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NAME : Timothy Kwadwo Asiedu

AFFILIATION : IEEE Member -- Computer + Communications
Society

POSTAL ADDRESS : P. O. Box 945, Kaneshie, Accra, Ghana

E-mail : tasiedu@hotmail.com

TELEPHONE : 233 – 21 – 408059; 233 – 20 – 8192372 (mobile)

FAX :

Internet and the challenges most industries in Ghana face.

Introduction:

The Internet is certainly a useful tool. It has created a global village for the World. With the Internet now, business and other related work, which hitherto could be carried out in weeks and sometimes months can now be carried in minutes and hours.

The Internet can be used for many purposes. Among them are: for Interdisciplinary Research, Marketing, E-commerce, Educational, and Management. Just to name a few. In Ghana today, the Internet is used in many industries and institution to propel their businesses. Although some companies are happy with the usage of their Internet, others especially the Internet cafes are complaining a lot and some have even resorted to closing down their businesses due to the poor services they receive from their Internet Service Providers (ISPs). The poor service is mainly the Internet Access and instability in the continuous Internet connectivity.

At this point, mention should be made of Vinton G. Cerf, who co-developed the computer Networking protocol, TCP/ IP and the architecture of the Internet and holds numerous awards in connection with his works on the Internet. Mention should also be made of Robert Kahn who has done so much in this area and hold joint with Dr. Cerf.

ISPs in Ghana:

Some of the ISPs in Ghana are as follows:

- Network Computer Systems (NCS) Ltd
- African On-line Ghana Ltd
- IDN
- World Wide Web (WWW) Plus
- Internet Ghana (i.e. Broadband Internet Service)

All these ISPs are situated in Accra, Ghana.

Each of these ISPs uses different set-up methods for the Internet Access services they render to their clients. Some of them use radio modems whilst others uses dial-up services. The fees for the set-up for Internet Access for these clients differ depending on the set-up method one chooses.

Network Computer Systems Ltd (NCS)

NCS is one of the pioneers in the Internet business. Being one of the ISPs to be set-up first, they had a lot of clients. With the emergence of their ISPs in the system, with the same or better technologies, his client size started to decrease. The company adopts dial-up for the Internet Access Connectivity for its clients. The Chief Executive Officer (CEO) and chairman of the company is one Dr. Nii Narku Quaynor. He is a Computer Scientist by profession and has excelled in the area Local Area Network, Wide Area Network and Private Networks. He chairs the Afri-NIC Internet Registry for Africa and is the President of the Internet Society of Ghana.

African On-line Ghana Ltd.

African On-line Ghana Ltd is also among the pioneers in the Internet business. The company adopts dial-up for its Internet connectivity. Although the company adopts the dial-up methods, its Internet access services to clients haven't been bad at all. Because of this, most of its old clients haven't parted with the company.

IDN

IDN hasn't been around for too long but are doing very well. The CEO used to work with AT & T, USA and has transferred some of the good technologies from AT & T. Because of this, the client size is relatively large. The computer also has a branch office in Nigeria. The computer adopts a radio modem link for the Internet access for its clients.

WWW Plus

WWW Plus hasn't been around for long, just about the same time as IDN. The company is doing its best and also has amount of clients.

Internet Ghana (i.e. Broadband Internet Service)

Internet Ghana is the youngest of all the ISPs in Ghana. Although the company is relatively new, because of the technologies the company adopts for its clients, it has quite a good size of clients. The CEO of the company is Mr. Tamakloe, an Electrical Engineer by profession.

What are the main types of sets-ups (connections) for Internet Access in Ghana? They are as follows:

- a) Accesses to Internet for most businesses are set-up through the phone line (i.e. dial-up).
- b) Other businesses also gain access to the Internet through the Local Area Network (LAN)
- c) Other ISPs also offer the radio modem facility
- d) A few Industries also the use the Wireless or Satellite Connectivity.

The Question is what is this **Internet**, which has become so useful in our lives? The Internet (uppercase I) is a worldwide collection of **Internet**, which grew out of the original ARPANET. The Internet uses TCP/IP to link many Internets into one logical worldwide network. What this really means is that, you have the ability to connect to computers, which are not actually part of your own organization. That is by supplying the appropriate site address or URL (Universal Resource Locator) say: <http://www.ghana.com>, and your computer go online; you are then able to visit that particular site.

Composition of the Internet:

The Internet includes the following:

- WWW,
- E-mail,
- Newsgroup
- FTP

WWW: What normally comes to mind when the Internet is mentioned is World Wide Web (WWW). This is a graphical environment that allows text and pictures to be displayed on your screen, via software called Web browsers (such as Microsoft Internet Explorer).

E-mail: Email is available over the Internet enabling you to send and receive messages on a global basis.

Newsgroup: Newsgroups are included in the Internet. They can be accessed via your Web browser and enable you to take part in discussions of interest to you with like-minded people from around the world.

FTP: FTP (File Transfer Protocol) is simply a way of transferring files to and from the Internet. Very often this is done through your browser or through a specialist FTP software program.

What is a Web Server? A web server is where the information that you browse on the Internet is held. You can use the Search Engines to search for information published on Internet servers.

What is Webmaster? A Webmaster is the person(s) who maintains the Web site for an organization.

