Tech Info Library

AppleSearch Bundle For The Internet: Internet Essentials (5/94)

Revised: 6/10/94
Security: Everyone

AppleSearch Bundle For The Internet: Internet Essentials (5/94)

==========

Article Created: 26 May 1994

TOPIC -----

This article describes some Internet elements users of the K-12 Internet Server need to know, when making decisions about Internet access.

DISCUSSION -----

Getting Connected

The Internet is a large world wide network of machines running the TCP/IP protocol. There are three ways to connect to the Internet.

1) A dedicated full connection. You can connect a Macintosh to the Internet by installing MacTCP and connecting directly to the Internet through a service provider who installs a high speed line at your site. With a dedicated connection you are a full fledged node on the Internet.

2) A non-dedicated partial connection. You can dial into a service provider and use the Point to Point protocols (PPP) or the Serial Line Interface Protocols (SLIP) over a modem line.

3) A terminal emulation connection. You can remotely log into a machine that is on the Internet through telephone lines and act as a terminal.

A full connection provides you the ability to obtain all the Internet services available, including providing services to other users of the Internet. A partial connection provides considerably less services but does allow you to "browse" the Internet by running "front end" programs.

If you are integrating the Internet into you curriculum you may prefer a full connection while new users to the Internet may experiment with a partial connection. The optimum Internet experience is obtained with a dedicated connection.

Dedicated connections offer three advantages over non-dedicated connections:

- You can set up a File Transfer Protocol (FTP) server which will allow any other user on the Internet to access a file when it is convenient for them.

- You don't have to connect to the network each time you want to use it, you are always connected and ready to go.

- File transfers are significantly faster.

Dedicated connections come at a cost. An estimate for dedicated K-12 connection may be $12,000 per year or more.

PPP and SLIP connections are much less expensive because you dial in to the network through a high speed modem only when you want to use it. The features these connections lack are:

- Because you are using a modem, file transfer is significantly slower. The connection isn't fast enough to service more than two or three concurrent users.

- Since the connection to the network is active only when you dial in, interaction with the rest of the Internet community is limited. This will reduce the level of electronic mail and other collaborative and interactive experiences you will have with other students and educators.

WIDELY USED INTERNET SERVICES

Telnet Remote Terminals

Using the Telnet remote terminal protocol users can log into and run programs on millions of computers all over the world. Telnet supports connections to UNIX hosts, DEC VAX, and IBM mainframes. Thousands of publicly accessible services are available via Telnet, including the national weather service, Library of Congress card catalogs, and National Science foundation super computers.

FTP Servers

The File Transfer Protocol is widely used on the Internet to provide a wide range of software file servers to the general public. Using an Anonymous login, users can transfer files from an FTP server to their computer very quickly. Most Public Domain software as well as a large number of demonstration programs are available via Anonymous FTP.

Users who are directly connected the net can set up FTP servers for other Internet users to access. Your students can make available their collections of files to millions of Internet users.

Electronic mail

E-mail is the principal collaborative feature of the Internet. Mail is

generally sent to the users of a machine that is directly connected to the Internet. Each user can then use a mail front end program that can download the mail to the users machine.

Shareware front ends such as Eudora can be used to download mail from an Internet node acting as a mail server to a LAN based mail package such as Quickmail, or Microsoft Mail. The First Class BBS system can also used as a front end system for Internet mail.

With Eudora each mail user must have an account on a computer that is directly connected to the Internet. This requires considerable management in a school setting. With a standard LAN mail package acting as a mail gateway, user management is typically easier and the entire user list can receive Internet mail through one Internet address. Handling Internet mail by passing messages off to a LAN based package allows the user to receive mail at any point on the LAN by launching the mail client software and entering their password.

Newgroups

The USENET Network Newsgroups can be thought of as a worldwide collection of automatically updated electronic bulletin boards or discussion areas. They are of particular interest because they bring a wide ranging spectrum of opinions and knowledge on many educationally relevant and interesting topics. However, these newsgroups may contain highly objectionable material that would be inappropriate in a school setting. The issue of students exposure to objectionable material is very hot in school districts investigating connection to the Internet.

Network news is transmitted on the USENET, a sub-network on the Internet of about 3 million people. Your Internet provider will generally provide you with a connection to a server which stores the last few days of messages from a selected group of USENET Newsgroups. Users will then point their front end programs at this computer to check for new messages. Schools can also set up their own USENET server and select the newsgroups to which they want to subscribe. A UNIX server is required to implement a USENET server.

Gopher

The most popular and easy to navigate sub-spaces on the Internet are the Gopher servers. Gopher, and TurboGopher for Macintosh was written by a team of programmers at the University of Minnesota. Gopher puts a menu based interface on the resources residing on the more than 1,500 servers running Gopher server software.

Gopher is best for Internet browsing because it allows you to jump from one Gopher site to the next while the program automatically opens and shuts down each server connection that is made during the session. While Gopher space navigation is quite easy, it can become aimless, time consuming and non-productive for students doing research because Gopher space is very large and it is growing by the day.

WAIS

WAIS (Wide Area Information Server) servers are another large subset of the Internet that contains a vast amount of educationally relevant material. WAIS servers differ from Gopher servers by indexing the material on them. Each server contains its own index which previously allow for searching by UNIX based shareware.

World Wide Web

Another service on the Internet is the World Wide Web (WWW). By using a front end program like NCSA Mosaic users who are directly connected to the net can use a point and click interface to access thousands of servers all over the world. All of the other services (FTP, WAIS, Gopher, Newsgroups) except mail are available via Mosaic.

Users who are directly connected to the Internet can put up their own home pages using a WWW server software. Students and faculty can design colorful and exciting interfaces to their own collections of information.

Support Information Services

Tech Info Library Article Number:15480