

Network Support Interview Questions and Answers

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[Explain the Network Time Protocol?](#)

Answer ::

Network Time Protocol (NTP) is a protocol that is used to synchronize computer clock times in a network of computers. Developed by David Mills at the University of Delaware, NTP is now an Internet standard. In common with similar protocols, NTP uses Coordinated Universal Time (UTC) to synchronize computer clock times to a millisecond, and sometimes to a fraction of a millisecond.

Accurate time across a network is important for many reasons; even small fractions of a second can cause problems. For example, distributed procedures depend on coordinated times to ensure that proper sequences are followed. Security mechanisms depend on coordinated times across the network. File system updates carried out by a number of computers also depend on synchronized clock times. Air traffic control systems provide a graphic illustration of the need for coordinated times, since flight paths require very precise timing (imagine the situation if air traffic controller computer clock times were not synchronized).

UTC time is obtained using several different methods, including radio and satellite systems. Specialized receivers are available for high-level services such as the Global Positioning System (GPS) and the governments of some nations. However, it is not practical or cost-effective to equip every computer with one of these receivers. Instead, computers designated as primary time servers are outfitted with the receivers and they use protocols such as NTP to synchronize the clock times of networked computers. Degrees of separation from the UTC source are defined as strata. A radio clock (which receives true time from a dedicated transmitter or satellite navigation system) is stratum-0; a computer that is directly linked to the radio clock is stratum-1; a computer that receives its time from a stratum-1 computer is stratum-2, and so on.

The term NTP applies to both the protocol and the client/server programs that run on computers. The programs are compiled by the user as an NTP client, NTP server, or both. In basic terms, the NTP client initiates a time request exchange with the time server. As a result of this exchange, the client is able to calculate the link delay, its local offset, and adjust its local clock to match the clock at the server's computer. As a rule, six exchanges over a period of about five to 10 minutes are required to initially set the clock. Once synchronized, the client updates the clock about once every 10 minutes, usually requiring only a single message exchange. Redundant servers and varied network paths are used to ensure reliability and accuracy. In addition to client/server synchronization, NTP also supports broadcast synchronization of peer computer clocks. NTP is designed to be highly fault-tolerant and scalable.

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[Explain External Data Representation](#)

Answer :: External Data Representation (XDR) is a method of encoding data within an RPC message, used to ensure that the data is not

system-dependent.

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[What does the Mount protocol do?](#)

Answer :: The Mount protocol returns a file handle and the name of the file system in which a requested file resides. The message is sent to the client from the server after reception of a client's request.

The mount protocol is separate from, but related to, the NFS protocol. It provides operating system-specific services to get NFS off the ground - looking up server pathnames, validating user identity, and checking access permissions. Clients use the mount protocol to get the first file handle, which allows them entry into a remote file system.

The actual implementation of the Mount protocol is very similar to that of NFS itself. Like NFS, the Mount protocol uses XDR to define data types to be exchanged between client and server, and RPC to define a set of server procedures that clients may use to perform different operations. The main difference between Mount and NFS is simply that Mount defines procedures related to opening and closing filesystems rather than file access operations.

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[Explain a pseudo tty?](#)

Answer :: A pseudo tty or false terminal enables external machines to connect through Telnet or rlogin. Without a pseudo tty, no connection can take place. [Read More](#)

[Explain anonymous FTP and why would you use it ?](#)

Answer :: Anonymous FTP enables users to connect to a host without using a valid login and password. Usually, anonymous FTP uses a login called anonymous or guest, with the password usually requesting the user's ID for tracking purposes only.

Anonymous FTP is used to enable a large number of users to access files on the host without having to go to the trouble of setting up logins for them all. Anonymous FTP systems usually have strict controls over the areas an anonymous user can access. [Read More](#)

[Explain a Management Information Base \(MIB\)?](#)

Answer :: A Management Information Base is part of every SNMP-managed device. Each SNMP agent has the MIB database that contains information about the device's status, its performance, connections, and configuration. The MIB is queried by SNMP. [Read More](#)

[Explain the function of Transmission Control Block?](#)

Answer :: A TCB (<Transmission Control Block) is a complex data structure that contains a considerable amount of information about each connection. [Read More](#)

Explain the difference between an unspecified passive open and a fully specified passive open?

Answer :: An unspecified passive open has the server waiting for a connection request from a client. A fully specified passive open has the server waiting for a connection from a specific client. [Read More](#)

What are 10Base2, 10Base5 and 10BaseT Ethernet LANs?

Answer :: 10Base2—An Ethernet term meaning a maximum transfer rate of 10 Megabits per second that uses baseband signaling, with a contiguous cable segment length of 100 meters and a maximum of 2 segments.

10Base5—An Ethernet term meaning a maximum transfer rate of 10 Megabits per second that uses baseband signaling, with 5 continuous segments not exceeding 100 meters per segment.

10BaseT—An Ethernet term meaning a maximum transfer rate of 10 Megabits per second that uses baseband signaling and twisted pair cabling. [Read More](#)