The challenges some of these industries with access to the Internet especially the Internet cafes faces are enormous and for that matter need to be looked at. After a chat with some of the Chief Executive Officers (CEO) of those cafes regarding their business operations, what I gathered was that the bandwidth of the ISPs, which serves these cafes, needs to be increased. What the CEO told me was that when they started their business operations,

the performance of the Internet Access was OK but with the Internet increasing number of clients of these ISPs, the cafes services have been degenerating. In fact some of these comments are from the CEO of cafes with set-up being radio modems, which operators of this cafes believe offers a faster services.

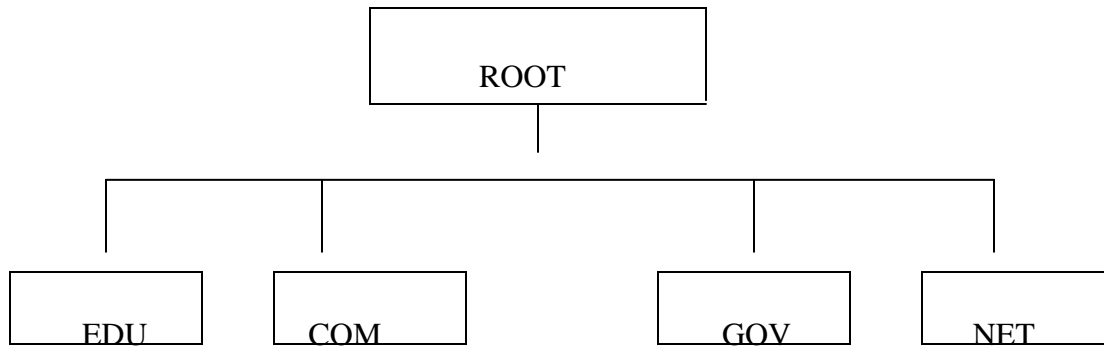
Another issue to look at with regards to poor performance of Internet Access services is lack of very good infrastructure put in place. In fact in Ghana and many other African countries the infrastructure for Internet Access is not well developed. Ghana has a big name with regards to public Internet Access called Busy Internet.

Because their infrastructure is well developed (i.e. using Satellite connectivity), their services are second to none on the sub-region. With only two years in existence, the growth rate in terms of services and client size is quite amazing. Some of the services the set-up offer includes conference facilities, meeting rooms, office spaces, digital copying services, restaurant and bar. In fact you will always hear people say: “Busy Internet is the smart choice for smart people.

I have been to the Busy Internet to use their public Internet Access facilities and can testify to this myself. Also one of the CEO’s of some of the cafes is my friend and will also be able to testify that services offered by one of these ISPs by name IDN has been so poor that he has virtually closed down his business. In fact the IDN uses the radio modem facilities but his problem has been with the bandwidth because his client size has grown. In fact the CEO of the IDN needs to increase his bandwidth to improve upon his services to his clients. Initially the CEO of IDN advised my friend to erect a mask on top of the roof to the building, which houses his café, but all to no avail.

DNS: DNS is the acronym for Domain Name Service. There are defined top-level domains, which every domain on the Internet must conform to. These top-level domains can be broken down into different types – organizational and geographical. For instance, the top-level organizational domains, can be .COM (for commercial), EDU (for educational), GOV (for government) and NET. The top-level geographical hosts in GH normally end in .gh, whilst machines in US end in .us and in the UK end in .uk. In fact, industries in Ghana follow these international standards. In fact is realized that the e-mails address and web site address (i.e. URL) are based on DNS. Examples of e-mail and sites addresses of certain industries in Ghana are as follows:

- 1) reisco@ncs.com.gh (i.e. e-mail address created from NCS (Network Computer System) server).
- 2) www.africaonline.com.gh (i.e. Web site address for African Online Ghana Ltd)
- 3) doss@idngh.com (i.e. e-mail address created from IDN’s server)
- 4) www.dslghana.com (i.e. Web site or URL for Internet Ghana)



NB: Most of the URL and e-mail addresses of Ghana companies and others worldwide come under COM in the above diagram.

Security

Security plays a key role in the study of Internet. Without good Security measures put in place you can bring the operation of the Internet on the computer to a halt. So after you have put the good infrastructure in place, it is always important to take a critical look at security too.

Any host connected to any network, particularly the Internet, are open to security breaches. These breaches can range from unauthorized access, to crashing your host, to endangering the entire network. Other issue to look at will be routers and firewalls. Thus a router can be set up to stop unwanted IP traffic, whereas firewalls are systems put in place to stop any traffic passing from the “dirty” side to pass directly through to the “clean” side. A firewall is a multi-homed host, which does not forward TCP/ IP packets. These packets are passed through the Internet layer and the transport layer to the application layer.

The following are the strategies, which can be put in place to guard against the security of your system:

- i. It is always appropriate to have a good back-ups system for your computer room. The back up should be both on-site and off-site. Off-site back up because you never know when you computer room can catch fire.
- ii. On the issue of access to your computer system, you must adopt good password management system.
- iii. Viruses are common these days in the Windows environments and it is always appropriate that you always have the current anti-virus software on your system.
- iv. There is always the need to ensure that, unauthorized personnel are not allowed to enter the computer room.

Conclusion:

A critical constituent of the Internet, thus the E-mail and World Wide Web are what Larry Downes and Chunka Mui call the “Killer App” in their book entitled, “Unleashing the Killer App”. The two applications have indeed influenced society so much; a visit to certain cafés in Ghana will testify this.

Although it is over a decade since Vinton G. Cerf and Robert Kahn transformed the ARPANET into the Internet, their names will always be mentioned because of the tremendous impact of the Internet on Society.

It is my desire that I have more time stay with most businesses in Ghana to understand the challenges they face in running their Internet businesses.