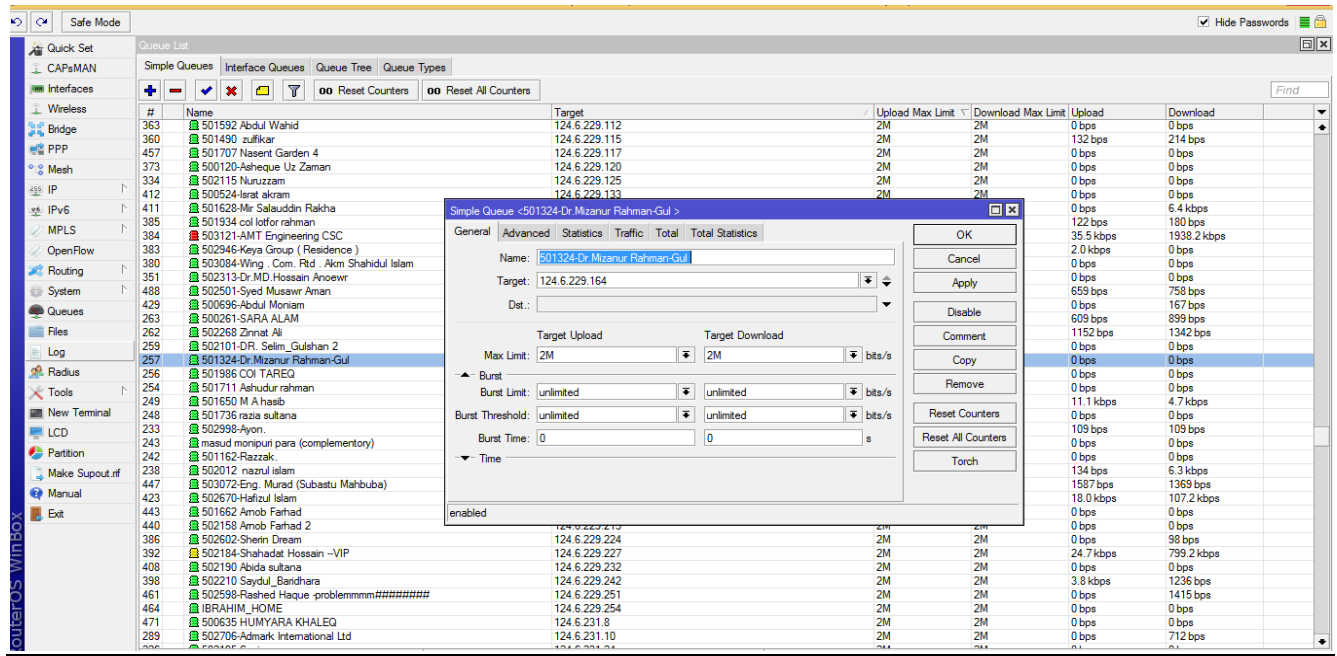


Figure 3.9: Winbox

Winbox Work to increase the bandwidth and reduce the customer MAC address.If we get customers message we understand that the internet is working and the internet dose not work if there is no MAC address.

Figure 3.10: The picture below shows how bandwidth is offered to customer.



Switch port status: Switch port status, transmit and receive alert for individual nodes.

