

NETWORKING THE DEPARTMENTS OF THE NATIONAL LIBRARY OF NIGERIA FOR EFFICIENT SERVICE DELIVERY

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Abstract:

The National Library of Nigeria is distinct from other types of library in the country because of its functions vis a vis its unique branches and the locations of the branches. Networking will enhance an open house communication between the staffers and the institution and provide open access to the resources of the library to the general public.

This will in a way facilitate effective sharing of intellectual resources.

This paper considers the implementation of a cooperative network in the departments of the National Library of Nigeria worth trying. This will in effect enhance the sharing of resources for the operational tasks being provided by the departments. It will also boost the resources available in the branches.

INTRODUCTION

Information is useful only if delivered to the right audience, at the right time, in the right manner and in the right place. Nigeria, ostensibly since the early 1980s, has accepted Information Technology (IT) as a veritable resource in the quest for development technologically, economically and socially. Everywhere in the world today, Information Technology (IT) is regarded as a resource essential for the efficient and smooth running of government, industry and institutions. No wonder its exponential proliferation in every sphere of the country's activities. In the library environment, efficient and quick information dissemination is a critical element that should be unwavering. The exchange of skill, knowledge, research efforts and results among academicians, of which librarians are a part, saves a lot of time and duplication of research efforts and results.

Today, the world is a global village, thanks to the information revolution and the subsequent Computer Based Messenger System (CBMS), which have evolved into electronic networks, for information, business services and entertainment. The advent of electronic networks, in the words of Akide and Adagunodo (2001) sees Information Telecommunications and

Communication Technologies as being linked to have revolutionised communication. Virtually the world over, the advantages of ICT are enormous, particularly from the point of:

- (i) Access to database: ICT Networks enable users to tap into numerous databases, whether private company databases or public databases available online through the Internet.
- (ii) Better communication: one of the greatest features of ICT is electronic mail (e-mail). With e-mail, everyone on a network can easily keep others posted about important information.
- (iii) Security of information: Before ICT becomes commonplace in a given organization, an individual employee might be the only one with a particular piece of information stored in his or her desktop computer. If the employee was dismissed or if a fire or flood demolished the office the company would lose the information. Today such data would be backed up or duplicated on a networked storage device shared by others.
- (iv) Sharing of peripheral devices: peripheral devices such as laser printers, disk drives, and scanners are often quite expensive. Consequently, to justify their purchase, management wants to maximize their use. Usually, the best way to do this is to connect the peripheral to a network serving several computer users.
- (v) Sharing of programs and data: In most organizations, people use the same software and need access to the same information. It is less expensive than for a company to buy a separate word processing program for each employee. More so, if all employees have access to the same data on a shared storage device, the organization can save money and even avoid serious problems. If each employee has a separate machine, some employees may update customer addresses, while others remain ignorant of the changes. Updating information on a shared server is much easier than updating every user's individual system.
- (vi) Speed: Among the basic advantages of ICT is the speed of processing data. Computers can be used to perform any operation in the shortest possible time.
- (vii) Versatility and flexibility: computers are used in performing any function prescribed by the user once the formats of instructions are given.

WHAT IS A NETWORK?

A network is conceived of as a collection of objects or systems that work together or are connected to achieve a common goal.

In the library context, the word 'network' has long been used to describe a group of libraries, which collaborate or interact with one another for such purposes as inter lending, acquisition and so on.

Networks, which consist of combinations of computers, storage devices, and communication devices, may be divided into three main categories, differing primarily in their geographical range. These are: Local Area Network (LAN), Wide Area Network (WAN) and Metropolitan Area Network (MAN).

LOCAL AREA NETWORK (LAN)

This is a data communication system that (a) lies within a limited spatial area (b) has a specific user group (c) has a specific topology, and (d) is not a public switched telecommunications network, but may be connected to one. LANs are usually restricted to relatively small areas, such as rooms, buildings, ships, and aircrafts. An interconnection of LANs within a limited geographical area such as a military base is commonly referred to as a campus area network. An interconnection of LANs over a citywide geographical area is commonly called a Metropolitan Area Network (MAN). An interconnection of LANs over a geographic area, such as nationwide, is commonly called a Wide Area Network (WAN).

