Internet Introductions

TCP/IP

- Is a set of protocols developed to allow cooperating computers to share resources across a network.
- It was developed by a community of researchers centered around the ARPAnet.

Internet protocol suite.

- TCP and IP are two of the protocols in this suite.
- TCP/IP is a family of protocols
    - These include IP, TCP, and UDP

The Internet

- is a collection of networks, including the Arpanet, NSFnet, regional networks such as NYsernet, local networks at a number of University and research institutions, and a number of military networks. The term "Internet" applies to this entire set of. A few provide "low-level" functions needed for many applications.. (These will be described in a bit more detail later.):

Internet Protocols

- file transfer.
    - The file transfer protocol (FTP) allows a user on any computer to get files from another computer, or to send files to another computer.
    - Security is handled by requiring the user to specify a user name and password for the other computer.
    - Provisions are made for handling file transfer between machines with different character set, end of line conventions, etc. This is not quite the same thing as more recent "network file system" or "netbios" protocols
    - FTP is a utility that you run any time you want to access a file on another system. You use it to copy the file to your own system. You then work with the local copy. (See RFC 959 for specifications for FTP.)
- remote login.
    - The network terminal protocol (TELNET) allows a user to log in on any other computer on the network. You start a remote session by specifying a computer to connect to. From that time until you finish the session, anything you type is sent to the other computer. Note that you are really still talking to your own computer.

    - Microcomputer implementations of telnet generally include a terminal emulator for some common type of terminal. (See RFC's 854 and 855 for specifications for telnet. By the way, the telnet protocol should not be confused with Telenet, a vendor of commercial network services.)
- computer mail.
    - This allows you to send messages to users on other computers. Originally, people tended to use only one or two specific computers. They would maintain "mail files" on those machines.
    - The computer mail system is simply a way for you to add a message to another user's mail file. There are some problems with this in an environment where microcomputers are used. The most serious is that a micro is not well suited to receive computer mail. When you send mail, the mail software expects to be able to open a connection to the addressee's computer, in order to send the mail. If this is a microcomputer, it may be turned off, or it may be running an application other than the mail system. For this reason, mail is normally handled by a larger system, where it is practical to have a mail server running all the time. Microcomputer mail software then becomes a user interface that retrieves mail from the mail server. (See RFC 821 and 822 for specifications for computer mail. See RFC 937 for a protocol designed for microcomputers to use in reading mail from a mail server.)