GLOSSARY

This glossary defines terms related to managing and maintaining a personal computer.

100BaseT An Ethernet standard that operates at 100 Mbps and uses twisted-pair cabling up to 100 meters (328 feet). *Also called* Fast Ethernet. Variations of 100BaseT are 100BaseTX and 100BaseFX.

4G (Fourth Generation) The ability to use a cell phone to browse the web, stream music and video, play online games, and use instant messaging and video conferencing. 4G offers the fastest speed for cellular data.

4-pin motherboard auxiliary connector A connector on the motherboard used to provide additional power to the processor other than that provided by the P1 connector.

8-pin motherboard auxiliary connector A connector on the motherboard used to provide additional power to the processor other than that provided by the P1 connector or the earlier 4-pin auxiliary connector.

10-foot user interface Applications software used on large screens to control output display menus and other clickable items in fonts large enough to read at a distance of 10 feet.

20-pin P1 connector Used by an older ATX power supply and motherboard and provided +3.3 volts, +5 volts, +12 volts, –12 volts, and an optional and rarely used –5 volts.

24-pin P1 connector Used by ATX Version 2.2 power supply and motherboard and provides additional power for PCI Express slots.

25-pin SCSI connector A SCSI connector used by narrow SCSI that looks like a parallel port connector.

32-bit operating system Type of operating system that processes 32 bits at a time.

50-pin SCSI connector A type of SCSI connector, *also called* an A connector, used by narrow SCSI.

6TO4 In TCP/IP version 6, an older tunneling protocol being replaced by the more powerful Teredo or ISATAP protocols. Tunnels are used by IPv6 to transport IPv6 packets over an IPv4 network.

64-bit operating system Type of operating system that processes 64 bits at a time.

68-pin SCSI connector A type of SCSI connector, *also called* a P connector, used by wide SCSI.

1394a *See* FireWire 400.

1394b *See* FireWire 800.

802.11 a/b/g/n The collective name for the IEEE 802.11 standards for local wireless networking, which is the technical name for Wi-Fi.

A+ Certification A certification awarded by CompTIA (The Computer Technology Industry Association) that measures a PC technician's knowledge and skills.

AC adapter A device that converts AC to DC and can use regular house current to power a notebook computer.

Accelerated Graphics Port (AGP) A 32-bit wide bus standard developed specifically for video cards that includes AGP 1x, 2x, 3x, 4x, and 8x standards. AGP has been replaced by the PCI Express standards.

accelerometer A type of gyroscope used in mobile devices to sense the physical position of the device.

Action Center A tool in Windows 7 that lists errors and issues that need attention.

Active Directory A Windows server directory database and service that is used in managing a domain to allow for a single point of administration for all shared resources on a network, including files, peripheral devices, databases, web sites, users, and services.

active partition The primary partition on the hard drive that boots the OS. Windows calls the active partition the system partition.

ActiveX control A small app or add-on that can be downloaded from a web site along with a web page and is executed by a browser to enhance the web page.

adapter address *See* MAC (Media Access Control) address.

ad hoc mode A type of physical arrangement of the connection between computers where each

wireless computer serves as its own wireless access point and is responsible for securing each connection.

administrative shares   The folders that are shared by default on a network domain that administrator accounts can access.

Administrative tools   A group of tools accessed through the Control Panel that you can use to manage the local computer or other computers on the network.

administrator account   In Windows, a user account that grants to the administrator(s) rights and privileges to all hardware and software resources, such as the right to add, delete, and change accounts and to change hardware configurations.

Administrators group   A type of user group. When a user account is assigned to this group, the account is granted rights that are assigned to an administrator account.

Advanced Configuration and Power Interface (ACPI)   Standards used by system BIOS and other components that define power states for the system and processor used to conserve power when the system is not in full use.

Advanced Options menu   A Windows menu that appears when you press F8 when Windows starts. The menu can be used to troubleshoot problems when loading Windows. In Windows 7/Vista, the menu is called the Advanced Boot Options menu.

adware   Software installed on a computer that produces pop-up ads using your browser; the ads are often based on your browsing habits.

Aero Peek   A Windows 7 feature that gives you a peek at the desktop when you move the mouse over the rectangle to the far-right side of the taskbar.

Aero Shake   A Windows 7 feature that minimizes all other windows except the one you shake.

Aero Snap   A Windows 7 feature that automatically maximizes a window when you drag it to the top of the desktop or snaps the window to the side of the screen when you drag it to a side.

Aero user interface   The Windows 7/Vista 3D user interface that gives a glassy appearance. *Also called* Aero glass.

AES (Advances Encryption Standard)   An encryption standard used by WPA2 and is currently the strongest encryption standard used by Wi-Fi.

airplane mode   A setting within a mobile device that disables all three antennas so the device can neither transmit nor receive signals.

all-in-one computer   A computer that has the monitor and computer case built together and uses components that are common to both a notebook and a desktop computer.

alternate IP address   When configuring TCP/IP in Windows, the static IP address that Windows uses if it cannot lease an IP address from a DHCP server.

alternating current (AC)   Current that cycles back and forth rather than traveling in only one direction. In the United States, the AC voltage from a standard wall outlet is normally between 110 and 115 V. In Europe, the standard AC voltage from a wall outlet is 220 V.

A Male connector   A common type of USB connector that is flat and wide and connects an A Male USB port on a computer or USB hub.

amp   A measure of electrical current.

Android   An operating system used on mobile devices that is based on the Linux OS and supported by Google.

anonymous users   User accounts that have not been authenticated on a computer.

ANSI (American National Standards Institute)   A nonprofit organization dedicated to creating trade and communications standards.

answer file   A text file that contains information that Windows requires in order to do an unattended installation.

antispyware software   Software used to remove spyware and adware.

antistatic bags   Static shielding bags that new computer components are shipped in.

antistatic gloves   Gloves designed to prevent an ESD (electrostatic discharge) between you and a device, as you pick it up and handle it.

antistatic wrist strap   *See* ground bracelet.

antivirus (AV) software   Utility programs that prevent infection or scan a system to detect and remove viruses. McAfee Associates' VirusScan and Norton AntiVirus are two popular AV packages.

anycast address   Using TCP/IP version 6, a type of IP address used by routers and identifies multiple destinations. Packets are delivered to the closest destination.

App Store   The app on an Apple device (iPad, iPhone, or iPod touch) that can be used to download content from the iTunes Store web site (*itunes.apple.com*).

Apple ID   A user account that uses a valid email address and password and is associated with a credit card number that allows you to download iOS updates and patches, apps, and multimedia content.

application proxy   A program that is intended to work on a client computer when the complete application is on a server.

application virtualization   Using this virtualization, a virtual environment is created in memory for an application to virtually install itself.

Application Virtualization (App-V)   Software by Microsoft used for application virtualization.

artifacts   Horizontally torn images on a computer screen.

ATAPI (Advanced Technology Attachment Packet Interface)   An interface standard, part of the IDE/ATA standards, that allows tape drives, optical drives, and other drives to be treated like an IDE hard drive by the system.

ATA Secure Erase   Standards developed by the American National Standard Institute (ANSI) that dictate how to securely erase data from solid-state devices such as a USB flash drive or SSD drive in order to protect personal privacy.

ATX (Advanced Technology Extended)   The most common form factor for PC systems presently in use, originally introduced by Intel in 1995. ATX motherboards and cases make better use of space and resources than did the earlier AT form factor.

ATX12V power supply   An ATX Version 2.1 power supply that provides a 12 V power cord with a 4-pin connector to be used by the auxiliary 4-pin power connector on motherboards used to provide extra power for processors.

Authenticated Users group   All user accounts that have been authenticated to access the system except the Guest account. *Compare to* anonymous users.

Automated System Recovery (ASR)   The Windows XP process that allows you to restore an entire hard drive volume or logical drive to its state at the time the backup of the volume was made.

Automatic Private IP Address (APIPA)   In TCP/IP Version 4, IP address in the address range 169.254.x.y, used by a computer when it cannot successfully lease an IP address from a DHCP server.

auto-switching   A function of a laptop computer AC adapter that is able to automatically switch between 110 V and 220 V AC power.

Backup Operator   A type of Windows user account group. When a user account belongs to this group, it can back up and restore any files on the system regardless of its having access to these files.

ball grid array (BGA)   A connection via a processor that is soldered to the motherboard, and the two are always purchased as a unit.

bandwidth   In relation to analog communication, the range of frequencies that a communications channel or cable can carry. In general use, the term refers to the volume of data that can travel on a bus or over a cable stated in bits per second (bps), kilobits per second (Kbps), or megabits per second (Mbps). *Also called* data throughput or line speed.

barcode reader   Used to scan barcodes on products at the points of sale or when taking inventory.

base station   A fixed transceiver and antenna used to create one cell within a cellular network.

basic disk   The term Windows uses that applies to a hard drive when the drive is a stand-alone drive in the system. *Compare to* dynamic disk.

batch file   A text file containing a series of OS commands. Autoexec.bat is a batch file.

bcdedit   A command used to manually edit the BCD.

Berg power connector   A type of power connector used by a power cord to provide power to a floppy disk drive.

best-effort protocol   *See* connectionless protocol.

biometric device   An input device that inputs biological data about a person; the data can identify a person's fingerprints, handprints, face, voice, eyes, and handwriting.

BIOS (basic input/output system)   Firmware that can control much of a computer's input/output functions, such as communication with the keyboard and the monitor.

BIOS setup   The program in system BIOS that can change the values in CMOS RAM. *Also called* CMOS setup.

BitLocker Encryption   A utility in Windows 7/Vista Ultimate and Enterprise editions that is used to lock down a hard drive by encrypting the entire Windows volume and any other volume on the drive.

bitmap   A bunch of bits in rows and columns.

blue screen error   *See* blue screen of death (BSOD).

blue screen of death (BSOD)   A Windows error that occurs in kernel mode, is displayed against a blue screen, and causes the system to halt. The error might be caused by problems with devices, device drivers, or a corrupted Windows installation. *Also called* a stop error.

Bluetooth PIN code   A code that may be required to complete the Bluetooth connection in a pairing process.

Blu-ray Disc (BD)   An optical disc technology that uses the UDF version 2.5 file system and a blue laser beam, which is shorter than any red beam used by DVD or CD discs. The shorter blue laser beam allows Blu-ray discs to store more data than a DVD.

