INTERNET AND NETWORKING SYSTEM IN THE SOFT DRINK INDUSTRY (CASE – STUDY OF COCA COLA NIGERIA BOTTLING PLC)

BY

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PGD/MCS/2000/1019

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A PROJECT SUBMITTED TO THE DEPARTMENT OF
MATHEMATICS/COMPUTER SCIENCE
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CERTIFICATION

This project has been read and approved by the undersigned, as meeting the requirements of the department of Mathematics/Computer Science Federal University of Technology Minna.

_____   _____

Dr. N. I. Akinwande   Date

Project Supervisor

_____   _____

Mr. L. N. Ezeako   Date

Head of Department

_____   _____

External Examiner   Date

DEDICATION

This project is dedicated to my late father Mallam Abdulhameed Abioye and my late wife Mrs. Riskat Iyabowale Abioye. It is also dedicated to my children, Kazeem, Habeeb, Abdullahi and Maryam.

Above all, to the glory of Almighty Allah who made it possible for me to undertake and complete this course.

ACKNOWLEDGEMENT

This is to express my acknowledgement to the Almighty Allah for giving me life, knowledge and wisdom to undertake this programme.

I wish to also express my gratitude to my able supervisor in the person of Dr. N. I. Akinwande who provided all the necessary support required for this project and who also ensured that I completed this work within the shortest possible time.

I am also grateful to the Head of Department of Mathematics and Computer Science for his dynamic leadership that is worthy of emulation and also the Dean of the Postgraduate School for providing me the opportunity to undertake the program.

The contribution of my numerous lecturers, friends (friends indeed) brothers and sisters who made my course and project work interesting.

Thank you and God bless you all.

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ABSTRACT

'his project research investigated the computer network and internet system mployed in the Coca Cola Company Nigeria Plc, a multi – national company. Vith its vibrant network in over two hundred countries across the globe, putting itizenship into action to strengthen communities with the responsibility to enable)eople to tap into their full potentials. This organisation's investments in local ind international economies are enhanced with their communication connectivity ill over the world.

Thus information processing and effective flow of data in a production planning system such as Coca – Cola Nigeria Plc are essential for corporate survival. Information technology, which supports activities involving file creation, storage, manipulation and transmission is effectively employed in this organization through the inter networking of the various computers used in their various branches. This project therefore investigated the various methods from simple stand – alone computers to the worldwide communication media of the internet in this organization.

CHAPTER ONE

1.0. INTRODUCTION

This project is a result of the study of computer networking and Internet system in the Coca Cola Nigerian Bottling Plc. The aims and objectives of the research is to improve on the quality of products to customers, for services rendered and it ensures a timely and accurate production of goods for the purpose of revenue generation.

In pursuit of the aims and objectives of the study, the existing products of Coca-Cola Nigeria Bottling Plc. were critically examined. Various research methods and measures were used to gather materials for this study. The primary source of data were from structured questionnaire administered to staffers of the organization responsible for imputing into the system as well as some branches across the country. Personal interviews of some key officials of the user-department and customers from different branches were also undertaken.

After analyzing data collected from questionnaire and interviews, it was discovered that problems such as inflexibility of the computer system, incomplete peripheral, in accurate and misleading data, insufficiency of the system by the user department, delay in submission of data due for processing, communication gap between management, processing of data department (MIS & DP) and user department on policy issues contributed to the quality of the products presently being provided. Other problems such as inadequate office accommodation, poor working environment for example, the dampness in the computer working environment during raining season, inadequate storage facilities, MIS – interpretation and

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adequate usage of output reports contributed to ineffectiveness and inefficiency of the system.

Provision of adequate storage facilities and security of documents. It is hoped that this project will be of great benefit to all customers, through the reduction of complaint which if not totally eliminated, will also increase revenue generated from customers and might also serve as a motivating factor of the staff. This will in effect lead to reduction of loss in man-hour used in solving problem arising from customer's complaints.

1.2 BACKGROUND INFORMATION OF COCA-COLA NIGERIAN BOTTLING PLC.

The Coca-cola Nigerian Bottling Plc. was established in Nigeria in 1953 when it opened its first plant in Lagos Coca-Cola was made on 8th May 1886 by Dr. John Styth Robertson, a pharmacist in the United State. The trade name Coca-Cola was given by Frank In Robinson Dr. Robertson partner. Other drinks of NBC are Fanta Orange, Fanta Ginger-Ale, Fanta Tonic, Fanta Soda, Fanta Chapman, Sprite, Krest and a host of other. NBC has been fully commercialized under the privatization and commercialization policy of the federal Government, with the aim of achieving the following objectives.

i. To harmonize planning in the internal and external production of goods and services and to rationalized the budget of the industry.

ii. To enable the nation benefit from the resultant NBC achieve its corporate objectives from providing goods and services to merging of profitability of the company.

iii. To improve efficiency of its products and service and private sufficient product flow between Nigeria and the rest of the world.

iv.   To promote economics and political co-operation internationally.

In pursuance of these objectives, NBC offers the following services to the public and its customers. These include;

i.   Job opportunity to Nigerians

ii.   Production of good and services

iii.   Training and exhibition displays at regular intervals

iv.   For NBC PLC to carry out the aforementioned functions the company operates on a three tier system Viz:

1.   Headquarters administration

2.   Zonal administration and

3.   Territorial administration

1.3.   MANAGEMENT INFORMATION SERVICES

The Management Information services and data processing (MIS-DP) are responsible for the following functions in the organization.

i.   Timely production of computerized goods and services

ii.   Production of statistical reports based on information as at when required

iii.   Maintenance of staff personal records and timely updating of files for the purpose of monthly payroll processing.

iv.   Preparation of monthly staff and pensioner's payroll.

v.   Computerization of the organizational financial accounting system and its maintenance.

vi.   Computerization of the organization's store-stock and inventory control.

vii.   Production of ad-hoc reports as may be required by the management.

1.4   PROBLEM DEFINITION

The Nigerian Bottling Plc, computer network and Internet system is decentralized to allow for accurate and timely production of goods and

services to its customers for services rendered. By decentralizing the system, the department responsible for the production of goods and services rendered. By decentralizing the system, the department responsible for the production of goods and services. MIS/DP, has computers centers located in the item zones of the company each zone is responsible for the supply of goods and services for territories under their jurisdiction. The centers are allocated in Lagos, Ibadan, Bauchi, Kaduna, Enugu, Port-Harcourt, Minna, Sokoto Owerri and Enugu respectively.

The decentralized and computerization of the system is geared towards on effective and efficient service thereby improving the quality of the products for consumption and revenue collection for service already rendered.

However, it has been observed that theses objectives have not been largely achieved hence the need for this study. Thus a critical computerization of the system is necessary, in order to proper solution to the problems that might be identified during the course of study.

1.5 OBJECTIVES OF THE STUDY

The objectives of this study is to

i. Critically examine the computerized machine presently in use.

ii. Highlight other problems that constitute impediments to the effectiveness and efficiency of the system.

iii. Proper solutions to the problems highlighted with a view to improving the production in order to provide better services to the customers and project the good image of the company.

iv. Highlight the problems identified and associated with the imput, processing and output procedures in the present system.

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1.6   SCOPE

The study is intended to cover the entire networking systems goods and services with such emphasis on the present system in use at the Nigerian Bottling Plc, headquarters computer center which is responsible for production of goods and services. For example, some territories in Lagos State, Lagos Island and Mainland territories respectively. These territories have the largest number of customers and contributed more that seventy percent of the company's generated revenue in these areas are very important could be made to others centers in the country for uniform operations and services.

1.7   LIMITATIONS

During the course of study, I was confronted with a number of problems, which made the scope to be limited to selected areas.

i.   Insufficient funds to administer questionnaires and carry out interviews to solicit for information

ii.   Difficulty encountered before getting to my case study at Lagos Island office of the NBC from traffic holdups. This office may either have closed or about to close for the day work.

iii.   Inadequate funds to shuttle between Minna and Lagos where my study center is located.

iv.   Thus necessary reports that need to be generated form the system for use could not be made available.

As a result of these problems and limitations the structured questionnaires were limited to a few plants out of thirty within the country.

.8   SIGNIFICANCE OF STUDY

This study had been of great significance tome in that, it gave me a broader view of the internet and networking system which assist in boosting communication and commerce.

In other words, the benefits from this study are;

i. Increased in revenue collection of the company as a result of timely production.

ii. Reduction in loss of man-hour allowing for greater productivity and higher efficiency.

iii. Good image projection of the company

iv. Timely production of goods and services

v. Reduction to complaints from customer due to effective communication system.

vi. The system will above all serve as a model for other organizations in Nigeria.

1.9.   DEFINITION OF TERMS

1. NETWORK PROTOCOL: the digital language that computers use to communicate with each other.

2. NETWORK PROTOCOL DRIVER: the software that is installed on every computer within a computer network that allows computers to talk the same language across a network.

