



# ***GLOSSARY OF TECHNICAL TERMS***

Prepared for:

**Licensing Support Network  
Technical Working Group Report**

February 23, 2000

# ***GLOSSARY OF TERMS***<sup>1</sup>

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## **ASP**

An application service provider (ASP) is a company that offers individuals or enterprises access over the Internet to application programs and related services that would otherwise have to be located in their own personal or enterprise computers. Sometimes referred to as "apps-on-tap," ASP services are expected to become an important alternative, especially for smaller companies with low budgets for information technology. Early applications tend to be generalized and include:

1. Remote access serving for the users of an enterprise
2. An off-premises local area network (LAN) to which mobile users can be connected, with a common file server
3. Specialized applications that would be expensive to install and maintain within your own company or on your own computer

Hewlett-Packard, SAP, and Qwest have formed one of the first major alliances for providing ASP services. They plan to make SAP's popular R/3 applications available at "cybercenters" that will serve the applications to other companies. Microsoft is allowing some companies to offer its BackOffice products, including SQL Server, Exchange and Windows NT Server on a rental, pay-as-you-use basis.

While ASPs are forecast to provide applications and services to small enterprises and individuals on a pay-per-use or yearly license basis, larger corporations are essentially providing their own ASP service in-house, moving applications off personal computers (referred to as thin clients) and putting them on a special kind of application server that is designed to handle the stripped-down kind of thin client workstation. This allows an enterprise to reassert the central control over application cost and usage that corporations formerly had in the period prior to the advent of the PC. Microsoft's Terminal Server and Citrix's WinFrame products are leading thin-client application server products.

ASP is also an abbreviation for Active Server Page.

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## **BANDWIDTH**

The bandwidth of a transmitted communications signal is a measure of the range of frequencies the signal occupies. The term is also used in reference to the frequency-response characteristics of a communications receiving system. All transmitted signals, whether analog or digital, have a certain bandwidth. The same is true of receiving systems.

Generally speaking, bandwidth is directly proportional to the amount of data transmitted or received per unit time. In a qualitative sense, bandwidth is proportional to the complexity of the data for a given level of system performance.

<sup>1</sup> Reference: <http://www.whatis.com>

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## **BANDWIDTH (continued)**

For example, it takes more bandwidth to download a photograph in one second than it takes to download a page of text in one second. Large sound files, computer programs, and animated videos require still more bandwidth for acceptable system performance. Virtual reality (VR) and full-length three-dimensional audio/visual presentations require the most bandwidth of all.

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## **DVD**

DVD (digital versatile disk) is an optical disk technology that is expected to rapidly replace the CD-ROM disk (as well as the audio compact disc) over the next few years. The digital versatile disk (DVD) holds 4.7 gigabytes of information on one of its two sides, or enough for a 133-minute movie. With two layers on each of its two sides, it will hold up to 17 gigabytes of video, audio, or other information. (Compare this to the current CD-ROM disk of the same physical size, holding 600 megabytes. The DVD can hold more than 28 times as much information!)

DVD-Video is the usual name for the DVD format designed for full-length movies and is a box that will work with your television set. DVD-ROM is the name of the player that will (sooner or later) replace your computer's CD-ROM. It will play regular CD-ROM disks as well as DVD-ROM disks. DVD-RAM is the writeable version. DVD-Audio is a player designed to replace your compact disc player.

DVD uses the MPEG-2 file and compression standard. MPEG-2 images have four times the resolution of MPEG-1 images and can be delivered at 60 interlaced fields per second where two fields constitute one image frame. (MPEG-1 can deliver 30 noninterlaced frames per second.) Audio quality on DVD is comparable to that of current audio compact disks.

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## **FTP**

FTP (File Transfer Protocol), a standard Internet protocol, is the simplest way to exchange files between computers on the Internet. Like the Hypertext Transfer Protocol (HTTP), which transfers displayable Web pages and related files, and the Simple Mail Transfer Protocol (SMTP), which transfers e-mail, FTP is an application protocol that uses the Internet's TCP/IP protocols. FTP is commonly used to transfer Web page files from their creator to the computer that acts as their server for everyone on the Internet. It's also commonly used to download programs and other files to your computer from other servers.

