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Microsoft

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indicate how Web browsers should display these elements to the user and should respond to user actions such as activation of a link by means of a key press or mouse click. HTML 2, defined by the Internet Engineering Task Force (IETF), included features of HTML common to all Web browsers as of 1994 and was the first version of HTML widely used on the World Wide Web. HTML+ was proposed for extending HTML 2 in 1994, but it was never implemented. HTML 3, which also was never standardized or fully implemented by a major browser developer, introduced tables. HTML 3.2 incorporated features widely implemented as of early 1996, including tables, applets, and the ability to flow text around images. HTML 4, the latest specification, supports style sheets and scripting languages and includes internationalization and accessibility features. Future HTML development will be carried out by the World Wide Web Consortium (W3C). Most Web browsers, notably Netscape Navigator and Internet Explorer, recognize HTML tags beyond those included in the present standard. *See also* .htm, .html, SGML, tag (definition 3), Web browser.

HTML attribute *n.* A value within an HTML tag that assigns additional properties to the object being defined. Some HTML editing software assigns some attributes automatically when you create an object such as a paragraph or table.

HTML code fragment *n.* HTML code that you add to a Web page to create features such as a script, a counter, or a scrolling marquee. Often used in the context of webbrings to add a link and standard graphics or automation to an individual page to indicate membership.

HTML document *n.* A hypertext document that has been coded with HTML. *See* Web page.

HTML editor *n.* A software program used to create and modify HTML documents (Web pages). Most HTML editors include a method for inserting HTML tags without actually having to type out each tag. A number of HTML editors will also automatically reformat a document with HTML tags, based on formatting codes used by the word processing program in which the document was created. *See also* tag (definition 3), Web page.

HTML extensions *n.* A feature or setting that is an extension to the formal HTML specification. Extensions may not be supported by all Web browsers, but they may be used widely by Web authors. An example of an extension is marquee scrolling text.

HTML page *n.* *See* Web page.

HTML server control *n.* An ASP.NET server control that belongs to the System.Web.UI.HtmlControls namespace. An HTML server control maps directly to an HTML element and is declared on an ASP.NET page as an HTML element marked by a `runat=server` attribute. In contrast to Web server controls, HTML server controls do not have an `<asp:ControlName>` tag prefix. *See also* Web server control.

HTML source *n.* *See* source (definition 2).

HTML source file *n.* *See* source (definition 2).

HTML tag *n.* *See* tag (definition 3).

HTML validation service *n.* A service used to confirm that a Web page uses valid HTML according to the latest standard and/or that its hyperlinks are valid. An HTML validation service can catch small syntactical errors in HTML coding as well as deviations from the HTML standards. *See also* HTML.

HTTP *n.* Acronym for **H**ypertext **T**ransfer **P**rotocol. The protocol used to carry requests from a browser to a Web server and to transport pages from Web servers back to the requesting browser. Although HTTP is almost universally used on the Web, it is not an especially secure protocol.

HTTPd *n.* Acronym for **H**ypertext **T**ransfer **P**rotocol **D**emon. A small, fast HTTP server that was available free from NCSA. HTTPd was the predecessor for Apache. *Also called:* HTTP Daemon. *See also* Apache, HTTP server, NCSA (definition 1).

HTTP Daemon *n.* *See* HTTPd.

HTTP Next Generation *n.* *See* HTTP-NG.

HTTP-NG *n.* Acronym for **H**ypertext **T**ransfer **P**rotocol **N**ext **G**eneration. A standard under development by the World Wide Web Consortium (W3C) for improving performance and enabling the addition of features such as security. Whereas the current version of HTTP establishes a connection each time a request is made, HTTP-NG will set up one connection (which consists of separate channels for control information and data) for an entire session between a particular client and a particular server.