3. ETHERNET: A network protocol defined by a set of international standard. Normally used for computers located within 100m radius, but can be used over longer distances

4. MODEM: A device that converts bits and bytes into signals that can travel over telephone lines and vice versa.

5. INTERNET: a global network using the TCP/IP protocol

6. SOFTWARE: Instructions of or programs that describe the tasks to be carried out by the computer.

7. ON-LINE-PROCESSING: This involves the connection of a computer with users oriented terminal, these terminals are under the control of the CPU and hence capable of interacting with the computer particularly, on-line processing has become a household terminology used to denote direct connection to the CPU.

8. TELEPROCESSING: A term generally used to refer to the various computer services using input and output terminals at remote location to other computers

9. BATCH PROCESSING: It is a system of data processing where information is collected into batches before being processed by the computer in one machine run.

10. MULTI PROGRAMMING: A computer terminology that refers to concurrent processing of more than one job. In a system having only one processor, multi programming is performed by an inter-leave operation of more than one job.

11. MULTI PROCESSING: This is a computer system terminology that has more than one processor this enhances it to process many jobs simultaneously rather than interleaving.

12. MULTI – TASKING: This is the ability of a computer system to perform more than one task simultaneously

13. ISDN Integrated services Digital Network – a public Digital Communication system specially suited to computer communications

CHAPTER TWO

0. LITERATURE REVIEW

MANAGEMENT INFORMATION SYSTEM

A computer can be defined as an electronics machine, which is capable of accepting data, process and analyses same to generate information in a specific format for immediate use or stored and retrieved as and when required in future. The Coca-Cola NBC. Plc. computerized its system immediately after the establishment of different branches across the country and all over the world. Prior to the establishment of these branches, each branch produced separate quality products to its customers. Since NBC PLC is a commercial / industrial enterprise, it can be defined in terms of a system. The system elements include such things as physical (buildings, raw materials), procedural (order processing routines, credit checking procedures); conceptual monetary system and social (trade unions, customers, supplier) element. This enterprise is divided into subsystems, which define the functional areas for effectiveness of the system, it has to use information, often itself regarded as another subsystem, is superimposed over and implanted in all the subsystem.

Information system is consumed with procedures for storage, control and flow of the information, which passes between the functional subsystems in order to ensure that common accepted approaches are taken to the organizations tasks. It also acts as a linking mechanism between the various functional subsystems. The arrival of the computing system has led the provision of information (now known as data processing) to become an organizational function in its own right.

To management the management information system (MIS) is the computer-based information system that supports all of their decision-making process. It is numerously defined as the direction of an enterprise the planning, staffing, organizing, coordinating, directing and control of its human and materials resources towards the achievement of predetermined goals which may include such areas as transportation, communication, banking, finance, education and health care.

The information / data processing of the organization is currently run in a batch processing mode on mainframe and minicomputer system with an application software package developed in house to analyze traffic, products, maintain customers account, ledger and provide management and operation information. This system is largely run/implemented on DBASE 3+

2.1. DATA PROCESSING

This can be defined as the processing of data transformed into information. Data represents the facts of the system as numbers, alphabetic characters or symbols, which may perhaps signify a condition, value or state. It can equally well be an amount on a bill, customer's name or reference code, an address or stock item reference. A computer can use the same data which has been stored for use in producing the payroll as the basis for producing a management report on say, manpower forecast. This is the fundamental concept of integrated data processing (IDP) in which an operation such as sales invoicing is integrally linked with order processing, delivery documents, sales forecasting, inventory control, sales statics and ledger.

The use of a computer in this way has two Implications firstly, as the computing system grows it affect more parts of the business. Secondly, top executives of the company none can determine the effects of computing development of the business. The database stores the data needed by all the various subsystems of the company. It serves the transaction processing activities of the applications system (i.e. payslip production, order processing or the sales ledger) and management control activities (reports of stock levels, sales and cash flow) together with the corporate planning activities of the top management. In this way, the data of the organization is made available, in a constituent and accurate form, to all levels.

2. THE ORGANIZATIONAL SYSTEM

Generally, the function of data processing involves input processing control, storage and output. It can be placed into two major categories, manual and electronics. The former involving use of such simple tools as paper, pencil filling cabinet, top process raw data into electrical and electronics systems such as typewriters and calculation processing tools its major inability to handle large volumes of data has been susceptible to errors.

Electronics data processing requires little or no human intervention in the data processing cycle. The growth in size, complexity and scope of the organization, respond to increase information requirement, the use of information for decision making are some of the reasons for the electronics data processing systems.

FILE TRANSACTION

A file is a collection of related records such as transaction of payroll file. There are two operational characteristics performed on files i.e. interrogation, which involves selecting a particular record by its key or some other criterion The second is updating, involves selecting a particular record by its key or some other criterion. The second is updating, involves deleting an old record or inserting a new record.

File records that are vital to the operational activities of Coca-Cola Nigerian Bottling Company Plc include:

i.   Customer master file

ii.   Transferred summary File

iii.   Zonal debtors master file

iv.   Route files

v.   Payroll files

vi.   International and Local record files

vii.   Destination files

viii.   Numbering plan

ix.   Bank codes

x.   Packed Reference file

xi.   Inventory and stock control files

.4.   GROUPWARE

With advances in communication and computing technology resulting is continual low tariff; it is the pre-requisite for the development of groupware and multimedia with distinct technologies that provide the real business value of the Internet. Groupware provides a human-to-human

interaction and relationship by means of computers in a network. It supports teamwork without regard to distance between the teams.

FEATURES OF GROUPWARE

i.   E-mail Services

ii.   Group calendar (iii) Intergraded groupware packages (v) Workflow development environment and (vi) screen and document sharing applications, which involves PC-based video confencing.

The areas of application in Coca Cola are (1) Decision making, Project Management, sale tracking and management, corporate policies, Research, development and MIS

INPUTS AND SOURCE DOCUMENTS

Strategic uses of information greatly affects the profit of an organization and it is increasing becoming a vital key to corporate survival. The main imput types of the information system are:

i.   Approved Tariff

ii.   Bank Daily Scheduled

iii.   Weekly Bank Schedule

iv.   Bank Codes

v.   Pay-In-Slips

vi.   Approved Tariff

vii.   Route Codes

viii. Commentary Codes

ix.   Numbering Plans

x.   Payment Codes

xi.   International Toll Ticket

xii.   Payment Adjustment

xiii. Advice Note

MASTER FILE MAINTANANCE MODULE

This includes monitors the customer's information details. It is a transaction file needed to be update with the various happenings in the week before commencement of goods production. In this module, maintenance records such as recovery, charges, provision, production, transfer etc. are proved from the enquiry data pool, edited after processing and applied to update the transaction master file.

REPORT IN THE TRANSACTION INFORMATION SYSTEM.

This is the case where each processing module generates report that is relevant for process control, service monitoring, production, operational requirements as well as management decision. It is always produced and distributed to relevant user department according to the schedule.

i. International Report (Summary) this is a summary report showing all international tariff transaction for the month.

ii. Payment Report: This is a listing of all payment made during the transaction for the month other transaction payments are consolidated by banks and from truck drivers.

iii. Adjustment Listing: This is listing of all adjustment applied to transaction during the month. It shows both credit and debit adjustments sent to departments.

iv. Transaction Audit Summary: This is a gist of the master file showing the current charges and area for every customer including their names and addresses.

v. Debtor File: This is a file that contains names and addresses of all customers' owing a particular amount. This file is sent to the legal department towards the recovery of the amount outstanding.

CHAPTER THREE

NETWORK SYSTEM

Data Communication is the process of transferring data from one point to another, and computer communication transmitted by electricity originally data communication depends on codes transmitted by visual system such as mirrors, flags, smokes, sound of gongs.

The telegraph uses certain codes to represent characters by series of dots and dashes, which are transmitted as words by the transmitting operator. After the telegraph came the teleprinter, which are telegraph instrument for sending messages that are then retyped automatically on a machine at the receiving end. The telephone, which came after the teleprinter, had a new dimension to data communication because it was designed to carry human voice from one point to another. Today computers have virtually taken over in all aspect of data communication because of increasing use of computers and other peripheral devices.

Networks first appeared under the guise of time-shared systems in the late 1960s. Then each terminal user had exclusive use of the system resources on a time sliced basis. By the late 1970s, several types of terminals, terminal controllers, Front and processor, line concentrators and data related equipment had grown to a sizable portion of the data processing world, Before the emergence of time-shared system in the 1960s, the very first data to be.

.1. TYPES OF COMPUTER NETWORKS

Their speed transmission media, distance covered and mode of information dispersion characterized computer networks basically. There are however three fundamental types of networks.

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1 LOCAL AREA NETWORKS (LANS)

These are privately owned networks within a single building or campus of a few kilometers in size. It can be defined as a high speed communication system designed to link computers and other data processing devices within a small geographical area such that they can exchange data and share resources. There are three basic network technologies employed in LAN design.