B Male connector   A USB connector that connects a USB 1.x or 2.0 device such as a printer.

BNC connector   A connector used with thin coaxial cable. Some BNC connectors are T-shaped and called T-connectors. One end of the T connects to the NIC, and the two other ends can connect to cables or end a bus formation with a terminator.

Boot Configuration Data (BCD) file   A Windows 7/Vista file structured the same as a registry file and contains configuration information about how Windows is started. The BCD file replaces the Boot.ini file used in Windows 2000/XP.

boot loader menu   A startup menu that gives the user the choice of which operating system to load, such as Windows XP or Windows 7, which are both installed on the same system, creating a dual boot.

boot partition   The hard drive partition where the Windows OS is stored. The system partition and the boot partition may be different partitions.

boot sector virus   An infectious program that can replace the boot program with a modified, infected version, often causing boot and data retrieval problems.

boot.ini   A Windows 2000/XP hidden text file that contains information needed to start the boot and build the boot loader menu.

booting   The process of starting up a computer and loading an operating system.

bootrec   A command used to repair the BCD and boot sectors.

bootsect   A command used to repair a dual boot system.

bridge   A device that stands between two segments of a network and manages network traffic between them.

Briefcase   A system folder in Windows 9x/Me that is used to synchronize files between two computers.

broadband   A transmission technique that carries more than one type of transmission on the same medium, such as voice and DSL on a regular telephone line.

brownouts   Temporary reductions in voltage, which can sometimes cause data loss. *Also called* sags.

bus   The paths, or lines, on the motherboard on which data, instructions, and electrical power move from component to component.

bus network   An older topology whereby all computers are connected in a sequential line.

cable Internet   A broadband technology that uses cable TV lines and is always connected (always up).

cable tester   A tool used to test a cable to find out if it is good or to find out what type of cable it is if the cable is not labeled.

calibration   The process of checking and correcting the graduations of an instrument or device such as an inkjet printer.

call tracking   A system that tracks the dates, times, and transactions of help-desk or on-site PC support calls, including the problem presented, the issues addressed, who did what, and when and how each call was resolved.

capacitive touch screen   A touch screen that uses electrodes that sense the conductive properties of skin. *Compare to* resistive touch screen.

CardBus   A PCMCIA specification that improved on the earlier PC Card standards. It improved I/O speed, increased the bus width to 32 bits, and supported lower-voltage PC Cards, while maintaining backward compatibility with earlier standards. CardBus has been replaced with ExpressCard specifications.

CAS Latency   A method of measuring access timing to memory, which is the number of clock cycles required to write or read a column of data off a memory module. CAS stands for Column Access Strobe. *Compare to* RAS Latency.

case fan   A fan inside a computer case used to draw air out of or into the case.

CAT-3 (Category 3)   A rating used for UTP cables that is less expensive than the more popular CAT-5 cables.

CAT-5 (Category 5)   A rating used for UTP cables. CAT-5 or higher cabling is required for Fast Ethernet.

CAT-6 (Category 6)   A rating used for UTP cables that has less crosstalk than CAT-5 or CAT-5e cables. CAT-6 cables contain a plastic cord down the center of the cable that helps to prevent crosstalk.

CAT-6a (Category 6a)   A rating used for UTP cables that is thicker than CAT-6 and used by 10GBase-T (10-Gigabit Ethernet).

CD (compact disc)   An optical disc technology that uses a red laser beam and can hold up to 700 MB of data.

CDFS (Compact Disc File System)   The 32-bit file system for CD discs and some CD-R and CD-RW discs. *See also* Universal Disk Format (UDF).

CDMA (Code Division Multiple Access)   A protocol standard used by cellular WANs and cell phones.

cellular network   A network that can be used when a wireless network must cover a wide area. The network is made up of cells, each controlled by a base station. *Also called* a cellular WAN.

cellular WAN   *See* cellular network.

central processing unit (CPU)   *Also called* a microprocessor or processor. The component where almost all processing of data and instructions takes place. The CPU receives data input, processes information, and executes instructions.

Centrino   A technology used by Intel whereby the processor, chipset, and wireless network adapter are all interconnected as a unit, which improves laptop performance.

Certificate of Authenticity   A sticker that contains the Windows product key.

chain of custody   Documentation that tracks evidence used in an investigation and includes exactly what, when, and from whom the evidence was collected, the condition of the evidence, and how the evidence was secured while in possession of a responsible party.

channel   A specific radio frequency within a broader frequency.

chassis air guide (CAG)   A round air duct that helps to pull and direct fresh air from outside a computer case to the cooler and processor.

child directories   *See* subdirectory.

chipset   A group of chips on the motherboard that controls the timing and flow of data and instructions to and from the CPU.

Class A   A license for a range of IPv4 IP addresses that defines a single octet, which is the network portion of the IP addresses in that license. The last three octets can be used for the host address or for subnetting the network.

Class B   A license for a range of IPv4 IP addresses that defines the first two octets, which is used for the network portion of the IP address. The last two octets can be used for the host address or for subnetting the network.

Class C   A license for a range of IPv4 IP addresses that defines the first three octets, which is used for the network portion of the IP address.

Class C fire extinguisher   A fire extinguisher rated to put out electrical fires.

classful subnet mask   In TCP/IP Version 4, the default subnet mask that is used if a network is not divided into subnets. It is called a classful subnet mask because the network portion of the IP address aligns with the class license. For example, 11111111.11111111.11111111.00000000 or 255.255.255.0 is the classful subnet mask for a Class C license.

classless subnet mask   In TCP/IP Version 4, the subnet mask takes some bits of the host portion of the IP address for the network ID and does not align the network portion of the IP address with the network octets assigned by the class license. The subnet mask can have a mix of zeroes and ones in one octet or can contain all ones in an octet that was not leased by the class license, for example, 11111111.111111 11.11110000.00000000 or 255.255.240.0.

clean install   Used to overwrite the existing operating system and applications when installing Windows on a hard drive.

client/server   Two computers communicating using a local network or the Internet. One computer takes on the role of making requests from the other computer. A computer making a request from another is called the client and the one answering the request is called the server.

client-side desktop virtualization   Using this virtualization, software installed on a desktop or laptop manages virtual machines used by the local user.

client-side virtualization   Using this virtualization, a personal computer provides multiple virtual environments for applications.

cloud computing   A service where server-side virtualization is delegated to a third-party service, and the Internet is used to connect server and client machines.

cluster   One or more sectors that constitute the smallest unit of space on a disk for storing data (also referred to as a file allocation unit). Files are written to a disk as groups of whole clusters.

CMOS (complementary metal-oxide semiconductor)   The technology used to manufacture microchips. CMOS chips require less electricity, hold data longer after the electricity is turned off, and produce less heat than earlier technologies. The configuration or setup chip is a CMOS chip.

CMOS battery   The battery on the motherboard used to power the CMOS chip that holds BIOS setup data so that the data is retained when the computer is unplugged.

CMOS RAM   Memory contained on the CMOS configuration chip.

CMOS setup   *See* BIOS setup.

coaxial cable   A cable that has a single copper wire down the middle and a braided shield around it.

cold boot   *See* hard boot.

CompactFlash (CF) card   A flash memory device that allows for sizes up to 137 GB, although current sizes range up to 32 GB.

compatibility mode   A group of settings that can be applied to older drivers or applications that might cause them to work in Windows using a newer version of Windows than the one the programs were designed to use.

Complete PC Backup   A Vista utility that can make a backup of the entire volume on which Vista is installed and can also back up other volumes. *Compare to* system image.

Component Services (COM+)   A Microsoft Management Console snap-in that can be used to register components used by installed applications.

composite video port   A port used by television or by a video card that is designed to send output to a TV. A composite port is round and has only a single pin in the center of the port.

Compressed (zipped) Folder   A folder with a .zip extension that contains compressed files. When files are put in the folder, they are compressed. When files are moved to a regular folder, the files are decompressed.

computer infestation   *See* malicious software.

Computer Management (Compmgmt.msc)   A Windows console that contains several administrative tools used by support technicians to manage the local computer or other computers on the network.

computer name   *See* host name.

connectionless protocol   A TCP/IP protocol such as UDP that works at the OSI Transport layer and does not guarantee delivery by first connecting and checking where data is received. It might be used for broadcasting, such as streaming video or sound over the web, where guaranteed delivery is not as important as fast transmission. *Also called* a best-effort protocol. *Also see* UDP (User Datagram Protocol).

connection-oriented protocol   In networking, a TCP/IP protocol that confirms a good connection has been made before transmitting data to the other end, verifies data was received, and resends it if it is not. An example of a connection-oriented protocol is TCP.

console   A window that consolidates several Windows administrative tools.

contrast ratio   The contrast between true black and true white on a screen.

Control Panel   A window containing several small utility programs called applets that are used to manage hardware, software, users, and the system.

cooler   A cooling system that sits on top of a processor and consists of a fan and a heat sink.

copyright   The right to copy the work that belongs to the creators of the works or others to whom the creator transfers this right.

C-RIMM (Continuity RIMM)   A placeholder module that fills a memory slot on the motherboard when the slot does not hold a RIMM in order to maintain continuity.

crimper   A tool used to attach a terminator or connector to the end of a cable.

crossover cable   A cable used to connect two like devices such as a hub to a hub or a PC to a PC (to make the simplest network of all).

CRT (cathode-ray tube) monitor   A type of monitor first used in older television sets.

custom installation   In the Windows setup program, the option used to overwrite the existing operating system and applications, producing a clean installation of the OS. The main advantage is that problems with the old OS are not carried forward.

data bus   Lines of the bus, a system of pathway used for communication on the motherboard, used for data.

data cartridge   A full-sized cartridge that holds data and is used in a tape drive.

data collector set   A utility within the Windows 7 Performance Monitor and the Windows Vista Reliability and Performance Monitor that is used to create a set of counters to collect data about the system to measure performance. The results can be saved to a report for future use.

data path size   The number of lines on a bus that can hold data, for example, 8, 16, 32, and 64 lines, which can accommodate 8, 16, 32, and 64 bits at a time.

Data Sources Open Database Connectivity (ODBC)   A tool in the Administrative Tools group of Control Panel that is used to allow data files to be connected to applications they normally would not use.

data throughput   *See* bandwidth.