HTTPS *n.* **1.** Acronym for **H**ypertext **T**ransfer **P**rotocol **S**ecure. A variation of HTTP that provides for encryption and transmission through a secure port. HTTPS was devised by Netscape and allows HTTP to run over a security mechanism known as SSL (Secure Sockets Layer). *See also* HTTP, SSL. **2.** Web server software for Windows NT. Developed by the European Microsoft Windows NT Academic Centre (EMWAC) at the University of Edinburgh,

Scotland, it offers such features as WAIS search capability. *See also* HTTP server, WAIS.

HTTP server *n.* **1.** Server software that uses HTTP to serve up HTML documents and any associated files and scripts when requested by a client, such as a Web browser. The connection between client and server is usually broken after the requested document or file has been served. HTTP servers are used on Web and Intranet sites. *Also called:* Web server. *See also* HTML, HTTP, server (definition 2). *Compare* application server. **2.** Any machine on which an HTTP server program is running.

HTTP status codes *n.* Three-digit codes sent by an HTTP server that indicate the results of a request for data. Codes beginning with 1 respond to requests that the client may not have finished sending; with 2, successful requests; with 3, further action that the client must take; with 4, requests that failed because of client error; and with 5, requests that failed because of server error. *See also* 400, 401, 402, 403, 404, HTTP.

HTTP streaming *n.* The process of downloading streaming digital media using an HTTP server (a standard Internet server) rather than a server designed specifically to transmit streaming media. HTTP streaming downloads the media file onto a computer, which plays the downloaded file as it becomes available. *See also* real-time streaming.

hub *n.* In a network, a device joining communication lines at a central location, providing a common connection to all devices on the network. The term is an analogy to the hub of a wheel. *See also* active hub, switching hub.

hue *n.* In the HSB color model, one of the three characteristics used to describe a color. Hue is the attribute that most readily distinguishes one color from other colors. It depends on the frequency of a light wave in the visible spectrum. *See also* color model, HSB. *Compare* brightness, saturation (definition 2).

Huffman coding *n.* A method of compressing a given set of data based on the relative frequency of the individual elements. The more often a given element, such as a letter, occurs, the shorter, in bits, is its corresponding code. It was one of the earliest data compression codes and, with modifications, remains one of the most widely used codes for a large variety of message types.

human engineering *n.* The designing of machines and associated products to suit the needs of humans. *See also* ergonomics.

human-machine interface *n.* The boundary at which people make contact with and use machines; when applied to programs and operating systems, it is more widely known as the user interface.

hung *adj.* *See* hang.

hybrid circuit *n.* A circuit in which fundamentally different types of components are used to perform similar functions, such as a stereo amplifier that uses both tubes and transistors.

hybrid computer *n.* A computer that contains both digital and analog circuits.

hybrid microcircuit *n.* A microelectronic circuit that combines individual microminiaturized components and integrated components.

hybrid network *n.* A network constructed of different topologies, such as ring and star. *See also* bus network, ring network, star network, Token-Ring network, topology.

Hybris virus *n.* A slow-spreading but persistent self-updating Internet worm first detected in late 2000. The Hybris virus is activated whenever an infected computer is connected to the Internet. It attaches itself to all outgoing e-mail messages, maintains a list of all e-mail addresses in the headers of incoming e-mail messages, and sends copies of itself to all e-mail addresses on the list. Hybris is difficult to eradicate because it updates itself regularly, accessing and downloading updates and plug-ins from anonymous postings to the alt.comp.virus newsgroup. Hybris incorporates downloaded extensions into its code, and it e-mails its modified form to additional potential victims. Hybris often includes a spiral plug-in which produces a spinning disk on top of any active windows on a user's screen.

HyperCard *n.* An information-management software tool, designed for the Apple Macintosh, that implements many hypertext concepts. A HyperCard document consists of a series of cards, collected into a stack. Each card can contain text, graphical images, sound, buttons that enable travel from card to card, and other controls. Programs and routines can be coded as scripts in an object-oriented language called HyperTalk or developed as external code resources (XCMDs and XFCNs). *See also* hypertext, object-oriented programming, XCMD, XFCN.

hyperlink *n.* A connection between an element in a hypertext document, such as a word, a phrase, a symbol, or an image, and a different element in the document, another