.2 METROPOLITAN AREA NETWORKS (MANS)

This is basically a longer version of the LANs and uses a similar technology. It is optimized for a larger geographical area than LANs ranging from several blocks of building to a whole town they can also depend on communication channels of moderate to high data rates.

1.3. WIDE AREA NETWORK (WANS)

This spans a wide geographical area, often area, often a continent or country. It span is normally based on conventional telecommunication techniques. WANS spanning considerable distance may use microwave transmission or even communications satellites as routing stations. Such systems are extremely fast.

A microwave network sends voice or data traffic by radio waves between relay towers. Each tower in the chain receives, amplifies and retransmits signals. Cable TV networks also provide potentials for data communications.

NETWORK TOPOLOGY

The topology of a network is simply the way in which the cable connections are made, it specifically refers to the physical layout of the network, especially the computers and how the cable is run between them. It is vital to select the right topology for the type of network desired. The four most common are the bus, star, ring and mesh topologies.

..1. BUS TOPOLOGY

This is very often used when a network is small, simple or temporary. On a typical bus network, the cable is just one or more wires with no active electronics device to amplify the signals or pass it on, making this topology a passive one. Here, Only one computer at a time can send a message, therefore the number of computers attached to a bus network can significantly affect the speed of the network. When one system sends a signal, all others on the network received the information but only the one with the address that matches the encoded messages accepts the information. Since it is passive, the electrical signal from a transmitting computer is free to travel the length of the cable, without transmission, the signal back and forth on the bus. This phenomenon is called "ringing" thus terminators are used to absorb the electrical signal and stop the reflections. A major disadvantage of the bus topology is that it is difficult to troubleshoot and becomes extremely slow if the network traffic is heavy.

Fig. 3.1.

Bus Topology Fig. 3.1.
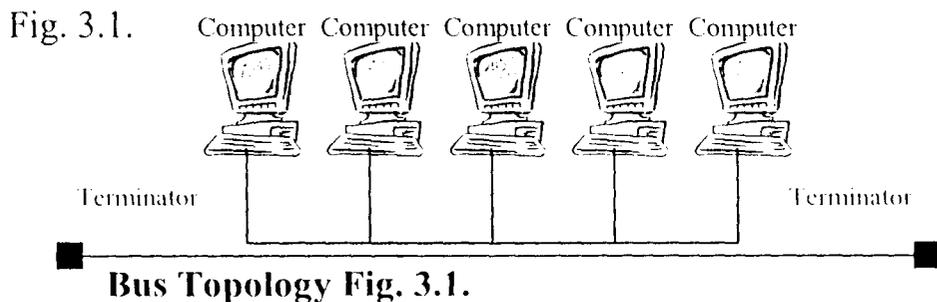
. STAR TOPOLOGY

In this case the cable run from the computer to a central location where they are connected to a central device called the "HUB. This topology is advisable when network expansion, is expected and where end points are directly reachable from a central location. When a computer communicates with the hub, it retransmits either to all the computers or to designated computer. A major disadvantage is in the case of expansion and troubleshooting, it is the most flexible and easiest to diagnose when there is a problem on the network. Fig. 3.2.
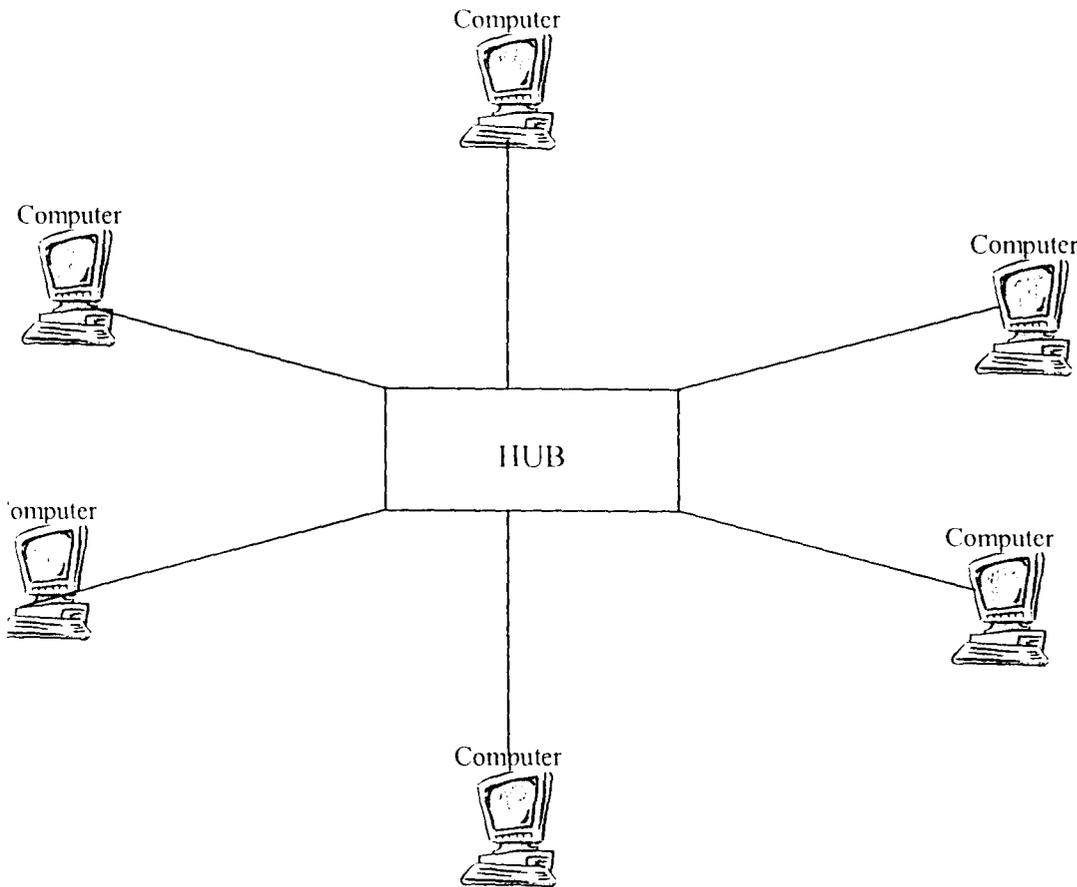

Star Topology Fig. 3.2.

2.3 RING TOPOLOGY

Each computer in this topology is connected to the next computer with the last one connected to the first. Each one transmits what it receives from the previous computers, the message flow is unidirectional and does not

experience signal loss in the ring network, a short message called the "TOKEN" passes through the ring until a computer wishes to send information, this is called "token passing". The computer modifies the t·ken, adds an electronic address and data, then sends it round the ring. The tokens circulation however occurs extremely quickly; a token can circle a ring 200m in diameter at about 10,000 times per seconds. Fig. 3.3.

The major disadvantage here is that, if one computer fails, the entire network goes down. It is also difficult to troubleshoot. Expansion is a bit difficult here since removing and adding a system disrupts the network.
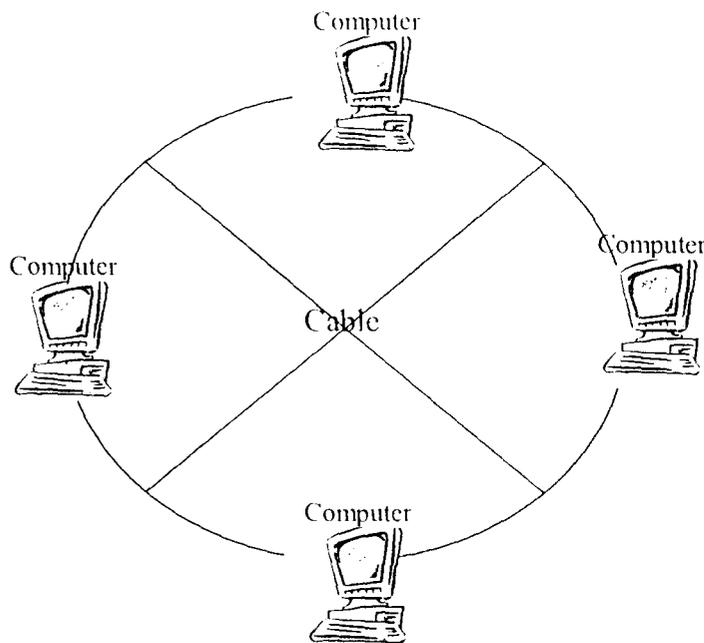
Ring Topology Fig. 3.3.

.2.4. MESH TOPOLOGY

Here each computer is connected to all the others at once, this becomes quite difficult to install as the number of computers increases. Take for example the connection of seven (7nos) computers together it will require twenty one (21) links $\left\{ \dfrac{(n-1)\,n}{2},\ n \right\}$ and so on. They are however easy to trouble shoot and fault tolerant, which are major advantages. The difficulty in installation and reconfiguration are the major disadvantages Fig. 3.4.

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category 3 is suitable for most computer networks offers data rates up to 16mbps; it is current used in most telephone installations. Category 4 offers data rates up to 20mbps; category 5 offers data enhancements over category 3 for example, it supports fast Ethernet.