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## **FTP (continued)**

As a user, you can use FTP with a simple command line interface (for example, from the Windows MS-DOS Prompt window) or with a commercial program that offers a graphical user interface. Your Web browser can also make FTP requests to download programs you select from a Web page. Using FTP, you can also update (delete, rename, move, and copy) files at a server. You need to log on to an FTP server. However, publicly available files are easily accessed using anonymous FTP.

Basic FTP support is usually provided as part of a suite of programs that come with TCP/IP. However, any FTP client program with a graphical user interface usually must be downloaded from the company that makes it.

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## **HTML**

HTML (Hypertext Markup Language) is the set of "markup" symbols or codes inserted in a file intended for display on a World Wide Web browser. The markup tells the Web browser how to display a Web page's words and images for the user. The individual markup codes are referred to as elements (but many people also refer to them as tags).

HTML is a standard recommended by the World Wide Web Consortium (W3C) and adhered to by the major browsers, Microsoft's Internet Explorer and Netscape's Navigator, which also provide some additional non-standard codes. The current version of HTML is HTML 4. However, both Internet Explorer and Netscape implement some features differently and provide non-standard extensions. Web developers using the more advanced features of HTML 4 may have to design pages for both browsers and send out the appropriate version to a user. Significant features in HTML 4 are sometimes described in general as dynamic HTML. What is sometimes referred to as HTML 5 is an extensible form of HTML called XHTML.

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## **HTML FORMS**

Web forms let a reader return information to a Web server for some action. For example, suppose you collect names and e-mail addresses so you can e-mail some information to people who request it. For each person who enters his or her name and address, you need some information to be sent and the respondent's particulars added to a database.

This processing of incoming data is usually handled by a script or program written in Perl or another language that manipulates text, files, and information. If you cannot write a program or script for your incoming information, you need to find someone who can do this for you.

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## **HTML FORMS (continued)**

The forms themselves are not hard to code. They follow the same constructs as other HTML tags. What could be difficult is the program or script that takes the information submitted in a form and processes it. Because of the need for specialized scripts to handle the incoming form information, fill-out forms are not discussed in this primer.

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## **ISP**

An ISP (Internet service provider) is a company that provides individuals and other companies access to the Internet and other related services such as Web site building and hosting. An ISP has the equipment and the telecommunication line access required to have points-of-presence on the Internet for the geographic area served. The larger ISPs have their own high-speed leased lines so that they are less dependent on the telecommunication providers and can provide better service to their customers. Among the largest national and regional ISPs are AT&T WorldNet, IBM Global Network, MCI, Netcom, UUNet, and PSINet.

They also include thousands of local providers. In addition, Internet users can also get access through online service providers (OSPs) such as America Online and Compuserve.

The larger ISPs interconnect with each other through MAEs (ISP switching centers run by MCI WorldCom) or similar centers. The arrangements they make to exchange traffic are known as peering agreements. There are several very comprehensive lists of ISPs world-wide available on the Web.

An ISP is also sometimes referred to as an IAP (Internet access provider). ISP is sometimes used as an abbreviation for independent service provider to distinguish a service provider that is an independent, separate company from a telephone company.

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## **PORTAL**

Portal is a new term, generally synonymous with gateway, for a World Wide Web site that is or proposes to be a major starting site for users when they get connected to the Web or that users tend to visit as an anchor site. There are general portals and specialized or niche portals. Some major general portals include Yahoo, Excite, Netscape, Lycos, and Microsoft Network. Examples of niche portals include Garden.com (for gardeners), Fool.com (for investors), and SearchNT.com (for Windows NT administrators).

Most portals have adopted the Yahoo style of content categories with a text-intensive, faster loading page that visitors will find easy to use and to return to. Companies with portal sites have attracted much stock market investor interest because portals are viewed as able to command large audiences and numbers of advertising viewers.

Typical services offered by portal sites include a directory of Web sites, a facility to search for other sites, news, weather information, e-mail, stock quotes, phone and map information, and sometimes a community forum. Excite is among the first portals to offer users the ability to create a site that is personalized for individual interests.

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## **TCP/IP**

TCP/IP (Transmission Control Protocol/Internet Protocol) is the basic communication language or protocol of the Internet. It can also be used as a communications protocol in the private networks called intranets and in extranets. When you are set up with direct access to the Internet, your computer is provided with a copy of the TCP/IP program just as every other computer that you may send messages to or get information from also has a copy of TCP/IP.