WIDE AREA NETWORK (WAN)

This is a network that provides data communication to a large number of independent users that are usually served by a Local Area Network (LAN) and is usually spread over a larger geographical area than that of a LAN. WAN may be nationwide or worldwide.

METROPOLITAN AREA NETWORK (MAN)

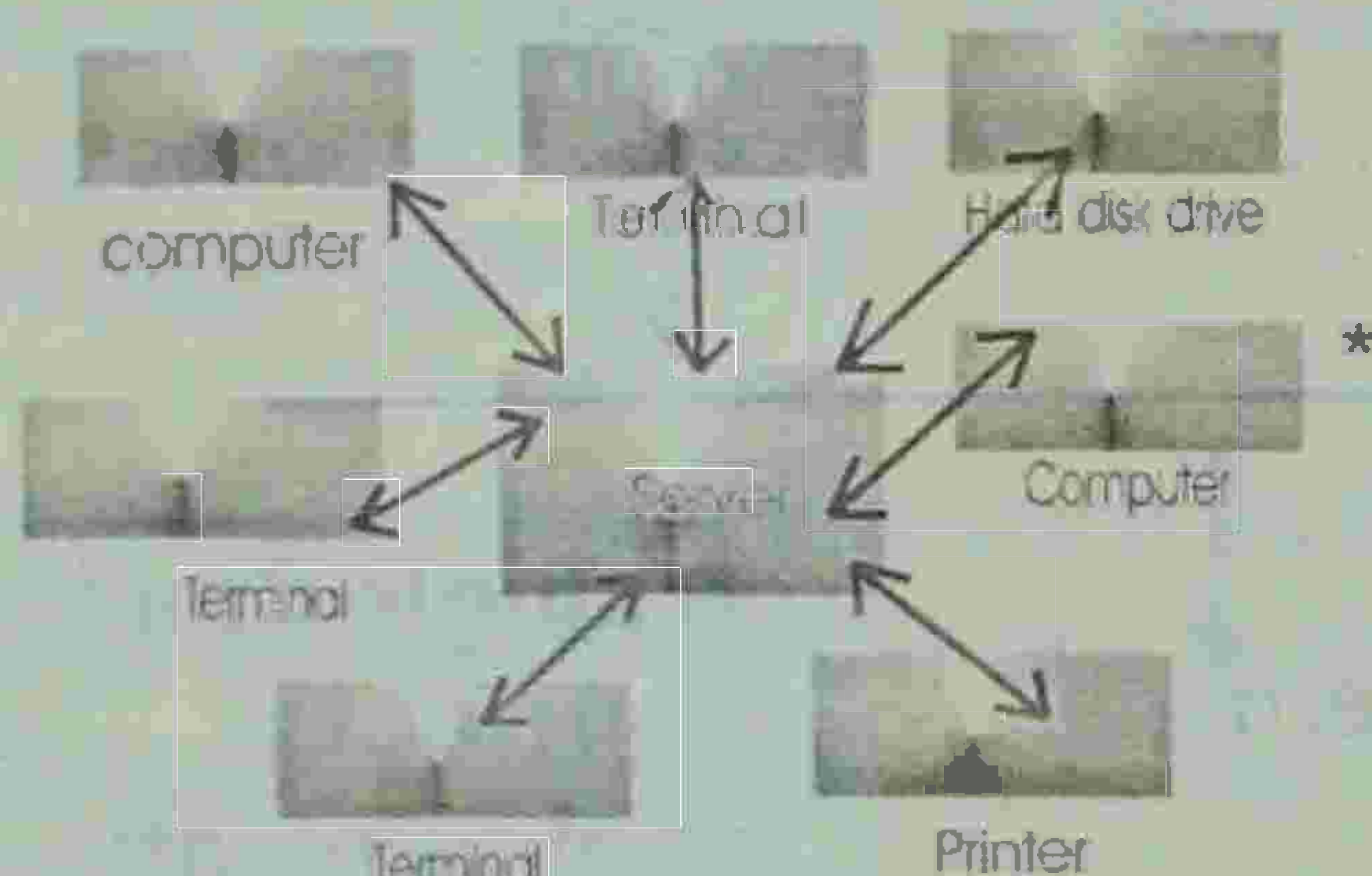
This is a WAN that serves all the users in a metropolitan area. Experiments indicate that the introduction of electronic Networks changes both the way researchers interact and the way they exchange information. Electronic Communication Technologies have opened up new means of cooperating on a global scale and providing services at an affordable price. The exchanges of ideas and references have improved research and development as well as technological productivity. Electronic Communication is also improving the coordination of sharing and organizing of non-computer resources such as money, books, etc for institutions. Joint projects and research projects are beginning to be carried out using e-mail among researchers in Africa and those in developed countries.