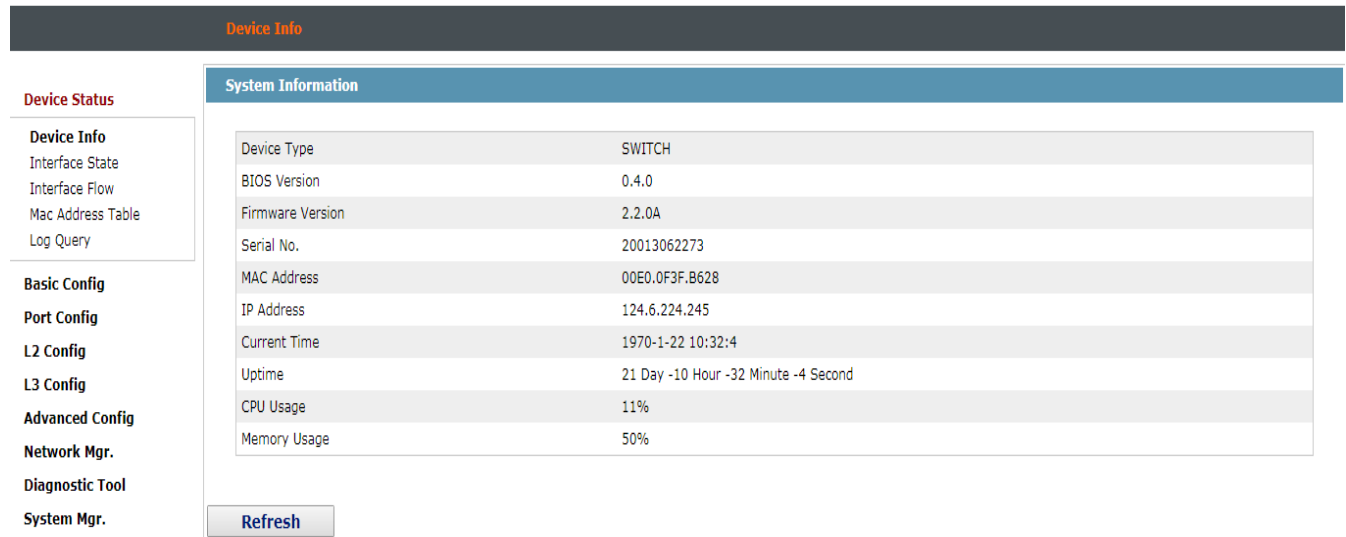


Figure 3.11: switch device information

Here is the situation of various port status on an individual switch. On the left side, green shading comments the UP status of switch port, red shading comments the down status and red crossed image characterizes the shutdown status for the switch ports.