UTP is relatively of low cost, easy to install, alternates rapidly and restricted to a transmission length of 100 metres. If supports data rates up to 155mbps.
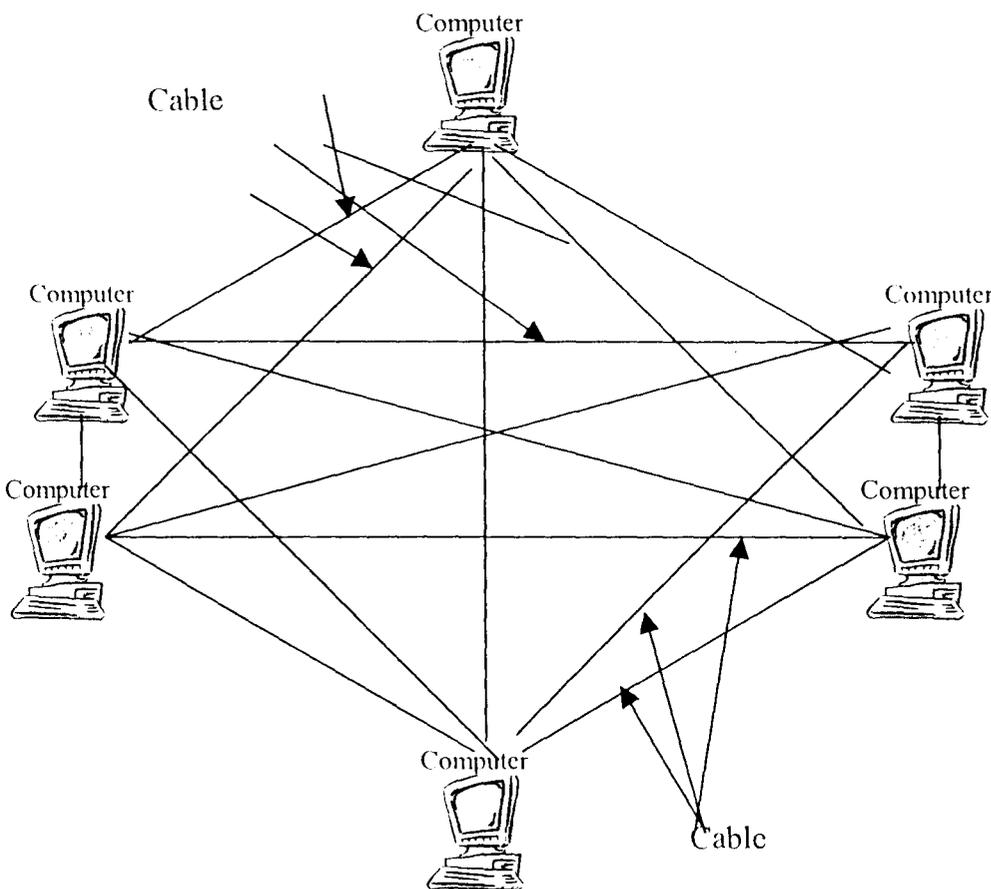
.3.1. TRANSMISSION MEDIA

In its simplest form a LAN consists of a physical medium (typically an electric cable) linking a set of user stations which themselves contain sufficient – logic and electronic circuits to enable the to use the network. It is the physical path between the transmitter and the receiver in a data transmission system. Different media have different properties and are

most efficiently used in different environment for various purposes Transmission media include: co-axial, twisted pair cables, flat-robbin cables, radio and infrared transmission.

.2. TWISTED PAIR CABLES

This is the oldest and most common media in use, it consist of two copper wires arranged in a regular spiral pattern. A wire acts as a single communication links, the twisting of the individual pairs minimizes the electromagnetic interference (Eml), otherwise called "CROSS TALK" between the wires. Twisting also allows the emitted signals from one wire to cancel out the emitted signals from the other and protects them from external noise. The two types of twisted pair cables are:

.3.3 UNSHIELDED TWISTED PAIR (UTP) CABLE

This has a number of twisted pairs with a single plastic casing. There are two categories of this cable. Category 1 and 2 were initially meant for voice communication and few data rates.

3.3.4. SHIELDED TWISTED PAIR (STP) CABLE

The only difference between STP and UTP is that STP has an external shield, which makes it less vulnerable to Emi because the shield is electrically grounded. This is a more reliable cable for LAN environment and was actually first used before the UTP came on screen. The disadvantage being that it is fairly expensive and relatively difficult to install.

5. CO-AXIAL CABLE

Known to many as co-ax, has two conductors that share the same axis. A solid copper wire runs down the center of the cable, which is surrounded by Teflon insulation. A plastic foam insulation, surrounded by a second conductor, a wire mesh tube, metallic foil. The wire mesh acts as a shield and protects the wire from Emi. It is relatively inexpensive and has better attenuation than UTP and STP.

1.1. NETWORK PROTOCOLS

Protocols are a set of rules that specify how different parts of the network interact to allow devices to communicate with one another. They describe what routing information is included with the transmitted data to ensure that the correct device receives it property. To perform the full range of network functionality, several protocols are typically active simultaneously in any given network. The multiple protocols that exist in a network environment are related to one another as members of a "protocol senite". They must be able to evaluate the performance of the network, identify and correct error, Okay transfer of data, facilitate physical connections and allow projected expandability.

The two internally recognized, vendor – independent standard protocol suites are the Transmission control protocol/internet protocol (TCP/IP) suite and the open system interconnection (OSI) suite.

CHAPTER FOUR

1. ## INTERNET

The internet is computing infrastructure allowing computers world-wide to communicate and exchange generic or specialized information it is made up of over 100,000 computer networks and enables access to people and information around the world.

The word Internet is an acronym for International NETWORK for communications. It is a massive web of network. Connecting millions of people all over the world. This connection of computer networks spans the globe, connecting government, military, educational, commercial institutions and private individual to a wide range of computer services, resources and information if more then two or three people with each having a computer to a telephone, line, then we have a network of computer in which they can interact to obtain information. If several tens of people or more in an area have their computer connected to a host computer getting as an administrator, then we have a Local Area Network (LAN). The host computer can become a depository for information, files and software accessible to all the people in the network. This type of arrangement is called a Bulletin Board Service (BBS) the world connected through their host computers to form a massive network is internet.

The networks connected to the internet contains millions of bits and pieces of information arranged in a page form, known as web pages, several of which make up web site. If they are from one source, such as a company, individual, or agency or relates to the various topics under a major heading. A web page can then be said to be public computer file stored in a network attached to the internet. The internet can thus be regarded as the linking of

millions of computers with each other through the telephone systems like a spider web to achieve instant global communications.

HISTORY OF THE INTERNET

In 1969 an agency of the United State Department of Defence called DARPA (i.e. Department of Defence Advanced Research Projects Agency) funded an experimental network called ARPANET NETWORK. The ARPANET was a network test project that allowed an electronic message to travel in many different parts before reaching its destination. If enabled researchers from different geographical locations to share information for security reasons ARPANET was designed as a redundant network. This means that a message can travel in many different paths to get to its final destination. Thus if part of the network is destroyed, the message can still get to its final destination ARPANET is the forerunner of todays INTERNET.

Originally, ARPANET connected the United States Department of Defence, researchers to this network initially consisted of four universities VIZ. University of California at Santa Babara, the University of California at Los Angeles, the University of Utah and the Standard Research Institute. Only the military, contractors and universities that were doing research for the Department of Defence could access this network.

This network was so successful that after two years, more than twenty sites had been connected. This was a blessing in disguise because it enabled a collaborative effort between the military, scientist, and other organizations in the private sector of the US economy. In this prograam, they employed

main frame computers and these were expensive, there was the used to link then in a network for maximum usage by all the researchers involved. They called this the ARPANET. It was the ARPANET that metamorphosised into the INTERNET.

In 1986 the National Science Foundation connected NSF net (National Science Foundation network) the first major US internet network to the internet. This foundation had major responsibility for this network from 1987 through 1995. After 1995 other comprises began taking over responsibility of this network. Similar networks such as EARN (European Research Network and PACOM (Pacific Communication) Network were developed. In the early 1990s these networks were connected to the US internet to form the beginning of todays INTERNET. A worldwide network specifically designed for computers had been born. Today, it is estimated that the internet spreads across 135 countries in all the Seven continents of the World.

1.2. HOW THE INTERNET WORKS

The internet may be thought of as a model NIPOST strategy. The Postal service is a packet switch network. What is sent by way of a letter is usually mixed together with other letters, put in a small mail bag, transferred to another post office and sorted out again and again along the chain of delivery. Although the technologies were completely different. The postal service is a surprisingly accurate analogy of how the internet works. In the sane ways that mails are moved through the postal system, data in the form of packets are transmitted via the internet. As there are rules for addressing letters (e.g. name, street address, box or PMB no.,

town, state country) there are also protocols for transmitting packets, hence the term internet protocols.