DB-15 port   A 15-pin female port that transmits analog video.

DDR   *See* Double Data Rate SDRAM.

dead pixel   A pixel on an LCD monitor that is not working and can appear as a small white, black, or colored spots on the computer screen.

default gateway   The gateway a computer on a network will use to access another network unless it knows to specifically use another gateway for quicker access to that network.

default printer   The designated printer to which Windows prints unless another printer is selected.

default program   A program associated with a file extension.

defragment   To rewrite a file to a disk in one contiguous chain of clusters, thus speeding up data retrieval.

degauss button   A button on some older CRT monitors used to eliminate accumulated or stray magnetic fields.

degausser   A machine that exposes a storage device to a strong magnetic field to completely erase the data on a magnetic hard drive or tape drive.

desktop   The initial screen that is displayed when an OS has a GUI interface loaded.

desktop case   A computer case that lies flat and sometimes serves double-duty as a monitor stand.

device driver   Small programs stored on the hard drive and installed in Windows that tell Windows how to communicate with a specific hardware device such as a printer, network, port on the motherboard, or scanner.

Device Manager   Primary Windows tool for managing hardware.

Devices and Printers window   A window used in Windows 7 to manage and uninstall printers.

DHCP (Dynamic Host Configuration Protocol)   A protocol used by a server to assign a dynamic IP address to a computer when it first attempts to initiate a connection to the network and requests an IP address.

DHCP client   A computer of other device (such as a network printer) that requests an IP address from a DHCP server.

digital certificate   A code used to authenticate the source of a file or document or to identify and authenticate a person or organization sending data over a network. The code is assigned by a certificate authority such as VeriSign and includes a public key for encryption. *Also called* digital ID or digital signature.

digitizer   *See* graphics tablet.

digitizing tablet   *See* graphics tablet.

DIMM (dual inline memory module)   A miniature circuit board installed on a motherboard to hold memory. DIMMs can hold up to 16 GB of RAM on a single module.

direct current (DC)   Current that travels in only one direction (the type of electricity provided by batteries). Computer power supplies transform AC to low DC.

Direct Rambus DRAM   A memory technology by Rambus and Intel that uses a narrow network-type system bus. Memory is stored on a RIMM module. *Also called* RDRAM, Rambus, or Direct RDRAM.

Direct RDRAM   *See* Direct Rambus DRAM.

direct thermal printer   A type of thermal printer that burns dots onto special coated paper as was done by older fax machines.

DirectX   A Microsoft software development tool that software developers can use to write multimedia applications such as games, video-editing software, and computer-aided design software.

Disk Cleanup   A Windows utility that enables you to delete temporary files to free up space on a drive.

disk cloning   *See* drive imaging.

diskpart   A Windows command to manage hard drives, partitions, and volumes.

DisplayPort   A port that transmits digital video and audio (not analog transmissions) and is slowly replacing VGA and DVI ports on personal computers.

distribution server   A file server holding Windows setup files used to install Windows on computers networked to the server.

distribution share   The collective files in the installation that include Windows, device drivers, and applications. The package of files is served up by a distribution server.

distributions   Versions of Linux or UNIX published by an individual or organization.

DMA (direct memory access) transfer mode   A transfer mode used by devices, including the hard drive, to transfer data to memory without involving the CPU.

DMZ   Stands for "demilitarized zone" and refers to removing firewall protection from a computer or network within an organization of protected computers and networks.

DNS (Domain Name System or Domain Name Service)   A distributed pool of information (called the name space) that keeps track of assigned host names and domain names and their corresponding IP addresses. DNS also refers to the system that allows a host to locate information in the pool and the protocol the system uses.

DNS client   When Windows queries the DNS server for a name resolution, which means to find an IP address for a computer when the fully qualified domain name is known.

DNS server   A Doman Name Service server that uses a DNS protocol to find an IP address for a computer when the fully qualified domain name is known. An Internet Service Provider is responsible for providing access to one or more DNS servers as part of the service it provides for Internet access.

dock   The area at the bottom of the Android screen where up to four apps can be pinned.

docking port   A connector on the bottom of the notebook to connect to a port replicator or docking station.

docking station   A device that receives a notebook computer and provides additional secondary storage and easy connection to peripheral devices.

domain   In Windows, a logical group of networked computers, such as those on a college campus, that share a centralized directory database of user account information and security for the entire domain.

domain name   A name that identifies a network and appears before the period in a website address such as *microsoft.com*. A fully qualified domain name is sometimes loosely called a domain name. *Also see* fully qualified domain name.

Double Data Rate SDRAM (DDR SDRAM)   A type of memory technology used on DIMMs that runs at twice the speed of the system clock. *Also called* DDR SDRAM, SDRAM II, and DDR.

double-sided   A DIMM feature whereby memory chips are installed on both sides of a DIMM.

drive imaging   Making an exact image of a hard drive, including partition information, boot sectors, operating system installation, and application software to replicate the hard drive on another system or recover from a hard drive crash. *Also called* disk cloning or disk imaging.

driver store   The location where Windows stores a copy of the driver software when first installing a device.

DSL (Digital Subscriber Line)   A telephone line that carries digital data from end to end, and is used as a type of broadband Internet access.

dual boot   The ability to boot using either of two different OSs, such as Windows XP and Windows 7. *Also called* multiboot.

dual channels   A motherboard feature that improves memory performance by providing two 64-bit channels between memory and the chipset. DDR, DDR2, and DDR3 DIMMs can use dual channels.

dual processors   Two processor sockets on a server motherboard.

dual ranked   Double-sided DIMMs that provide two 64-bit banks. The memory controller accesses first one bank and then the other. Dual-ranked DIMMs do not perform as well as single-ranked DIMMs.

dual voltage selector switch   A switch on the back of the computer case where you can switch the input voltage to the power supply to 115 V used in the United States or 220 V used in other countries.

dumb terminal   *See* zero client.

duplexing assembly   Used in a duplex printer, a duplexing assembly contains several rollers, turns the paper around, and draws it back through the print process to print on the back of the paper.

duplex printer   A printer that is able to print on both sides of the paper.

DVD (digital versatile disc or digital video disc)   A technology used by optical discs that uses a red laser beam and can hold up to 17 GB of data.

DVI-A   A DVI (Digital Visual Interface) video port that only transmits analog data.

DVI-D   A DVI (Digital Visual Interface) video port that works only with digital monitors.

DVI-I   A DVI (Digital Visual Interface) video port that supports both analog and digital monitors.

DVI (Digital Video Interface) port   A port that transmits digital or analog video.

dxdiag.exe   A command used to display information about hardware and diagnose problems with DirectX.

dynamic disks   A way to partition one or more hard drives so that the drives can work together to store data in order to increase space for data or to provide fault tolerance or improved performance. *Also see* RAID. *Compare to* basic disk.

dynamic IP address   An IP address assigned by a DHCP server for the current session only, and is leased when the computer first connects to a network. When the session is terminated, the IP address is returned to the list of available addresses. *Compare to* static IP address.

dynamic RAM (DRAM)   The most common type of system memory, it requires refreshing every few milliseconds.

dynamic volume   A volume type used with dynamic disks by which you can create a single volume that uses space on multiple hard drives.

ECC (error-correcting code)   A chipset feature on a motherboard that checks the integrity of data stored on DIMMs or RIMMs and can correct single-bit errors in a byte. More advanced ECC schemas can detect, but not correct, double-bit errors in a byte.

electrostatic discharge (ESD)   Another name for static electricity, which can damage chips and destroy motherboards, even though it might not be felt or seen with the naked eye.

elevated command prompt window   A Windows command prompt window that allows commands that require administrative privileges.

email hoax   An email message that is trying to tempt you to give out personal information or trying to scam you.

Emergency Repair Disk (ERD)   (1) In Windows 2000, a record of critical information about your system that can be used to fix a problem with the OS. The ERD enables restoration of the Windows 2000 registry on your hard drive. (2) In Windows XP, a bootable floppy disk that can boot the system, bypassing the boot files stored in the root of drive C.

Encrypted File System (EFS)   A way to use a key to encode a file or folder on an NTFS volume to protect sensitive data. Because it is an integrated system service, EFS is transparent to users and applications.

enhanced CAT-5 (CAT-5e)   A improved version of CAT-5 cable that reduces crosstalk.

Enhanced IDE (EIDE)   PATA standard that supports the configuration of four IDE devices in a system.

Enhanced Parallel Port (EPP)   A type of parallel port that transmits data in both directions.

escalate   When a technician passes a customer's problem to higher organizational levels because he or she cannot solve the problem.

ESD gloves   *See* antistatic gloves.

ESD mat   *See* ground mat.

ESD strap   *See* ground bracelet.

Ethernet port   *See* network port.

Event Viewer (Eventvwr.msc)   A Windows tool useful for troubleshooting problems with Windows, applications, and hardware. It displays logs of significant events such as a hardware or network failure, OS failure, OS error messages, a device or service that has failed to start, or General Protection Faults.

Everyone group   In Windows, the Authenticated Users group as well as the Guest account. When you share a file or folder on the network, Windows, by default, gives access to the Everyone group.

executive services   In Windows, a group of components running in kernel mode that interfaces between the subsystems in user mode and the HAL.

expansion card   A circuit board inserted into a slot on the motherboard to enhance the capability of the computer.

expert system   Software that uses a database of known facts and rules to simulate a human expert's reasoning and decision-making processes.

ExpressCard   The latest PCMCIA standard for notebook I/O cards that uses the PCI Express and USB 2.0 data transfer standards. Two types of Express-Cards are ExpressCard/34 (34mm wide) and ExpressCard/54 (54mm wide).

Extended Capabilities Port (ECP)   A type of parallel port that is faster than an EPP port.

extended partition   The only partition on a hard drive that can contain more than one logical drive. In Windows, a hard drive can have only a single extended partition. *Compare to* primary partition.

extension magnet brush   A long-handled brush made of nylon fibers that are charged with static electricity to pick up stray toner inside a printer.

external SATA (eSATA)   A standard for external drives based on SATA that uses a special external shielded SATA cable up to 2 meters long. eSATA is up to six times faster than USB or FireWire.

Fast Ethernet   *See* 100BaseT.

FAT (file allocation table)   A table on a hard drive or floppy disk used by the FAT file system that tracks the clusters used to contain a file.

fault tolerance   The degree to which a system can tolerate failures. Adding redundant components, such as disk mirroring or disk duplexing, is a way to build in fault tolerance.

