Network Approaches

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Abstract: Networking is the process of interconnection of nodes with each other. When the data is being transmitted around the pool of users there are chances of hacking the data and the data can be made as encrypted before reaching the customer.To avoid these there are allowing some of the techniques that is to be used while transmitting the data .In this aspect we discuss about the security measures to be used in providing the security to the data . We shall use software for preventative measures to protect the underlying **networking** infrastructure from unauthorized access, misuse, malfunction, modification, destruction, or improper disclosure, thereby creating a **secure** platform for computers, users,When the unauthorized users enter into the pool we shall the have signal and the data can be protected

Index Terms – **Cloud Security, Web Security, Intrusion System, Security Information System.**

I. INTRODUCTION

A computer network is a whole of connected computers. Computers on a network are called nodes. The link between computers can be done most commonly the internet cable, or wireless through radio waves. Linked computers can share resources like access to the Internet, printers, file servers, and others. A network is a multipurpose connection which allows a single computer can do more.

Network Diagram Sample
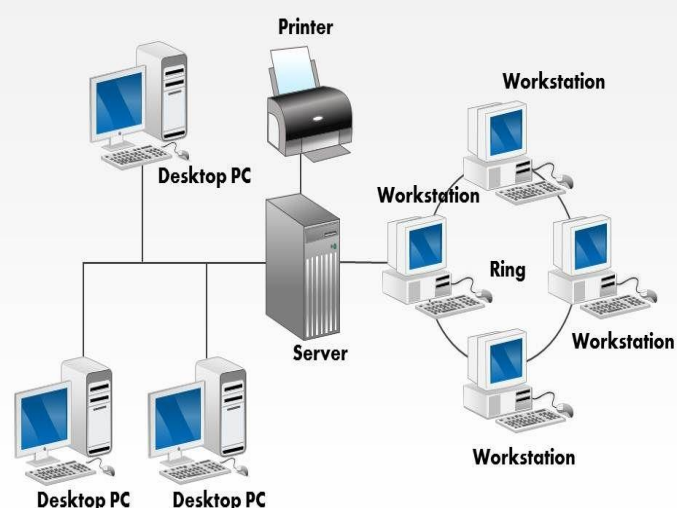
Types of Network Connections

- Bus Topology
- Ring Topology
- Star Topology
- Mesh Topology
- Hybrid Topology

Networking approaches:
### There are two main approaches to networking:

- Peer-to-Peer, and
- Client-Server

Peer-to-Peer Networks

A Peer-to-Peer network is a workgroup where all of the connected computers (and users) are seen as peers (equals), and there is no one computer that is used to administer or control the network.

Peer-to-Peer networks are ideal for situations where there are no more than ten (10) computers to be networked, few resources to share (1 printer and a few files), security is not a major issue, and cost is very important.

However, Peer-to-Peer networks are not scalable - they are limited to fewer than ten (10) computers, and if your network grows you would have to change your networking approach

Client-Server Networks

In a server based network (Client-Server networks), one or more computers act as a server and other computers are connected to this (these) server(s). The server is used to control access to the network and to administer its resources to the clients (users), and the clients connect to the server to access its resources.

Server based network offer centralist control of the network and its resources - one username (and password) can be used to decide who gets access to what; and flexibility and availability. You can have servers for different purposes (file servers, data servers, print servers), and from one to several hundred clients
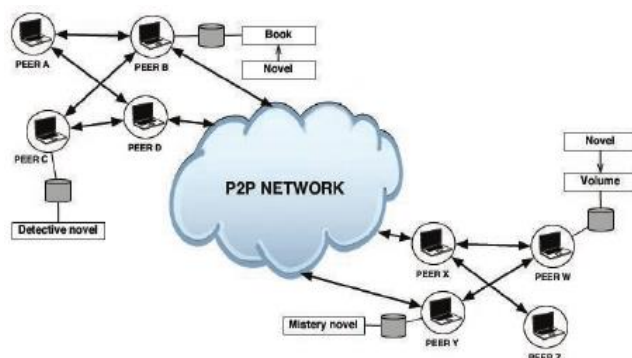