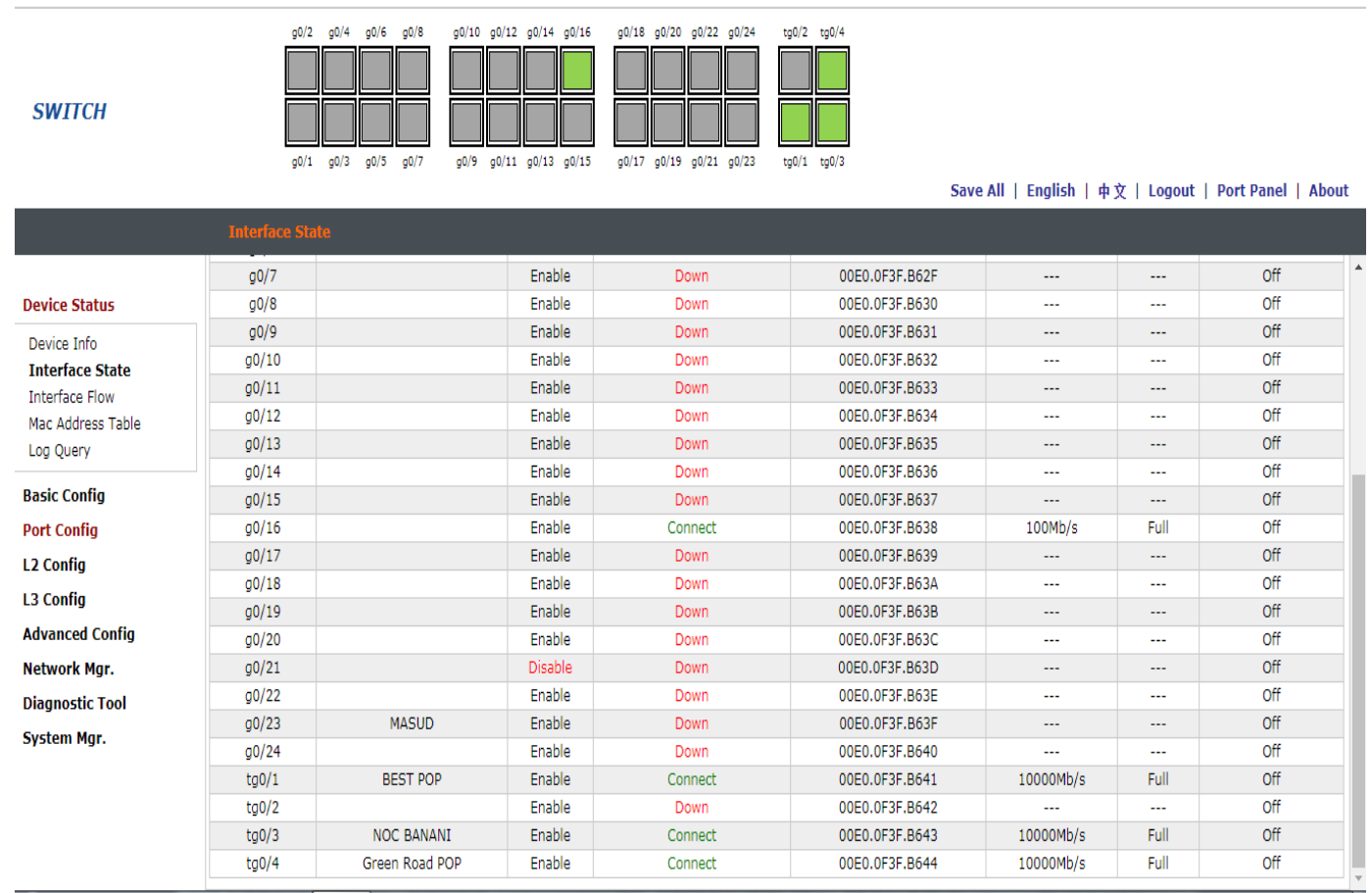


Figure 3.12: Switch port status for one node.

3.3 Taking Complain Over Email or Phone

When the customer is complien customer service Then call her ID number.(example :506178).Customer service compline send the customer Support is the first check customer complien.Then update the latter in taket box with problem And try to solve its problem.For example the picture below .

SL	Ticket ID (EDIT)	Client Name (Detail)	Complain/Problem	STATUS
1	<input type="checkbox"/> 12242017-170947	Bio Dent.....503100	New Connection Form forward to Mr. Mamun and Ibrahim.....Hasan	PENDING
2	<input type="checkbox"/> 01222018-115552	SAS Group-502482	No Connection	PENDING
3	<input type="checkbox"/> 01222018-111241	MD. Azizur Rahman.....502985	T. D.C To Re Connection.....Form Forward to Mr. Zakir Ref: Siraj Biling	PENDING
4	<input type="checkbox"/> 01222018-111130	DMD Mujibur Rahman	NO CONNACITION	PENDING
5	<input type="checkbox"/> 01222018-105747	Roswitha Amels (German Emb)	T.D.C. From Forwarded To Mr.ZahidulRubel	PENDING
6	<input type="checkbox"/> 01222018-105700	Mehrin-501877	No Connectivity	PENDING
7	<input type="checkbox"/> 01222018-105248	Cor.Salam-502419	No Connectivity	PENDING
8	<input type="checkbox"/> 01222018-105228	A B M Shajahan	D.C. From Forwarded To Mr.ZahidulRubel	PENDING
9	<input type="checkbox"/> 01222018-083633	Col Salam ----- 502385	No Connectivity	PENDING
10	<input type="checkbox"/> 01212018-210947	Sohel.....500549	No Connectivity	PENDING
11	<input type="checkbox"/> 01212018-203542	Shabir Hussain.....501003	No Connectivity	PENDING

▶ Ticket ID	:	12242017-170947