F connector   A connector used with an RG-6 coaxial cable and is used for connections to a TV and has a single copper wire.

FDISK   A Windows 9x/Me command used to create and manage partitions on a hard drive.

ferrite clamp   A clamp installed on a network cable to protect against electrical interference.

fiber optic   A dedicated, leased line used for Internet access that uses fiber-optic cable from the ISP to a residence or place of business.

fiber-optic cable   Cable that transmits signals as pulses of light over glass or plastic strands inside protected tubing.

field replaceable unit (FRU)   A component in a computer or device that can be replaced with a new component without sending the computer or device back to the manufacturer. Examples: power supply, DIMM, motherboard, hard disk drive.

file allocation unit *See* cluster.

file association The association between a data file and an application that is determined by the file extension.

file attributes The properties assigned to a file. Examples of file attributes are read-only and hidden status.

file extension A portion of the name of a file that indicates how the file is organized or formatted, the type of content in the file, and what program uses the file. In command lines, the file extension follows the filename and is separated from it by a period, for example, Msd.exe, where exe is the file extension.

Files and Settings Transfer Wizard A Windows XP tool used to copy user data and settings from one computer to another.

file server A computer dedicated to storing and serving up data files and folders.

file system The overall structure that an OS uses to name, store, and organize files on a disk. Examples of file systems are NTFS and FAT32. Windows is always installed on a volume that uses the NTFS file system.

File Transfer Protocol (FTP) *See* FTP (File Transfer Protocol).

filename The first part of the name assigned to a file, which does not include the file extension. In DOS, the filename can be no more than eight characters long and is followed by the file extension. In Windows, a filename can be up to 255 characters.

FireWire 400 A data transmission standard used by computers and peripherals (for example, a video camera) that transmits at 400 Mbps. *Also called* 1394a.

FireWire 800 A data transmission standard used by computers and peripherals (for example, a video camera) that transmits at 800 Mbps. *Also called* 1394b.

FireWire port A port used for high-speed multimedia devices such as camcorders. *Also called* an IEEE 1394 port.

firmware Software that is permanently stored in a chip. The BIOS on a motherboard is an example of firmware.

fixboot A Windows 7/Vista command that repairs the boot sector of the system partition.

fixmbr A Windows 7/Vista command to repair the MBR.

flashing BIOS The process of upgrading or refreshing the programming stored on a firmware chip.

flat panel monitor *See* LCD (Liquid Crystal Display) monitor.

flip-chip land grid array (FCLGA) A type of socket used by processors that has blunt protruding pins on the socket that connect with lands or pads on the bottom of the processor. The chips in the processor package are flipped over so that the top of the chip makes contact with the socket.

flip-chip pin grid array (FCPGA) A type of socket used by processors that has holes aligned in rows to receive pins on the bottom of the processor. The chips in the processor are flipped over so that the top of the chip makes contact with the socket.

floppy disk drive (FDD) A drive that can hold either a 5½ inch or 3¼ inch floppy disk. *Also called* floppy drive.

floppy drive *See* floppy disk drive (FDD).

folder *See* subdirectory.

folder attributes The properties assigned to a folder. Examples of folder attributes are read-only and hidden status.

formatting *See* high-level formatting.

form factor A set of specifications on the size, shape, and configuration of a computer hardware component such as a case, power supply, or motherboard.

formatting Preparing a hard drive volume, logical drive, or USB flash drive for use by placing tracks and sectors on its surface to store information (for example, FORMAT D:).

fragmented file A file that has been written to different portions of the disk so that it is not in contiguous clusters.

front panel connectors A group of wires running from the front of the computer case to the motherboard.

front panel header A group of pins on a motherboard that connect to wires that are connected to the front panel of the computer case.

Front Side Bus (FSB) *See* system bus.

FTP (File Transfer Protocol) A TCP/IP protocol and application that uses the Internet to transfer files between two computers.

full duplex Communication that happens in two directions at the same time.

fully connected mesh topology A network where each node connects to every node on the network.

fully qualified domain name (FQDN) Identifies a computer and the network to which it belongs and includes the computer name and domain name. For example, *jsmith.amazon.com*. Sometimes loosely referred to as a domain name.

fuser assembly   A component in laser printing that uses heat and pressure to fuse the toner to paper.

gadget   A mini-app that appears on the Windows 7 desktop or Vista sidebar.

gateway   Any device or computer that network traffic can use to leave one network and go to a different network.

GDI (Graphics Device Interface)   A component of Windows that uses a less-sophisticated method of communicating with a printer than other methods. GDI draws and formats the page, converting it to bitmap form, and then sends the almost-ready-to-print bitmap to the printer.

geotracking   A mobile device routinely reports its position to Apple or Google at least twice a day, which makes it possible for these companies to track your device's whereabouts.

ghost cursor   A trail on the screen left behind when you move the mouse.

Gigabit Ethernet   A version of Ethernet that supports rates of data transfer up to 1 gigabit per second.

gigahertz (GHz)   One thousand MHz, or one billion cycles per second.

global account   Sometimes called a domain user account or network account, the account is used at the domain level, created by an administrator, and stored in the SAM (security accounts manager) database on a Windows domain controller.

global address   *See* global unicast address.

global unicast address   In TCP/IP Version 6, an IP address that can be routed on the Internet. *Also called* global address.

Globally Unique Identifier Partition Table (GUID or GPT)   A partitioning system installed on a hard drive that can support 128 partitions and is recommended for drives larger than 2 TB.

Gmail   An email service provided by Google at *mail .google.com*.

Google account   A user account, which is a valid email address, that is registered on the Google Play web site (*play.google.com*) and is used to download content to an Android device.

Google Play   The official source for apps, *also called* the Android marketplace, at *play.google.com*.

GPS (Global Positioning System) receiver   A receiver that uses the system of 24 or more satellites orbiting the earth. The receiver locates four or more of these satellites, and from these four locations calculates its own position in a process called triangulation.

graphical user interface (GUI)   An interface that uses graphics as compared to a command-driven interface.

graphics processing unit (GPU)   A processor that manipulates graphic data to form the images on a monitor screen. A GPU can be embedded on a video card or on the motherboard or integrated within the processor.

graphics tablet   An input device that can use a stylus to hand draw. It works like a pencil on the tablet and uses a USB port.

grayware   A program that AV software recognizes to be potentially harmful or potentially unwanted.

ground bracelet   A strap you wear around your wrist that is attached to the computer case, ground mat, or another ground so that ESD is discharged from your body before you touch sensitive components inside a computer. *Also called* static strap, ground strap, ESD bracelet.

ground mat   A mat that dissipates ESD and is commonly used by technicians who repair and assemble computers at their workbenches or in an assembly line.

Group Policy (gpedit.msc)   A console available only in Windows professional and business editions that is used to control what users can do and how the system can be used.

GSM (Global System for Mobile Communications)   An open standard for cellular WANs and cell phones that uses digital communication of data and is accepted and used worldwide.

Guests group   A type of user group in Windows. User accounts that belong to this group have limited rights to the system and are given a temporary profile that is deleted after the user logs off.

gyroscope   A device that contains a disc that is free to move and can respond to gravity as the device is moved.

HAL (hardware abstraction layer)   The low-level part of Windows, written specifically for each CPU technology, so that only the HAL must change when platform components change.

half duplex   Communication between two devices whereby transmission takes place in only one direction at a time.

handheld tablet   A computing device with a touch screen that is larger than a smartphone and has functions similar to a smartphone.

hard boot   Restart the computer by turning off the power or by pressing the Reset button. *Also called* a cold boot.

hard disk drive (HDD)   *See* hard drive.

hard drive   The main secondary storage device of a computer. Two technologies are currently used by hard drives: magnetic and solid state. *Also called* hard disk drive (HDD).

hardware address   *See* MAC (Media Access Control) address.

hardware-assisted virtualization (HAV)   A feature of a processor whereby it can provide enhanced support for hypervisor software to run virtual machines on a system. The feature must be enabled in BIOS setup.

hardware profile   A group of settings that Windows keeps about a specific hardware configuration. A hardware profile can be manually configured in Windows XP, but Windows 7 and Vista automatically configure hardware profiles.

hardware RAID   One of two ways to implement RAID. Hardware RAID is more reliable and better performing than software RAID, and is implemented using the BIOS on the motherboard or a RAID controller card.

HDMI (High Definition Multimedia Interface) port   A digital audio and video interface standard currently used on televisions and other home theater equipment and expected to ultimately replace DVI.

HDMI connector   A connector that transmits both digital video and audio and is used on most computers and televisions.

HDMI mini connector   A smaller type of HDMI connector used for connecting some devices such as a smartphone to a computer.

heat sink   A piece of metal, with cooling fins, that can be attached to or mounted on an integrated chip (such as the CPU) to dissipate heat.

hertz (Hz)   Unit of measurement for frequency, calculated in terms of vibrations, or cycles per second. For example, for 16-bit stereo sound, a frequency of 44,000 Hz is used. *See also* megahertz.

hibernation   A power-saving state that saves all work to the hard drive and powers down the system.

hidden share   A folder whose folder name ends with a $ symbol. When you share the folder, it does not appear in the Network window or My Network Places window.

high-level formatting   A process performed by the Windows Format program (for example, FORMAT C:/S), the Windows installation program, or the Disk Management utility. The process creates the boot record, file system, and root directory on a hard drive volume or logical drive, a floppy disk, or USB flash drive.

Also called formatting, OS formatting, or operating system formatting. *Compare to* low-level formatting.

high-touch using a standard image   A strategy to install Windows that uses a standard image for the installation. A technician must perform the installation on the local computer. *Also see* standard image.

high-touch with retail media   A strategy to install Windows where all the work is done by a technician sitting at the computer using Windows setup files. The technician also installs drivers and applications after the Windows installation is finished.

HKEY_CLASSES_ROOT (HKCR)   A Windows registry key that stores information to determine which application is opened when the user double-clicks a file.

HKEY_CURRENT_CONFIG (HKCC)   A Windows registry key that contains information about the hardware configuration that is used by the computer at startup.

HKEY_CURRENT_USER (HKCU)   A Windows registry key that contains data about the current user. The key is built when a user logs on using data kept in the HKEY_USERS key and data kept in the Ntuser.dat file of the current user.

