Glossary
8.3 naming convention  A convention prevalent with FAT in which filenames are up to eight characters and have an extension of up to three characters.

802.11  See IEEE 802.11.

802.11a  The wireless networking standard that provides for bandwidths of up to 54Mbps in the 5GHz frequency spectrum.

802.11b  The wireless networking standard that provides for bandwidths of up to 11Mbps in the 2.4GHz frequency spectrum.

802.11g  The wireless networking standard that provides for bandwidths of 20Mbps+ in the 2.4GHz frequency spectrum.

802.11n  An amendment to the 802.11 wireless networking standard that provides for bandwidths of 74Mbps+ in the 2.4GHz and 5GHz frequency spectrums.

802.3  An IEEE standard that defines a bus topology network that uses a 50-ohm coaxial baseband cable and carries transmissions at 10Mbps. This standard groups data bits into frames and uses the Carrier Sense Multiple Access with Collision Detection (CSMA/CD) cable access method to put data on the cable.

802.5  An IEEE standard that specifies a physical star, logical ring topology that uses a token-passing technology to put the data on a network cable.

A

AC adapter  Power adapter that plugs into a standard wall outlet and provides alternating current.

Accelerated Graphics Port (AGP)  A local-bus expansion slot designed to meet the need for increased graphics performance.

accelerometer  A component in a mobile device that detects movement in straight lines forward, backward, left, and right. Contrast to the function of a gyroscope.

access control list (ACL)  A set of rules that determines access, such as, for example, which traffic gets through a firewall and which traffic is blocked, or who gets to access files or folders.

access list  A list of rules used on routers and firewalls to specify traffic that is either allowed or disallowed.

access point  The device that allows wireless devices to talk to each other and the network. It provides the functions of the network access as well as security monitoring.

accounting  A function of a TACACS+ or RADIUS server that records authentication and authorization events permitted or denied by the server.
active heat sink  A heat sink with a fan to assist in removing heat from the CPU.

active hub  A type of hub that uses electronics to amplify and clean up the signal before it is broadcast to the other ports.

adapter  A term used to describe any card inserted into an available slot on the motherboard, thereby providing additional functionality including, but not limited to, network functions, sound functions, and so on.

adapter card  See expansion card.

address bus  The bus that connects the RAM to the CPU.

Address Resolution Protocol (ARP)  A TCP/IP protocol used to resolve IP addresses to MAC addresses.

administrator  A user with all privileges to a computer or network device.

adware  Malware that records activities for the purpose of targeting pop-up ads.

Aero  The graphical user interface first included with Windows Vista.

AES  The Advanced Encryption Standard is currently the most secure encryption available and is required for FIPs compliance.

AGP  See Accelerated Graphics Port (AGP).

Android Market  Now part of Google Play, the online store for apps compatible with Android mobile devices. Compare to Apple’s App Store.

answer file  A file used to fill in values during an unattended installation.

antiglare filter  A cover for a monitor that polarizes light to reduce glare from the screen.

antistatic bags  Foil bags used to hold certain expansion cards and other internal computer components. The bags protect the devices from harmful static electricity.

antistatic mat  A mat upon which work involving delicate computer parts can be performed without fear of static electricity harming the components. The mat prevents the buildup of static electricity.

antistatic wrist strap  Also called an ESD strap. A specially designed device used to bleed electrical charges away safely. It uses a 1-megohm resistor to bleed the charge away slowly. Attaching this device to a grounding mat protects the computer system’s components from accidental damage.

antivirus software  Software used to identify and remove malware such as viruses but also worms, Trojans, and rootkits.

anycast address  An IPv6 address that has been assigned to multiple nodes.

APIPA  See Automatic Private Internet Protocol Addressing (APIPA).

appliances  Network devices that are dedicated to performing a function as opposed to software installed to perform the function.

application  Software, such as a word processor or a game, that is added to an operating system to give it enhanced functionality.

application-level proxy  A proxy server that operates at the application level (often known as an application-level gateway).

application programming interface (API)  A set of standards to help the programmers writing applications and the hardware designers of video cards and other hardware develop products that work together.

armored virus  A computer virus that is protected in a way that makes disassembling it difficult. The difficulty makes it “armored” against antivirus programs that have trouble getting to, and understanding, its code.

asymmetric algorithms  Encryption that uses two keys to encrypt and decrypt data. These keys are referred to as the public key and the private key.

ASR  See Automated System Recovery (ASR).

AT system connector  The 12-pin power connector found on older motherboards that receives the P8/P9 pair of 6-conductor connectors from the power supply.

ATA Packet Interface (ATAPI)  An interface that allows other non–hard disk devices (such as tape drives and CD-ROMs) to be attached to an ATA interface and coexist with hard disks.

attribute  An option set on a file that identifies it as part of a particular class of files or changes it in some way.

ATX  A motherboard form factor that followed the AT motherboard and that has given rise to many modern motherboard form factors, such as micro ATX. The ATX motherboard was the first to feature the 20-pin power supply connector that today’s 24-pin connector is based on.

ATX system connector  The 20-pin power connector found on ATX motherboards to which ATX power supplies connect. These connectors have been replaced by the 24-pin ATX12V connector.

audio/video editing workstation  A computer system optimized for editing the audio and video tracks of video files. These workstations must have video enhancements, specialized audio, and specialized drives.

auditing  A function of the operating system that when enabled records successful and unsuccessful attempts to access resources.
auto duplexing  A function found in some network adaptors that allows the adaptor to sense the duplex mode set on the other end of the connection.

Automated System Recovery (ASR)  ASR first creates a backup of your system partition and then creates a recovery disk. Using these two components, you can recover from a system crash and restore the system to a functional state.

Automatic Private Internet Protocol Addressing (APIPA)  A TCP/IP standard used to automatically configure IP-based hosts that are unable to reach a DHCP server using the 169.254.x.x IP address range with a subnet mask of 255.255.0.0.

B

B channel  The ISDN channel that carries 64Kbps of data; also known as a bearer channel.

backlight  A small fluorescent lamp placed behind or below an LCD display to provide light.

backup  A usable copy of data made to media. Ideally, the backup is made to removable media and stored for recovery should anything happen to the original data.

backside bus (BSB)  The optional communications pathway between the Northbridge and the cache controller. When the backside bus is absent, the cache controller communicates with the Northbridge over the frontside bus.

back-side cache  A level 2 memory cache with a dedicated channel to the CPU, enabling it to run at the full speed of the CPU.

barcode reader  An often handheld unit that scans barcodes into a computer, replacing the need for a user to type the data on the keyboard by hand.

barcode scanner  See barcode reader.

baseband  A means of transmission in which the entire medium's capacity is used for one signal.

basic rate interface (BRI)  An ISDN line with two B channels. Each channel can be used separately for voice and/or data transmissions.

basis weight  A measurement of the “heaviness” of paper. The number is the weight, in pounds, of 500 standard-sized sheets of that type of paper. For bond paper (regular printer paper), that is 17˝ × 22˝.

battery calibration  A software process where a lithium-ion battery is completely drained so it can be fully recharged.

BD  See Blu-ray disc (BD).
beep code  A series of beeps from the computer’s speaker that indicates a problem. The number, duration, and pattern of the beeps can sometimes tell you what component is causing the problem.

Berg connector  The smaller power connector that most often provides power to floppy diskette drives and other small devices that require less current to power their motors than provided by a Molex connector.

bias voltage  The –600VDC charge that the developing roller acquires from the high-voltage power supply.

biometric devices  Authentication tools that use physical characteristics to identify the user. Biometric systems include hand scanners and retinal scanners.

BIOS  The basic input/output system for an IBM-based PC. It is the firmware that allows the computer to boot.

BIOS chip  A special memory chip that contains the BIOS software that tells the processor how to interact with the hardware in the computer.

blackout  Another term for a complete loss of power.

blanks  Pieces of metal or plastic that come with a computer case and cover the expansion slot openings to help keep dust and other matter from the inside of the computer.

Blu-ray disc (BD)  A newer optical disc format that holds more information than a standard DVD.

Blue Screen of Death (BSOD)  A condition that occurs when Windows encounters a critical error from which it cannot recover and is followed by a dump of physical memory. The name comes from the fact that the error screen is blue and you have no choice but to attempt to reboot the computer.

Bluetooth  A popular standard for wireless communication.

BNC  See British Naval Connector (BNC).

boot disk  A disk containing the files that allow a computer to load and boot to an operating system. This is often used to troubleshoot or install an operating system.

boot files  Files used to start a computer and prepare it for use by the operating system.

bridge  A type of connectivity device that operates in the Data Link layer of the OSI model. It is used to join similar topologies (Ethernet to Ethernet, Token Ring to Token Ring) and to divide traffic on network segments. This device passes information destined for one particular workstation to that segment, but it does not pass broadcast traffic.

British Naval Connector (BNC)  A type of network connector used with thinnet (10Base2).

Bridges  Devices that like switches operate at Layer 2 of the OSI model and make forwarding decisions based on MAC addresses.
brightness  An adjustment on display devices that sets the amount of white that is displayed.

broadband  A means of transmission in which the medium is used to carry multiple signals simultaneously.

brownout  A drop in the power supply, but not a total loss of power.

BSB  See backside bus.

bubble-jet printer  A type of sprayed-ink printer. It uses an electric signal that energizes a heating element, causing ink to vaporize and be pushed out of the pinhole and onto the paper.

burn  The process of writing to a CD or DVD, called burning because the disk is heated to alter its surface.

burner  An optical drive so named because it employs a laser capable of intensities stronger than what is used to read discs. It uses the laser to write, or “burn,” content to the disc.

bus  A set of signal pathways that allows information and signals to travel between components inside or outside of a computer. A computer contains three types of buses: the external bus, the address bus, and the data bus.

bus topology  A network topology with devices connected in a straight line with terminators on each end of the bus.

cable modem  A device that while not technically a modem creates an Internet connection to the cable network.

cable testers  Devices used to identify problems with cables or to confirm their functionality.

cache  An area of extremely fast memory, used to store data that is waiting to enter or exit the CPU.

cache memory  A storage area for frequently used data and instructions.

CAD/CAM workstation  A computer system used to design engineering documents that are then used to drive manufacturing equipment in the fabrication of the design. These workstations must have CPU enhancements, video enhancements, and maximized RAM.

 calibration  The process by which a device, such as a printer, scanner, or touchscreen, is brought within functional specifications.

 caliper  The thickness measurement of a given sheet of paper, which can affect a printer’s feed mechanism.

 camcorder  A device used to record video content captured through its lens to one or more media, such as tape, hard drive, optical disc, flash memory, and SSD.
Glossary

**capacitor**  An electronic component that stores an electrical charge.

**CAPTCHA**  An acronym for Completely Automated Public Turing Test to Tell Computers and Humans Apart, this requires users to type in words or phrases that appear as skewed images before allowing them to continue.