TCP/IP is a two-layered program. The higher layer, Transmission Control Protocol, manages the assembling of a message or file into smaller packets that are transmitted over the Internet and received by a TCP layer that reassembles the packets into the original message. The lower layer, Internet Protocol, handles the address part of each packet so that it gets to the right destination. Each gateway computer on the network checks this address to see where to forward the message. Even though some packets from the same message are routed differently than others, they'll be reassembled at the destination.

TCP/IP uses the client/server model of communication in which a computer user (a client) requests and is provided a service (such as sending a Web page) by another computer (a server) in the network. TCP/IP communication is primarily point-to-point, meaning each communication is from one point (or host computer) in the network to another point or host computer. TCP/IP and the higher-level applications that use it are collectively said to be "stateless" because each client request is considered a new request unrelated to any previous one (unlike ordinary phone conversations that require a dedicated connection for the call duration). Being stateless frees network paths so that everyone can use them continuously. (Note that the TCP layer itself is not stateless as far as any one message is concerned. Its connection remains in place until all packets in a message have been received.)

Many Internet users are familiar with the even higher layer application protocols that use TCP/IP to get to the Internet. These include the World Wide Web's Hypertext Transfer Protocol (HTTP), the File Transfer Protocol (FTP), Telnet (Telnet) which lets you logon to remote computers, and the Simple Mail Transfer Protocol (SMTP). These and other protocols are often packaged together with TCP/IP as a "suite."

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## **URL**

A URL (Uniform Resource Locator) (pronounced YU-AHR-EHL or, in some quarters, UHRL) is the address of a file (resource) accessible on the Internet. The type of resource depends on the Internet application protocol. Using the World Wide Web's protocol, the Hypertext Transfer Protocol (HTTP), the resource can be an HTML page from your web browser, an image file, a program such as a CGI application or Java applet, or any other file supported by HTTP. The URL contains the name of the protocol required to access the resource, a domain name that identifies a specific computer on the Internet, and a hierarchical description of a file location on the computer.

On the Web (which uses the Hypertext Transfer Protocol), an example of a URL is:

`http://www.mhrcc.org/kingston`

which describes a Web page to be accessed with an HTTP (Web browser) application that is located on a computer named `www.mhrcc.org`. The specific file is in the directory named `/kingston` and is the default page in that directory (which, on this computer, happens to be named `index.html`).

An HTTP URL can be for any Web page, not just a home page, or any individual file. For example, this URL would bring you the `whatis.com` logo image:

`http://whatis.com/whatisAnim2.gif`

A URL for a program such as a forms-handling CGI script written in Perl might look like this:

`http://whatis.com/cgi-bin/comments.pl`

A URL for a file meant to be downloaded would require that the "ftp" protocol be specified like this one:

`ftp://www.somecompany.com/whitepapers/widgets.ps`

A URL is a type of URI (Uniform Resource Identifier).

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## **VPN**

A virtual private network (VPN) is a private data network that makes use of the public telecommunication infrastructure, maintaining privacy through the use of a tunneling protocol and security procedures. A virtual private network can be contrasted with a system of owned or leased lines that can only be used by one company. The idea of the VPN is to give the company the same capabilities at much lower cost by using the shared public infrastructure rather than a private one. Phone companies have provided secure shared resources for voice messages. A virtual private network makes it possible to have the same secure sharing of public resources for data. Companies today are looking at using a private virtual network for both extranets and wide-area intranets.

Using a virtual private network involves encrypting data before sending it through the public network and decrypting it at the receiving end. An additional level of security involves encrypting not only the data but also the originating and receiving network addresses. Microsoft, 3Com, and several other companies have proposed a standard protocol, the Point-to-Point Tunneling Protocol (PPTP) and Microsoft has built the protocol into its Windows NT server. VPN software such as Microsoft's PPTP support as well as security software would usually be installed on a company's firewall server.

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## **WEB SERVER**

In general, a *server* is a computer program that provides services to other computer programs in the same or other computers. The computer that a server program runs in is also frequently referred to as a server (though it may contain a number of server and client programs).

In the client/server programming model, a server is a program that awaits and fulfills requests from client programs in the same or other computers. A given application in a computer may function as a client with requests for services from other programs and a server of requests from other programs.

Specific to the Web, a **Web Server** is the computer program (housed in a computer) that serves requested HTML pages or files. A Web client is the requesting program associated with the user. The Web browser in your computer is a client that requests HTML files from Web servers.

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