HKEY_LOCAL_MACHINE (HKLM)   An important Windows registry key that contains hardware, software, and security data. The key is built using data taken from the SAM hive, the Security hive, the Software hive, and the System hive and from data collected at startup about the hardware.

HKEY_USERS (HKU)   A Windows registry key that contains data about all users and is taken from the Default hive.

homegroup   A type of peer-to-peer network where each computer shares files, folders, libraries, and printers with other computers in the homegroup. Access to the homegroup is secured using a homegroup password.

Home Theater PC (HTPC)   A PC that is designed to play and possibly record music, photos, movies, and video on a television or extra-large monitor screen.

host adapter   The circuit board that controls a SCSI bus supporting as many as seven or fifteen separate devices. The host adapter controls communication between the SCSI bus and the computer.

host name   A name that identifies a computer, printer, or other device on a network, which can be used

instead of the computer's IP address to address the computer on the network. The host name together with the domain name is called the fully qualified domain name. *Also called* computer name.

Hosts file   A file in the C:\Windows\System32\drivers\ etc folder that contains computer names and their associated IP addresses on the local network. The file has no file extension.

hot-plugging   Plugging in a device while the computer is turned on. The computer will sense the device and configure it without rebooting. In addition, the device can be unplugged without an OS error. *Also called* hot-swapping.

hot swappable   The ability to plug or unplug devices without first powering down the system. USB devices are hot swappable.

hot-swapping   Allows you to connect and disconnect a device while the system is running.

HTC Sense   A comprehensive user interface that incorporates the older TouchFLO technology used by mobile devices.

HTPC case   A case used to accommodate a home theater PC and must be small enough to fit on a shelf in an entertainment center.

HTTP (Hypertext Transfer Protocol)   The TCP/IP protocol used for the World Wide Web and used by web browsers and web servers to communicate.

HTTPS (HTTP secure)   The HTTP protocol working with a security protocol such as Secure Sockets Layer (SSL) or Transport Layer Security (TLS), which is better than SSL, to create a secured socket that includes data encryption.

hub   A network device or box that provides a central location to connect cables and distributes incoming data packets to all other devices connected to it. *Compare to* switch.

hybrid hard drive   A hard drive that uses both magnetic and SSD technologies. The bulk of storage uses the magnetic component, and a storage buffer on the drive is made of an SSD component. Windows ReadyDrive supports hybrid hard drives.

hybrid network   A network where a star network uses multiple switches in sequence, and the switches form a bus network.

Hyper-Threading   The Intel technology that allows each logical processor within the processor package to handle an individual thread in parallel with other threads being handled by other processors within the package.

HyperTransport   The AMD technology that allows each logical processor within the processor package to handle an individual thread in parallel with other threads being handled by other processors within the package.

hypervisor   *See* virtual machine manager (VMM).

I/O shield   A plate installed on the rear of a computer case that provides holes for I/O ports coming off the motherboard.

iCloud   A web site by Apple (*www.icloud.com*) used to sync content on Apple devices in order to provide a backup of the content.

IDE (Integrated Drive Electronics or Integrated Device Electronics)   A hard drive whose disk controller is integrated into the drive, eliminating the need for a controller cable and thus increasing speed, as well as reducing price. *See also* EIDE.

IEEE 1284   A standard for parallel ports and cables developed by the Institute for Electrical and Electronics Engineers and supported by hardware manufacturers.

IEEE1394 port   *See* FireWire port.

image deployment   Installing a standard image on a computer.

ImageX   A program included in the Windows Automated Installation Kit that is used to create and modify standard images.

imaging drum   An electrically charged rotating drum found in laser printers.

IMAP4 (Internet Message Access Protocol, version 4)   A protocol used by an email server and client that allows the client to manage email stored on the server without downloading the email. *Compare to* POP3.

impact paper   Paper used by impact printers and comes as a box of fanfold paper or in rolls (used with receipt printers).

impact printer   A type of printer that creates a printed page by using a mechanism that touches or hits the paper.

Infrared (IR)   An outdated wireless technology that has been mostly replaced by Bluetooth to connect personal computing devices.

Infrastructure as a Service (IaaS)   A cloud computing service that provides only the hardware, which can include servers, Network attached Storage (NAS) devices, and networks.

inherited permissions   Permissions assigned by Windows that are attained from a parent object.

initialization files   Text files that keep hardware and software configuration information, user preferences, and application settings and are used by the OS when first loaded and when needed by hardware, applications, and users.

in-place upgrade   A Windows installation that is launched from the Windows desktop. The installation carries forward user settings and installed applications from the old OS to the new one. A Windows OS is already in place before the installation begins.

ink cartridge   Cartridge in inkjet printers that holds the different colors of ink for the printer.

inkjet printer   A type of ink dispersion printer that uses cartridges of ink. The ink is heated to a boiling point and then ejected onto the paper through tiny nozzles.

interface   In TCP/IP Version 6, a node's attachment to a link. The attachment can be a physical attachment (for example, when using a network adapter) or a logical attachment (for example, when using a tunneling protocol). Each interface is assigned an IP address.

interface ID   In TCP/IP Version 6, the last 64 bits or 4 blocks of an IP address that identify the interface.

internal components   The main components installed in a computer case.

Internet appliance   A type of thin client that is designed to make it easy for a user to connect to the Internet, browse the web, use email, and perform other simple chores on the Internet.

Internet Options   A dialog box used to manage Internet Explorer settings.

Internet Protocol version 4 (IPv4)   A group of TCP/IP standards that uses IP addresses that have 32-bits.

Internet Protocol version 6 (IPv6)   A group of TCP/IP standards that uses IP addresses that have 128 bits.

Internet Service Provider (ISP)   A commercial group that provides Internet access for a monthly fee; AOL, Earthlink, and Comcast are large ISPs.

intranet   Any private network that uses TCP/IP protocols. A large enterprise might support an intranet that is made up of several local networks.

inverter   A device that converts DC to AC.

iOS   The operating system owned and developed by Apple and used for their various mobile devices.

iPad   A handheld tablet developed by Apple.

IP address   A 32-bit or 128-bit address used to uniquely identify a device or interface on a network that uses TCP/IP protocols. The first numbers identify the network; the last numbers identify a host. An example of a 32-bit IP address is 206.96.103.114. An example of a 128-bit IP address is 2001:0000:B80::D3:9C5A:CC.

Ipconfig (IP configuration)   A command that displays TCP/IP configuration information and can refresh TCP/IP assignments to a connection including its IP address.

iPhone   A smartphone developed by Apple.

iPod touch   A multimedia recorder and player developed by Apple.

ISATAP   In TCP/IP Version 6, a tunneling protocol that has been developed for IPv6 packets to travel over an IPv4 network and stands for Intra-Site Automatic Tunnel Addressing Protocol.

ISDN (Integrated Services Digital Network)   A broadband telephone line that can carry data at about five times the speed of regular telephone lines. Two channels (telephone numbers) share a single pair of wires. ISDN has been replaced by DSL.

ISO image   A file format that has an .iso file extension and holds an image of all the data, including the file system that is stored on an optical disc. ISO stands for International Organization for Standardization.

iTunes Store   The Apple web site at *itunes.apple.com* where apps, music, TV shows, movies, books, podcasts, and iTunes U content can be purchased and downloaded to Apple mobile devices.

iTunes U   Content at the iTunes Store web site (*itunes.apple.com*) that contains lectures and even complete courses from many schools, colleges, and universities.

jailbreaking   A process to break through the restrictions that only allow apps to an iOS device to be downloaded from the iTunes Store at *itunes.apple .com*. Gives the user root or administrative privileges to the operating system and the entire file system and complete access to all commands and features.

joule   A measure of work or energy. One joule of energy produces one watt of power for one second.

jumper   Two wires that stick up side by side on the motherboard or other device and are used to hold configuration information. The jumper is considered closed if a cover is over the wires and open if the cover is missing.

Jump List   Appears when right-clicking an icon in the Windows 7 taskbar and provides access to some of the major functions of the program.

kernel   The portion of an OS that is responsible for interacting with the hardware.

kernel mode   A Windows "privileged" processing mode that has access to hardware components.

keyboard backlight   A feature on some keyboards where the keys light up on the keyboard.

key fob   A device, such as a type of smart card, that can fit conveniently on a key chain.

keylogger   A type of spyware that tracks your keystrokes, including passwords, chat room sessions, email messages, documents, online purchases, and anything else you type on your PC. Text is logged to a text file and transmitted over the Internet without your knowledge.

keystone RJ-45 jack   A jack that is used in an RJ-45 wall jack.

KVM (Keyboard, Video, and Mouse) switch   A switch that allows you to use one keyboard, mouse, and monitor for multiple computers. Some KVM switches also include sound ports so that speakers and a microphone can be shared among multiple computers.

LAN (local area network)   A computer network that covers only a small area, usually within one building.

land grid array (LGA)   A feature of a CPU socket whereby pads, called lands, are used to make contact in uniform rows over the socket. *Compare to* pin grid array (PGA).

laptop   *See* notebook.

laser printer   A type of printer that uses a laser beam to control how toner is placed on the page and then uses heat to fuse the toner to the page.

Last Known Good Configuration   In Windows, registry settings and device drivers that were in effect when the computer last booted successfully. These settings can be restored during the startup process to recover from errors during the last boot.

latency   Delays in network transmissions resulting in slower network performance. Latency is measured by the round-trip time it takes for a data packet to travel from source to destination and back to source.

LC (local connector) connector   A newer type of connector used by fiber-optic cables and can be used with either single-mode or multimode fiber-optic cables.

LCD (Liquid Crystal Display) monitor   A monitor that uses LCD technology. LCD produces an image using a liquid crystal material made of large, easily polarized molecules. LCD monitors are flatter than CRT monitors and take up less desk space. *Also called* a flat-panel monitor.

LED (Light-Emitting Diode)   A technology used in an LCD monitor that uses less mercury than earlier technologies.

Level 1 cache (L1 cache)   Memory on the processor die used as a cache to improve processor performance.

Level 2 cache (L2 cache)   Memory in the processor package but not on the processor die. The memory is used as a cache or buffer to improve processor performance. *Also see* Level 1 (L1) cache.