**carriage belt**  The printer belt placed around two small wheels or pulleys and attached to the print head carriage. The carriage belt is driven by the carriage motor and moves the print head back and forth across the page during printing.

**carriage motor**  A stepper motor used to move the print head back and forth on a dot-matrix printer.

**carriage stepper motor**  The printer motor that makes the print head carriage move.

**Carrier Sense Multiple Access/Collision Avoidance (CSMA/CA)**  The Ethernet access method used by IEEE 802.11 wireless networking.

**CD**  Compact disc. A digital optical disc medium commonly capable of holding from 650MB to 700MB of data, corresponding to 74 to 80 minutes of CD-quality audio, which is of higher quality than MP3 files.

**CD-recordable**  Also known as CD-R, a CD that can be written to one time.

**CD-rewritable**  Also known as CD-RW, a CD that can be written to, erased, and rewritten to multiple times.

**CD-ROM**  A non-writeable and inerasable CD permanently pressed with digital data.

**CDFS**  The Compact Disc File System, a file system type used on CDs.

**central processing unit (CPU)**  The main integrated circuit of a computer system, consisting of an array of millions of integrated circuits, that interfaces with almost all other components and runs application and system processes. Its purpose is to accept, perform calculations on, and eject numeric data. It's considered the “brain” of the computer because it’s the part that performs the mathematical operations required for all other activity. Intel and AMD are the most common CPU manufacturers for PC-compatible computers.

**centralized processing**  A network processing scheme in which all “intelligence” is found in one computer and all other computers send requests to the central computer to be processed. Mainframe networks use centralized processing.

**chain of custody**  The log of the history of evidence that has been collected.

**Challenge Handshake Authentication Protocol (CHAP)**  A protocol that challenges a system to verify identity. CHAP is an improvement over Password Authentication Protocol (PAP) that adds one-way hashing into a three-way handshake. RFC 1334 applies to both PAP and CHAP.

**characters per second (cps)**  A rating of how fast dot-matrix printers can produce output.
**charging corona**  The wire or roller that is used to put a uniform charge on the EP drum inside a toner cartridge.

**charging step**  The second step in EP printing, at which a special wire or roller in the toner cartridge gets a high voltage from the HVPS. It uses this high voltage to apply a strong, uniform negative charge (around –600VDC) to the surface of the photosensitive drum.

**chip creep**  A condition that occurs when components slowly move out of their sockets due to being heated to high temperatures and then cooled repeatedly.

**chipset**  The set of controller chips that monitors and directs the traffic on the motherboard between the buses and components. See Northbridge and Southbridge.

**circuit-level proxy**  A type of gateway in which a certain set of rules is always followed.

**cleaning cycle**  A set of steps the bubble-jet printer goes through in order to purge the print heads of any dried ink.

**cleaning step**  The first step in the EP print process, at which excess toner is scraped from the EP drum with a rubber blade.

**client**  (1) Software that allows a machine to communicate with a particular type of network. (2) The part of a client-server network where end users typically sit. In a typical setting, a client uses the server for remote storage, backups, or security (such as a firewall).

**client computers**  A computer that requests resources from a network, often referred to as a workstation.

**client software**  Software that allows a device to request resources from a network.

**client-server network**  A server-centric network in which all resources are stored on a file server and processing power is distributed among workstations and the file server.

**clock speed**  The speed at which a microprocessor executes instructions expressed in megahertz (MHz) or gigahertz (GHz).

**closed source**  Describes software with code that is proprietary. Contrast with open source.

**CMD (CMD.EXE)**  The utility that opens a command prompt window under current versions of Windows.

**CMOS battery**  A battery that provides power to the CMOS (or BIOS) chip that stores CMOS settings. A PC must retain certain settings when it’s turned off and its power cord is unplugged.

**CMOS chip**  A chip used to retain system settings when the PC is turned off or unplugged.

**CMOS memory**  The extremely small storage space that holds user settings and dynamically discovered parameters for the BIOS.
**CMYK (cyan, magenta, yellow, and black)**  The four standard colors used in printers. Some printers will have all colors on the same cartridge. Others will have separate black and CMY cartridges, while higher-end (mostly laser) printers will have separate cartridges for each color.

**CNR**  Communications networking riser. A specialized slot appearing one at a time in motherboards manufactured before motherboard integration of NICs, audio, and modems became commonplace.

**coaxial cable**  A medium for connecting computer components that contains a center conductor, made of copper, surrounded by a plastic jacket, with a braided shield over the jacket.

**Code Division Multiple Access (CDMA)**  A cellular standard of Qualcomm. It allows for multiple transmissions to occur at the same time without interference.

**cold cathode fluorescent lamp (CCFL)**  A common type of backlight used in laptop computers.

**collision**  When two or more stations transmit onto a shared medium simultaneously, invalidating the data sent from each station.

**command interpreter**  A program that supplies a command prompt with which users can interact.

**command prompt**  A command-line interface, such as in MS-DOS or in a command-prompt window opened through Windows.

**common ports**  More commonly known as well-known ports, these port numbers (below 1024) have been standardized for common services such as Telnet and FTP.

**companion virus**  A virus that creates a new program that runs in place of an expected program of the same name.

**component video**  A high-quality video interface that is capable of 1080p video and features three RCA or BNC connectors—red, green, and blue—that carry the combination of signals known as YPbPr for analog signals and YCbCr for digital signals.

**composite video**  A compressed lower-quality video interface that carries all signals on one coaxial cable to an often yellow RCA plug.

**compressed air**  Air, pressurized in cans, that can be used to clean dust from computer parts and inside computer cases.

**computer vacuum**  A small handheld device designed for sucking up dust and other little particles without causing ESD problems.

**confidentiality**  Assurance that data remains private and no one sees it except those expected to see it.

**connectivity device**  Any device that facilitates connections between network devices. Some examples include hubs, routers, switches, and bridges.
contention-based  Media access that involves competition between two or more network devices for the same bandwidth.

contrast ratio  The ratio between the darkest and lightest pixels able to be produced by a video display.

core  An embedded CPU die in a processor package. More than one core is often found in a single package today.

corona roller  A type of transfer corona assembly that uses a charged roller to apply charge to the paper.

corona wire  A type of transfer corona assembly. Also, the wire in that assembly that is charged by the high-voltage supply. It is narrow in diameter and located in a special notch under the EP print cartridge.

CPU  See central processing unit.

crimper  A tool that attaches the connector ends onto a network cable.

crossover cable  A twisted-pair network cable used for connecting computers directly to each other. One end has pins 1 and 3 and 2 and 6 reversed, hence the term crossover.

crosstalk  A cable behavior in which the signals from one wire in a cable interfere with the signals in another wire in the same cable.

CRT  Cathode ray tube. The classic video-display technology that the first televisions were based on and that can still be found in specialty monitors. CRTs have electron guns that fire electrons to cause phosphorescent chemicals on the screen to glow.

cylinder  A cylinder is a section of a hard drive. It comprises the same numbered tracks from each hard drive platter, spanning all such tracks across each platter surface that is able to store data.

D

D channel  The signaling channel of an ISDN circuit; also referred to as the Delta channel.

daisy-wheel printer  An impact printer that uses a plastic or metal print mechanism with a different character on the end of each spoke of the wheel. As the print mechanism rotates to the correct letter, a small hammer strikes the character against the ribbon, transferring the image onto the paper.

daughterboard  A thin circuit board attached to the motherboard, used to attach expansion cards.

DC adapter  A power adapter that plugs into a car cigarette lighter or airplane power source and provides direct current.
**DC power supply (DCPS)** A power supply that converts house current into three voltages used by a printer: +5VDC and −5VDC for the logic circuitry and +24VDC for the paper-transport motors. This component also runs the fan that cools the printer’s internal components.

**DDR** Double data rate. A type of SDRAM that doubles the data rate of single data rate SDRAM by transmitting 8 bytes on both the rising edge and the falling edge of each FSB clock cycle.

**DDR2** Double data rate version 2. A type of SDRAM that doubles the data rate of DDR SDRAM by transmitting 16 bytes on both the rising edge and the falling edge of each FSB clock cycle.

**DDR3** Double data rate version 3. A type of SDRAM that doubles the data rate of DDR2 SDRAM by transmitting 32 bytes on both the rising edge and the falling edge of each FSB clock cycle.

**dedicated server** The server that is assigned to perform a specific function or service.

**default gateway** The router to which all packets are sent when the workstation doesn’t know where the destination station is or when it can’t find the destination station on the local segment.

**defragment** To rearrange the storage clusters on a disk so that as many files as possible are stored contiguously, thus improving performance.

**degauss** To disrupt a magnetic field in a monitor that is making the picture distort. Degaussing is used to improve video quality. You can also degauss magnetic media such as hard drives and tapes (which actually erases the data on the media).

**demilitarized zone (DMZ)** A semipublic network segment located between a perimeter router and an internal router on your network. Used for web servers, FTP servers, and email relay servers.

**demineralized water** Water that has had minerals and impurities removed; it does not leave residue and is recommended for cleaning keyboards and other nonmetal computer parts.

**denatured isopropyl alcohol** Also known as electronics cleaner, it is found in electronics stores and used to clean contacts.

**denial of service (DoS) attack** A type of attack that prevents any users—even legitimate ones—from using a system by overloading the system with requests.

**Department of Defense (DOD) model** A four-layer networking model loosely corresponding to the OSI model, upon which the basis for the TCP/IP protocol suite was developed.

**developing roller** The roller inside a toner cartridge that presents a uniform line of toner to help apply the toner to the image written on the EP drum.

**developing step** The fourth step in the EP print process, at which the image written on the EP drum by the laser is developed—that is, it has toner stuck to it.
device drivers  Software that allows a device to communicate with the operating system.

Device Manager  The utility used to report detailed information about the computer’s devices and their resource usage.

DHCP  See Dynamic Host Configuration Protocol (DHCP).

dial-up  A form of Internet or other network connection that requires connection via telephone lines.

differential backup  A type of backup that includes only new files or files that have changed since the last full backup. Differential backups differ from incremental backups in that they don’t clear the archive bit upon their completion.

digital camera  A camera that records photographs to memory instead of to film.

digital subscriber line (DSL)  A technology that uses regular telephone lines to carry high-speed Internet.

digitizer  An input device that transfers pen strokes to the computer.

