Internet as a Source of Global Linkage

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Abstract- ***The need for global communication is inevitably important, therefore, a universal concern. Internet is the tool that has closed the gap, interconnecting people from all over the world, making communication a reality. The Internet is a global computer network that provides a variety of information and communication services that interconnects different networks through standardized communication protocols(IP address). The Internet is a modern medium that allows one to travel in the comfort of its location to any part of the world through the World Wide Web (www). The traditional way of sending letters is gradually winding up and is being replaced by an electronic medium such as email and instant messaging. The education sector has not left any stone unturned by adopting theneed for the Internet through its modern form of student admission application process and even the verification of results by students. You can literally say that the Internet adapts to almost all communication needs. The Internet has linked people from different nations through aplatform called social networks. This has proven to be the fastest means of expressing public opinion and young people have especially taken advantage of it, although not only for them. Therefore, this document tends to elaborate on the Internet as a modern means of global linking.***

Indexed Terms- Communication, Global, Internet, IP (internet protocol) address, Network.

I. INTRODUCTION

According to the Oxford Dictionary, the Internet is a global computer network that provides a variety of information and communication services, consisting of interconnected networks that use standardized communication protocols. In fact, it is interesting that one from the comfort of your home get information about anything using a Smartphone or a computer.The origins of the Internet date back to research commissioned by the federal government of the United States in the 1960s to build robust, fault-tolerant communication with computer networks [1]. The Internet-enabled device can communicate with another end device outside its own network, making global communication possible. Internet service providers (ISPs) are an organization that provides services to access, use or participate in the Internet. Before a device can communicate with another device outside its own network, there must be an address that uniquely defines each node of the final device. Communication via the Internet is possible thanks to the address (IP address). It is an obvious fact that Internet use has increased in recent years. New technologies have literally integrated the Internet into almost everything. Some appliances can now be controlled remotely over the Internet and this is called the Internet of Everything (IoE).

II. BACKGROUND KNOWLEDGE OF INTERNET

One would ask who invented the Internet. This goes back to wide area networks that originated in several computer labs in the United States, the United Kingdom and France. The United States Department of Defense awarded contracts as early as the 1960s, including for the development of the ARPANET project, directed by Robert Taylor and administered by Lawrence Roberts. The Internet is a global system of interconnected computer networks that use the set of Internet protocols (TCP / IP) to link devices worldwide. Internet consisting of private, public, commercial, academic and government networks from local to global reach, linked by a wide range of electronic, wireless and optical network technologies. That is why the internet is generally known as a network of networks. The media, newspaper companies, companies, churches and virtually all commercial businesses are now changing their advertising to the Internet platform. Internet communication is possible thanks to the IP address. Each website has its own unique address. With this, one could say that it is a global network that links

thousands of computers with data lines and wireless systems.

III. INTERNET SERVICE PROVIDER (ISP)

An Internet service provider is an organization that provides services to access, use or participate in the Internet. It is the ISP that makes internet use possible. They provide customers with internet access. They can be organized in various ways, such as commercial, community owned, nonprofit or otherwise privately owned. An Internet service provider is also known as an Internet access provider (IAP).

IV. IP ADDRESSING

An Internet Protocol address (IP address) is a numeric label assigned to each device connected to a computer network that uses the Internet Protocol for communication. It is the IP address that makes it possible to transfer data over the Internet. An end system can only communicate with a host on another network if it has the IP address linked to the network. An IP address serves two main functions: host or network interface identification and location addressing. There are two versions of IP address; IP version four (IPV4) and IP version six (IPV6).

