

NIELIT Gorakhpur

Course Name: O Level (2nd Sem)
Topic: Client/Server Model [continued]

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Chapter 3rd [Networking Concepts]

Host:-

A host is a computer, connected to other computers for which it provides data or services over a network. In theory, every computer connected to a network acts as a host to other peers on the network. In essence, a host reflects the logical relationship of two or more computers on a network.

To simplify this, suppose you want to download an image from another computer on your network. That computer is “hosting” the image and therefore, it is the host computer. On the other hand, if that same computer downloads an image from your computer, your computer becomes the host computer.

Your computer can be a host to other computers. Likewise, your router can be a host to other routers. But a host must have an assigned IP address. Therefore, modems, hubs, and switches are not considered hosts because they do not have assigned IP addresses.

Characteristics of Client Server Computing

The salient points for client server computing are as follows:

- The client server computing works with a system of request and response. The client sends a request to the server and the server responds with the desired information.
- The client and server should follow a common communication protocol so they can easily interact with each other. All the communication protocols are available at the application layer.
- A server can only accommodate a limited number of client requests at a time. So it uses a system based to priority to respond to the requests.
- An example of a client server computing system is a web server. It returns the web pages to the clients that requested them.

Advantages of Client-server networks:

Centralized: Centralized back-up is possible in client-server networks, i.e., all the data is stored in a server.

Security: These networks are more secure as all the shared resources are centrally administered.

Performance: The use of the dedicated server increases the speed of sharing resources. This increases the performance of the overall system.

Scalability: We can increase the number of clients and servers separately, i.e., the new element can be added, or we can add a new node in a network at any time.

Disadvantages of Client-Server network:

- Traffic Congestion is a big problem in Client/Server networks. When a large number of clients send requests to the same server may cause the problem of Traffic congestion.
- It does not have a robustness of a network, i.e., when the server is down, then the client requests cannot be met.
- A client/server network is very decisive. Sometimes, regular computer hardware does not serve a certain number of clients. In such situations, specific hardware is required at the server side to complete the work.
- Sometimes the resources exist in the server but may not exist in the client. For example, If the application is web, then we cannot take the print out directly on printers without taking out the print view window on the web.

Difference between a server and a host

A server:

- Can be a physical device or software program
- Installed on a host computer
- Provides specific services
- Serves only clients

A host:

- Is always a physical computer or device
- Can run both server and client programs
- Provides specific services
- Serves multiple users and devices

Assignment

- 1-Write difference between server and host
- 2- Explain advantages of Client-Server network.