DIMM  A memory module packaging style that features a circuit board with independent pins on both sides of the module’s card edge.

DIP switch  A bank of toggle switches in the form of a dual inline package, which looks like a classic chip packages with two rows of legs. See jumpers and DIP switches.

direct memory access (DMA)  A method used by peripherals to place data in memory without utilizing CPU resources.

direct Rambus  A type of synchronous dynamic RAM developed by Rambus Inc., in the mid-1990s. One version features a memory bus that transfers data at 800MHz over a 16-bit memory bus. Rambus inline memory modules (often called RIMMs), like DDR SDRAM, can transfer data on both the rising and falling edges of a clock cycle, resulting in an ultra-high memory transfer rate (800MHz) and a high bandwidth of up to 1.6GBps.

disk imaging  A process of deploying operating systems in which the installation process is avoided by applying an image of an installed operating system directly to a computer hard drive. It also usually requires the removal of installation-specific information to prevent duplicate computers on the network.

disk wiping  The process of removing all data from a device.

distributed denial of service (DDoS) attack  An attack in which multiple computers are used to target a single host with the intent of keeping it so busy responding to requests that it will not be able to handle legitimate traffic.

distributed processing  A computer system in which processing is performed by several separate computers linked by a communications network. The term often refers to any computer system supported by a network but more properly refers to a system in which each computer is chosen to handle a specific workload and the network supports the system as a whole.
**DMZ**  See demilitarized zone (DMZ).

**DNS**  See Domain Name System (DNS).

**docking station**  A box containing ports (and sometimes drive bays) that add capabilities to a notebook computer whenever it’s connected (docked) to the box. These capabilities may include extra keyboard and mouse ports, USB ports, extra serial or parallel ports, a SCSI adapter, an extra IDE adapter, and so on.

**domain**  Within the Internet, a group of computers with shared traits and a common namespace. A domain can also be a group of networked Windows computers that share Active Directory content.

**domain controller**  A centralized server responsible for the security administration of a domain.

**Domain Name System (DNS)**  The network service used in TCP/IP networks that translates hostnames to IP addresses. See also Transmission Control Protocol/Internet Protocol (TCP/IP) suite.

**dot-matrix printer**  An impact printer that has a print head containing a row of pins (short, sturdy stalks of hard wire) that are used to strike the ink ribbon to create an image.

**dot pitch**  The distance between corresponding subpixels in neighboring pixels, used to measure a monitor’s hardware resolution quality.

**double data rate SDRAM (DDR SDRAM)**  A type of RAM that runs at twice the speed of the system bus.

**double-sided memory**  A memory module that comprises two modules in one.

**draft quality**  The poorest quality standard of output from a dot-matrix printer, suitable only for early document review.

**DRAM**  A pervasive type of volatile memory that requires a periodic refresh signal to keep its contents.

**DRDRAM**  A type of SDRAM from Rambus implemented on RIMMs.

**drive activity light**  A light, usually an LED, that indicates when a storage device is reading or writing data.

**drive geometry**  A description of how data is organized on a hard drive.

**drive imaging**  See disk imaging

**drive interface**  An interface and related circuitry designed to connect one of a few possible drive types to a motherboard or adapter card; often manifests as a header on the motherboard.
**driver**  A software file that allows an operating system to communicate with a hardware device. Also called a device driver.

**D-subminiature**  Also known as D-sub, a trapezoidal connector and port pairing that features an interface that is broader on one edge than the other with angled sides connecting the edges; commonly found on classic I/O ports, such as RS-232 serial and parallel.

**dual-channel memory**  A RAM implementation scheme in which the memory controller requires two paired standard memory modules to read from or write to simultaneously. RIMM offers a single module that alone satisfies both channels on compatible motherboards.

**dual-homed**  A device with more than one network adaptor.

**dual-layer**  The description used for DVDs and BDs that have two media layers on one or both sides of the disc.

**dumpster diving**  Looking through the trash for clues—often in the form of papers scraps—to find users’ passwords and other pertinent information.

**duplexing**  In printing, the act of printing on both sides of paper. In networking, the communication method used allowing both parties to communicate simultaneously.

**duplexing assembly**  A printer hardware component that is responsible for turning the paper over so it can be printed on both sides.

**DVD**  Digital video disc. A digital optical disc medium commonly capable of holding from 4.7GB to 8.5GB of data per side, corresponding to 2 to 4 hours of uncompressed DVD-quality video.

**DVD-ROM**  A non-writeable and inerasable DVD permanently pressed with digital data.

**DVI**  Digital Visual Interface. A digital video interface standard that includes support for analog monitor interfaces in the DVI-A standard or one or two links of digital transmission in the DVI-D standard. There is also a DVI-I (the I stands for integrated) that has the ability to support both standards.

**dynamic**  The opposite of static. When dynamic, a setting is controlled by another device and can be changed at any time.

**Dynamic Host Configuration Protocol (DHCP)**  A protocol used on a TCP/IP network to send client configuration data, including IP address, default gateway, subnet mask, and DNS configuration, to clients. DHCP uses a four-step process: Discover, Offer, Request, and Acknowledgement. See also default gateway, Domain Name System (DNS), Transmission Control Protocol/Internet Protocol (TCP/IP) suite.

**Dynamic RAM (DRAM)**  A type of RAM that loses its data rapidly if it isn’t constantly electrically refreshed.
**E**

**ECC**  An error-checking scheme that is able to discover 1 or 2 bits in a byte that contain errors and correct single-bit errors.

**EFS**  See encrypting file system (EFS).

**electromagnetic interference (EMI)**  The interference that can occur during transmissions over copper cable because of electromagnetic energy outside the cable. The result is degradation of the signal.

**electronic stepper motor**  A special electric motor in a printer that can accurately move in very small increments. It powers all of the paper transport rollers as well as the fuser rollers.

**electronically erasable programmable read-only memory (EEPROM)**  A type of ROM chip that can be flash-updated with software.

**electrophotographic**  The oldest form of non-impact printing. Laser printing is a form of this type of printing.

**electrostatic discharge (ESD)**  Occurs when two objects of dissimilar electrical charge come in contact with each other; the charge can damage electronic components.

**emergency repair disk (ERD)**  A floppy disk containing data that can help legacy versions of the Windows Setup utility repair a Windows installation more successfully.

**EMI**  See electromagnetic interference (EMI).

**enclosures**  One of several terms used to describe the box in which the computer motherboard and attached components reside.

**encrypting file system (EFS)**  A feature in NTFS on Windows-based operating systems that allows for file-system-level encryption to be applied.

**enhanced capabilities port (ECP)**  A printer or parallel port setting that allows bidirectional communications and can be used with newer ink-jet and laser printers, scanners, and other peripheral devices.

**enhanced parallel port (EPP)**  A printer or parallel port setting that allows bidirectional communications and that can be used with newer ink-jet and laser printers.

**envelope feeder**  A special device for feeding envelopes into a printer.

**EP print process**  The process by which an EP laser printer forms images on paper.

**eSATA**  An external interface for the attachment of SATA devices that requires a shielded cable and different connector from the one used with internal SATA attachment.

**ESD mat**  See antistatic mat.

**ESD strap**  See antistatic wrist strap.
expansion bus  A bus that connects I/O ports and expansion slots to the motherboard chipset. The expansion bus allows the computer to be expanded using a modular approach. When you need to add something to the computer, you plug specially made circuit boards into the expansion slots on the expansion bus. The devices on these circuit boards are then able to communicate with the CPU and are part of the computer.

expansion card  An adapter card that is inserted into a bus slot in the motherboard to expand the native capabilities of a computer system.

expansion slot  One of the arbitrary insertion points in an expansion bus, based on a specific technology—PCI, for example.

ExpressCard  A standard for laptop expansion cards.

extended data out (EDO)  An older type of DRAM that requires refreshing less frequently than regular FPM RAM, resulting in improved performance.

extended memory  RAM above the 1MB mark in a PC.

extension  A set of characters appended to a filename that defines how the file should be handled by the operating system.

external command  A command that is an executable file, such as FORMAT or FDISK.

external data bus  The bus that carries data from the CPU to the chipset on the motherboard.

external modem  A modem that is contained in a separate box connected to your computer by a cable. It doesn’t require resource assignment because it uses the resources assigned to the port to which it connects.

external speed  The speed at which the CPU communicates with the motherboard.

F

c  fast page mode RAM (FPM)  An older type of DRAM that measures its speed in nanoseconds of delay. Typical of SIMMs.

FAT16  The 16-bit version of the File Allocation Table (FAT) file system.

F connectors  A type of coaxial RF connector used for television, cable television, satellite television, and cable modems.

feed roller  The rubber roller in a laser printer that feeds the paper into the printer.

feeder  A device that feeds paper or other media into a printer.

fiber-optic cable  A type of cable consisting of thin flexible glass fiber surrounded by a rubberized outer coating. Uses an ST, SC, or LC connector.
Fiber-to-the-Home (FTTH)  Fiber-optic broadband service delivered directly to a residence.

Fiber-to-the-Node (FTTN)  Fiber-optic broadband service delivered to the telco box in front of the house and not directly to the home.

field-replaceable units (FRUs)  Parts that are designed to be able to be replaced by a technician working in the field. Examples include memory, motherboards, mice, and printers.

file locking  A feature of many network operating systems that “locks” a file to prevent more than one person from updating the file at the same time.

file servers  Servers on a network designed to hold and store files for clients.

File Transfer Protocol (FTP)  A protocol in the TCP/IP protocol suite that is optimized for file transfers. It uses ports 20 and 21.

file system  The organizational scheme that governs how files are stored and retrieved from a disk. Examples include FAT16, FAT32, NTFS 4.0, and NTFS 5.0.

finisher  A device on a printer that performs such final functions as folding, stapling, hole punching, sorting, or collating the documents being printed.

firewall  A form of protection that can be either a stand-alone system or included in other devices, such as routers or servers. You can find firewall solutions that are marketed as hardware-only and others that are software-only. Either way, their role is to limit the traffic in (or out) of the network.

FireWire  Apple’s original implementation of IEEE 1394, a high-speed serial I/O interface ideal for video applications between a computer and an external video source or destination. FireWire and USB are competing standards.

firmware  Software that resides on chips on the motherboard and is used to store low-level instructions for the computer. Found in other networking devices as well.

flash memory  A nonvolatile form of solid-state memory similar in makeup to primary RAM but used for semipermanent storage, similar to writeable disks.

flash update  Special software provided by the device or motherboard manufacturer to replace or change the capabilities of the BIOS.

flashing the BIOS  The act of changing the system firmware in a computer, often for the purpose of upgrading to a higher version to support new hardware that the older version does not support.

floppy disk  Also known as floppy diskette, an older removable magnetic secondary-storage medium that requires a floppy diskette drive for access. See also minifloppy diskette and microfloppy diskette.
**floppy diskette drive (FDD)**  A disk drive that reads from and writes to floppy diskettes.

