

Introduction to Computer Networking

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1.1 INTRODUCTION

Each of the past three centuries has been dominated by a single technology. People were doing lot of paper work in organizations because, lack of advance systems which will help them in their day today work. The 18th century was the time of the great mechanical systems accompanying the Industrial revolution. .The idea that within 20 years equally powerful computers smaller than postage stamps would be massproduced by the millions was pure science fiction.

A network is a group of two or more computer systems sharing services and interacting in some manner. This interaction is, accomplished through a shared communication link, with the shared components being data. Put simply a network is a

collection of machines have been linked both physically and through software components to facilitate communication and the sharing of information.

A physical pathway known as transmission medium, connects the systems and a set of rules determines how they communicate. These rules are known as protocols. A network protocol is software installed on a machine that determines the agreed –upon set of rules for two or more machine to communicate with each other. One common metaphor used to describe different protocols is to compare them to human languages.

Networks are widely used by companies or on personal level also. Network for companies should provide high reliability, cost efficient, and resource sharing.

1.2 CLIENT SERVER MODEL

Normally network should provide high reliability; emergency back up etc. For satisfying this purpose big mainframe computers are required. But this will be not cost efficient. On other side small computers have a much better price/performance ratio than the large Ones. Mainframes (room-Size) computers are roughly a factor of ten faster than personal computers, but they cost thousand times more. This imbalance has cost many system designers to build systems consisting of personal computers, one per user with data kept on one or more shared file server machines.

In this model the users are called clients, and the whole arrangement is called as Client-Server model, (as shown below)

In the client server model communication generally takes the form of a request Message from the client to server asking for some work to be done. The server then does the work and sends back the reply. Usually there are many clients using a small no. of servers.

Check Your Progress -1.2

1) Answer in 1-2 sentences.

a. What is Network?

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b. What is Protocol?

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c. Define Client

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d. Define Server

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2) Fill in the blanks.

1. A Network is a group of two or more computer system sharing

2. In client server model users are called as

3) Match the following

1. Network a. Response

2. Client b. Group of computers

3. Server c. Reques