TOPOLOGY OF LANS

Networks can be laid out in different ways. The logical layout, or shape, of a network is called a topology. The three basic topologies are star, ring and bus.

- (i) STAR NETWORK: A Star Network is one in which all microcomputers and other communications devices are connected to a central server (see figure 1). Electronic messages are routed through the central hub to their destinations. The central hub monitors the flow of traffic. The PBX is an example of a Star Network.

The advantage of a Star Network is that the hub prevents collisions between messages. More so, if a connection is broken between any communications device and the hub, the rest of the devices on the network will continue operating. However, if the hub goes down, the entire network will stop.



This arrangement connects all the network's devices to a central host computer, through which all communications must pass.

Figure 1. A Star Network

- (ii) RING NETWORK: A Ring Network is one in which all microcomputer and other communications devices are connected in a continuous loop. (See figure 2). Electronic messages are passed around the ring until they reach the right destination.

The advantage of a Ring Network is that messages flow in only one direction; thus there is no danger of collisions. The disadvantage is that, if a connection is broken, the entire network stops working.

This arrangement connects all the network's devices in a closed loop.

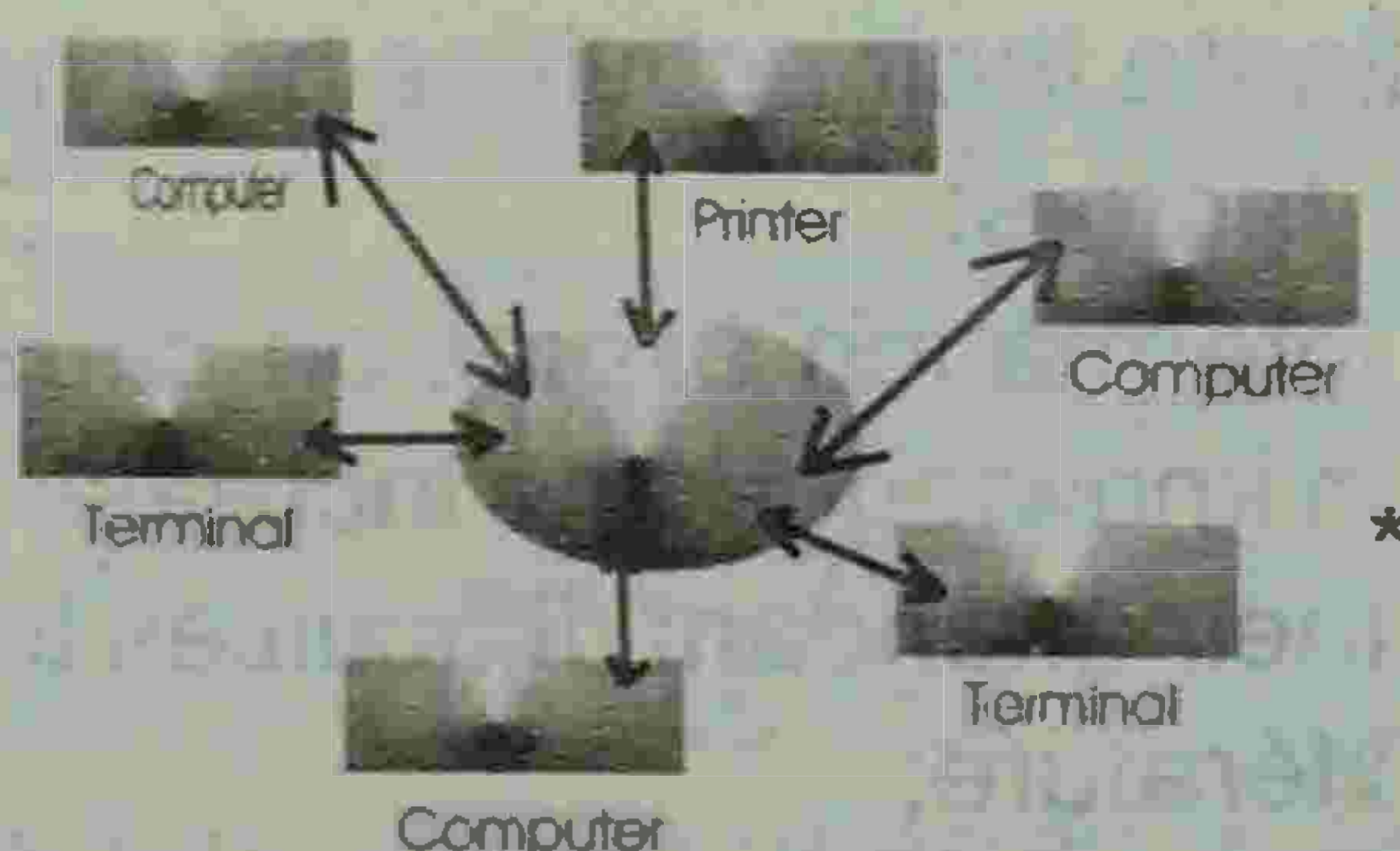


Figure 2. A Ring Network

- (iii) **BUS NETWORK**: The Bus Network works like a bus system at rush hour, with various buses pausing in different bus zones to pick up passengers. In a Bus Network, all communication devices are connected to a common channel.

In a Bus Network, there is no central server. Each communication device transmits electronic messages to other devices. If some of those messages collide, the device waits and tries to transmit again.

The advantage of a Bus Network is that it may be organized as a client server or peer-to-peer network. The disadvantage is that extra circuitry and software are needed to avoid collisions between data. Also, if a connection in the bus is broken, such as when someone moves a desk and knocks the connection out, the entire network may stop working.