**font**  The typestyle used for printing a document. The font can be loaded onto the hard drive of the computer or the onboard memory of the printer.

**form factor**  The size and shape of a component. For example, AT and ATX are two form factors for motherboards.

**format**  To prepare a disk for use in a specific operating system by creating the allocation units that will be used for storage.

**formatter board**  A circuit board that takes the information a printer receives from the computer and turns it into commands for the various components in the printer.

**frame**  The Data Link layer product that includes a portion of the original user data, upper-layer headers, and the Data Link header and trailer.

**frontside bus (FSB)**  The high-speed bus controlled by the Northbridge on which RAM, cache (in the absence of the backside bus [BSB]), PCIe slots, AGP slots, and other local-bus components are interconnected with the CPU and, in some cases, each other.

**frontside cache**  Processor cache located on the frontside bus, or memory bus, of the microprocessor. Typically, the frontside bus runs at a fraction of the processor speed.

FSB  See frontside bus.

**F-type connectors**  See F connector.

**full backup**  A backup that copies all data to the archive medium.

**full-duplex communication**  Communications in which both entities can send and receive simultaneously.

**full format**  A complete format of media, leaving nothing of the data that was already there.

**function (Fn) key**  Key marked with the letters Fn that produces particular functions when pressed and held while pressing a key marked with an alternate function.

**fuser**  A device on an EP printer that uses two rollers to heat the toner particles and melt them to the paper. The fuser is made up of a halogen heating lamp, a Teflon-coated aluminum fusing roller, and a rubberized pressure roller. The lamp heats the aluminum roller. As the paper passes between the two rollers, the rubber roller presses the paper against the heated roller. This causes the toner to melt and become a permanent image on the paper.

**fusing step**  The sixth and final step in the EP printing process, when the toner image on the paper is fused to the paper using heat and pressure. The heat melts the toner, and the pressure helps fuse the image permanently to the paper.
G

gamepad A two-handed game controller that acts as an input device specially designed for the types of controls required by common video games.

gaming PC A multimedia computer system exhibiting higher performance and responsiveness than standard machines, making them ideal for fast-paced games of skill. These computers must have CPU enhancements, video enhancements, specialized audio, and enhanced cooling.

Gateway Any device through which all traffic enters a network.

general protection fault (GPF) An error caused when a Windows program accesses memory that another program is using.

geotracking The ability to track devices that contain GPS transceivers, allowing their position to be recorded at routine intervals.

ghost cursor On a laptop computer, a cursor that apparently jumps around the screen by itself. It’s usually caused by the user’s hand inadvertently touching the trackpad or touch stick.

ghosting Light images of previously printed pages that you can see on the current page.

GPS Global positioning system. The geographical monitoring system that allows a transceiver to ascertain its position in the service zone to within a small area.

Global System for Mobile Communications (GSM) The most popular cellular standard. It uses a variety of bands to transmit. The most popular are 900MHz and 1800MHz, but 400MHz, 450MHz, and 850MHz are also used.

graphic design workstation A computer system used in desktop publishing to create specialized documentation with high-quality graphics and text. These workstations must have CPU enhancements, video enhancements, and maximized RAM.

grayware Any application that is annoying or that negatively affects the performance of your computer.

gyroscope A component in a mobile device that detects changes in pitch, rotation, and yaw. Contrast to the function of an accelerometer.

H

half-duplex communication Communications that occur when only one entity can transmit or receive at any one instant.

hard disk drive A disk drive that contains magnetically coated platters in a sealed case and is often used as the main secondary-storage medium.
hardening  The process of reducing or eliminating weaknesses, securing services, and attempting to make your computer environment immune to attacks.

hardware-assisted virtualization  A virtualization approach that enables the control of the allocation of resources (memory, CPU, etc.) from the host machine to the virtual machines.

Hardware Compatibility List (HCL)  A list of all hardware that has been verified to work with a particular operating system.

hashing  The process of converting a message, or data, into a numeric value for security purposes.

header  In hardware, a technology-specific connector on a circuit board for cabling an internal peripheral device to the board. In software, protocol-specific control information added to the original data or to the protocol data unit from the next-higher protocol in the stack. Information attached to the beginning of a network data frame.

heat sink  A block of aluminum or other metal, with veins throughout or fins, that sits on top of a heat-producing component, drawing its heat away.

heat spreader  A flat heat sink of sorts that adds surface area to a heat-producing component, allowing better heat transfer to the surrounding air; often coupled with a fan for devices that run at a higher temperature.

high-voltage differential (HVD)  An improved SCSI technology that results in very high maximum distances but that is incompatible with SE and LVD systems.

high-voltage power supply (HVPS)  A power supply that provides high-voltage, low-current power to both the charging and transfer corona assemblies in laser and page printers.

high-voltage probe  A tool with a very large needle, a gauge that indicates volts, and a wire with an alligator clip used to discharge electricity from electronic devices.

home server PC  A computer system used in the home for sharing resources and streaming video. The ideal home server has media streaming capabilities, file sharing services, print sharing services, one or more gigabit NICs, and a RAID array.

home theater PC  A computer system used in the home for housing or accessing video content. These workstations must have video enhancements, specialized audio, an HTPC chassis, and a TV tuner card.

host  Any computer or device on a TCP/IP network that has an IP address. In virtualization, the machine that is providing resources to the virtual machines.

host-based firewall  A software-based firewall located on a computer.

hot-plugging/hot-swapping  Inserting or removing devices without powering down the system.

hot-swappable  A device that can be inserted and removed without removing power from the host component.
HTTP  See Hypertext Transfer Protocol (HTTP).

HTTPS  See Hypertext Transfer Protocol (Secure).

hostnames  The alphanumeric name associated with a host.

hub  A basic connectivity device used to link several computers together into a physical star topology. A hub repeats any signal that comes in on one port and copies it to the other ports.

hub chipset  A collection of chips on the motherboard that are used to connect and control peripheral devices.

HVAC  Heating, ventilation, and air conditioning. The heating and cooling system of a facility.

hybrid topology  A physical network topology that is a combination of bus, star, or mesh.

hyperthreading  A CPU feature that allows a single CPU core to be treated by an operating system that supports simultaneous multithreading (SMT) as if it were two CPUs.

Hypertext Markup Language (HTML)  A set of codes used to format text and graphics that will be displayed in a browser. The codes define how data will be displayed.

Hypertext Transfer Protocol (HTTP)  The protocol used for communication between a web server and a web browser. It uses port 80.

Hypertext Transfer Protocol (Secure)  Also known as HTTPS. A combination of HTTP with Secure Sockets Layer (SSL) to make for a secure connection. It uses port 443 by default.

hyperthreading  A feature that enables a computer to multitask more efficiently between CPU-demanding applications.

hypervisor  A layer of software that allows a virtualization platform to be applied directly to a hard drive without an underlying operating system.

ICMP  See Internet Control Message Protocol (ICMP).

ID badges  Badges used for identification purposes.

IDE  Integrated Drive Electronics. A nickname for the original ATA standard, now known as parallel ATA (PATA) since the advent of serial ATA (SATA).

IDS  See intrusion detection system (IDS).

IEEE 1394  See FireWire.

IEEE 802.11  A family of protocols that provides for wireless communications using radio-frequency transmissions.
image smudging A problem that occurs when toner isn’t properly fused to the paper. You can smudge the printed text or graphics by wiping a finger across the page.

impact paper Paper that is used to produce multipart forms without the use of carbon paper. Used in impact printers (such as dot-matrix) and not in inkjet or laser printers.

impact printers Any printer that forms an image on paper by forcing a character image against an inked ribbon. Dot-matrix, daisy-wheel, and line printers are all impact printers, whereas laser printers are not.

incident response plan A policy that defines how an organization will respond to an incident.

incremental backup A type of backup in which only new files or files that have changed since the last full backup or the last incremental backup are included. Incremental backups clear the archive bit on files upon their completion.

inkjet cartridge A reservoir of ink and a print head, in a removable package.

inkjet printers A type of sprayed-ink printer. Often times called a bubble-jet.

input device A device, such as a keyboard or mouse, that allows information outside the computer system to be read into the system.

integrated GPU A graphics processing unit that is integrated into the CPU die.

Integrated Services Digital Network (ISDN) A digital type of communications that can support two simultaneous 64Kbps data channels on one channel. ISDN is often used to provide a backup line for routers to communicate across a serial connection.

interface The point of connectivity between a port in the system unit and a cable with an opposite-gender compatible connector. The port or connection through which a device attaches to an external component, such as a printer’s parallel or USB port, for connection to a computer as well as the software that enables the port to communicate with the external component, such as a Windows XP driver for an HP LaserJet.

interface software The operating system–specific driver that enables communication between a computer and a peripheral.

interlaced A video technology characterized by the scanning of odd or even rows of a screen image over alternate passes.

internal command A command that is built into the command interpreter (COMMAND.COM) and doesn’t exist as an executable file outside of it, such as DEL or DIR.

internal modem A modem consisting of an expansion card that fits into the PC and is used to communicate over telephone lines. It requires a resource assignment, which may come either from Plug and Play or from manual configuration.

internal speed The speed at which a CPU processes data inside its registers.
Internet appliance  A hardware device that is specifically designed to allow users to get on the Internet.

Internet Control Message Protocol (ICMP)  A message and management protocol for TCP/IP. The Ping utility uses ICMP. See also ping, Transmission Control Protocol/Internet Protocol (TCP/IP) suite.

Internet Message Access Protocol (IMAP)  A protocol used for downloading email. The most current version is IMAP4.

Internet Protocol (IP)  One of the underlying communications protocols on which the Internet is based. IP provides addressing on a TCP/IP network and allows a data packet to travel across many networks before reaching its final destination.

Internet service provider (ISP)  A company that provides access to the Internet.

interrupt request (IRQ) lines  Signals used by peripherals to interrupt or stop the CPU and demand attention.

intrusion detection system (IDS)  Tools that identify and respond to attacks using defined rules or logic. An IDS can be network based or host based.

inverter  A small circuit board installed behind the LCD panel, usually in laptops, that takes AC power and converts (inverts) it for the backlight.

IP address  A numerical designation that uniquely identifies a device on a network.