▶ Customer Name	:	Bio Dent.....503100
▶ Open Date	:	24-12-2017
▶ Open Time	:	05-09 pm
▶ Complain (Trouble)	:	<i>New Connection Form forward to Mr. Mamun and Ibrahim.....Hasan</i>
▶ Action (CS)	:	<i>01811422217</i>
▶ Action (Support)	:	<i>[need to collect A Type MC for house from Zakir vhai] Talk with customer he will inform us after 18-01-18.....Zahedul.....15-01-18 Talk with customer he will inform us after 24-1-18.....Shakil.....22-1-18</i>
▶ Remark (If any)	:	<i>[need to collect A Type MC for house from Zakir vhai]</i>
▶ Set Ticket Status	:	SET - Problem Status ...
▶ Probable Solve Date	:	25-01-2018
▶ Concern Department	:	02 - CUSTOMER_SUPPORT
▶ Ticket Open By	:	rubel

Figure 3.13: Taking System

Chapter-4

Methodology

In this chapter, we will discuss about the design process of a corporate network, process of the downtime of network and security of the network.

4.1 Backbone Network Design: To design a corporate network, we need to follow some rules that create a network more efficient. A designed corporate network has some goals.

1. Scalability
2. Redundancy
3. Performance
4. Security
5. Manageability
6. Maintainability

4.2 Hierarchical network is mainly divided into three layers.

Core layer: The center layer is a rapid exchanging spine and ought to be intended to switch bundles as quick as could be expected under the circumstances. This layer essentially interfaces the other conveyance layer gadgets. Center Layer comprises of greatest, speediest, and most costly switches with the most astounding model numbers and Core Layer is considered as the foundation of systems .