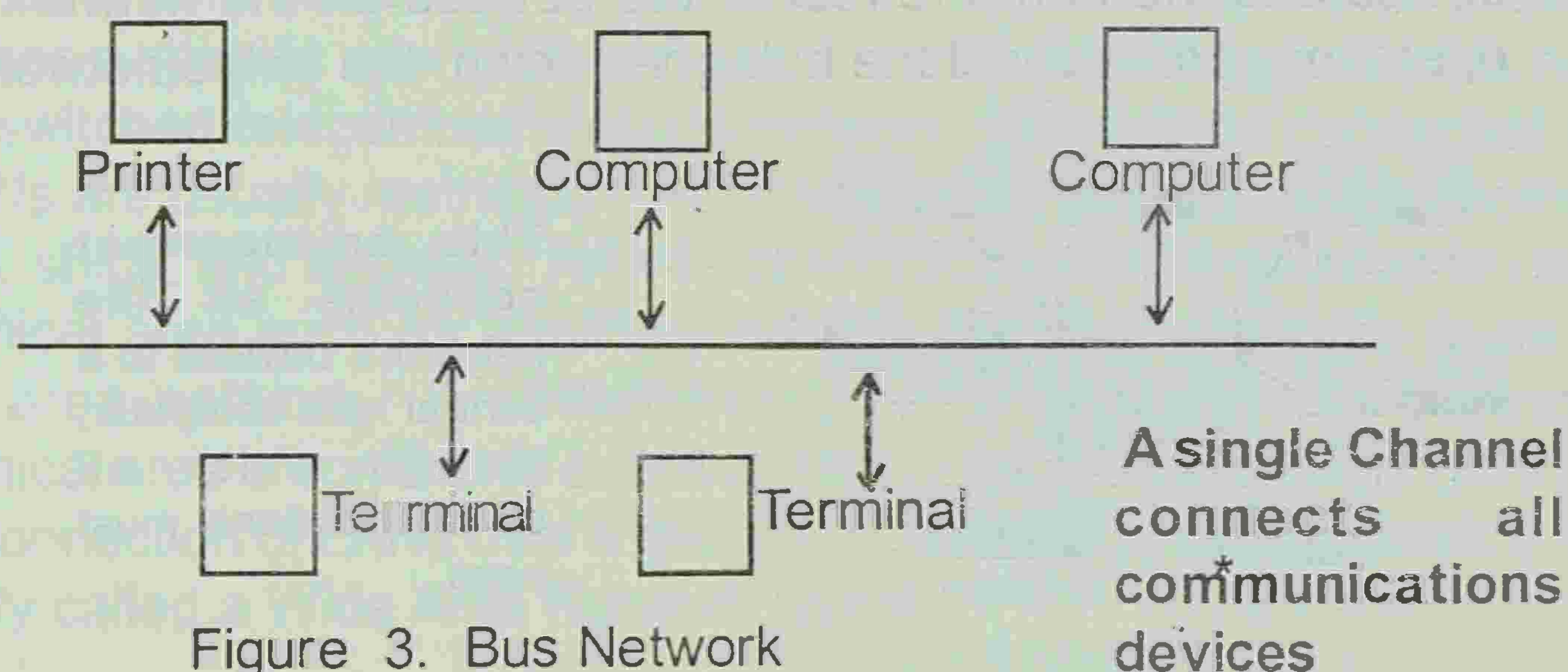


Figure 3. Bus Network

NETWORKING IN THE LIBRARY CONTEXT

Once libraries appropriate to different needs have been established, it is necessary to have their resources pooled in a network so that clients in another library can, without any physical movement, share the resources in such a library. According to Udekwe (2002) Networking is about sharing and sharing in library context requires a willingness to be open-minded and have enough confidence in one another for the benefit of others.

Libraries coordinate their activities beyond their individual boundaries due to the following factors:

- (a) Information explosion caused by the tremendous increase in knowledge and increase in publishing the world over, with their attendant difficulties to control the number of published literature;
- (b) The spread of education at different levels leading to greater and more complex demands on library and information services by the public; and,

- (c) The advance of information technology with its effects on industry and commerce, and the necessity for employees to develop new skills (Ozuluonye, 1987)

It is important that libraries should have their resources networked so that potential users can have access to the desired information through any point in the network. Many academic libraries, particularly at the tertiary level of educational institutions, operate the main library and branch library concept. When the main and branch libraries are automated or computerized, with the former serving as the headquarters of the network, a Local Area Network is said to have been established. This kind of network within one library can be referred to as INTRANET. It also applies to libraries whose various departments collaborate or interact with one another through the use of the computer. The basic concept of this network is that of providing a communications link. The rationale of this network is that no individual department can be in possession of all the information required by such a department. A computerized information system facilitates this objective (Afolabi, 2001).

Information networks such as Wide Area Network (WAN) and Metropolitan Area Network (MAN) are in the form of Internet. Internet enhances the services provided by libraries.

Librarians are able to inform their clients on the location of information materials (either in the main or branch library), an important service that facilitates access to information sources. This leads to the optimal utilization of information sources.

Intranet enables a participating library to provide input into the Internet through connectivity to the Internet. When connected to the Internet, the library on intranet has the advantage of having its collection accessed on the Internet

WHAT IS THE INTERNET?