IP proxy  A server that acts as a go-between for clients accessing the Internet. All communications look as if they originated from a proxy server because the IP address of the user making a request is hidden. Also known as Network Address Translation (NAT).

ipconfig  A utility used in Windows to display TCP/IP configuration information.

ISDN terminal adapter  Also known as an ISDN modem, it’s the device that allows you to connect to an ISDN service.

ITX  A family of motherboard form factors used in smaller systems, such as the home theater PC.

J–L

joystick  A game controller consisting of a central component with anywhere from a four-direction to a 360° movement capability and one or more buttons.

jumper and DIP switches  Means of configuring various hardware options on the motherboard. Jumpers uses plastic shunts with metal bridges inside to short two pins on a header to complete a circuit. DIP switches do the same thing by internally closing the circuit when the switch is flipped. See DIP switches.
key fobs  A small security hardware device with built-in authentication used to control and secure access to network services and data.

keyboard  The most common computer input device for entering text with buttons labeled with the characters they represent.

KVM switch  A device that switches a single keyboard/video/mouse set among multiple computer systems.

L1 cache  Cache memory that is built into the processor die (the CPU’s silicon wafer).

L2 cache  Cache memory that can be collocated with the CPU in the same packaging or placed on the motherboard, external to the CPU packaging. L2 cache is not built into the processor die.

L3 cache  Cache memory on the motherboard that is named as such only when L2 cache is in the CPU packaging. L3 cache is the new name, in such a situation, for what used to be termed L2 cache.

lane  In PCIe, a switched point-to-point signal path between any two PCIe components. The designation x16, for example, in PCIe represents a component’s ability to communicate over 16 lanes simultaneously.

laser printer  A generic name for a printer that uses the electrophotographic (EP) print process.

latency  The amount of delay between sending a network data request and receiving a response.

LCD cutoff switch  Switch for changing the display state on a laptop accessed by pressing the function key and another key, often F8 or F4.

LCD monitor  A video display unit that uses a liquid crystal display (LCD) panel to form the pixels corresponding to the image to be displayed.

LED monitor  An LCD monitor that uses light emitting diodes (LEDs) instead of fluorescent bulbs as a backlight.

legacy device  A device that is based on old technology and isn’t Plug and Play compatible, such as a non-PnP circuit board, an ISA board, or a device that connects to a COM port.

letter quality (LQ)  A category of dot-matrix printer that can print characters that look very close to the quality a laser printer might produce.

LGA  Land Grid Array. A chip interface standard that places the pins on the circuit board instead of on the chip packaging. The pins do not insert into sockets. The chip has an array of lands, or flat conductive pads, that interface with the pins by surface contact only.

Lightweight Directory Access Protocol (LDAP)  A protocol designed to speed up an administrator’s organization of and access to critical network directories.
**link**  In PCIe, the single lane or combined collection of lanes that the PCIe switch interconnects between devices. Two PCIe devices can only request links as wide as the narrowest lane rating between the two, such as four lanes between an x4 component and an x16 component.

**liquid cooling**  A cooling method used to keep CPUs and other hot-running components from overheating by pumping a liquid from outside the system through tubing that leads to blocks that mount to the components like heat sinks.

**locator**  An application that uses the various positioning mechanisms of a device configured to be located, such as GPS, WiFi, and the cellular network.

**local area network (LAN)**  A group of computers and associated peripherals connected by a communications channel and capable of sharing files and other resources among several users.

**logical drive**  An area of space within a partition mapped for use by the operating system and identified by a drive letter, such as C: or D:.

**logical partition**  A section of a hard drive created through the operating system.

**logical topology**  A visual description of the way data flows in a network topology.

**loopback plugs**  Plugs used to loop a signal back into a port to test the functionality of the port.

**lumen**  A unit of measure for the total amount of visible light given off by a source and based solely on what the human eye can perceive, not on both visible and invisible wavelengths.

**M**

**MAC address**  The physical address that is either assigned to a network card or burned into the NIC. Contrast with a logical address, such as an IP address.

**MAC filtering**  Filtering network traffic based on a list of allowed MAC addresses. Using MAC filtering, you can ensure that only certain computers can communicate over the network.

**macro virus**  A software exploitation virus that works by using the macro feature included in many applications.

**macros**  A set of instructions that can be recorded in a software program.

**magnetic storage**  The use of magnetic domains to store data on the surface of a medium, such as the platters of a conventional hard disk drive.

**maintenance station**  Provides a zero position for the an ink- or bubble-jet print head and keeps the print nozzles clear between print jobs.

**master drive**  An IDE drive responsible for managing data transfers for itself and the slave drive.
Material Safety Data Sheet (MSDS)  OSHA-required information on every possibly harmful substance in the workplace and details on how to appropriately deal with them. Information provided includes safe handling procedures, what to do in case of an accident, and disposal information.

Media Access Control (MAC)  A sublayer of the Data Link layer of the Open Systems Interconnection (OSI) model that controls the way multiple devices use the same media channel. It controls which devices can transmit and when they can transmit.

media testers  Testing devices used to assess the quality and functionality of various cable types.

memory address  The named hexadecimal address of a particular location in memory. The operating system uses memory addresses to keep track of what data is stored in what physical location with memory banks.

memory bank  A requirement of a CPU and memory controller, based on system-bus width, that reflects on the minimum number of memory chips or modules required to satisfy a single read or write cycle. Leads to physical constraints that must be observed during initial installation or upgrading of the system’s RAM, such as the ability to install single modules or a minimum of a pair, quad, and so forth.

memory management  The methods used by the operating system to manage the transfer of information from storage on the hard disk to a place in RAM.

memory slots  Slots on the motherboard that hold the memory chips.

mesh topology  A type of physical topology in which each device on a network is connected to every other device on the network. This topology uses routers to search multiple paths and determine the best path.

metropolitan area network (MAN)  A network that is defined by its geographical nature, such as spanning a metropolitan area or a college campus.

microfloppy diskette  A floppy diskette that has a 3½” form factor.

micro ATX  A motherboard form factor smaller than but based on the ATX form factor.

microSD  A solid-state, or flash, memory card format related to SD cards. MicroSD cards are smaller than miniSD cards, which are smaller than SD cards.

MiFi  A small 802.11-based network provided by a wireless hotspot.

minifloppy diskette  A floppy diskette that has a 5¼” form factor.

miniHDMI  The HDMI Type C interface with the same 19 pins as the standard Type A interface. This compact HDMI interface allows smaller devices to output HDMI-quality audio and video.
Mini PCI  A laptop adaptation of the Peripheral Component Interconnect (PCI) standard used in desktop computers.

Mini PCIe  ExpressCard devices without the cover, used as laptop expansion cards.

miniSD  A solid-state, or flash, memory card format related to SD cards. MiniSD cards are smaller than SD cards but larger than microSD cards.

modem  A device used to provide Internet access through the analog phone line. At the source it takes a digital signal and converts it to analog and then from analog back to digital at the destination device.

Molex connector  The larger power connector that most often provides power to hard disk drives and other devices that require more current to power their motors than offered by a Berg connector.

motherboard  A circuit board to which all computer components are directly or indirectly attached.

mouse  A common input device that uses one of various tracking mechanisms to detect its movement over a surface by the user’s hand.

mouse pad  A cushioned pad used to provide a proper tracking surface for mouse usage, large enough for the mouse to control the cursor’s motion across the entire screen.

MSDS  See Material Safety Data Sheet (MSDS).

multicast  A message sent to multiple hosts. The term is used in IPv6 to refer to a controlled, small-scale broadcast.

multicore  A CPU that contains multiple cores, each of which operates like a separate CPU.

MultiMediaCard (MMC)  A solid-state, or flash, memory card format.

multimeter  A testing device used to perform multiple tests, such as determining the voltage provide by a wire.

multimode fiber  Fiber-optic cable that can transmit multiple signals at the same time.

multi-touch  A touchscreen technology that detects two or more (often hundreds) simultaneous screen touches.

multipartite virus  A virus that attacks a system in more than one way.

multiple barrier system  A protection system that includes multiple gauntlets, each of which is intended to stop an intruder.

multiplier  A value used to set the relationship between the speed of the processor and that of the system bus.
Musical Instrument Digital Interface (MIDI) A technology that daisy-chains components to one another with a 5-pin standard DIN connector and uses special packets to communicate with other MIDI devices and the computer's audio subsystem.

Mutation The act of changing.

N

NAT Network Address Translation. See IP proxy.

Native Resolution The one optimal or fixed resolution supported by a monitor, most often used in reference to LCD-based monitors.

Near Letter Quality (NLQ) A category of dot-matrix printer that can come close to the quality of a laser printer but still is lacking somewhat in print quality.

Network A group of computers and associated peripherals connected by a communications channel capable of sharing files and other resources between several users. A network can range from a peer-to-peer network (which connects a small number of users in an office or department) to a local area network (which connects many users over permanently installed cables and dial-up lines) or to a wide area network (which connects users on several different networks spread over a wide geographic area).

Network Address Translation (NAT) A service that translates private, nonroutable IP addresses into public addresses that can be used on the Internet.

Network-Attached Storage Storage, such as hard drives, attached directly to a network for the purpose of storing data for clients on the network like a file server. Network-attached storage is commonly used for backing up data.

Network-Based Firewall A firewall, generally hardware-based, that protects a network of computers as opposed to one computer.

Network File System (NFS) A protocol that enables users to access files on remote computers as if the files were local.

Network Interface Card (NIC) In networking, the PC expansion board that plugs into a personal computer or server and works with the network operating system to control the flow of information over the network. The network interface card is connected to the network cabling (twisted-pair, coaxial, or fiber-optic cable), which in turn connects to another network card or central connectivity device.

Network Operating System (NOS) Operating system that runs on a computer, allowing it to connect and operate on a computer network.
**nondedicated server**  A computer that can be both a server and a workstation. In practice, by performing the functions of both server and workstation, this type of server does not function very well. Nondedicated servers are typically used in peer-to-peer networks.

**NFS**  See Network File System (NFS).

**non-parity memory**  Primary memory that does not add or check the veracity of an extra bit per byte of data.

**Northbridge**  The functional part of the chipset that controls local-bus communication among components connected to the frontside bus, such as the CPU, memory and cache, and AGP/PCIe slots. See also Southbridge and chipset.

**notification area**  An alternative term for the system tray, the area in the bottom-right corner of the Windows screen where the clock resides along with icons for programs running in the background.

**nuisance tripping**  False tripping of an item being monitored.

**O**

**Occupational Safety and Health Administration (OSHA)**  A United States federal agency in charge of administering the Occupational Safety and Health Act. OSHA is responsible for ensuring that employees have a safe work environment.