The internet protocol/Internet program(TCP/IP) uses packet switching which divides a message into smaller parts. The destination computers addressed is attached to each packet. These packets are then sent off to the destination computer. Each packet taking different rates to arrive at its destination. On reaching their destination, the packets are reassembled into the original message. This provides for a fast, efficient networking. The router determines the best method or route for the electronic packets of a message to be sent to the destination computer.

4.3. COMPUTER COMMUNICATION AND CONNECTIVITY

Communication is an act of transmitting information electronically from one computer to another with the aid of telecommunications and computer by interconnecting them together. Infact, what allows computers and telecommunication equipment to communicate is the smooth marriage between computers and telecommunication equipment which resulted in information technology (IT.)

Information Technology is the technology, which supports activities involving file creation, storage, manipulation, communication (transmission) of information, together with their related methods, managements and application. Information technology is the branch of computer that deals basically on communications, computers and connectivity.

Communication ability gives microcomputer users connectivity, from here users can transmit, receive data and gain access to many resources: Databases, electronic bulleting boards, electronic mail, electronic commerce electronic banking, electronic Advertisement, World wide Web (W3) materials and commercial services. Today, computers make all modern communication possible.

You may have a desktop microcomputer next to a telephone or a laptop microcomputer and a cellular phone. Whichever is the case, communications system give many opportunities to transmit and receive information giving you access to many resources. With these connections, you are linked to the world of larger computers such as mini computers, mainframe computers and super computers. The internet is a revolution in communications, which has changed the world significantly. It opens a new way to communicate with your friends, co-workers, families and people in various part of the globe, find and share information of al types – because of this, the internet will continue to grow in popularity until it is mainstream as the telephone is today.

1.4. MICROCOMPUTERS VERSUS INTERNET CONNECTIVITY

Microcomputers are small, inexpensive, general-purpose computers that offers user most of their larger and more costly mainframe and minicomputer siblings. Indeed the desktop computers including laptop, notebook and palmtop computers appear to be our best.

4.5.0. INTERNET SERVICES (USES OF INTERNET)

The internet is used daily by many individuals or group of people for the main purposes of sending and receiving electronic mail (e-mail) obtaining unlimited array of information on any subject, to communicate with people on any subject, to communicate with people worldwide. Below are the services available on the list.

4.5.1. ELECTRONIC MAIL

Electronic mail is computer-based communication system used to send and receive documents and documents/letters(messages) from one computer/fax machine to another within a limited period of time. The time limit depends on the speed of communication equipment used, the speed of the computer and software used in creating the documents. The benefits of internet e-mail are amazing. No more heavy and courier charge or long costly faxes (when fax machines can be connected to a computer. No more trekking/driving to post offices and even unnecessary waiting for documents to arrive.

E-mail is fun, fast and inexpensive modern way of communicating, as you exchange a great deal of information below the cost of telephone charges or courier services companies such as DHL, IMNL, FEDEX et al. With internet e-mail, you can send messages and files worldwide and receive replies at your personal e-mail address(es) anywhere in the world (a mobile post office). While the hope make use of the information explosion to personal and economic enhancement. The microcomputer is making information revolution a reality for all of us. Today's microcomputers with dynamic and rapid growth of technology can defeat mainframe of yesteryears in data processing. The choice of computer system used for

internet connections depends on the taste of the user and the performance expected from the system. The demand for mobile data processing gave birth to Laptop, Notebook, and Palmtop microcomputers. Apart from mobility, the weight and sizes of all the siblings of desktop microcomputers make them worth citizens in the presence of the user. Mobile workers of a company can conveniently carry the portable computers to anywhere, then, Electronic also come wit their own portable scanner, digital camera, mouse(trackball) and printers./ With the advent of wireless technology, wireless modem, Wireless Application Protocol -- WAP and wireless ISP, connectivity begins with your laptop, notebook and palmtop microcomputers. Before you know it, you have already digitalized and wired the whole world into your palm or finger tips.

NET has made the world seem smaller, it also creates a great sense of urgency about getting things delivered quickly. Instead of relying on the old FEDEX, UPS, IMNL or DHL, technology to send proofs overnight, for instance you may be compelled to deliver files immediately via e-mail, the web, or file transfer protocol (FTP).

1.5.2. WORLD WIDE WEB (www) -- W3 is the graphical, multimedia portion of the internet where users can view textual documents, new life images/photographs and listen to sound/music. The portion of the computer that contains information about different types of organization is known as "Web-site" -- This can be accessed by the user on internet with or without the consent of the owner. Web site is a special graphical data banks created on a host computer. The web is the most popular and most exciting part of the internet. It has millions of visually stunning pages containing information, images, sound tracks, movie clips and so on. In addition the

web is the newest and fastest growing part of the internet. Its rapid growth into popularity stems largely from the ease with which web browsing software, such as mosaic, Netscape, yahoo and some extra graphics\sound software. You can view pictures in exhibitions and life photographs from cameras attached to the internet watch clips from videos or listen to music. Each web site is owned and managed by individuals, companies or organizations. The services available on the web are:

)   Stock Trading :you can get access to current price of stocks and bonds and buy and sell orders.

i)   Travel Reservation: (Bus Reservation, Air Reservation and Train Reservation). Just like a travel agent, you can also get on airline schedules and fares. You can order tickets and reserve your seat on a particular plane/airline.

iii)   On-line shopping: You dial into a database listing prices such as appliances and clothes. You then order what you want and charge the purchase to your credit card number. The merchandise is delivered later by package delivery service.

v)   Home Banking: By arrangement with your bank you can be able to use microcomputer to pay some bills (such as telephone bills, and utilities). You can make loan payments and transfer money between accounts.

ELECTRONIC BANKING: In the banking industries, computers can be used to process data similar to other organizations such as payroll, stock control, word processing, invoicing and manipulation of statement of account. Apart from this, computer can be used for the following:

1) Electronic Funds Transfer (EFT): Is an act of using computers to send money from one part of the country to another, examples are

the UBA money Gram and First Bank Western Money Union Transfer

2) Electronic Fund Transfer from points of sales (EFTPOS): Using computers to pay for goods and services rendered from the point of sales to the company's bank account with the aid of credit card regardless of the geographical location

3) Long distance Withdrawal (LDW): A customer of a bank can withdraw his or her money from any part of the country.

4) Confirmation of Account: Customers of a bank can get information about their statement of account or any other vital information without going to the bank premises.

4.5.4. ELECTRONIC COMMERCE (E-COMMERCE):

Commerce involves the buying and selling of goods and services. Computers can electronically handle all the data processing activities in commercial environment. Various companies place the adverts on the internet.

4.5.5. E-MAIL TO FAX/FAX TO E-MAIL (INTERNET FAX)

Fax machines can send written information document to the computer, which can be stored or printed on the computer printer. Computer can also send written messages to fax machines.

4.5.6 INTERNET TELEPHONY: Computers on the can be used to send and received telephone messages. This is usually clearer and cheaper than normal telephone calls.

4.5.7 INTERNET ADVERTISMENT: Internet can be used to disseminate information to the public, a specific audience and certain group of people.

For instance, Coca cola advertises their product on FIFA web site. Compaq Computer Corporation shows "Powered by Compaq "on" inbox/e-mail box of all yahoo mail users. Advert on the net is global and it has viewers/listeners than radio, postal or television advert.

.5.8. INTERNET INFORMATION DOWNLOAD

The internet provides avenue for Users/Netizens to fetch unlimited array of information from world wide bar-beach of information. For instance users can get (download) information for free of charge concerning current weather, travel, stock market, entertainment news, encyclopedias and other reference works

4.6. INTERNET SERVICE PROVIDERS (ISPs)

Before you can be connected to the internet, you will need to subscribe with any of the available service providers. These are registered companies that have the necessary physical connection and equipment to offer internet connections to the users. There are two (2) types of ISPs.

a) Dial-Up Access ISPs Direct ISPs have fuel Operations in Nigeria and are licensed by the Nigerian Communications Commissions (NEC). Examples are Link-serve, Rose Clayton Limited (RCL), Skannet, Infoweb, Hyperia, Nova, Nigeria Net etc. The most popular in Nigeria are Link-serve and Hyperia. In dial up access ISPs, they must be active and functional telephone lines with internal/external modem before the computers can be hooked to the net. This is very cheap for most average Nigerian/small business enterprises.

b) Direct/Dedicated Access ISPs: These are usually foreign-based with their local offices in Nigeria. On-line services ISPs use sophisticated telecommunication equipment when compared with direct access ISPs. Examples of online service ISPs are: American On-line (AOL), Virgin Net, Microsoft Network (MSN), Compuserve, IBM Global Internet (IGI), progidy, Genie, Delphi, Freedonet, Cable Internet, City cape, Netcom, AT&T, Interchange, Sonnet, Green Net, Easy Net Limited and so on. Recently, most Nigerian investors present Netizens are also embracing direct dedicated access. Examples of such companies are Communication Trends (Nig.) limited (Supernet 300), Simba online SIOTEL, Wananet and microserve. In a direct access ISPs, there will be no need for telephone lines but a modem is essential. The moment you boot you computer the system is already connected to the Net. This is very expensive for most average Nigerians small business enterprises but they are faster and ore reliable than dial up access ISPs.

