

# Network Security System

## Chapter 2

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# Network Application Protocol

## ▶ **Application Layer:-**

The application layer is present at the top of the OSI model. It is the layer through which users interact. It provides services to the user.

## ▶ **Application Layer protocol:-**

**1. TELNET:** Telnet stands for the Telecommunications Network. It helps in terminal emulation. It allows Telnet client to access the resources of the Telnet server. It is used for managing the files on the internet. It is used for initial set up of devices like switches. The telnet command is a command that uses the Telnet protocol to communicate with a remote device or system. Port number of telnet is 23.

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## ▶ **2. FTP:**

▶ FTP stands for file transfer protocol. It is the protocol that actually lets us transfer files. It can facilitate this between any two machines using it. But FTP is not just a protocol but it is also a program. FTP promotes sharing of files via remote computers with reliable and efficient data transfer. Port number for FTP is 20 for data and 21 for control.

## ▶ **Command**

ftp machinename

**3. TFTP:** The Trivial File Transfer Protocol (TFTP) is the stripped-down, stock version of FTP, but it's the protocol of choice if you know exactly what you want and where to find it. It's a technology for transferring files between network devices and is a simplified version of FTP. Port number for TFTP is 69.

## ▶ **Command**

tftp [ options... ] [host [port]] [-c command]

# (cont)

**4. NFS:** It stands for network file system. It allows remote hosts to mount file systems over a network and interact with those file systems as though they are mounted locally. This enables system administrators to consolidate resources onto centralized servers on the network. Port number for NFS is 2049.

▶ **Command** service nfs start

**5. SMTP:**

It stands for Simple Mail Transfer Protocol. It is a part of the TCP/IP protocol. Using a process called “store and forward,” SMTP moves your email on and across networks. It works closely with something called the Mail Transfer Agent (MTA) to send your communication to the right computer and email inbox. Port number for SMTP is 25.

# The necessity of protocols in connectivity devices

- ▶ **Network protocols are needed because it include mechanisms for devices to identify and make connections with each other, as well as formatting rules that specify how data is packaged into messages sent and received.**
  - ▶ **Protocols provide us with a medium and set of rules to establish communication between different devices for the exchange of data and other services. Protocols are needed in every field like society, science & technology, Data Communication, media, etc.**
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