**onsite storage**  Media stored in the same location as the device being backed up.

**open access point**  A wireless access point that employs no encryption or authentication, allowing any device that receives the signal potential access to the connected network.

**Open Systems Interconnection (OSI) model**  A seven-layer networking reference model developed by the International Organization for Standardization (ISO).

**operating system**  Software that takes charge of a computer to manage disk and file behavior, device access, memory management, input/output, and the user interface.

**OLED**  Organic light emitting diode. A display technology that uses electroluminescence to light red, green, and blue subpixels that not only light the display like their LED counterparts but also produce the image like the cells in a plasma display.

**open source**  Describes software with code that is nonproprietary. Contrast with closed source.
packet  A group of bits ready for transmission over a network. It includes a header, data, and a trailer.

packet filter  Any type of filtering system that examines at least a part of the network packet for the purpose of controlling network access.

page printer  A printer that gets its instructions one page at a time, such as a laser printer.

page-description language  Describes the whole page being printed. The controller in the printer interprets these commands and turns them into laser pulses or firing print wires.

paging file  The file used for virtual memory swapping on the hard disk. Also called the swap file.

paper feed mechanism  The portion of the printer that picks up paper from the paper drawer and feeds it into the printer. The paper feed mechanism works with a paper feeder but exists even when a feeder does not (because some feeders are removable).

paper feed sensors  The sensors on the paper feed mechanism that detect when the printer has paper or is out of paper.

paper feeder  See feeder.

paper pickup roller  A D-shaped roller that rotates against the paper and pushes one sheet into a printer.

paper tray  The tray that holds paper until it is fed into a printer.

paper transport assembly  The part of a printer responsible for moving the paper through the printer, starting with the paper feed mechanism. It consists of a motor and several rubberized rollers that each perform a different function. See also paper feed mechanism.

parallel cable  A cable that carries data multiple bits at a time in a given direction.

parallel interface  A legacy port and cable-connector pairing based on a DB25 interface most commonly used for attaching a printer to a computer.

parallel printer interface  See parallel interface.

parity checking  Storing an extra bit with and based on each byte in memory or during serial transmission. When a byte is accessed, the validity of the parity bit is checked. If the check shows an error, the byte is rejected or the system halted because there is no way to determine the nature of the error.

parked  The state of the print head or HDD read/write heads when in the locked, resting position.
**partition**  A logical division of a physical hard disk, used to create separate drive letters. Also refers to the act of creating partitions.

**passcode lock**  A feature on mobile devices that allows the automatic locking of the screen at a configurable interval, often using patterns, PINs, or passwords.

**passive heat sink**  A heat sink with no fan to assist in channeling heat from the CPU.

**passive hub**  A type of hub that electrically connects all network ports together. This type of hub does not amplify the signal and generally is not powered.

**passive terminator**  A terminator that uses resistors to perform the termination.

**patch cable**  Twisted-pair networking cable also known as a straight-through cable. Both ends of the cable have the same pin order. Used to attach computers to a connectivity device such as a hub or a switch.

**PC Card**  The newer term for the outdated Personal Computer Memory Card International Association (PCMCIA) laptop expansion card standard.

**PC Card device**  A small card, about the size of a thick credit card, that plugs into the side of a notebook PC and adds capabilities to it. Also called a *PCMCIA device*. The modern standard for such devices is called *CardBus*.

**PCI**  Peripheral Component Interconnect. A popular expansion slot architecture invented by Intel that succeeded the ISA slot and that is succeeded by PCIe.

**PCIe**  PCI Express. A high-performance serial local-bus slot architecture that obviates the need for AGP and PCI slots. PCIe support combining the resources of multiple adapters for higher performance.

**PCMCIA**  The Personal Computer Memory Card International Association (PCMCIA) laptop expansion card standard.

**PCI-X**  PCI-Extended. A PCI-compatible server expansion slot architecture that supports transfer rates of 4.3GBps, roughly twice that of AGP.

**perimeter**  The area around a building or space being secured.

**personal area network (PAN)**  A small-scale network of Bluetooth-enabled devices.

**personally identifiable information (PII)**  Information that can be uniquely used to identify, contact, or locate a single person. Examples include Social Security numbers, driver’s license number, fingerprints, and handwriting.

**phage virus**  A virus that modifies and alters other programs and databases.

**phishing**  A form of social engineering in which you simply ask someone for a piece of information you are missing by making it look as if it is a legitimate request. Commonly sent via email.
physical address  The MAC address of a computer, found on the network card.

physical topology  A view of the network topology that focuses on the way devices are connected to one another rather than the way the data flows.

piconet  A Bluetooth network. A Bluetooth-enabled device can communicate with up to seven other devices in one piconet.

piezoelectric  A method of printing in which print heads, using piezoelectric crystals, deposit materials directly on substrates.

pickup rollers  See paper pickup roller.

pickup stepper motor  The motor that turns the pickup roller in a printer.

pin-out  The pattern and functionality of pins in a connector.

ping  A TCP/IP utility used to test whether another host is reachable. An Internet Control Message Protocol (ICMP) request is sent to the host, which responds with a reply if it’s reachable. The request times out if the host isn’t reachable.

plain old telephone service (POTS)  Standard telephone service, as opposed to other connection technologies like Digital Subscriber Line (DSL).

plasma  A display technology that employs red, green, and blue cells containing clouds of charged particles that emit light as they stabilize.

platters  The physical discs on which magnetic or optical data is stored. Hard drive platters, for example, are on a spindle inside a sealed encasement.

plenum rated  When referring to network cabling, a designation that means the cable coating does not produce toxic gas when burned (as PVC does) and is rated for use in air plenums that carry breathable air.

Plug and Play (PnP)  A standard set of specifications that was developed by Intel to enable a computer to detect a new device automatically and install the appropriate driver.

point stick  A laptop feature in the center of the keyboard. Users can use it to control the mouse movement.

polymorphic viruses  Viruses that mutate and appear different each time they pop up.

polyvinyl chloride (PVC)  The type of plastic coating found on most network cables. Emits poisonous gasses when burned.

POP  See Post Office Protocol (POP).

POP3  See Post Office Protocol Version 3 (POP3).

port forwarding  Allowing packets that meet the criteria in the ACL to pass through the firewall to their destination.
**port number**  The logical channel that TCP/IP-based protocols use to communicate.

**port replicator**  Roughly the same as a docking station, except it tends to be smaller and doesn't contain drive bays.

**port triggering**  An automated form of port forwarding. It allows traffic to enter the network on a specific port after a computer makes an outbound request on that specific port.

**portable computer**  A computer designed to be carried around.

**POST card**  A circuit board that fits into an ISA or PCI expansion slot in the motherboard and reports numeric codes as the boot process progresses. By looking up the number where the card stops, you can identify the source of problems.

**Post Office Protocol (POP)**  A TCP/IP protocol optimized for receiving email. The current standard is POP3, which uses port 110.


**POTS**  *See* plain old telephone service (POTS).

**power button**  In today’s computers, a physical switch that can be configured to perform multiple functions, such as power the computer on/off and put it into sleep mode, based on the length of time it is held.

**power circuits**  The set of conductive pathways that converts 110V or 220V house current into the voltages a bubble-jet printer uses (usually 12V and 5V) and distributes those voltages to the other printer circuits and devices that need it.

**power light**  Often an LED that indicates the system is on when lit and off when not. The power light can also blink when in a low-power state.

**power-on self-test (POST)**  Part of the boot process controlled by the BIOS that verifies the working condition of the hardware the BIOS knows about.

**Power over Ethernet (PoE)**  A method of providing power to devices through the same cable in which the device transmits data.

**power supply**  The device in a computer that provides the power.

**pre-boot execution environment (PXE)**  A stub operating system that can be used to boot other things, such as an installation routine.

**primary corona**  A wire that applies a negative charge to the drum prior to the exposing phase in the laser printing process.

**primary rate interface (PRI)**  A form of ISDN that contains 23 64Kbps B channels and 1 64Kbps D channel.
**print head alignment**  The process by which the print head is calibrated for use. A special utility that comes with the printer software is used to do this.

**print queue**  The line of all print jobs waiting to be printed.

**print server**  A network server that hosts one or more printers for clients to use.

**print spooler**  A service that formats print jobs in the language that the printer needs.

**privacy filter**  A display cover that, when placed over a monitor’s screen, prevents bystanders from being able to see the screen’s image clearly.

**print buffer**  A small amount of memory located on the printer and used to hold print jobs.

**print head**  The part of a printer that creates the printed image. In a dot-matrix printer, the print head contains the small pins that strike the ribbon to create the image, and in an inkjet printer, the print head contains the jets used to create the ink droplets as well as the ink reservoirs. A laser printer creates images using an electrophotographic method similar to that found in photocopiers and does not have a print head.

**print head carriage**  The component of a bubble-jet printer that moves back and forth during printing. It contains the physical as well as electronic connections for the print head and (in some cases) the ink reservoir.

**printer control circuitry**  Circuits that run a printer’s stepper motors, load paper, and so on. They monitor the health of the printer and report that information back to the computer.

**printer controller assembly**  A large circuit board in a laser printer that converts signals from the computer into signals for the various parts in a printer.

**printer controller circuitry**  See printer controller assembly.

**printer driver**  A software component that allows an application to interface with the hardware of a printer.

**printer pool**  A single logical printer that prints to more than one printing device.

**printer ribbon**  A fabric strip that is impregnated with ink and wrapped around two spools encased in a cartridge. This cartridge is used in dot-matrix printers to provide the ink for the print process.

**printer-resident fonts**  Fonts that are installed into the onboard memory of the printer.

**printers**  Electromechanical output devices that are used to put information from the computer onto paper.

**private addresses**  IP addresses that are not routable to the Internet but rather are designed to be used “inside” intranets and then translated to public IP addresses before being transmitted on the Internet.
**prohibited content** Material that is not allowed on your company’s computers.

**projector** An output device that uses a light source to display an image input to one of its interfaces onto a screen.

**processor slot** A slot that permits the attachment of the CPU to the motherboard, allowing the CPU to use the other components of the system.

**propagation delay** In satellite Internet, the delay caused by the length of time required to transmit data and receive a response via satellite.

**protocol** In networking and communications, the specification that defines the procedures to follow when transmitting and receiving data. Protocols define the format, timing, sequence, and error-checking systems used.

**proxy firewall** A firewall that also performs proxy services such as port forwarding and web caching.

**proxy server** A server that acts as an intermediary between a PC and the Internet, caching frequently used information and providing some security.

**PS/2 port** A 6-pin mini-DIN connector named after the second generation of IBM personal computers and still a choice today, trailing behind USB in popularity, for mouse and keyboard attachment.