Distribution layer This layer interconnects the littler nearby systems with center layer.

Dissemination Layer is situated between the entrance and center layers. Dissemination layer gadgets likewise regularly oversee singular branch-office WAN associations

Access layer: This layer gives availability to arrange has and opposite end gadgets. Access layer incorporates get to switches which are associated with the end gadgets (Computers, Printers, and Servers and so forth). Access layer switches guarantees that bundles are conveyed to the end gadgets

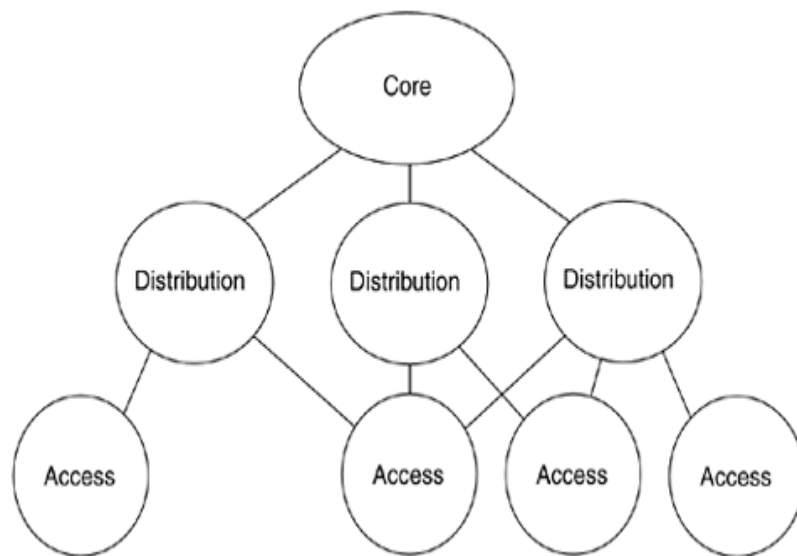
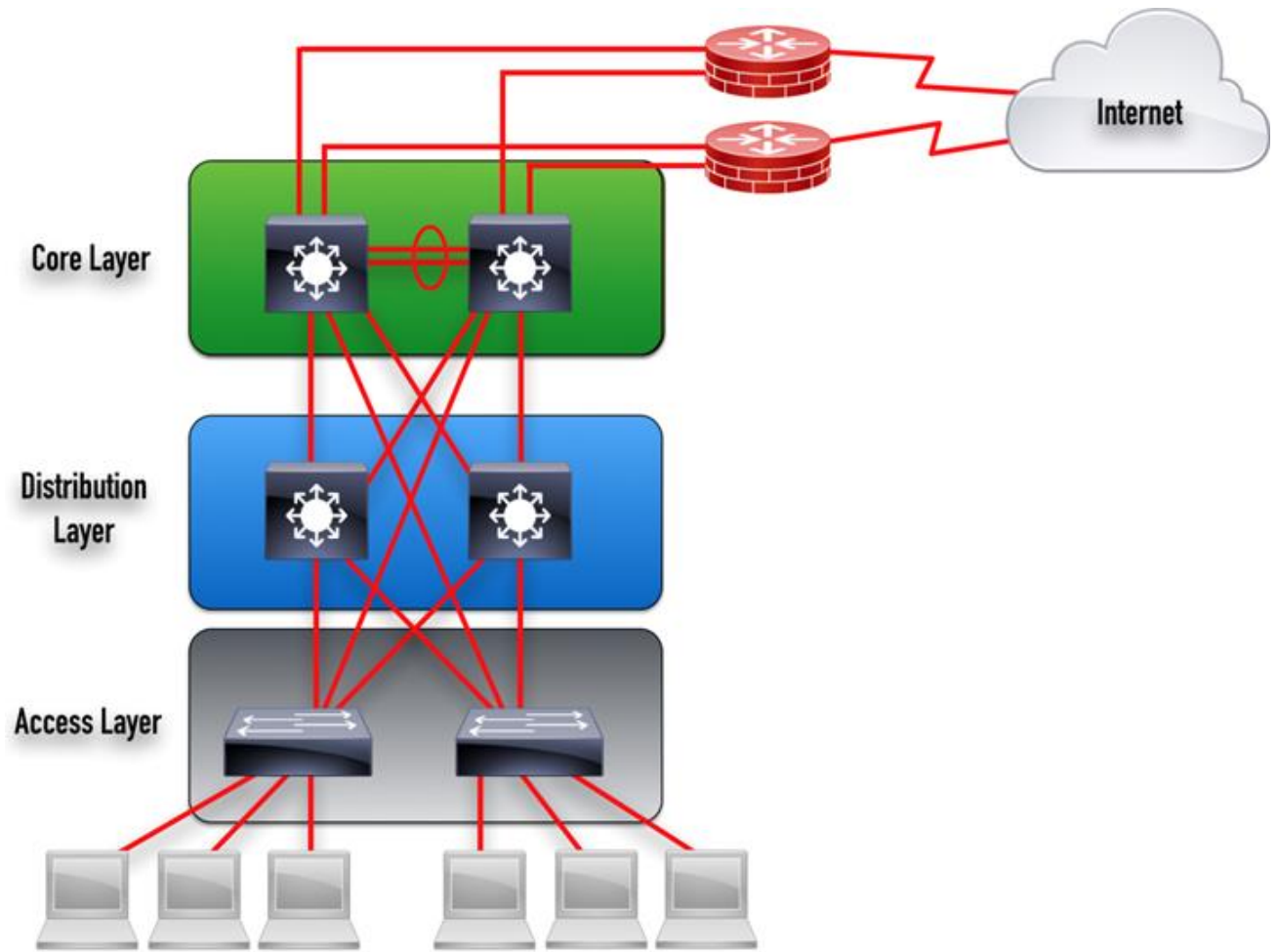


