

Networking of College Libraries in Eritrea (Africa)

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ABSTRACT

Eritrea is the small country in Horn of Africa in which nine colleges serving under the Ministry of Education, Eritrea. All the colleges haven't well equipped library facilities. However, no library is self sufficient and they are growing organism. The main objective of the library is to provide access to the relevant information in a short possible time. In the era of information explosion, one side the information becomes very costly and other side, the growing demandso ft hep atronsa ndt hed ecliningl evelso ff inancem akesv ery crucial situation to the libraries. Understanding this universal concept, it is very essential to think of networking of the libraries in Eritrea.

A library network is broadly described as a group of libraries coming together with some agreement of understanding to help each other with a view to satisfying the information needs of their clientele. All the network topologies have their own merits and demerits. The topology for the network of college libraries in Eritrea can be either star net or nested net. It is better to implement a star net topology with Eritrea Institute of Technology (EIT) as the central hub. The heavy ultra violet rays, thunder and, power fluctuations, are some of the challenges in Eritrea for the maintenance of networking services.

Keywords: Library network, network topology, Information access, Eritrea Institute of technology, standard bibliographic formats.

Introduction

In 1993, Eritrea become the world's 181 independent country measuring about 45,000 square miles with an estimated population of 4,01,000 in July 2001 (Eden, undated Cite an authoritative and dated source instead), given it a population density of 96 persons per square mile. Eritrea is located in the horn of Africa; a region badly affected by conflict, war and drought. Despite of serious natural and war faced obstacles, the country is moving towards development in all sectors including economy and social services (Cite a document that highlights this). The Government of Eritrea is mainly giving focus on education (Cite a document that highlights this). . There are 824 schools across the country (Ministry of Education, 2005). In Eritrea, University of Asmara and the Eritrea Institute of Technology (EIT) as well as several other colleges and technical schools are functional. The other educational colleges affiliated to Ministry of Education includes the marine engineering college, Massawa, the college of Agriculture, Hamalmalo, the college of Arts and Social

Sciences, Mai Nefhi, the college of Business and Economics, Halhale, College of nursing Barentu, College Library Ad-keih, Winner Institute Library, Nakfa , and the college of Nursing and Health, Asmara (Efrem, 2006).

All the colleges haven't well equipped library facilities. However, no library is self sufficient and they are growing organism. The main objective of the library is to provide access to the relevant information in a short possible time. In the era of information explosion, one side the information becomes very costly and other side, the growing demands of the patrons and the declining levels of finance makes very crucial situation to the libraries. Understanding this universal concept, it is very essential to think of networking of the libraries in Eritrea.

A library network is broadly described as a group of libraries coming together with some agreement of understanding to help each other with a view to satisfying the information needs of their clientele. A network may fail in the early stages if there is not proper

planning or if adequate funds are not available. Moreover, a common memorandum of agreement signed by the participating libraries at the institutional level is essential for the success of a network venture. On a more practical level, catalog data must be in a standard, machine readable form for it to be shared and exchanged. And, finally, a continuous flow of external assistance is crucial for the network's survival. (Bavakutty: 2002: 177)

Why Library Automation & Networking?

Computers are capable of introducing a great degree of automation in operations, functions since they are electronic, programmable and are capable to control over the processes being performed.

The utilization of computer and related techniques make the provision to provide the right information to right reader at the right time in a right form in a right personal way. Automation of library activities provides the services very efficiently, rapidly, effectively, adequately and economically.

The automation is economically feasible and technologically required in modern libraries to cope up with the requirements of new knowledge, the enormous increase in the collection of materials, problems of their acquisition, storage, processing, dissemination and transmission of information. The capabilities of computer associated peripheral media and its application in library activities and services led to a highly significant quantitative and qualitative improvement especially in online technology.

Due to the exponential growth and the increasing cost of information resources, it is difficult for a library to acquire the entire documents, which are required by the user of a library. A library Collection could be classified into two groups – one satisfy the core interests of the institution to which the library belongs, and other serving peripheral interest. Faced with financial crisis, while a library could restrict acquisition of materials in the peripheral areas, it tries its best not shed anything from its core acquisition list. Therefore in a collective development situation, it is logical for a library to look up the other institutions for meeting its peripheral interest. Even in this situation a library can drop an item from the core item to the same ensured by another library in the neighborhood. College libraries should provide a safety-net against alienation and social exclusion from technological advance by becoming the electronic doorway to information in the digital age. To achieve aforesaid objectives various library and information center networks were emerged.

Networking:

It is necessary to understand the concept of network both in the grounds of library science and computer science.

In Library Science field: A library network is broadly described as a group of libraries coming together with some agreement of understanding to help each other with a view to satisfying the information needs of their clientele.

UNISIST II working document defines Information Network as “a set of inter-related information systems associated with communication facilities, which are cooperating through more or less formal agreements in order to implement information handling operations to offer better services to the users”.