The Internet is not a single network, but a collection of thousands of computer networks, throughout the world. These vary greatly in size and in the number of computers that are connected to them. The individual networks are owned by a variety of organizations, including government agencies, universities, commercial companies and voluntary bodies that have decided to allow others to connect to their computers – often referred to as **SERVERS** - to share their information. It is up to each of those contributing bodies to decide what information they wish to make available and how (Norton &

Smith, 1998). Along with the computers that store information, there are thousands of others known as routers. A router is a computer dedicated to receiving information and sending it on along its route across the networks to its destination. These are the ones that keep the Internet traffic flowing. There is no one single owner of the Internet. The nearest thing to a governing body are voluntary organizations such as the Internet Society or the Internet Engineering Taskforce, although neither of these bodies exercise control in regulatory or legislative sense.

The most widely used Internet function is e-mail - an alternative to post, telephone and fax. Another is the newsgroup and discussion lines that enable people who are physically remote from each other to come together on the Internet to share and debate common interest. The other function of the Internet, which has captured the imagination, is the World Wide Web (WWW), a program which links and retrieves data of all kinds, such as text, graphics and sound, from the inter-connected computers.

The Intranet, as earlier mentioned, enables a participating library to provide input into the Internet through connectivity to the Internet. When connected to the Internet, the library on the network has the advantage of having its collection accessed on the Internet. However, the level of development of Intranet among libraries in Nigeria is low indeed. The bibliographic database (or catalogue) of many libraries cannot be accessed on the Internet. In many parts of Nigeria, there is no network of computers, except, to some extent in the banking sector.

Access to the Internet implies access to a number of basic services. These include

- i. E-mail
- ii. Tele/video conferencing (interactive conferencing)
- iii. Access to information resources
- iv. Ftp (the transfer protocol) down loading software distribution
- v. News groups and discussion groups
- vi. Telephoning, fax, directories
- vii. Audio broadcasts, real time audio
- viii. Telnet remote access, network computing
- ix. Imaging 3-dimensional live voice and video text
- x. Archiving
- xi. Integration with directory services
- xii. Interactive (real time calculators, converters, searching, etc)
- xiii. Hypertext linking
- xiv. Online ordering, invoicing and payment

- xv. Intranet add-ons
- xvi. Push technologies for internet channels
- xvii. Airline information travelocity, the trip
- xviii. Weather information and satellite imaging
- xix. Maps
- xx. Electronic book store catalogues, book purchase with full bibliographic information
- xxi. Electronic libraries
- xxii. Games, military, entertainment
- xxiii. Mailing lists (Daniel 1999)

Following its various capabilities, the Internet has become so user-friendly that a user could almost become autopilot (Afolabi, 2001)

ORGANISATIONAL STRUCTURE OF THE NLN

Having come thus far, it is now necessary for us to look at the organisational structure of the National Library of Nigeria [NLN]

The National Library is structured by way of departmentalisation in which functions are carried out and the attainment of institutional goals pursued. The NLN has seven departments viz.:

- i. The National Bibliographic Control Department (NBCD)
- ii. The Research and Development Department (RDD)
- iii. The Finance and Supplies Department (F&A)
- iv. The Collection Development and Processing Department (CDPD)
- v. The Reference and Users Services Department (RUSD)
- vi. The Administration Department (AD)
- vii. The State Branch Services Department (SBSD)

Under each department, there are divisions, sections and units. Above the departments, however, is the office of the National Librarian.

The departments in the establishment are not located in the same place. While some are in Abuja, others are in Lagos. Others still have presence in Abuja and Lagos and to some extent in the State Branches.