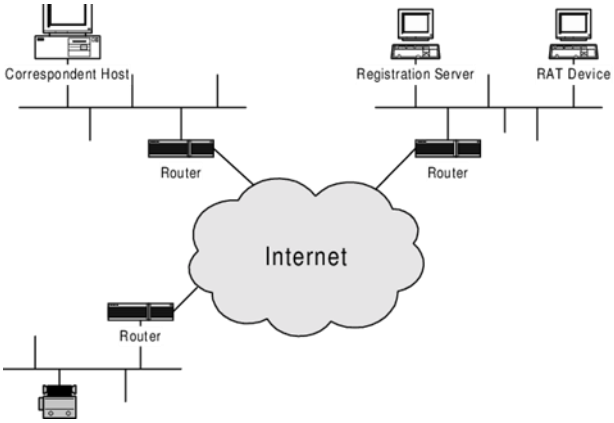

Fig. 4.1: schematic diagram of network architecture

V. ROUTING

Routing is the process of selecting a route for traffic on a network or between several networks. Generally speaking, routing is performed on many types of networks, including circuit switched networks, such as the public switched telephone network (PSTN) and computer networks, such as the Internet. It is a process that is performed using layer 3 devices (or network layer) to deliver the package by choosing an optimal route from one network to another. A packet is typically forwarded from one router to another router through the networks that constitute an internetwork (e.g. the Internet) until it reaches its destination node [2]. When multiple routers are used in interconnected networks, the routers can exchange information about destination addresses using a routing protocol. Each router builds up a routing table listing the preferred routes between any two computer systems on the interconnected networks [3] The main purpose of a router is to connect multiple networks and forward packets destined either for its own networks or other networks. A router can run more than one routing protocol at a time, particularly if it serves as an autonomous system border router between parts of a network that run different routing protocols; if it does so, then redistribution may be used (usually selectively) to share information between the different protocols running on the same router [4] .

5.1 Types of Router: There are basically two types of router.

5.1.1 Wired Router. Wired routers are typically box-shaped devices that connect directly to computers via "hard-lined" or wired connections.

5.1.2 Wireless Router. Similar to a wired router, a wireless router connects directly to a modem via a cable for receiving Internet data packets.

Fig 5.1: Wired Router

Fig 5.2 Wireless router

5.2 Domain name service (DNS)

The Domain Name System is a hierarchical and decentralized name system for computers, services or other resources connected to the Internet or a private network. Associates diverse information with domain names assigned to each of the participating entities. The Internet maintains two principal namespaces, the domain name hierarchy[5] and the Internet Protocol (IP) address spaces.[6]The Domain Name System (DNS) is the Internet phone book. Humans access information online through domain names, such as facebook.com or nau.edu.ng, while web browsers interact through Internet Protocol (IP) addresses. DNS does the job of translating domain names into IP addresses so that browsers can load Internet resources. From the human point of view, such translations are not shown and, of course, are not a cause for concern. To view this translation, go to the command prompt of a PC with Internet access and type the command "ping www.facebook.com". The translation performed by DNS takes nanoseconds; therefore, it does not delay the browsing speed.

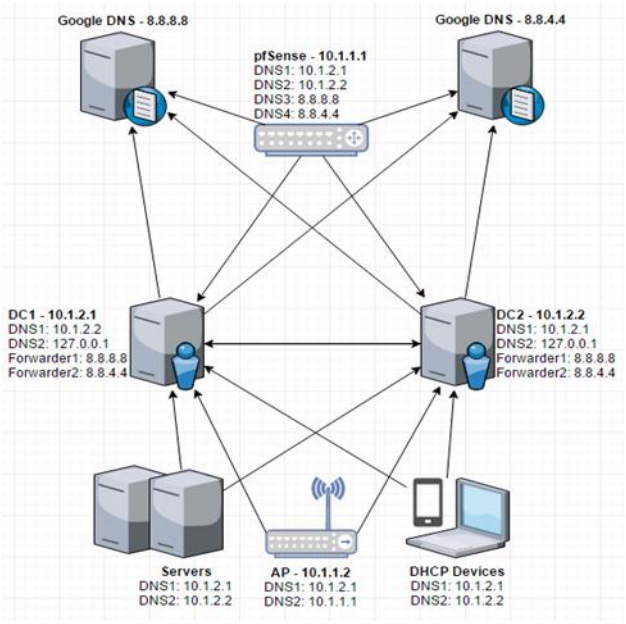

Fig. 5.3; Schematic diagram of DNS

VI. IMPORTANCE OF INTERNET

The need for internet cannot be overstated. Today the Internet is the most powerful tool in the world. Internet is a collection of various services and resources. The importance ranges from private, educational, security, banking, etc. In the education sector, the Internet plays a vital role in the system. Documents are shared through the internet. Registration of new students, information exchange, verification of results and others. Online studies is another benefit of the internet. Recently, the Internet is helping the banking system by using the online banking platform. Social networks are a great advantage that the Internet has brought into existence. Internet helps to transmit information worldwide.

6.1 Wrong use of Internet

In as much as the Internet has been so useful, recently the scam and fraudulent activities carried out through the Internet have been increasing. Social networks especially are highly subscribed by young people and have highly fraudulent activities. The internet scam is an incorrect use of the internet.

6.2 Key note on the right use of the Internet

It is important to use the Internet only when you need it and feel safe to access it. Do not share your password with your peers and it is important that they be as secure as possible. Communication through social networks is something that must be done with total care.

VII. CONCLUSION

Internet is a global means of communication. Internet access is provided by Internet service providers (ISPs). Internet communication could be through wired or wireless technology. The router is the network device that routes or links different networks in order to communicate. However, it is important to keep in mind that without the Internet Protocol (IP) address that device communication on the Internet could not be possible.

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