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H

homogeneous network *n.* A network on which all the hosts are similar and only one protocol is used.

Honeynet Project *n.* A nonprofit security research group created to collect and analyze data on hacking tools and methods by maintaining a decoy network of computers that is potentially attractive to hackers. The Honeynet Project sets up entire networks of computers in different combinations of operating systems and security to realistically simulate those used in businesses and organizations. Hackers are lured to the network where all inbound and outbound data is captured and contained to help researchers learn about hacker tactics and motives.

honeypot *n.* A security program designed to lure and distract a network attacker with decoy data. The honeypot appears to be a system that the intruder would like to crack but which, in reality, is safely separated from the actual network. This allows network administrators to observe attackers and study their activities without the intruders knowing they are being monitored. Honeypot programs get their name from the "like a bear to honey" metaphor.

honker *n.* A slang term for a hacker, the term originated in China. The Honker Union of China is an active group of Chinese hackers with nationalistic or hacktivist aims. The Honker Union of China has claimed patriotic motivation for defacing Japanese and U.S. Web sites, hacking U.S. networks, and releasing the Lion worm and other malicious programs. *See also* hacktivist, Lion worm.

hook *n.* A location in a routine or program in which the programmer can connect or insert other routines for the purpose of debugging or enhancing functionality.

hop *n.* In data communications, one segment of the path between routers on a geographically dispersed network. A hop is comparable to one "leg" of a journey that includes intervening stops between the starting point and the destination. The distance between each of those stops (routers) would be a communications hop.

horizontal blanking interval *n.* *See* blanking, horizontal retrace.

horizontal flyback *n.* *See* horizontal retrace.

horizontal market *n.* A broad category of business activity, such as accounting or inventory control, that carries across many types of business. *Compare* vertical market.

horizontal market software *n.* Application programs, such as word processors, that can be used in all types of business, as opposed to those geared for a certain industry.

horizontal retrace *n.* The movement of the electron beam in a raster-scan video display from the right end of one scan line to the left end (the beginning) of the next. During horizontal retrace, the electron beam is turned off, so the time required for the beam to move is called the horizontal blanking interval. *See also* blanking. *Compare* vertical retrace.

horizontal scrolling *n.* A feature of programs such as word processors and spreadsheets that enables the user to scroll left and right to display information beyond the horizontal limits of the screen (or window, in a graphical user interface).

horizontal synchronization *n.* On raster displays, the timing produced by a signal that controls the sweep of the display's electron beam as it moves from left to right and back again to form an image line by line. The horizontal synchronization signal is usually controlled by a circuit known as a phase-locked loop, which maintains a constant precise frequency so that a clear image is formed.

host¹ *n.* **1.** The main computer in a mainframe or mini-computer environment—that is, the computer to which terminals are connected. **2.** In PC-based networks, a computer that provides access to other computers. **3.** On the Internet or other large networks, a server computer that has access to other computers on the network. A host computer provides services, such as news, mail, or data, to computers that connect to it.

host² *vb.* To provide services to client computers that connect from remote locations—for example, to offer Internet access or to be the source for a news or mail service.

host adapter *n.* A device for connecting a peripheral to the main computer, typically in the form of an expansion card. *Also called:* controller, host bus adapter.

hosting *n.* The practice of providing computer and communication facilities to businesses or individuals, especially for use in creating Web and electronic commerce sites. A hosting service can provide high-speed access to the Internet, redundant power and data storage, and 24-hour maintenance at lower cost than implementing the same services independently. *See also* host², virtual hosting.

Host Integration Server *n.* A software application from Microsoft Corporation to allow businesses to integrate existing application, data, and network assets with new business applications and technologies. Host Integration Server preserves a company's existing legacy infrastructure and investments, while providing out-of-the-box

Real-Time Control Protocol *n.* A scalable transport control protocol that works with the Real-Time Protocol (RTP) to monitor real-time transmissions to multiple participants over a network—for example, during videoconferencing. The Real-Time Control Protocol, or RTCP, transmits packets of control information at regular intervals and is used to determine how well information is being delivered to recipients. *Acronym:* RTCP. *See also* Real-Time Protocol, Real-Time Streaming Protocol, Resource Reservation Setup Protocol.

real-time operating system *n.* An operating system designed for the needs of a process-controlled environment. A real-time operating system recognizes that responses must be made and tasks handled instantly, with no lag time. Real-time operating systems are typically used as embedded systems in devices and applications requiring time-critical reaction, such as telecommunications, air traffic control, and robotic functions. *Acronym:* RTOS. *See also* real-time system.

Real-Time Protocol *n.* An Internet-standard network transport protocol used in delivering real-time data, including audio and video. The Real-Time Protocol, or RTP, works with both unicast (single sender, single recipient) and multicast (single sender, multiple recipients) services. RTP is often used in conjunction with the Real-Time Control Protocol (RTCP), which monitors delivery. *Acronym:* RTP. *See also* Real-Time Control Protocol, Real-Time Streaming Protocol, stream.

real-time streaming *n.* The process of delivering a streaming media file via a specialized streaming media server using real-time streaming protocol (RTSP). With real-time streaming, the file itself actually plays on the streaming media server, even though it is viewed on the computer that opened the file. Real-time streaming transmits at a higher bandwidth than HTTP streaming. It is often used to broadcast live events, such as concerts or keynote conference addresses. *See also* HTTP streaming.