**punch-down tools** Handheld tools used to secure cable coming out of the walls to a patch panel.

**Q–R**

**Quality of Service (QoS)** A method of prioritizing network traffic to ensure that latency-sensitive traffic such as voice and video receives the bandwidth it requires.

**quick format** A format that prepares the media for receiving new data but does not completely destroy the existing data to where it cannot be recovered.

**radio frequency interference (RFI)** *See* electromagnetic interference (EMI).

**RAID** Redundant Array of Independent (or Inexpensive) Disks. A form of fault tolerance in all but one version that allows the loss of at least one drive without compromising data.

**RAID 0** The only type of RAID that is not fault tolerant, RAID 0 provides striped volume sets on two or more drives that allow for larger volumes than one drive alone can provide. When one or more drives are lost, all data is compromised.

**RAID 1** A fault-tolerant type of RAID that provides mirroring and duplexing. Two and only two drives exist in a mirrored set. The loss of either drive does not compromise data.
**RAID 5** A fault-tolerant type of RAID that combines striped sets with distributed parity across all drives in the set. A minimum of three drives is required, and the loss of any one drive does not compromise data.

**RAID 10** A fault-tolerant type of RAID that combines the mirroring of RAID 1 in two or more independent mirrored sets that are striped together with RAID 0 to produce larger volumes than any single mirrored set could provide.

**Rambus** *See* DRDRAM.

**Rambus inline memory modules (RIMMs)** The packaging type used with RAMBUS memory.

**Rasterizing** The process of converting signals from a computer into signals for the various assemblies in a laser printer.

**RCA** A type of coaxial connector used in composite video (yellow), S/PDIF over copper (orange), component video (red, green, and blue), and analog audio (red and white), to name a few.

**Refresh rate** The number of times per second, measured in hertz (Hz), that a screenful of image information is read from an input source and displayed by a monitor.

**Registration roller** In a laser printer, rollers that synchronize the paper movement with the image-formation process in the EP cartridge.

**Registry** The hierarchical configuration database in Windows containing Windows initialization settings. It includes information about both the computer and the users on the system.

**Remote Desktop Protocol (RDP)** Protocol developed by Microsoft for users to be able to log into a computer remotely.

**Remote wipe** A feature of mobile device security that allows the owner to remotely destroy all personal information on the device with the execution of a single procedure.

**Reset button** A button on a computer system that allows it to be rebooted without removing power.

**Resolution** The number of rows and columns that a display unit is capable of representing.

**Resource** On a network, any device or data that clients can access, such as printers or shared drives.

**Resource conflict** A problem caused by two or more devices trying to use the same resource.

**Retrovirus** A virus that attacks or bypasses the antivirus software installed on a computer.
RGB separation  A full-bandwidth video interface technology related to component video that requires four separate leads to transmit red, green, blue, and luma.

ribbon cartridge  The container that holds the printer ribbon.

ring topology  A physical network topology that has computers connected in a ring shape. Uncommonly used.

riser board  A circuit board that connects to the motherboard and provides expansion slots (ISA, PCI) so the expansion boards can sit parallel to the motherboard. Common on NLX (low-profile or slim-line) systems.

riser card  An adapter card with expansion slots that inserts into a motherboard; used in low-profile cases.


rootkits  Software programs that have the ability to obtain root-level access and hide certain things from the operating system.

router  In networking, an intelligent connecting device that can send packets to the correct local area network segment to take them to their destination. Routers link LAN segments at the Network layer of the OSI model for computer-to-computer communications.

routing tables  Tables on a router that determine where the router will send packets on the network.

rules  Sections of an access list that specify certain types of traffic that are either allowed or denied.

S

Safe Mode  A method of running Windows using a minimal set of system drivers.

SATA  Serial ATA. The latest version of the standard that specifies IDE (PATA) but that uses only a single serial pathway for communication instead of multiple parallel pathways as PATA uses.

satellite Internet  A type of Internet connection that uses a satellite dish to receive data from a satellite and a relay station that is connected to the Internet.

scanner  An input device that uses optical receptors to convert an object to an image file.

scatternet  A network of two or more piconets.

screen orientation  The landscape or portrait aspect of a device’s screen, often used in conjunction with the device being able to sense its alignment with respect to the earth’s surface.
SD  See Secure Digital (SD).

SDRAM  A form of DRAM that is synchronized to the system clock. Varieties include SDR, DDR, DDR2, DDR3, and DRDRAM.

sector  A portion of a track that most often stores 512 bytes (1⁄2KB).

Secure Digital (SD)  A solid-state, or flash, memory card format.

Secure File Transfer Protocol (SFTP)  A secure version of a file transfer protocol that utilizes SSH and runs on port 22.

Secure Shell (SSH)  A protocol that runs on port 22 and sets up a secure Telnet session and is used for remote logins and remotely executing programs and transferring files.

search path (also referred to as path)  A list of locations where the OS looks for a file that's needed when you try to execute a command.

separator pads  Rubber patches that help keep the paper in place so that only one sheet goes into a printer.

serial cable  A cable that carries data 1 bit at a time in each direction.

server  A computer that provides resources to the clients on the network.

Server Message Block (SMB)  A Microsoft-developed protocol used to provide shared access to files, printers, and other network resources; runs on port 445.

service  Software that allows a PC to receive and respond to requests from a network.

service information sources  Service manuals that can be used for troubleshooting. These manuals can come in several forms, such as booklets, readme files on a CD or DVD, and content on the manufacturer’s website. In most cases, the most up-to-date information is on the website.

service pack  A collection of updates to an operating system or application that brings it to a certain update level.

service-set identifier (SSID)  The unique name of a wireless network that differentiates it from other wireless networks that are also in range of a wireless client.

sharing  The process of making a resource or folder available for use by other PCs through a network.

shielded twisted-pair (STP)  Copper network cable that has two or four pairs of twisted wires shielded by a braided mesh and covered with an outside coating.

shoulder surfing  Watching someone when they enter their username, password, or other sensitive data.

Sidebar  A desktop feature of Windows Vista allowing you to add gadgets that do such things as show CPU usage, date, time, and so on.
signature  A trait or characteristic of a virus used to identify the virus.

signed driver  A driver that has been certified to work under a specific Windows version and hasn’t been changed since its creation.

SIMM  A memory module packaging style that features a circuit board with identical pin functions on both sides of the module's card edge.

Simple Mail Transfer Protocol (SMTP)  A TCP/IP protocol optimized for sending email. It uses port 25.

Simple Network Management Protocol (SNMP)  A protocol that gathers and manages network performance information. The current version is SNMPv3 and it runs on port 161.

single-channel memory  A RAM implementation scheme in which the memory controller expects or allows standard memory modules to be installed one per bank.

single inline memory module (SIMM)  An easily removable circuit board that contains RAM chips. SIMMs are either 8-bit, 30-pin or 32-bit, 72-pin.

single point of failure  A term used to define one device or connection that brings down the entire system if it fails.

single mode fiber (SMF)  Fiber-optic cable that can transmit only one signal at a time. It's the longest-distance cable available for networking use today.

single-sided memory  A memory module that has chips and pin functions that match the specification for a single module.

single sign-on (SSO)  An authentication technique that allows users to log in once and be issued a ticket that allows access to all the resources the user needs to access even if the resources are on multiple servers and/or networks.

slave drive  A drive that shares a channel with the master and doesn’t manage data transfers. It’s totally reliant on the master drive for communication.

small outline DIMMs  A type of memory packaging used in laptops.

smart card  A type of badge or card that gives you access to resources.

sniffer  A network device that captures raw frames from the network, allowing for the inspection of those frames and their encapsulated packets.

social engineering  An attack in which people are deceived or manipulated into revealing information the attacker can use to access data they shouldn’t access.

social troubleshooting  The process of troubleshooting a problem by talking with end users.

SODIMM  Small-outline DIMM. A small form factor memory module based on DIMM principles and designed for the mobile computing sector.
solenoid  In daisy-wheel printers, the small electromechanical hammer that strikes the back of the petal containing the character.

solid-state drive (SSD)  A newer-style drive that has no moving parts but uses flash memory to emulate a conventional hard disk drive.

Sony/Philips Digital Interface (S/PDIF)  A digital audio technology that attaches by coaxial or fiber-optic cable.

sound card  An adapter or component that provides audio output from a device.

Southbridge  The functional part of the chipset that controls nonlocal bus communication among components connected to the various I/O buses, including PCI, IDE, USB, RS-232, and parallel. See also Northbridge and chipset.

speed  A term used as a measure of performance, often in conjunction to a data bus or related component, such as the CPU and RAM.

spyware  Malicious software that acts on behalf of a third party. Rather than self-replicating, like viruses and worms, spyware is spread to machines by users who inadvertently ask for it. The users often don’t know they have asked for it; they do so by downloading other programs, visiting infected sites, and so on. The spyware program monitors the user’s activity and often responds by offering unsolicited pop-up advertisements.

SRAM  A faster type of volatile memory that does not require a periodic refresh and is commonly used for cache memory. Contrast with DRAM.

SSD  See solid-state drive (SSD).

SSID broadcast  The process whereby a wireless access point announces or broadcasts the network name (SSID) so that the network can be located.

stand-off  A spacer between the motherboard and the case floor, made of brass or plastic.

static IP addressing  Manually configuring a host with an IP address and information as opposed to obtaining the address dynamically through a DHCP server.

subnet mask  A required part of any TCP/IP configuration, used to define which addresses are local and which are on remote networks.

S-video  A video interface technology that uses a mini-DIN connector to provide composite or component-quality video.

stabilizer bar  A small metal bar on a printer that holds the printer carriage as it crosses the page.

standard parallel port (SPP)  A printer or parallel port setting that allows bidirectional communications and that can be used with older ink-jet and laser printers.
**star topology**  A network topology in which all devices are connected to a central connecting device.

**stateful inspection**  The monitoring of a network connection that ensures that traffic received is proper for the current stage in the connection process.

**stateful packet filtering**  A process whereby a filtering device performs stateful inspection (See also stateful inspection).

**static-charge eliminator strip**  The device in EP process printers that drains the static charge from the paper after the toner has been transferred to the paper.

**static RAM (SRAM)**  A type of RAM that doesn’t require constant electrical refreshing.

**stealth virus**  A virus that attempts to avoid detection by masking itself from applications.

**stepper motor**  A very precise motor that can move in very small increments. Often used in printers.

**straight tip (ST)**  One of the most common fiber-optic connectors, similar in style to the BNC connector used in 10Base2 Ethernet.