Level 3 cache (L3 cache)   Cache memory further from the processor core than Level 2 cache but still in the processor package.

library   In Windows 7, a collection of one or more folders that can be stored on different local drives or on the network.

license   Permission for an individual to use a product or service. A manufacturer's method of maintaining ownership, while granting permission for use to others.

Lightweight Directory Access Protocol (LDAP)   A protocol used by various client applications when the application needs to query a database.

limited account   A type of Windows XP user group, also known as the Users group in Windows 2000. Accounts in this group have read-write access only on their own folders, read-only access to most system folders, and no access to other users' data. In Windows 7/Vista, a standard account is a limited account.

line-of-sight connectivity   A connection used by satellites that requires no obstruction from mountains, trees, and tall buildings from the satellite dish to the satellite.

link   In TCP/IP version 6, a local area network or wide area network bounded by routers. *Also called* local link.

link-local address   *See* link-local unicast address.

link-local unicast address   In TCP/IP Version 6, an IP address used for communicating among nodes in the same link and is allowed on the Internet. *Also called* local address and link-local address.

lite-touch, high-volume deployment   A strategy that uses a deployment server on the network to serve up a Windows installation after a technician starts the process at the local computer.

Lithium Ion   Currently the most popular type of battery popular with notebook computers that is more efficient than earlier types. Sometimes abbreviated as "Li-Ion" battery.

loadstate   A command used by the User State Migration Tool (USMT) to copy user settings and data temporarily stored on a server or removable media to a new computer. *Also see* scanstate.

local account   A Windows user account that applies only to the local computer and cannot be used to access resources from other computers on the network. *Compare to* global account.

local area network (LAN)   A network bound by routers or other gateway devices.

local link   *See* link.

local printer   A printer connected to a computer by way of a port on the computer. *Compare to* network printer.

local shares   Folders on a computer that are shared with others on the network by using a folder's Properties box. Local shares are used with a workgroup and not with a domain.

logical drive   A portion or all of a hard drive extended partition that is treated by the operating system as though it were a physical drive or volume. Each logical drive is assigned a drive letter, such as drive F, and contains a file system. *Compare to* volume.

logical topology   The logical way computers connect on a network.

Logical Unit Number (LUN)   A number assigned to a logical device (such as a tray in a CD changer) that is part of a physical SCSI device, which is assigned a SCSI ID.

LoJack   A technology by Absolute Software used to track the whereabouts of a laptop computer and, if the computer is stolen, lock down access to the computer or erase data on it. The technology is embedded in the BIOS of many laptops.

loopback address   An IP address that indicates your own computer and is used to test TCP/IP configuration on the computer.

loopback plug   A device used to test a port in a computer or other device to make sure the port is working and might also test the throughput or speed of the port.

low-level formatting   A process (usually performed at the factory) that electronically creates the hard drive tracks and sectors and tests for bad spots on the disk surface.

LPT (Line Printer Terminal)   Assignments of system resources that are made to a parallel port and that are used to manage a print job. Two possible LPT configurations are referred to as LPT1: and LPT2:.

MAC (Media Access Control) address   A 48-bit (6-byte) hardware address unique to each NIC or onboard network controller that is assigned by the manufacturer at the factory and embedded on the device. The address is often printed on the adapter as hexadecimal numbers. An example is 00 00 0C 08 2F 35. *Also called* a physical address, an adapter address, or a hardware address.

magnetic hard drive   One of two technologies used by hard drives where data is stored as magnetic spots on disks that rotate at a high speed. The other technology is solid state drive (SSD).

main board   *See* motherboard.

malicious software   Any unwanted program that is transmitted to a computer without the user's knowledge and that is designed to do varying degrees of damage to data and software. Types of infestations include viruses, Trojan horses, worms, adware, spyware, keyloggers, browser hijackers, dialers, and downloaders. *Also called* malware, infestation, or computer infestation.

malware   *See* malicious software.

MAN (metropolitan area network)   A type of network that covers a large city or campus.

Master Boot Record (MBR)   The first sector on a hard drive, which contains the partition table and a program the BIOS uses to boot an OS from the drive.

master file table (MFT)   The database used by the NTFS file system to track the contents of a volume or logical drive.

Material Safety Data Sheet (MSDS)   A document that explains how to properly handle substances such as chemical solvents; it includes information such as physical data, toxicity, health effects, first aid, storage, disposal, and spill procedures.

megahertz (MHz)   One million Hz, or one million cycles per second. *See* hertz (Hz).

memory bank   The memory a processor addresses at one time. Today's desktop and notebook processors use a memory bank that is 64 bits wide.

Memory Diagnostics (mdsched.exe)   A Windows 7/Vista utility used to test memory.

mesh network   Each node (a computer or other device) that uses the network is responsible for sending and receiving transmissions to any other node to which it wants to communicate with a central point of communication.

MicroATX (MATX)   A version of the ATX form factor. MicroATX addresses some new technologies that were developed after the original introduction of ATX.

Micro-A connector   A USB connector that has five pins and is smaller than the Mini-B connector. It is used on digital cameras, cell phones, and other small electronic devices.

Micro-B connector   A USB connector that has five pins and has a smaller height than the Mini-B connector. It is used on digital cameras, cell phones, and other small electronic devices.

microprocessor   *See* central processing unit (CPU).

Microsoft Assessment and Planning (MAP) Toolkit   Software that can be used by a system administrator from a network location to query hundreds of computers in a single scan to determine if a computer qualifies for a Windows upgrade.

Microsoft Exchange   A server application that can handle email, contacts, and calendars and is a popular application used by large corporations for employee email, contacts, and calendars.

Microsoft Management Console (MMC)   A Windows utility to build customized consoles. These consoles can be saved to a file with an .msc file extension.

MIDI (musical instrument digital interface)   A set of standards that are used to represent music in digital form. A MIDI port is a 5-pin DIN port that looks like a keyboard port, only larger.

Mini-B connector   A USB connector that has five pins and is often used to connect small electronic devices, such as a digital camera, to a computer.

MiniDin-6 connector   A 6-pin variation of the S-Video port and looks like a PS/2 connector used by a keyboard or mouse.

mini-HDMI connector   *See* HDMI mini connector.

Mini PCI   The PCI industry standard for desktop computer expansion cards, applied to a much smaller form factor for notebook expansion cards.

Mini PCI Express   A standard used for notebook internal expansion slots that follows the PCI Express standards applied to notebooks. *Also called* Mini PCIe.

Mini PCIe   *See* Mini PCI Express.

minicartridge   A tape drive cartridge that is only 3¼ × 2½ × ⅗ inches. It is small enough to allow two drives to fit into a standard 5 inch drive bay of a PC case.

mirrored volume   The term used by Windows for the RAID 1 level that duplicates data on one drive to another drive and is used for fault tolerance.

mirroring   A Windows XP technique to provide fault tolerance whereby one hard drive duplicates another hard drive.

modem port   A port used to connect dial-up phone lines to computers.

Molex power connector   A 4-pin power connector used to provide power to a PATA hard drive or optical drive.

motherboard   The main board in the computer, *also called* the system board. The CPU, ROM chips, DIMMs, RIMMs, and interface cards are plugged into the motherboard.

mount point   A folder that is used as a shortcut to space on another volume, which effectively increases the size of the folder to the size of the other volume. *Also see* mounted drive.

mounted drive   A volume that can be accessed by way of a folder on another volume so that the folder has more available space. *Also see* mount point.

mstsc   A command that allows you to start Remote Desktop Connection to remote in to your host computer using Remote Desktop.

MT-RJ (mechanical transfer registered jack) connector   A newer type of connector used by fiber-optic cables and can be used with either single-mode or multimode fiber-optic cables.

multiboot   *See* dual boot.

multicast address   In TCP/IP version 6, an IP address used when packets are delivered to all nodes on a network.

multicasting   In TCP/IP version 6, one host sends messages to multiple hosts, such as when the host transmits a video conference over the Internet.

multi-core processing   A processor technology whereby the processor housing contains two or more processor cores that operate at the same frequency but independently of each other.

Multimedia Messaging Service (MMS)   A technology that allows users to send text messages with photos, videos, or other multimedia content attached.

multimeter   A device used to measure the various attributes of an electrical circuit. The most common measurements are voltage, current, and resistance.

multiple input/multiple output (MIMO)   A feature of the IEEE 802.11n standard for wireless networking whereby two or more antennas are used at both ends of transmissions to improve performance.

multiplier   The factor by which the bus speed or frequency is multiplied to get the CPU clock speed.

multiprocessing   Two processing units installed within a single processor and first used by the Pentium processor.

multiprocessor platform   A system that contains more than one processor. The motherboard has more than one processor socket and the processors must be rated to work in this multiprocessor environment.

multitouch   A touch screen on a computer or mobile device that can handle a two-finger pinch.

name resolution   The process of associating a character-based name with an IP address.

NAND flash memory   The type of memory used in SSD drives. NAND stands for "Not AND" and refers to the logic used when storing a one or zero in the grid of rows and columns on the memory chip.

NAT (Network Address Translation)   A TCP/IP protocol that substitutes the public IP address of the router for the private IP address of the other computer when these computers need to communicate on the Internet.

native resolution   The actual (and fixed) number of pixels built into an LCD monitor. For the clearest display, always set the resolution to the native resolution.

navigation pane   In Windows Explorer or the Computer window, pane on the left side of the window where devices, drives, and folders are listed. Double-click an item to drill down into the item.

nbtstat (NetBIOS over TCP/IP Statistics)   A TCP/IP command that is used to display statistics about the NetBT protocol.

neighbors   In TCP/IP version 6, two or more nodes on the same link.

netbook   A low-end, inexpensive laptop with a small 9 or 10 inch screen and no optical drive that is generally used for Web browsing, email, and word processing by users on the go.

netstat (network statistics)   A TCP/IP command that gives statistics about TCP/IP and network activity and includes several parameters.

net use   A TCP/IP command that connects or disconnects a computer from a shared resource or can display information about connections.

net user   A TCP/IP command used to manage user accounts.

network adapter   *See* network interface card (NIC).

Network and Sharing Center   The primary Windows 7/Vista utility used to manage network connections.