Real-Time Streaming Protocol *n.* A control protocol for the delivery of streamed multimedia data over Internet Protocol (IP) networks. The Real-Time Streaming Protocol, or RTSP, was developed by Columbia University, Progressive Networks, and Netscape and has been submitted as a proposed standard to the IETF (Internet Engineering Task Force). RTSP is designed to deliver real-time, live, or stored audio and video efficiently over a network. It can be used either for groups of recipients or for on-demand

delivery to a single recipient. *Acronym:* RTSP. *See also* Advanced Streaming Format, Real-Time Protocol, Resource Reservation Setup Protocol, stream.

real-time system *n.* A computer and/or a software system that reacts to events before the events become obsolete. For example, airline collision avoidance systems must process radar input, detect a possible collision, and warn air traffic controllers or pilots while they still have time to react.

RealVideo *n.* The streaming technology developed by RealNetworks, Inc., for distributing video over intranets and the Internet. RealVideo transmits video from a server in encoded (compressed) form. The video and accompanying sound are viewed on the client end with the help of a software player. RealVideo works with both IP and IP multicasting and, as with RealAudio, does not require transmission of complete files before playback can begin. *See also* RealAudio, RealPlayer, streaming.

reboot *vb.* To restart a computer by reloading the operating system. *See also* boot², cold boot, warm boot.

receipt notification *n.* An e-mail feature providing feedback to the sender that a message has been received by the recipient.

receive *vb.* To accept data from an external communications system, such as a local area network (LAN) or a telephone line, and store the data as a file.

Receive Data *n.* *See* RXD.

rec. newsgroups *n.* Usenet newsgroups that are part of the rec. hierarchy and whose names have the prefix *rec.* These newsgroups cover topics devoted to discussions of recreational activities, hobbies, and the arts. *See also* newsgroup, traditional newsgroup hierarchy, Usenet. *Compare* comp. newsgroups, misc. newsgroups, news. newsgroups, sci. newsgroups, soc. newsgroups, talk. newsgroups.

recompile *vb.* To compile a program again, usually because of changes that needed to be made in the source code in response to error messages generated by the compiler. *See also* compile.

record¹ *n.* A data structure that is a collection of fields (elements), each with its own name and type. Unlike an array, whose elements all represent the same type of information and are accessed using an index, the elements of a record represent different types of information and are accessed by name. A record can be accessed as a collective

R

transistor-transistor logic *n.* A type of bipolar circuit design that utilizes transistors connected to each other either directly or through resistors. Transistor-transistor logic offers high speed and good noise immunity and is used in many digital circuits. A large number of transistor-transistor logic gates can be fabricated on a single integrated circuit. *Acronym:* TTL.

transitive trust *n.* The standard type of trust relationship between Windows domains in a domain tree or forest. When a domain joins an existing forest or domain tree, a transitive trust is automatically established. Transitive trusts are always two-way relationships. This series of trusts, between parent and child domains in a domain tree and between root domains of domain trees in a forest, allows all domains in a forest to trust each other for the purposes of authentication. For example, if domain A trusts domain B and domain B trusts domain C, then domain A trusts domain C. *See also* domain, forest, one-way trust, two-way trust.

translate *vb.* **1.** In programming, to convert a program from one language to another. Translation is performed by special programs such as compilers, assemblers, and interpreters. **2.** In computer graphics, to move an image in the "space" represented on the display, without turning (rotating) the image.

translated file *n.* A file containing data that has been changed from binary (8-bit) format to ASCII (7-bit) format. BinHex and uuencode both translate binary files into ASCII. Such translation is necessary to transmit data through systems (such as e-mail) that may not preserve the eighth bit of each byte. A translated file must be decoded to its binary form before being used. *See also* BinHex, uuencode.

translator *n.* A program that translates one language or data format into another.

transmission channel *n.* *See* channel.

Transmission Control Protocol *n.* *See* TCP.

Transmission Control Protocol/Internet Protocol *n.* *See* TCP/IP.

transmit *vb.* To send information over a communications line or a circuit. Computer transmissions can take place in the following ways: asynchronous (variable timing) or synchronous (exact timing); serial (essentially, bit by bit) or parallel (byte by byte; a group of bits at once); duplex or full-duplex (simultaneous two-way communication), half-duplex (two-way communication in one direction at a

time), or simplex (one-way communication only); and burst (intermittent transmission of blocks of information). *Compare* transfer².

Transmit Data *n.* *See* TXD.

transmitter *n.* Any circuit or electronic device designed to send electrically encoded data to another location.

transparency *n.* The quality that defines how much light passes through an object's pixels. If an object is 100 percent transparent, light passes through it completely and renders the object invisible; in other words, you can see through the object.

transparency scanner *n.* *See* scanner.

transparent *adj.* **1.** In computer use, of, pertaining to, or characteristic of a device, function, or part of a program that works so smoothly and easily that it is invisible to the user. For example, the ability of one application to use files created by another is transparent if the user encounters no difficulty in opening, reading, or using the second program's files or does not even know the use is occurring. **2.** In communications, of, pertaining to, or characteristic of a mode of transmission in which data can include any characters, including device-control characters, without the possibility of misinterpretation by the receiving station. For example, the receiving station will not end a transparent transmission until it receives a character in the data that indicates end of transmission. Thus, there is no danger of the receiving station ending communications prematurely. **3.** In computer graphics, of, pertaining to, or characteristic of the lack of color in a particular region of an image so that the background color of the display shows through.

transponder *n.* A transceiver in a communications satellite that receives a signal from an earth station and retransmits it on a different frequency to one or more other earth stations.

transportable computer *n.* *See* portable computer.

transport layer *n.* The fourth of the seven layers in the International Organization for Standardization's Open Systems Interconnection (OSI) reference model for standardizing computer-to-computer communications. The transport layer is one level above the network layer and is responsible for both quality of service and accurate delivery of information. Among the tasks performed on this layer are error detection and correction. *See the illustration.* *See also* ISO/OSI reference model.