The National Commission on Libraries & Information Science in its National Programme Document (1975) defines a network as “Two or more libraries engaged in a common pattern of information exchange, through communications for some functional purpose”.

In Computer Science field: A system of computers interconnected by telephone wires or other means in order to share information. Or two or more computers connected for the purpose of routing, managing, and storing rapidly changing data. Networks allow for resource sharing (e.g., multiple computers sharing one printer), data sharing, and communication or data exchange (e.g., electronic mail). Ref: Columbia Encyclopedia.

A network is a set of devices (often referred to as nodes) connected by media links. A node can be a computer, printer or any other device capable of sending and/or receiving data generated by other nodes on the network. The links connecting the devices are often called communication channels. (Fourouzan: 2003 : 4)

There are different kinds of networking systems based on their scale like Personal Area Networks (PAN), Local Area Networks (LAN), Metropolitan Area Networks (MAN), and Wide Area Networks (WAN). The process of networking of PLs of Bhutan falls under WAN. It is to link two or more computers of the public libraries that are geographically dispersed, using communication facilities such as telephone systems or microwave relays. There are several options available for WAN connectivity.

A personal area network (PAN) is a computer network used for communication among computer devices (including telephones and personal digital assistants) close to one person. The devices may or may not belong to the person in question. The reach of a PAN is typically a few meters. PANs can be used for

communication among the personal devices themselves (intrapersonal communication), or for connecting to a higher level network and the Internet (an uplink).

A local area network (LAN) is a computer network covering a small physical area, like a home, office, or small group of buildings, such as a school, or an airport. The defining characteristics of LANs, in contrast to wide-area networks (WANs), include their usually higher data-transfer rates, smaller geographic range, and lack of a need for leased telecommunication lines.

The IEEE 802-2001 standard describes a MAN as being: A MAN is optimized for a larger geographical area than a LAN, ranging from several blocks of buildings to entire cities. MANs can also depend on communications channels of moderate-to-high data rates. A MAN might be owned and operated by a single organization, but it usually will be used by many individuals and organizations. MANs might also be owned and operated as public utilities. They will often provide means for internetworking of local networks. Metropolitan area networks can span up to 50km, devices used are modem and wire/cable.

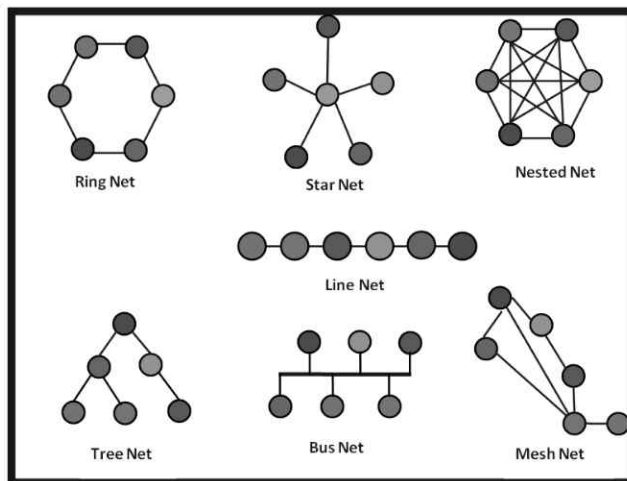
Wide Area Network (WAN) is a computer network that covers a broad area (i.e., any network whose communications links cross metropolitan, regional, or national boundaries. WANs are used to connect LANs and other types of networks together, so that users and computers in one location can communicate with users and computers in other locations.

Network Topology:

Computer networks may be classified according to the network topology upon which the network is based, such as Bus network, Star network, Ring network, Mesh network, Star-bus network, Tree or Hierarchical topology network.

Network Topology signifies the way in which devices in the network see their logical relations to one another. It describes the arrangement or mapping of the elements (links, nodes, etc.) of a network, especially the physical (real) and logical (virtual) interconnections between nodes.

Any given node in the network will have one or more links to one or more other nodes in the network and the mapping of these links and nodes onto a graph results in a geometrical shape that determines the physical topology of the network. Likewise, the mapping of the flow of data between the nodes in the network determines the logical topology of the network. The following picture refers some of the network topologies.



All the network topologies have their own merits and demerits. The topology for the network of college libraries in Eritrea can be either star net or nested net. It is better to implement a star net topology with Eritrea Institute of Technology (EIT) as the central hub. Recently EIT is going to introduce a WAN. This facilitates the member colleges to discuss any kinds of issues.