Figure 4.1: Hierarchical network layer.

Design of Core Layer

- **The key characteristics of core-layer are following:**
- Quick transport and huge measure of information
- Redundancy
- High dependability and accessibility
- Low inactivity and great sensibility
- Fault resistance
- Limited and reliable measurement

Devices of Core Layer

Top of the line switches and switches

- Layer-3 switches
- Gateways and media converters
- Soft Switches for IP phone

Design of Distribution Layer

key characteristics of distribution-layer are as following:

- Hiding inside system numbers by course separating
- Static steering
- QoS instruments, for example, need based lining
- Redundancy and load adjusting
- Aggregation of LAN wiring storerooms and WAN associations
- Security sifting
- Route rundown
- Routing between virtual LANs (VLAN)
- Redistribution between steering areas.

Devices Distribution Layer:

- LAN Router
- Layer 3 Switches
- Bridge
- Filter (Like Firewall)
- VPN Access Router

Design of Access Layer

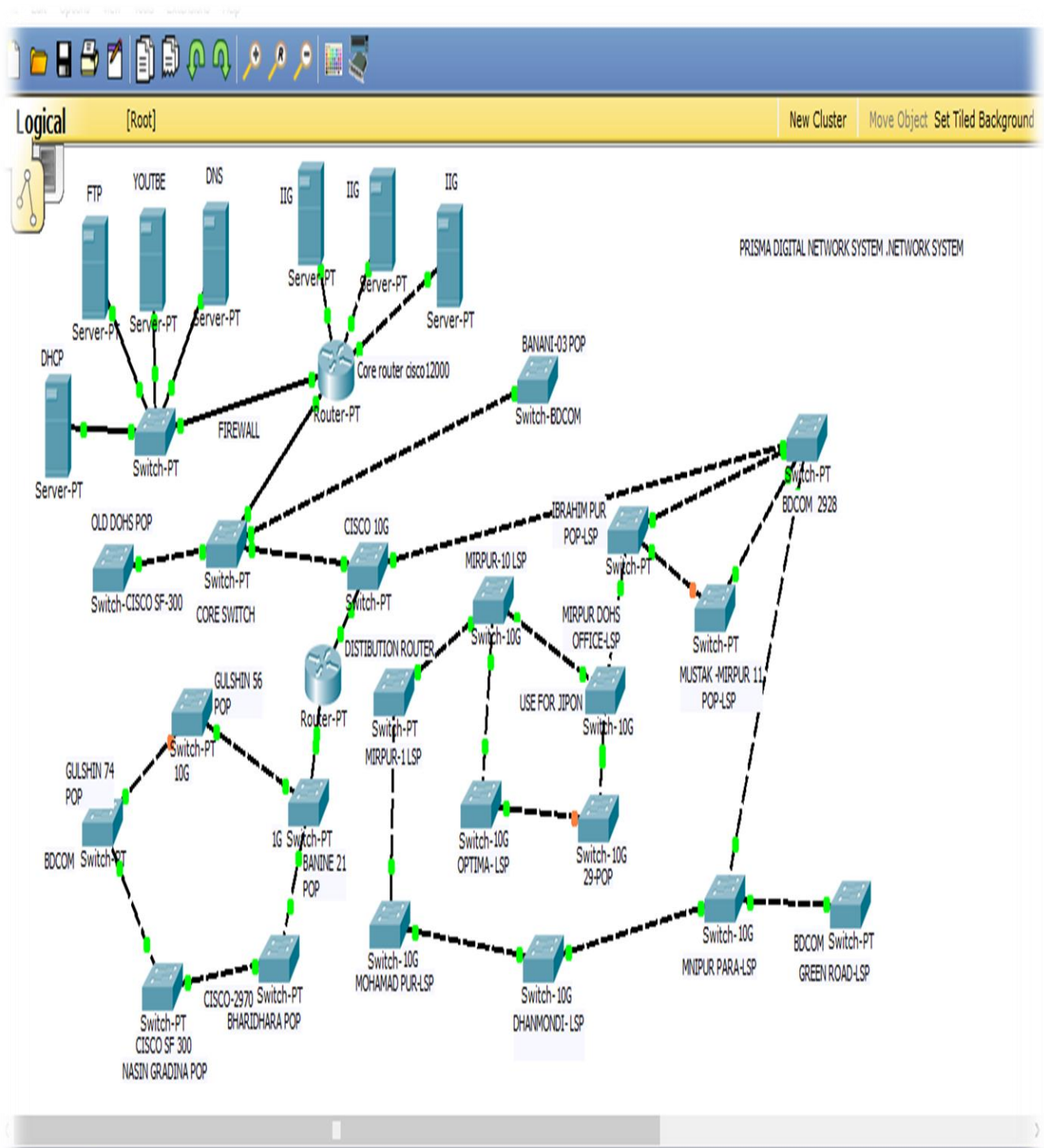
key characteristics of access-layer are as following:

- High accessibility
- Layer 2 exchanging
- Port security
- Broadcast concealment
- Rate constraining/policing
- Address Resolution Protocol (ARP) investigation
- Spanning tree convention (STP)
- Power over Ethernet (PoE) and assistant VLANs for VoIP

Devices of Distribution Layer

- End Devices (Desktop, Laptop, IP Camera, Printer)
- WEB, FTP, Email Server
- Repeater
- Hub Database Server
- Video conferencing
- IP communication

4.2 Figure: Complete Network Design of Prisma Digital Network Ltd.



CHAPTER-5

Conclusion and Future Scope

5.1 Conclusion and Discussion: In survey this temporary position has been a phenomenal and remunerating background. I have possessed the capacity to meet and system with such a large number of individuals that I am certain will have the capacity to help me with circumstances later on. One primary concern that I have learned through this temporary job is time administration abilities and in addition self-inspiration. When I initially began I didn't imagine that I would have been ready to influence myself to sit in an office for eight hours per day, five days seven days. When I understood what I needed to do I sorted out my day and work with the goal that I was not covering or squandering my hours. I discovered that I should have been composed and have questions prepared for when it was the right time to get criticism. From this temporary position and time administration I needed to figure out how to rouse myself through being in the workplace for such huge numbers of hours. I concocted different proposition and thoughts that the association is as yet investigating utilizing. Everywhere on these, this entry level position make me certain and enlivened to grow up my bearer with systems administration. I feel that each IT foundation understudy ought to go for some down to earth preparing or entry level position that can grow his useful information and more honed specialized and administrative expertise

5.2 Future Scope

At display I am utilized of prisma computerized network.I am as yet keeping my alternatives open for new openings. I appreciate this profession, however I don't know whether there is sufficient space to develop through this association. I will keep on working hard in my position and want to keep on learning about the division and meet new individuals. This was a magnificent ordeal and I trust that different understudies received as much in return as I did! There are a colossal number of Network organizations in our nation and they select a great deal number of Network Professionals. Each vast organization or Govt. Association additionally selects various system proficient for keeping up their Enterprise Network System. Plan, Implementation and Monitoring of an ISP's Network Scenario.So I think this temporary job gives a promising future to me and help to advancement my expert bearer in future.

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