4.7. INTERNET REQUIREMENTS

In other to communicate with your local Net host or before any independent computers can be connected together, the following hardware and software facilities must be provided. This where the internet service provider(s) is connected.

.7.1 (a) HARDWARE REQUIREMENTS

The hardware requirement depends on how sophisticated the networks are. The common hardware requirements are. Microcomputers (preferably multimedia personal computer MPC), modem, network interface card (NIC) or network adapter card (NAC). Other hardware might also be needed.

7.2 (b) SOFTWARE REQUIREMENT

These can be categorized into four areas viz:

(i) Network operating system: allows the user to work with computers that are interconnected together. Examples of Nos are Microsoft NT (NT: network (New) technology), Novelle Netware Microsoft LAN manager, Bayan Virus, Windows for group (WFWG)- windows 3.2, Lantastics, windows 98, Windows 2000 and so on.

(ii) Communication software: these are softwares that really perform the communication activities. Examples are cross talk, carbon copy, procom, Datasoft etal.

(iii) Client/Application Software: This can be used to create, edit and transmit/receive e-mail messages. Examples are Microsoft exchange, exchange, Microsoft mail, Microsoft word 98, Microsoft word 2000 and so on.

iv) TCP/IP/FTP software: this provides the basic transport mechanism, which handles your data over the Net.

.8.0. INTERNET ADDRESSES

a) E-mail Addresses: Is more like office/residential address and post office box number. These are used for identification and location purposes. In the internet environment, users have their different addresses. Examples of e-mail addresses are cocacola@alpha.linkserve.com.ng, adewumi98@yahoo.com, ayoni2000@yahoo.com. All the e-mail addresses must be written in small letters and there must be no space between the letters.

i) The login is coca-cola

ii) The name that follows the @ sign could be named place of business. For instance employer or internet service providers.

iii) The "com" stands for commercial organizations. The com is the address location for the companies that manufacture goods or provide services to the public in order to make profits. Other codes for some organizations are:

iv) EDU (education) this is used when e-mail message is sent to educational institutions i.e. futjayeees@futminna.edu.ng

v) MIL (military) – this is used when e-mail messages are sent to military, air force and naval establishments. For instance airforce@hyperia.mil.ng.nigeriannavy@nigerianet.mil

vi) ORG (organization): This is used when e-mail is sent to voluntary/non governmental organizations, for instance unicef@aol.org.us, unitednations@compuserve.org.

vii) NET (network): For networking sites, individuals/organizations can use the abbreviation for instance channels@linkserve.net

viii) INT (international) for international groups like FIFA,ILO,NATO, UN. For instance fifa@compuserve.int.

ix) GOV (Government): For governmental sites like Pentagon, Aso rock. For Instance e-mail:Nigerstate@yahoo.gov

x) The last two letters are used to indicate the country of destination for example NG for Nigeria, UK for United Kingdom, US for United States.

4.8.1. WORLD WIDE WEB ADDRESSES (www)

Unlike e-mail addresses, web has its own address, example http://www.cocacola.com is a special databank created on a host computer using frontpage software or fouth/fifty generation languages such as CGI,HTML, JAVA/VISUAL, J++ the components of www addresses are explained below:

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i) http:// (hypertext transfer Protocol): Identifies the protocol for handling a type of web documents. This is optional.

ii) www.microsoft.com: Indicates the name of web server support.

). HOW TO SEND AND RECEIVE E-MAIL MESSAGES

Sending e-mail can be extremely cheaper. It can be sent to recipient locally or other parts of the world. Materials that can be sent through e-mail include text based material such as simple message, letters, notes, memos, unformatted conference papers documents, data files from spreadsheet or database packages and software programmes (executive files).

E-mail is sent and received through an electronic mailbox of a e/mail account, which is located at a host computer (internet service provider or cyber café/internet café). By a host computer communications service is run. You connect computer to your e-mail account at the host computer (ISP) via a telephone line.

There are a number of companies the provide free e-mail services When the user load such e-mail software, the user is asked to register at the site and e-mail account is created for the user. An e-mail address is allocated to the user. With this e-mail address you can access your e-mail anywhere in the world. Some of the common sites are yahoo, rocket mail, net address, usanet, google, webbox, lycos, hotmail and so on. The email address of a user looks thus: first the username of a person or organization to the left of the @ sign, the second, the address of the host computer or ISP at which the e-mail account is located (to the right of the@ sign). Example roabioye@yahoo.com, ogogo2002@yahoo.com. Could formulate it by using other names of parents, children, wife and loved ones. In the e-mail environment, on-line use of e-mail environment, on-line use of e-mail

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means you must be connected interactively to the host computer by telephone lines through the entire time you spend reading new e-mail or while you compose e-mail messages to be sent out. This way of using e-mail can be quite expensive, since you will spend more time on the telephone than you would writing your e-mail off-line and then send it. E-mail can be made relatively secure by use of password techniques, encryption programs and so on.

l. BROWSING/SURFING THE WEB

Browsing is an act of using browser (software such as Microsoft Internet Explorer, Net scape Navigator to check or view contents of the web. This software serves as an interface between the host/server and the workstations. However most operating systems designed and develop for personal computers come with in-built browsing software like Microsoft Internet Explorer, Netscape communicator, Opera 3.1, Hot Java etc Browsing the web makes use of graphical user Interface (GUI) objects or icons in navigating the millions of pages on the web.

Three major features available on the web are:

10.1. ON-LINE CHAT: This is a mode of discussion more or less like a telephone conversation except that in this case the keyboard console of your computer system is used to transmit digital data in discreet packets. Most chat software is downloaded free from the numerous sites offering chat room services. Prominent among them are www.icq.com, www.yahoo.com/chat etc. To initiate online chat you have to establish connection with your ISP and then load your chat software and activate your favourite or preferred chat room or chat partner.. Normally, when you

load chat software a list of all members in a particular chat/room that are online will be displayed for you to choose from

.2. INTERNET TELEPHONY

This is a relatively new feature of the web and is fast becoming the second most popular activity on the net after surfing/browsing. The major attraction of this service being that international calls are made at the local telephone tariff/rates. It involves the use of Headphones with a microphone anchored to the sound card port of your PC. The internet telephony uses a sub-internet protocol called Voice over internet protocol (VOIP). This protocol allows the analog data thus generated from the microphone to be digitalized and compressed into packets of digital data and then transmitted via the conventional IP/TCP channels.

One significant improvement that has been achieved by various internet telephone hardware (cards) is that they are based on the principle of full duplex data transmission. This enables echo cancellation and alternative routing of data thereby bypassing the sound card. One of such hardware is the Quicknet Phone Jack. Two websites offering this service were recently launched, they are **www.dialpad.com** and www.deltatree.com.

.10.3. SEARCH ENGINE

This is one of the most fascinating feature of Microsoft Internet Explorer. It allows the user to carry out wild card searches. All that is needed of the user is to enter one or two keywords to search for in the search engine text box. Also two searches can be carried out simultaneously by opening two conditions on the same screen. Examples of search engine software are:

Yahoo, Infoseek Guide, Alta Vista, Galaxy, Webcrawler, Allweb and so on.

1.0. DOWNLOAD AND UPLOAD

Downloading is the act of sending / transferring data/information (hyper media) from sites into your computers hard disk or floppy disk. Downloading of pictures, screen savers, software, audio files, movie files and textual documents can take seconds, minutes or at times hours depending on the bandwidth/band rate (data transfer rate). It takes much time to download graphics/pictures (movie/audio) than letters (documents). Usually, if the user wants to download any software, screen saver, maintain program, pictures and sound/video from any web site, the site will contain their "hyperlink" of download.

1.12.0.   NETWORKING IN COCA-COLA

Most of the computers in this organization connect to a network using a LAN (Local Area Network). These networks consist of a backbone, which is a common link to all networks within the organization. This backbone allows users on different network segments to communicate and allow data into and out of the local network. As it can be observed from the fig 4.1, which shows a local area network which contains various segments to communicate: LAN A, LAN B, LAN C, LAN D, LAN E and LAN F. these are connected to the local network via the BACKBONE I. Thus if LAN A talks to LAN E then the data must travel out of LAN A into BACKBONE I, Then into LAN C and then through into LAN E.

These networks are partitioned from other networks with a bridge, a gateway or a router. The key operation of a gateway, bridge or router is that

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it only allows data traffic through that is intended for another network, which is outside the connected network. This filter traffic and stop traffic, not intended for the network from clogging-up the backbone. If more than one path exists between individual segments the bridge automatically finds the alternative routes.