Network Attached Storage (NAS)   A device that provides multiple bays for hard drives and an Ethernet port to connect to the network. The device is likely to support RAID.

network drive map   Mounting a drive to a computer, such as drive E, that is actually hard drive space on another host computer on the network.

network interface card (NIC)   An expansion card that plugs into a computer's motherboard and provides a port on the back of the card to connect a computer to a network. *Also called* a network adapter.

network multimeter   A multifunctional tool that can test network connections, cables, ports, and network adapters.

network port   A port used by a network cable to connect to the wired network.

network printer   A printer that any user on the network can access, through its own network card and connection to the network, through a connection to a stand-alone print server, or through a connection to a computer as a local printer, which is shared on the network.

North Bridge   That portion of the chipset hub that connects faster I/O buses (for example, the video bus) to the system bus. *Compare to* South Bridge.

notebook   A portable computer that is designed for travel and mobility. Notebooks use the same technology as desktop PCs, with modifications for conserving voltage, taking up less space, and operating while on the move. *Also called* a laptop computer.

notification area   An area to the right of the taskbar that holds the icons for running services; these services include the volume control and network connectivity. *Also called* the system tray or systray.

Nslookup (name space lookup)   A TCP/IP command that lets you read information from the Internet name space by requesting information about domain name resolutions from the DNS server's zone data.

NTFS permissions   A method to share a folder or file over a network and can apply to local users and network users. The folder or file must be on an NTFS volume. *Compare to* share permissions.

Ntldr   The Windows XP program responsible for starting Windows XP, called the boot loader program.

octet   In TCP/IP version 4, each of the four numbers that are separated by periods and make up a 32-bit IP address. One octet is 8 bits.

Offline Files   A utility that allows users to work with files in the folder when the computer is not connected to the corporate network. When the computer is later connected, Windows syncs up the offline files and folders with those on the network.

ohm (Ω)   The standard unit of measurement for electrical resistance. Resistors are rated in ohms.

OLED (Organic Light-emitting Diode) monitor   A type of monitor that uses a thin LED layer or film between two grids of electrodes and does not use backlighting.

on-board ports   Ports that are directly on the motherboard, such as a built-in keyboard port or on-board network port.

open source   Operating system or application where the source code is available for free and anyone can modify and redistribute the source code.

operating system (OS)   Software that controls a computer. An OS controls how system resources are used and provides a user interface, a way of managing hardware and software, and ways to work with files.

original equipment manufacturer (OEM) license   A software license that only manufacturers or builders of personal computers can purchase to be installed only on a computer intended for sale.

OS boot record   The first sector in the active partition. Windows XP uses this sector during the boot, but Windows 7/Vista does not.

overclocking   Running a processor at a higher frequency than is recommended by the manufacturer, which can result in an unstable system, but is a popular thing to do when a computer is used for gaming.

packet   A segment of data sent over a network as a unit that contains the data and information at the beginning of the segment that identifies the type of data, where it came from, and where it's going. *Also called* data packet or datagram.

pagefile.sys   The Windows swap file that is used to hold the virtual memory that is used to enhance physical memory installed in a system.

pairing   The process of two Bluetooth devices establishing connectivity.

PAN (personal area network)   A small network consisting of personal devices at close range; the devices can include cell phones, PDAs, and notebook computers.

parallel ATA (PATA)   An older IDE cabling method that uses a 40-pin flat or round data cable or an 80-conductor cable and a 40-pin IDE connector. *See also* serial ATA.

parallel port   An outdated female 25-pin port on a computer that transmitted data in parallel, 8 bits at a time, and was usually used with a printer. The names for parallel ports are LPT1 and LPT2. Parallel ports have been replaced by USB ports.

parity   An error-checking scheme in which a ninth, or "parity," bit is added. The value of the parity bit is set to either 0 or 1 to provide an even number of ones for even parity and an odd number of ones for odd parity.

parity error   An error that occurs when the number of 1s in the byte is not in agreement with the expected number.

partition   A division of a hard drive that can hold a volume. Using the MBR system, Windows can support up to four partitions on one hard drive.

partition table   A table at the beginning of the hard drive that contains information about each partition on the drive. The partition table is contained in the Master Boot Record.

patch   A minor update to software that corrects an error, adds a feature, or addresses security issues. *Also called* an update. *Compare to* service pack.

patch cable   *See* straight-through cable.

patch panel   A device that provides multiple network ports for cables that converge in one location such as an electrical closet or server room.

path   A drive and list of directories pointing to a file such as C:\Windows\System32.

PC Card   A card that uses a PC Card slot on a notebook and provides a port for peripheral devices or adds memory to the notebook. A PC Card is about the size of a credit card, but thicker.

PCI (Peripheral Component Interconnect)   A bus common to desktop computers that uses a 32-bit wide or a 64-bit data path. Several variations of PCI exist. One or more notches on a PCI slot keep the wrong PCI cards from being inserted in the PCI slot.

PCI Express (PCIe)   The latest evolution of PCI, which is not backward-compatible with earlier PCI slots and cards. PCIe slots come in several sizes, including PCIe x1, PCIe x4, PCIe x8, and PCIe x16.

PCL (Printer Control Language)   A printer language developed by Hewlett-Packard that communicates to a printer how to print a page.

PCMCIA card   Includes one or more variations of a PC Card to add memory to a notebook or provide ports for peripheral devices. For example, modem cards, network cards for wired or wireless network, sound cards, SCSI host adapters, FireWire controllers, USB controllers, flash memory adapter, TV tuner, and hard disks.

peer-to-peer (P2P)   As applied to networking, a network of computers that are all equals, or peers. Each computer has the same amount of authority, and each can act as a server to the other computers.

Performance Information and Tools   A Windows 7 utility that provides information to evaluate the performance of a system and to adjust Windows for best performance.

Performance Monitor   A Microsoft Management Console snap-in that can track activity by hardware and software to measure performance.

permission propagation   When Windows passes permissions from parent objects to child objects.

permissions   Varying degrees of access assigned to a folder or file and given to a user account or user group. Access can include full control, write, delete, or read-only.

phishing   (1) A type of identity theft where a person is baited into giving personal data to a web site that appears to be the web site of a reputable company with which the person has an account. (2) Sending an email message with the intent of getting the user to reveal private information that can be used for identify theft.

physical address   *See* MAC (Media Access Control) address.

physical topology   The physical arrangement of connections between computers.

pickup roller   A part in a printer that pushes forward a sheet of paper from the paper tray.

Ping (packet internet groper)   A TCP/IP command used to troubleshoot network connections. It verifies that the host can communicate with another host on the network.

pin grid array (PGA)   A socket that has holes aligned in uniform rows around the socket to receive the pins on the bottom of the processor.

PIO (Programmed Input/Output) transfer mode   A transfer mode that uses the CPU to transfer data from the hard drive to memory. PIO mode is slower than DMA mode.

pixel   A small spot on a fine horizontal scan line. Pixels are illuminated to create an image on the monitor.

plasma monitor   A type of monitor that provides high contrast with better color than LCD monitors. They work by discharging xenon and neon plasma on flat glass and don't contain mercury.

Platform as a Service (PaaS)   A cloud computing service that provides the hardware and the operating system and is responsible for updating and maintaining both.

pointing stick   *See* TrackPoint.

POP or POP3 (Post Office Protocol, version 3)   The protocol that an email server and client use when the client requests the downloading of email messages. The most recent version is POP version 3. *Compare to* IMAP3.

port   (1) As applied to services running on a computer, a number assigned to a process on a computer so that the process can be found by TCP/IP. *Also called* a port address or port number. (2) A physical connector, usually at the back of a computer, that allows a cable from a peripheral device, such as a printer, mouse, or modem, to be attached.

port address   *See* port.

port filtering   To open or close certain ports so they can or cannot be used. A firewall uses port filtering to protect a network from unwanted communication.

port forwarding   A technique that allows a computer on the Internet to reach a computer on a private network using a certain port when the private network is protected by a firewall device using NAT. *Also called* tunneling.

port number   *See* port.

port replicator   A device designed to connect to a notebook computer in order to make it easy to connect the notebook to peripheral devices such as a full-sized monitor, keyboard, and AC power adapter.

port triggering   When a firewall opens a port because a computer behind the firewall initiates communication on another port.

POST (power-on self test)   A self-diagnostic program used to perform a simple test of the CPU, RAM, and various I/O devices. The POST is performed by startup BIOS when the computer is first turned on, and is stored in ROM-BIOS.

POST card   A test card installed in a slot on the motherboard that is used to help discover and report computer errors and conflicts that occur when a computer is first turned on and before the operating system is launched.

POST diagnostic card   *See* POST card.

PostScript   A printer language developed by Adobe Systems that tells a printer how to print a page.

Power over Ethernet (PoE)   A feature that might be available on high-end wired network adapters that allows power to be transmitted over Ethernet cable to remote devices.

power supply   A box inside the computer case that receives power and converts it to provide power to the motherboard and other installed devices. Power supplies provide 3.3, 5, and 12 volts DC. *Also called* a power supply unit (PSU).

power supply tester   A device that can test the output of each power cord coming from a power supply.

power supply unit (PSU)   *See* power supply.

Power Users Group   A type of user account group. Accounts assigned to this group can read from and write to parts of the system other than their own user profile folders, install applications, and perform limited administrative tasks.

Preboot eXecution Environment (PCE)   Programming contained in the BIOS code on the motherboard used to start up the computer and search for a server on the network to provide a bootable operating system.

presentation virtualization   Using this virtualization, a remote application running on a server is controlled by a local computer.

primary partition   A hard disk partition that can contain only one volume. In Windows, a hard drive can have up to three primary partitions. *Compare to* extended partition.

principle of least privilege   An approach where computer users are classified and the rights assigned are the minimum rights required to do their job.

print head   The part in an inkjet or impact printer that moves across the paper, creating one line of the image with each pass.

Print Management   A utility located in the Administrative Tool group in Windows 7/Vista professional and business editions that allows you to monitor and manage printer queues for all printers on the network.

print server   Hardware or software that manages the print jobs sent to one or more printers on a network.

print spooler   A queue for print jobs.

printer maintenance kit   A kit purchased from a printer manufacturer that contains the parts, tools, and instructions needed to perform routine printer maintenance.

printer self-test page   A test page that prints by using controls at the printer. The page allows you to eliminate a printer as a problem and usually prints test, graphics, and information about the printer such as the printer resolution and how much memory is installed.

Printers and Faxes window   A window used in XP to manage and uninstall printers.