Client-Servers Network Model
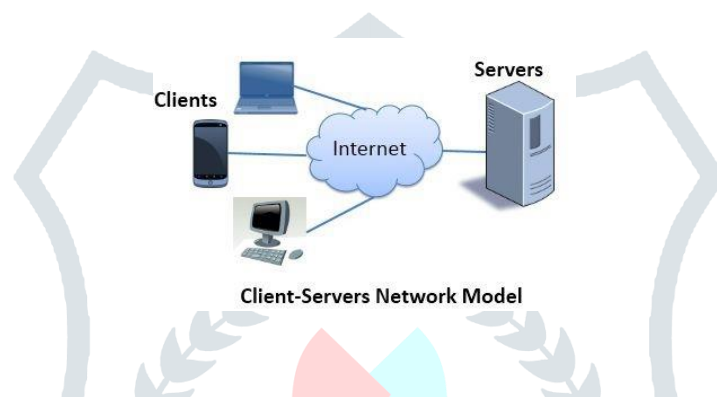
| Client/Server	Peer-To-Peer
Server has the control ability while clients don't	All computers have equal ability
Higher cabling cost	Cheaper cabling cost
It is used in small and large networks	Normally used in small networks with less than 10 computers
Easy to manage	Hard to manage
Install software only in the server while the clients share the software	Install software to every computer
One powerful computer acting as server	No server is needed
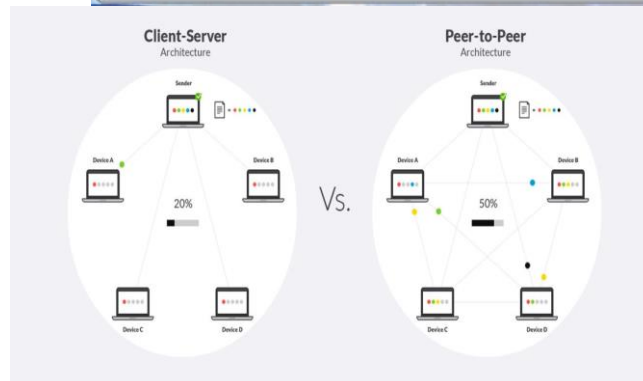
However, these types of networks can be very expensive to set up and maintain - there are high costs for equipment (specialised servers), licensing fees (associated with the server operating system), and a full time network administrator.

NETWORK APPORACHES:

According to this **approach**, internationalization of the firm can be achieved through creating relationships in foreign country **network**s that are new to it; the development of relationships and increasing resource commitments in those **network**s in which the company already has a position (penetration) of the existing **network**s in different countries.


NETWORK CONNECTION:
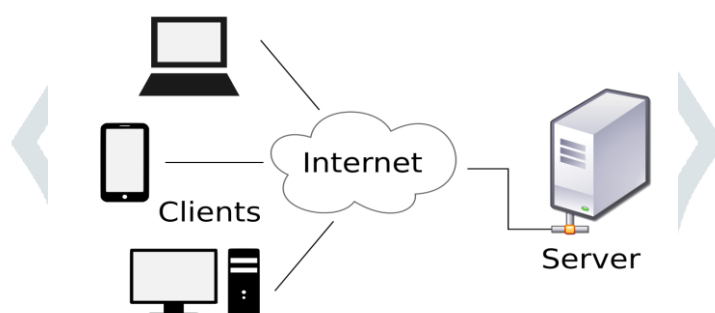
CLIENT AND SERVER

In the computer world today, client-server system has become popular because it is being used virtually every day for different applications. Some of the standardized protocols that client and servers use to communicate with themselves include: File Transfer Protocol (FTP), Simple Mail Transfer Protocol (SMTP) and Hypertext Transfer Protocol (HTTP). Client-server system can be defined as a software architecture made up of both the client and server whereby the clients always send requests while the server responds to the requests sent. Client-server provides an inter-process communication because it involves the exchange of data from both the client and server whereby each of them performs different function.