Status of College Libraries in Eritrea:

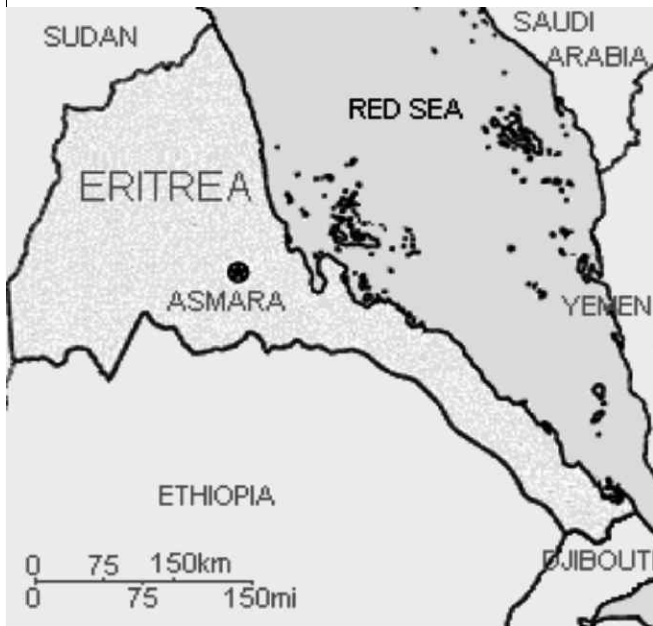
The existing colleges of the State of Eritrea to provide tertiary education are as follows:

- (1) University of Asmara (UoA)
- (2) Eritrea Institute of Technology (EIT).
- (3) College of Marine Science and Technology, Massawa, (COMSAT)
- (4) College of Agriculture, Hamalmalo, (CoA)
- (5) College of Arts and Social Sciences, Mai Nefhi, (CASS)
- (6) College of Business and Economics, Halhale, (CoBE)
- (7) College of Nursing, Barentu (CoN)
- (8) Winner Institute, Nakfa (WI)
- (9) College of Nursing and Health, Asmara (CoNH) (Efrem, 2006).

Whilst most of the institutes closely reflect their names of their programmes, Eritrea Institute of Technology offers a broad portfolio of programmes including social sciences, physical, life and earth sciences, computer science and IT. Though the college libraries in Eritrea haven't well equipped libraries, the resource sharing among libraries and networking is still under planning stage.

Table 1.1 shows the status of automation, whether the library is fully automated or still under process or not yet started, whether the computers are stand alone mode or installed in the network

environment, whether the software has been purchased from any agencies or developed by the same institute, and other relevant facilities for networking and resource sharing.



College	Automation done fully /partly	Net Env/ Stand alone	S/w: Purchased/ Local made	Internal Facility
CASS	Partial	Net Env	Local made	Yes
COA	Partial	Net Env	Local made	Yes
COBE	Partial	Stand alone	Local made	No
CON	No	Stand alone	Nil	No
CONH	Partial	Net Env	Local made	Yes
EIT	Partial	Net Env	Local made	Yes
COMSET	Partial	Net Env	Local made	Yes
UA	Full	Net Env	Purchased	Yes
WI	No	Net Env	Nil	Yes

Table 1.1

The essential factors to be followed for the networking of college libraries in Eritrea.

- ◆ There must be a proper agreement based on the standard policies and procedures among the participating libraries in the network for the efficient cooperation and resource sharing.
- ◆ The college library network should be engaged with efficient ILL and document delivery services. The users have to be provided a common borrower cards for the resource privilege among the participating libraries.
- ◆ It is essential that the libraries should have all kinds of communication channels like fax, E-mail and Internet facilities.
- ◆ All the bibliographic databases of the college libraries should support standard formats for linking databases. (e.g., Z39.50, MARC format, ACCR-II cataloguing code)

- ◆ The college library network should offer shared cataloguing, co-operative collection development, reference service, training, etc. A network model should be selected keeping in mind the purpose for which the sharing is to be done by the participating libraries.
- ◆ The member libraries should be liberal to allow any of the users of the participating libraries to access as well as borrow the information resources of their own collection.
- ◆ Network should aim at developing online access among member-libraries to each other's specialized collections and services either through network or directly.
- ◆ The librarians should be aware of latest development of Information technologies and they should able to implement these technologies in the efficient information resources management and resource sharing.
- ◆ The librarians should continually strive to maintain the cordial relation among the participating member libraries through networking and resource sharing.
- ◆ Any system will be a success one, only if there is a proper support from the authorities. They should always be liberal to provide the 3Ms...(man, money, materials)

Suggestions:

Since Eritrea faces the problems of less rain, drought and less international aid, needs to establish the devices of computers and their peripherals, routers, hub, antenna receivers to maintain uninterrupted network communication. It is necessary to install proper earthing to save the devices. In Eritrea though they produce good enough electric power with the fuel power stations, they often find the problem of power fluctuation which may also damage the systems. All the electric and electronic equipments should be connected through the required stabilizer to ensure the stable power supply. Another major problem in Eritrea is slow connectivity of telecommunication. It is necessary that the telecom department always be very careful and ready to check the cable lines.

The Ministry of Education should come forward to digitize all the essential information resources so as to facilitate the easy information exchange through networking. To avoid wastage of money on spending to subscribe the online journals and databases, the Ministry of Education can subscribe these information sources and the access rights can be given to the member libraries.

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