Topologies used in these LANS are star, ring, bus, a combination of two or more or derivatives of the first three. An example is the tree topology, which is essentially a star and a bus network combined. A device called a CONCENTRATOR (a нив) is used to connect the nodes onto the networks.
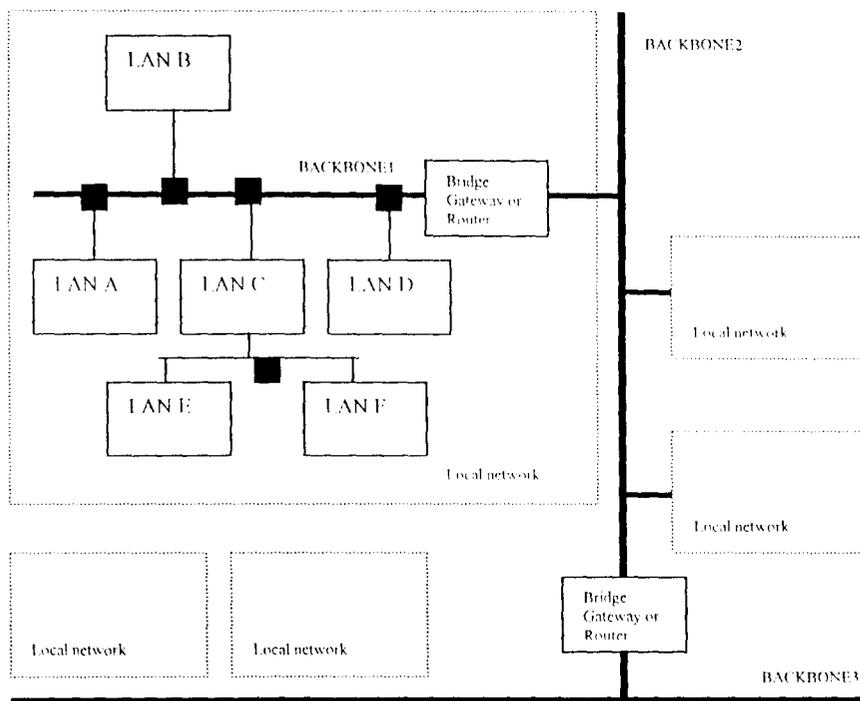
Typical Network Layout Fig. 4.1.

4.13.0.   NETWORK CONNECTION

Networks are connected to other networks through repeaters, bridges or routers

Repeaters being used to increase the maximum interconnection length since network connections suffer from signal strength reduction (alternation) and digital pulse distortion. They also affect the following.

i. Clean signal pulses.

ii. Provide centralized computer settings.

iii. Access other centralize peripherals such as network FAXs, dial – in network connections and so on.

iv. www and TCP/IP services, such as remote log in file transfer and so on.

v. Boost signal power

vi. Pass all signals between attached segments

Bridges filter input and output traffic so that only data frames destined for a network are actually routed into the network and only data frames for the outside are allowed out of the network. The performance of the bridge is governed by two main factors, the filtering rate in which the bridge reads the media access control (MAC) address of the Eithernet/Token ring wide and decides if it should forward the packet into the network and the forward rate which is decided once the bridge has decided to route the frame into the network, forwarding rates ranges from 500 to 140,000 packets per second (pps).

Routers, on the other hand examine the network address fields and determine the best route for the packet. The advantage here is that Routers normally support several types of network layer protocols. These routers communicate with other routers so that they can exchange routing information.

4.0.   ETHERNET TECHNOLOGY

This uses a shared – media, bus-type network topology where all nodes share a common bus. These nodes then contend for access to the network as only one node can communicate at a time. Data is then transmitted in frames, which contain the media access control (MAC) source and destination addresses of the sending and receiving nodes respectively. The Ethernet uses carrier sense, multiple access with collision detection (CSMA/CD). On this CSMA/CD network nodes monitor the bus (or Ether) to determine if it is busy. A node wishing to send data waits for an idle condition then transmits its message. Collisions can occur when two nodes transmit at the same time, thus nodes monitor the cable when they transmits. This is to avoid collisions or jamming of signals. In the event of a collision both nodes stop transmitting frames and a jamming signal is transmitted. This informs all nodes on the network that a collision has occurred. For each node on the network to be able to detect collisions and be capable of transmitting and receiving simultenously, they are connected to a common Ethernet connection or Ethernet hub. Fig 4.2. Ethernet requires a minimal amount of hardware. The cables used for its connectable (UTP).

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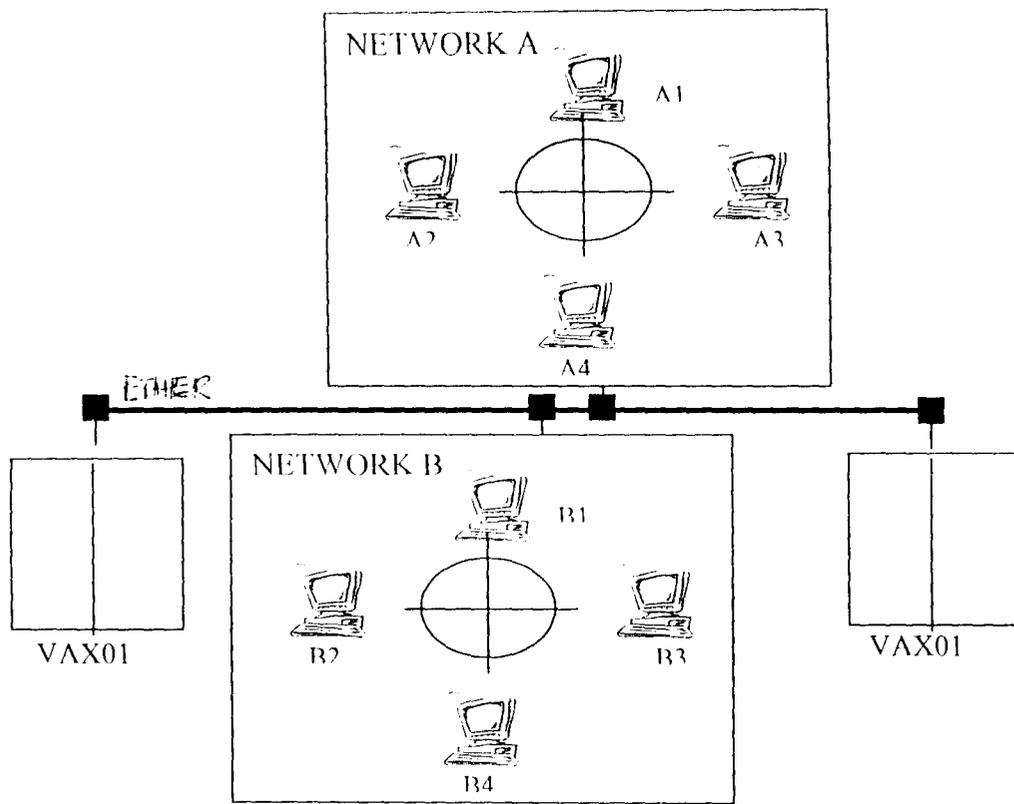
Ethernet Network Fig. 4.2.

5.0. INTERNETWORKING

Since the various technologies described in the previous sections provide a data link layer function that is, they allow a reliable connection between one node and another on the same network, they do not provide internetworking where data where data can be transferred from one network to another. For data to be transmitted across a network an addressing structure which is read by a bridge, gateway or router is required. The networks are interconnected to form an internetworking (or an internet) each part of which is a sub-network (subnet). Transmission control protocols (TCP) and internet protocol (IP) are a pair of protocols that allow one subnet to communicate with another. These protocols are a set of rules that allows orderly exchange of information. The IP – part corresponds to the network layer and the TCP-part to the transport layer. The IP address being assigned to each node on the internet. It is used to identify the location of the network and any subnets. This organisation connects to internet proper by conforming to the ISO adopted TCP/IP for resources and

transport layer models. The IP protocol program running on each node knows the location of the gateway on the network. Data then passes from node through the net to the gateway.

16.0.   COCA – COLA WEBSITES

Coca – cola organisation uses the hypermedia concept to support the interlinking of various types of information through the design and development of a series of concepts, communications, protocols and systems. This organisation use the World Wide Web for enhancing its corporate image. One of its main advantage is that storeinformation tends to be distributed over geographically wide areas. Thus information is stored on the www on web – servers which uses the internet to transmit data around the world. These servers run special programs that allow information to be transmitted to remote computers, which are running web browers Fig 4.4. The information stored on Web servers are accessed by means of pages. These can contain text and other multimedia applications such as graphics images, digitized sound files, and video communication. Each page contains text known as hypertext, which has specially reserved key words to represent the format and the display functions. A standard language known as HTML (Hypertext Markup Language) has been developed for this purpose.

4.16.1.   BROWSING/SURFING COCA COLA WEBSITES

A browser is a software that can be used to navigate the contents of the coca – cola websites. These websites contains various web pages on the activities obtainable from this organisation in Nigeria and other parts of the world. Among these home pages are Coca – Cola World Wide, Coca Cola America, Coca Cola Africa and so on (see appendix).