ARCHITECTURE OF CLIENT AND SERVER:
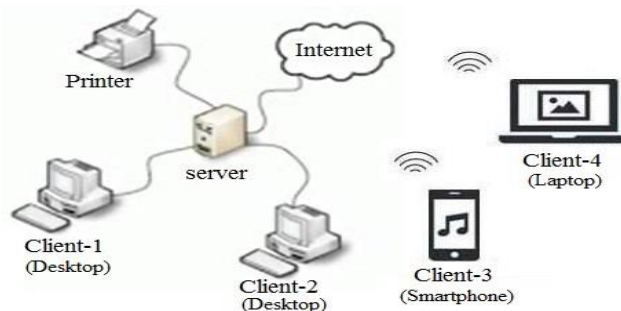

Client Server Architecture

Client-server architecture is frequently made up of the application server, database server and PC.
The two main Architectures:
2-tier and
3-tier Architecture.
In 2-tier architecture the users will run applications on their which connects through network to the server. The client function runs both the coding business logic and then displays output to the user. It is also called thick client. It is considered when the client has access to the database directly without involving any intermediary. It is also used to perform application logic where by the application code will be assigned to each of the client in the workstation.

The client server characteristic describes the relationship of cooperating programs in an application. The server component provides a function or service to one or many clients, which initiate requests for such services. Servers are classified by the services they provide. For example, a web serves web page and file serves computer.   A shared resource may be any of the server computer's software
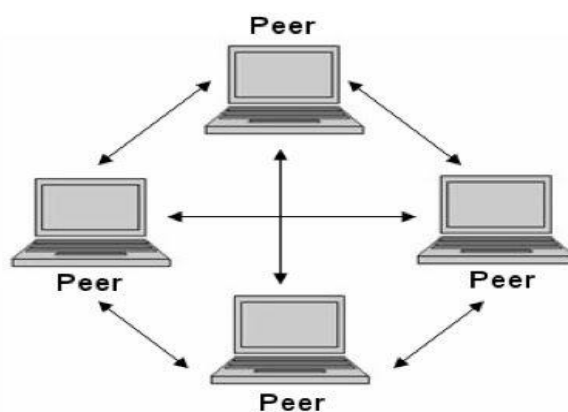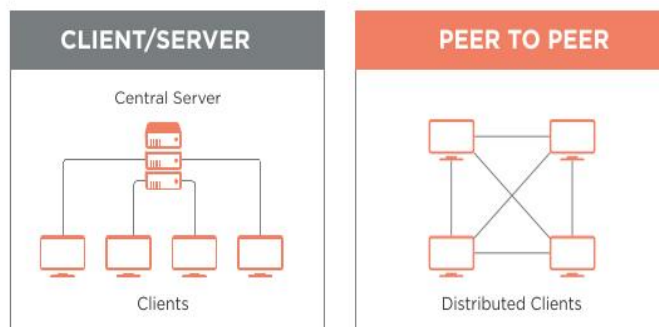
Peer-to-peer compute or network is an architecture that partitions tasks or workloads between peers. Peers are equally rights participants in the application. They are said to form a peer-to-peer network of nodes.

Peers make a section of their resources such as processing power, disk storage or network bandwidth, directly available to other network participants without the need for central coordination by servers or stable hosts. Peers are both suppliers and consumers of resources, in contrast to the traditional model in which the consumption and supply of resources is divided .Rising collaborative systems are going beyond the era of peers doing similar things while sharing resources, and are looking for diverse peers that can bring in unique resources and capabilities to a thereby empowering it to engage in greater tasks beyond those that can be accomplished by individual peers, yet that are beneficial to all the peers.

 Peer to peer systems had previously been used in many application domains, the architecture was popularized by the file sharing system originally. The concept has encouraged new structures and philosophy in many areas of human interaction. In such social contexts refers to that has emerged throughout society enabled by internet technologies in general.