Outline of the departments/locations

<u>Departments</u>	<u>Locations</u>
1. The National Bibliographic Control Dept.	Lagos
2. The Research & Development Dept.	Abuja, Lagos

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|----|--|---------------------------------|
| 3. | The Finance and Supplies Dept. | Abuja, Lagos and State Branches |
| 4. | The Collection Development & Processing Dept. | Lagos |
| | <i>(The branches and Abuja also collect by way of Legal Deposit)</i> | |
| 5. | The Reference & Users Services Dept. | Lagos, Abuja |
| 6. | The Administration Dept. | Abuja, Lagos and State Branches |
| 7. | The State Branch Services Dept. | Lagos and the State Branches. |

Looking at the structure of the National Library of Nigeria and the locations, one will be convinced that there is the need for networking for efficient service delivery. This is not to say that the institution has not been networked or that the departments are islands of their own. But rather, what we need to consider is the computerization of the departments and the consideration of which departments cum branches that ought to be networked. Oketunji (2001) quoting Awe [1997] highlighted five areas in which computers are needed. According to him:

- i. There is need for more accurate and cost effective knowledge to assist decision making;
 - ii. It is difficult to get results through manual operation due to either time constraint or sheer magnitude of work;
 - iii. There is need to reduce mental and physical efforts in tackling certain tasks,
 - iv. There is need to improve on customer services; and,
 - v. There is need for cost effectiveness and efficiency through elimination and reduction of inefficient practices.
- The above service functions of computers apply to the library departments, the administration and the finance department.

To be specific, Oketunji (2001) identified the advantages of library automation as follows:

- a. It allows co-operation and the formation of library networks;
- b. It facilitates integration of various activities within a library and between libraries in a network;
- c. It helps to avoid duplication of efforts;
- d. It helps to increase the range of services;
- e. It ultimately may serve and or generate money;
- f. It increases efficiency (and effectiveness); and,
- g. It eliminates some uninteresting and repetitive work in a library system.

It is essential therefore to see that the various departments of the National Library of Nigeria are computerized and networked by way of LAN, MAN and WAN. The departments that exist in the same town/city should network their services and activities. For example, the Reference and Users Services, the Research and Development Department, the Administration and the Finance Department that are located in Abuja should be metropolitanly networked, since they are just a few kilometers apart and mostly occupying the same building. On another angle, the National Bibliographic Control Department, the Collection Development & Processing Department and the State Branch Services Department, that are in Lagos, should also be metropolitanly networked.

Wide Area Networking is applicable to departments that are hundreds of kilometers apart; they are those located in different cities of the country. It is important that every staff of the National Library of Nigeria at any location gets to know about the developments, information and services of each department without necessarily traveling to the locations of the departments. Networking implies a high degree of coordination of different activities and departments working towards the same goals.

The National Library has taken giant steps to provide Internet facilities at the Reference and Users Services Department Abuja, the Research and Development Department also in Abuja and the State Branches. However there is no Intranet in place. The bibliographic database or catalogues of the collections of the National Library is not available electronically. Even the physical presentations of the databases are incomplete, not to talk of being on the Internet. The National Library of Nigeria's Web Site is still at its infantile stage. It is therefore difficult for other users of the Internet to get to know much about the National Library of Nigeria and its services. This goes to say that we can see others but others cannot see us. The introduction of Internet Services into the various departments will greatly enhance the efficiency and effectiveness of library services. Clients will get satisfactory answers to their queries within the shortest time. Librarians will equally perform their functions more efficiently.

CONCLUSION

The goals of the National Library of Nigeria cannot be fully attained when the departments that make up the institution can only access the documents available and information generated by them alone. The use of e-mail and Internet for information dissemination is an innovation, which has brought a lot of enhancement to library and information services. These innovations have made the use of databases and entries based in several information and documentation centers possible in many countries of the world. It is therefore the responsibility of the librarians and the management of the National Library of Nigeria to look inward and see the need to acquire the necessary skills to enable them provide effective and quality services through pooling of resources.

There is an immediate need to equip all the departments and locations with computers to enable them computerize their resources and services, so that the input of the departments can be networked.

Above all, computer literacy is no more a choice; hence it should be made compulsory for all staff of the National Library of Nigeria.

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