**subnet mask**  The value used to determine the subnet upon which a host resides.

**subnetting**  Dividing a network into smaller entities.

**subscriber connector (SC)**  A fiber-optic cable connector that snaps and locks into place.

**surge protectors**  Surge protectors attempt to keep power surges at bay. They often look like a power strip, but they have a fuse inside them that is designed to blow if it receives too much current and not transfer the current to the devices plugged into it. Surge protectors may have plug-ins for RJ-11 (phone), RJ-45 (Ethernet), and BNC (coaxial cable) connectors.

**switch**  A Layer 2 device similar to a hub in its port count but more advanced with the ability to filter traffic based on the destination MAC address of each frame.

**symmetric algorithms**  Encryption that requires both ends of an encrypted message to have the same key and processing algorithms.

**synchronization**  The mirroring of contents between a computer and mobile device. Commonly synchronized data includes contacts, apps, email, photos, music, and videos.

**synchronous DRAM (SDRAM)**  DRAM that is synchronized to the speed of the systems in which it’s used (PC66 SDRAM runs at 66MHz, PC100 runs at 100MHz, PC133 runs at 133MHz, and so on). Synchronizing the speed of the systems prevents the address bus from having to wait for the memory because of different clock speeds.

**system board**  The spine of the computer, also called the motherboard. This component is made of green or brown fiberglass and is placed in the bottom or side of the case.

**system files**  Files used to load the operating system, including its graphic interface and other system components.
tailgating  Following someone closely enough through a security entry point that you are not stopped.

Telnet  An unsecure terminal emulation protocol that runs on port 23.

Temporal Key Integrity Protocol (TKIP)  Wireless security standard that generates a dynamic, 128-bit per-packet security key.

terminating resistor  Components used on either end of a bus network to prevent signals from bouncing back in the direction from which they came when they reach the end of the bus.

thermal paste  A compound used to bridge the thermal gap between the surface of a chip’s packaging and the mating surface of a heatsink.

thermal printer  A printer that uses heat and special heat-sensitive paper to produce images; common among fax machines.

thick client  A standard computer system that does not exhibit any special traits when compared to custom configurations.

thin client  Any machine that divests itself of all or most local storage and varying levels of RAM and processing power without necessarily giving up all ability to process programming code.

thumb drive  A solid-state device with USB attachment that takes the place of older floppy diskettes and holds much more data than floppies ever did.

toner  A carbon substance mixed with polyester resins and iron oxide particles. During the EP printing process, toner is first attracted to areas that have been exposed to the laser in laser printers and is later deposited and melted onto the print medium.

toner cartridge  The printer component that holds the toner. Toner is a black, carbon substance mixed with polyester resins and iron oxide. In most cases, the toner cartridge contains a medium called the developer, the print drum, and a cleaning blade.

toner probe  A pair of devices used to determine which port on the patch panel goes with each wall outlet.

topology  The visual design of the network; can be viewed from either a physical or logical standpoint.

TouchFLO  A technology invented by HTC for its mobile devices upon which similar technologies have been based. TouchFLO features multiple screens that the user can flip among using a stylus or their finger.

touchscreen  A type of display unit that uses capacitive or resistive touch as an input mechanism without requiring separate input methods.

trackball  An older device that replaced a mouse on laptops. It was an exposed ball that functioned much like an inverted mouse.
tracks  The concentric rings on a platter where data is stored. Tracks are subdivided into sectors.

tractor feed  A paper feed mechanism used in impact printers, it uses paper that has holes along the edge.

transfer corona assembly  A laser-printer assembly that has a high-voltage electrical charge and carries toner from the photosensitive drum onto the paper. When the laser writes the images on the photosensitive drum, the toner sticks to the exposed areas. The transfer corona assembly charges the paper, which pulls the toner from the photosensitive drum.

transferring step  The fifth step in the EP print process, when the developed toner image on the EP drum is transferred to the print medium using the transfer corona.

transformer  A device that takes one type of electrical current and turns it into a different type of electrical current.

Transmission Control Protocol (TCP)  A core protocol in the TCP/IP protocol suite that establishes connections and guarantees packet delivery.

Transmission Control Protocol/Internet Protocol (TCP/IP) suite  A set of computer-to-computer communications protocols that encompasses media access, packet transport, session communications, file transfer, email, and terminal emulation. TCP/IP is supported by a very large number of hardware and software vendors and is available on many different computers from PCs to mainframes.

tripping  A condition that occurs when the breaker on a device such as a power supply, surge protector, or UPS turns it off because it received a spike.

triple-channel memory  A memory subsystem that allows the insertion of up to three banks of memory to communicate in unison with the memory controller.

Trojan horse  Any application that masquerades as something to bypass security measures and then does something malicious.

troubleshooting  The process of determining what is wrong with a machine and then taking steps to solve the problem.

TV tuner card  A class of internal and external devices that allows you to connect a broadcast signal, such as home cable television, to your computer and display it.

U

UAC  See User Account Control (UAC).

UltraDMA  An operating mode for IDE hard disks that conforms to the ATA-4 standard and higher, allowing high-speed data access (33MBps to 100MBps).

unicast  An IP address that identifies a single node on a network.
uninterruptible power supply (UPS)  A UPS is designed to protect everything that’s plugged into it from power surges, power sags, and even power outages. The device contains one or more batteries and fuses. Energy is stored in the batteries, and if the power fails, the batteries can power the computer for a period of time so the administrator can safely power it down.

Universal Serial Bus (USB)  A high-speed, hot-pluggable serial interface used for connecting external peripherals to a PC. USB is the fastest-growing interface type at this time. USB devices can be chained with the use of hubs, allowing up to 32 devices to be connected to one port. The transfer rate has a maximum throughput of 4Mbps.

unshielded twisted-pair (UTP)  Networking cable that has four twisted pairs of copper wire and a flexible outer coating.

update  A newer version of a piece of software. Upgrades generally have new features and must be purchased, but updates are usually free and are provided to fix problems or improve performance.

upgrade  An installation of a newer or more feature-rich version of existing software that preserves existing settings.

up-plugging  The act of plugging a PCIe adapter into a slot that supports more lanes than the adapter supports.

User Account Control (UAC)  A feature of Windows Vista that limits applications to standard user privileges and prompts for administrator authorization before allowing any applications to run with escalated privileges.

User Datagram Protocol (UDP)  Part of the TCP/IP suite that performs a similar function to TCP, with less overhead and more speed but with lower reliability. It is a connectionless protocol, meaning that it does not guarantee packet delivery.

V

vacuum  A device used to remove dust and other materials from hard-to-reach areas of a computer or printer.

vendor-specific  See closed source.

video capture card  A stand-alone device or component of a TV tuner card that is often used to save a video stream to the computer for later viewing, manipulation, or sharing.

video card  An adapter or component that provides the GPU, its memory, and an interface to connect to an output device, usually a video display unit, which includes projectors.

virtual desktop interface  The virtual space of a computer’s desktop environment.

virtual machine  A separate computing space created by a host operating system to run a guest operating system separately and simultaneously.
virtual memory  An area of the hard disk set aside for simulating additional RAM by swapping data into and out of the real RAM.

virtualization support  A feature of modern CPUs to support virtualization more efficiently in hardware. AMD's AMD-V and Intel's Virtualization Technology (VT) are examples.

virtualization workstation  A computer system that hosts guest operating systems and that must have maximized RAM and CPU enhancements in the form of multiple CPUs with multiple cores.

virus  A self-replicating program that “infects” files on a computer. Viruses can be harmless, or they can be extremely destructive.

vishing  Combining phishing and voice technology.

Voice over IP (VoIP) phone  A telephone that plugs into a computer network using twisted-pair cabling and an RJ-45 connector and allows for voice telephone communications over the Internet Protocol.

voltage regulator module (VRM)  A device on a motherboard that can adjust the voltage provided to the CPU to accommodate different CPUs.

voltage selector switch  The switch on a power supply that allows you to manually change the input voltage from 60Hz, 110VAC to 50Hz, 220VAC.

Wake on LAN (WoL)  An Ethernet standard allowing a computer to be brought out of sleep state, or turned on, by a network message.

watt  The unit of measure for power, equal to the number of volts in a circuit times the number of amps.

web cam  A video-only camera that connects to a computer so that the video it captures can be sent across the Internet in real time.

whaling  Phishing for large users, such as the main administrator at a sizable firm.

wide area network (WAN)  A network that crosses local, regional, and/or international boundaries.

WiFi  The common name used for a collection of IEEE 802.11 standards.

WiFi Protected Access (WPA)  An enhancement of 802.11 encryption that secures WiFi communications. The current standard is WPA2.

WiFi Protected Access 2 (WPA2)  The strongest wireless encryption method currently available for 802.11 networks.

WiFi Protected Setup (WPS)  An automated setup feature supported by most current 802.11 wireless access points.
wildcard  A character that stands for other characters. An asterisk (*) stands for any number of characters; a question mark (?) stands for any single character.

Windows component  A part of the Windows operating system that can be individually installed or uninstalled.

Wired Equivalent Privacy (WEP)  An old security protocol for 802.11 (wireless) networks that attempts to establish the same security as would be present in a wired network. It has security flaws and is easily compromised.

wireless access point  A central hub that looks nearly identical to wireless routers and provides central connectivity as wireless routers do but doesn’t have nearly as many features. The main feature most people are concerned with is Internet connection sharing.

wireless local area network (WLAN)  A local area network that employs wireless access points (WAPs) and clients using the 802.11 standards.

wireless locator  A hardware device or software application that is used to detect wireless network signals.

WLAN  See wireless local area network (WLAN).

wireless personal area network (WPAN)  Another name for a Bluetooth network.

wireless router  A central wireless access point that provides connectivity as well as routing features.

workgroups  A collection of peer-to-peer computers with no dedicated server or centralized security.

working directory  The place where an application stores files it creates during the course of its operation. This is the application’s “cubicle.”

workstation  (1) In networking, any personal computer (other than the file server) attached to the network. (2) A high-performance computer optimized for graphics applications such as computer-aided design, computer-aided engineering, and scientific applications.

worm  A program similar to a virus but focused on propagating over a network.

World Wide Interoperability for Microwave Access (WiMAX)  A 4G wireless technology based on the IEEE 802.16 standard.

WPA  See WiFi Protected Access (WPA).

writing step  The third step in the EP print process, during which the items being printed are written to the EP drum. In this step, the laser is flashed on and off as it scans across the surface of the drum. The area on which the laser shines is discharged to almost ground (−100V).

Z

zero insertion force (ZIF)  A mechanism on which chip sockets are mounted that allows insertion of the chip with no downward force except gravity.