Before proceeding with steps on how to Browse the websites, any visitor to this website should be sure of being on the net.

STEPS

1. Click on Start Button

2. Move the mouse pointer to the right – hand side and look for Internet Explorer and click on it.

3. When the Internet Explorer is loaded, the screen display/design and its components of the browsing software will be displayed on the VDU

4. Type the name of the website i.e. **http://ww**.cocacolaworld wide.com, chick on Go or press enter key

The Home page of the website will be displayed to view other desired information, click on any topics with blue colour and underlined (a closer look at the mouse pointer will show the pointer changing to a shape of hand Hyperlink)

To search for any information on the web, use search Enquires which are in-built into these websites.

CHAPTER FIVE
CONCLUSION AND RECOMMENDATIONS

CONCLUSION

This project has to a large extent afforded one the opportunity to learn a lot about the revolutionary trends in the world of computers, network and the internet. It is interesting to note that this revolution knows no boundaries. As the computer industry becomes limitless, as it pushes forward to a better technological state, so will data transfer and communication in this organization continue to grow.

RECOMMENDATION

Information processing and effective flow of data in a production planning system such as coca cola Nig. Plc are essential for corporate survival. The management of such a public enterprise requires accurate and reliable from product, services and user – departments. A well organized information flow in this system needs input data on orders from customers and on the availability of production and production components. For greater productivity and efficiency, the following recommendations are hereby proferred

1. A system such as thus obtained in Coca – Cola should take extra precautions against.

   i) Password attacks – a common weak point in many systems where hackers can change system set ups, delete files and change vital documents.

   ii) Packet sniffing – where hackers listen to TCP/IP packets which come out of the networks and steal vital information in them ie e-mail messages, user log-in and other data.

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2. Extranet system (external intranets) in which two or more companies can share parts of their intranet related systems for joint projects. The Extranet will allow them to share files related to their projects

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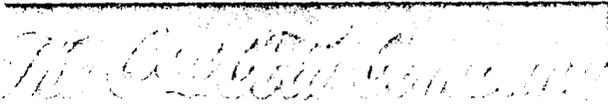
Welcome to The Coca-Cola Company
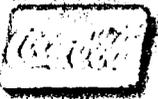
**LeBron James Tips Off
Relationship With Sprite
And Powerade »**

**Careers at The
Coca-Cola Company »**

Active Living »

Site Map   › Store

WELCOME TO THE COCA-COLA COMPANY

The Coca-Cola Company exists to benefit and re
everyone it touches. Founded in 1886, our Comp
world's leading manufacturer, marketer, and dis
nonalcoholic beverage concentrates and syrups.
produce more than 300 beverage brands. Our co
headquarters are in Atlanta, with local operation
200 countries around the world.

Search:

The Coca-Cola Company Beliefs

BELIEFS

There is much in our world to celebrate, refresh, s
protect. The Coca-Cola Company is a vibrant netw
in over 200 countries, putting citizenship into actic
our actions as local citizens, we strive every day tc
marketplace, enrich the workplace, protect the env
strengthen our communities.

We are a local employer, with responsibility to ena
people to tap into their full potential; working at th
best and representing the diversity of the world we

We are an investor in local economies and a driver
marketplace innovation, with a responsibility to ac
steward of our natural environment.

And we are a local citizen, understanding our resp
contribute to an improved quality of life in our com

Learn more about our beliefs and how they guide «
every day, around the world.

International Advisory Council

2002 Citizenship Report

Principles of Citizenship

Code of Business Conduct

YAHOO! Search

Your Search: COCA COLA NIGERIA | Search | Advanced Web Search

You are searching: ⦿ All of the Web   UK only   Ireland only

Web   Directory   News   Images NEW!   What's New | Send Feedba

OP 20 WEB RESULTS out of about 24,500

TAGE NOTE: You have just searched all the web. Try searching Yahoo! for just UK sites or Irish sites to narrow your ults.

1. allAfrica.com Nigeria: Coca-Cola Stakes N3m for FA Cup Winners ⦿
   ... of **Nigeria** with the historic city of Kano hosting the 58th finals. The Marketing Manager stated that, "as part of this year's sponsorship package, **Coca-Cola** ...
   allafrica.com/stories/200307180457.html

2. Coca-Cola Exploits Nigeria ⦿
   Coca-Cola Exploits **Nigeria**. ... In order to invest and conduct business in **Nigeria, Coca-Cola** must interact and favor the interests of the military regime. ...
   www.sccs.swarthmore.edu/org/phoenix/1997/1997_04_25/coca_cola_exploits_niger.html

3. McFred's. McDonald's Coca-Cola Nigeria Balloon Pin===LIMITED, 3 ... ⦿
   ... McDonald's **Coca-Cola Nigeria** Balloon Pin===LIMITED, 3 LEFT. Quantity in Basket: none Code: ba036 Price: $2.99 Shipping Weight: 0.00 pounds. Quantity:
   store.appcomm.net/Merchant2/merchant.mv?Screen=PROD&Store_Code=McFreds&Product_Code=ba036&Category_Code=Balloon

4. Coca-Cola Africa - Nigeria - Bottling Partners ⦿
   ... The **Coca-Cola Nigeria** Bottling System regularly services over 200,000 outlets nationwide. This is done mainly through bottler-owned conventional routes. ...
   nigeria.coca-cola.com/bottling.html more results from this site

5. Cambridge University Nigeria Society ⦿
   ... Kingdom. **Coca-Cola** North & West Africa Division North Africa Region Nile Region Central **Nigeria** Region West Africa Region. **Coca-Cola** ...
   www.careersinafrica.com/part_CocaCola.asp more results from this site

6. Coca Cola Africa - Citizenship ⦿
   ... Dr. Christian Voumard, UNICEF, and Laolu Akinkugbe, Public Affairs Director, **Coca-Cola Nigeria** (on behalf of the Foundation) are joint signatories to the ...
   www.africa.coca-cola.com/citizenship.html more results from this site

7. Coca-Cola - Our Company - Awards and Recognition ⦿
   ... **Coca-Cola Nigeria** recognized by Hope Worldwide for its humanitarian involvement in fighting the HIV/AIDS epidemic (January 2003); ...
   www2.coca-cola.com/ourcompany/awards_recognition.html more results from this site

8. Comparing the prices of petroleum and Coca-Cola A ridiculous ... ⦿
   ... to subsidize the cost of petroleum products in **Nigeria** and that that the price of a liter of gasoline was cheaper than the price of a bottle of **coca-cola**. ...
   www.kwenu.com/publications/omenka/petrol_coke.htm

. Student Coalition - Issues - Coca-Cola
... Amnesty International. The Free **Nigeria** Movement has called for a boycott of **Coca-Cola** until they leave **Nigeria**. Students of good ...
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). Une ONG et Coca Cola vont aider le **Nigeria** à combattre le SIDA - ...
... Name, safco. Subject, Une ONG et **Coca Cola** vont aider le **Nigeria** à combattre le SIDA. E-mail, safco@hivnet.ch. Date, Thu, 22 Aug 2002 15:01:49 MET DST. ...
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... The **Coca-Cola** system in **Nigeria** will provide marketing support to develop awareness materials on the sentinel sero-surveillance program, assist in the printing ...
www.unaids.org/whatsnew/press/eng/pressarc01/CocaCola_200601.html more results from this site

2. JAAIDS eForum Read Message
Posting to **Nigeria**-AIDS Discussion Date: November 15, 2002. Subject: **Coca-Cola Nigeria** gives ARVs to HIV+ employees. Body: **Coca-Cola** ...
www.nigeria-aids.org/MsgRead.cfm?ID=1107 more results from this site

3. Weekly Trust - Coca-Cola FA cup hits megabucks
... The **Nigeria Coca-cola** FA Cup is set to regain its glamour this season as the sponsor; **Coca-Cola Nigeria** limited earmarked millions of naira for the revival of ...
www.mtrustonline.com/cola26072003.htm more results from this site

14. Welcome To The Sun Online
... **Coca-Cola Nigeria** recently unveiled a promotion tagged "**Coca-cola** Mega Million Game Promotion" to commemorate the 50 years of **Coca-Cola** in **Nigeria**. ...
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15. THISDAYonline
... is reviewing its investment plan in **Nigeria** and would announce the new investment as soon as the Managing Director of (**Coca-Cola Nigeria**,) Nigerian Bottling ...
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16. Coca-Cola HBC - Board of Directors - coca-colahbc.com
... of Ireland, Northern Ireland, Moldova, Romania, Russia and **Nigeria**. In April 2000 Mr. Finan became one of three Regional Directors of **Coca-Cola** HBC and was ...
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17. Coca-Cola Hellenic Bottling Company
... over 500MM consumers [] A little more than half of revenues come from established markets **Coca-Cola** HBC []s African presence in **Nigeria** 9M02 [] Split of ...
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... As a demonstration of its continued commitment to the financial well being of its employees that were layed off in 2000, **Coca-Cola Nigeria**, in partnership with ...

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