Printers window   A window used in Windows Vista to manage and uninstall printers.

printui   The Printer User Interface command used by administrators to manage printers on the local and remote computers.

privacy filter   A device that fits over a monitor screen to prevent other people from viewing the monitor from a wide angle.

private IP address   In TCP/IP version 4, an IP address that is used on a private network that is isolated from the Internet.

Problem Reports and Solutions   A Windows utility that provides a list of current and past problems associated with a computer.

process   A program that is running under the authority of the shell, together with the system resources assigned to it.

processor   *See* central processing unit (CPU).

processor frequency   The frequency at which the CPU operates. Usually expressed in GHz.

product activation   The process that Microsoft uses to prevent software piracy. For example, once Windows 7 is activated for a particular computer, it cannot be legally installed on another computer.

Programs and Features   A window within the Control Panel that lists the programs installed on a computer where you can uninstall, change, or repair programs.

projector   Used to shine a light that projects a transparent image onto a large screen and is often used in classrooms or with other large groups.

protocol   A set of rules and standards that two entities use for communication. For example, TCP/IP is a suite or group of protocols that define many types of communication on a TCP/IP network.

proxy server   A computer that intercepts requests that a browser makes of a server and serves up the request from a cache it maintains in order to improve performance on a large network.

PS/2 port   A round 6-pin port used by a keyboard or mouse.

public IP address   In TCP/IP version 4, an IP address available to the Internet.

pull automation   A Windows installation that requires the local user to start the process. *Compare to* push automation.

punchdown tool   A tool used to punch individual wires from a network cable into their slots to terminate the cable.

push automation   An installation where a server automatically pushes the installation to a computer when a user is not likely to be sitting at the computer. *Compare to* pull automation.

quad channels   Technology used by a motherboard and DIMMs that allows the memory controller to access four DIMMS at the same time.

Quality of Service (QoS)   A feature used by Windows and network hardware devices to improve network performance for an application that is not getting the best network performance. VoIP requires a high QoS.

quarantined computer   A computer that is suspected of infection and is not allowed to use the network, is put on a different network dedicated to quarantine computers, or is allowed to access only certain network resources.

quick format   A format procedure, used to format a hard drive volume or other drive, that doesn't scan the volume or drive for bad sectors; use it only when a drive has been previously formatted and is in healthy condition.

QuickPath Interconnect   The technology used first by the Intel X58 chipset for communication between the chipset and the processor using 16 serial lanes similar to that used by PCI Express. Replaced the 64-bit wide Front Side Bus used by previous chipsets.

radio frequency (RF)   The frequency of waves generated by a radio signal, which are electromagnetic frequencies above audio and below light. For example, Wi-Fi 802.11n transmits using a radio frequency of 5 GHz and 2.4 GHz.

RAID (redundant array of inexpensive disks or redundant array of independent disks)   Several methods of configuring multiple hard drives to store data to increase logical volume size and improve performance, or to ensure that if one hard drive fails, the data is still available from another hard drive.

RAID 0   Using space from two or more physical disks to increase the disk space available for a single volume. Performance improves because data is written evenly across all disks. Windows calls RAID 0 a striped volume. *Also called* striping.

RAID 1   A type of drive imaging that duplicates data on one drive to another drive and is used for fault tolerance. Windows calls RAID 1 a mirrored volume.

RAID 1+0   *See* RAID 10.

RAID 10   A combination of RAID 1 and RAID 0 that requires at least four disks to work as an array of drives and provides the best redundancy and performance.

RAID 5   A technique that stripes data across three or more drives and uses parity checking, so that if one drive fails, the other drives can re-create the data stored on the failed drive. RAID 5 drives increase performance and provide fault tolerance. Windows calls these drives RAID-5 volumes.

RAID-5 volume   *See* RAID 5.

RAM (random access memory)   Memory modules on the motherboard containing microchips used to temporarily hold data and programs while the CPU processes both. Information in RAM is lost when the PC is turned off.

Rambus   *See* Direct Rambus DRAM.

RAS Latency   A method of measuring access timing to memory, which is the number of clock cycles required to write or read a row of data off a memory module. RAS stands for Row Access Strobe. *Compare to* CAS Latency.

raster line   A row in the bitmap that represents a page that has been rendered and is ready for printing.

raw data   Data sent to a printer without any formatting or processing.

RDRAM   *See* Direct Rambus DRAM.

read/write head   A sealed, magnetic coil device that moves across the surface of a disk in a hard disk drive (HDD) either reading data from or writing data to the disk.

ReadyBoost   A Windows 7/Vista utility that uses a flash drive or secure digital (SD) memory card to boost hard drive performance.

ReadyDrive   The Windows 7/Vista technology that supports a hybrid hard drive.

Recovery Console   In Windows XP, a lean bootable command-line operating system on the Windows XP setup CD that can be used to troubleshoot an XP boot problem.

recovery image   A backup of the Windows volume.

rectifier   An electrical device that converts AC to DC. A computer power supply contains a rectifier.

refresh rate   As applied to monitors, the number of times in one second the monitor can fill the screen with lines from top to bottom. *Also called* vertical scan rate.

registry   A database that Windows uses to store hardware and software configuration information, user preferences, and setup information.

Registry Editor (Regedit.exe)   The Windows utility used to edit the Windows registry.

Regsvr32   A utility that is used to register component services used by an installed application.

Reliability and Performance Monitor   A Vista utility (Perfmon.msc) that collects, records, and displays events, called Data Collector Sets, that can help track the performance and reliability of Windows. In Windows XP, this monitor is called the Performance Monitor or the System Monitor.

Reliability Monitor A Windows 7 utility that provides information about problems and errors that happen over time.

Remote Admin Gives an administrator access to the Windows folder on a remote computer.

RemoteApp and Desktop Connection A tool used to install a remote application on a client computer using either an application proxy file or a URL to the server application.

remote application An application that is installed and executed on a server and is presented to a user working at a client computer.

Remote Desktop A Windows tool that gives a user access to his or her Windows desktop from anywhere on the Internet.

Remote Desktop Protocol (RDP) The protocol used by Windows Remote Desktop and Remote Assistance utilities to connect to and control a remote computer.

Remote Desktop Services Software included in Windows 2008 and later that uses the RDP protocol to present a remote application and its data to the client. Prior to Windows 2008, the software was called Terminal Services.

remote network installation An automated installation where no user intervention is required.

remote wipe Remotely erases all contacts, email, photos, and other data from a device to protect your privacy.

resistive touch screen A touch screen that has two sheets of glass covered with a resistive coating. When pressure is placed on the top glass, the glass bends and makes contact with the lower glass. *Compare to* capacitive touch screen.

resolution The number of pixels on a monitor screen that are addressable by software (example: 1024 × 768 pixels).

Resource Monitor A Windows tool that monitors the performance of the processor, memory, hard drive, and network.

restore point A snapshot of the Windows system, usually made before installation of new hardware or applications.

REt (Resolution Enhancement technology) The term used by Hewlett-Packard to describe the way a laser printer varies the size of the dots used to create an image. This technology partly accounts for the sharp, clear image created by a laser printer.

retinal scanning As part of the authentication process, some systems use biometric data by scanning the blood vessels on the back of the eye and is considered the most reliable of all biometric data scanning.

reverse lookup To find the host name when you know a computer's IP address. The Nslookup command can perform a reverse lookup.

RFID badge A badge worn by an employee and is used to gain entrance into a locked area of a building. A Radio Frequency Identification token transmits authentication to the system when the token gets in range of a query device.

RG-59 coaxial cable An older and thinner coaxial cable once used for cable TV.

RG-6 coaxial cable A coaxial cable used for cable TV and replaced the older and thinner RG-59 coaxial cable.

RGB port *See* composite video port.

RIMM A type of memory module developed by Rambus, Inc.

ring network A type of network where nodes form a ring.

riser card A card that plugs into a motherboard and allows for expansion cards to be mounted parallel to the motherboard. Expansion cards are plugged into slots on the riser card.

RJ-11 *See* RJ-11 jack.

RJ-11 jack A phone line connection or port found on modems, telephones, and house phone outlets.

RJ-45 A port that looks like a large phone jack and is used by twisted-pair cable to connect to a wired network adapter or other hardware device. RJ stands for registered jack.

root directory The main directory, at the top of the top-down hierarchical structure of subdirectories, created when a hard drive or disk is first formatted. In Linux, it's indicated by a forward slash. In DOS and Windows, it's indicated by a backward slash.

rooting The process of obtaining root or administrator privileges to an Android device which then gives you complete access to the entire file system and all commands and features.

rootkit A type of malicious software that loads itself before the OS boot is complete and can hijack internal Windows components so that it masks information Windows provides to user-mode utilities such as Windows Explorer or Task Manager.

router A device that manages traffic between two or more networks and can help find the best path for traffic to get from one network to another.

RSA tokens A type of smart card that contains authentication information.

S1 state   On the BIOS power screen, one of the five S states used by ACPI power-saving mode to indicate different levels of power-savings functions. In the S1 state, the hard drive and monitor are turned off and everything else runs normally.

S2 state   On the BIOS power screen, one of the five S states used by ACPI power-saving mode to indicate different levels of power-savings functions. In S2 state, the hard drive and monitor are turned off and everything else runs normally. In addition, the processor is also turned off.

S3 state   On the BIOS power screen, one of the five S states used by ACPI power-saving mode to indicate different levels of power-savings functions. In S3 state, everything is shut down except RAM and enough of the system to respond to a wake-up. S3 is sleep mode.

S4 state   On the BIOS power screen, one of the five S states used by ACPI power-saving mode to indicate different levels of power-savings functions. In S4 state, everything in RAM is copied to a file on the hard drive and the system is shut down. When the system is turned on, the file is used to restore the system to its state before shut down. S4 is hibernation.

S5 state   On the BIOS power screen, one of the five S states used by ACPI power-saving mode to indicate different levels of power-savings functions. S5 state is the power off state after a normal shutdown.

sags   *See* brownouts.

SATA power connector   A 15-pin flat power connector that provides power to SATA drives.

SC (subscriber connector or standard connector) connector   A type of connector used by fiber-optic cables and can be used with either single-mode or multimode fiber-optic cables.

SCSI (Small Computer System Interface)   A fast interface between a host adapter and the CPU that can daisy chain as many as 7 or 15 devices on a single bus.

SCSI host adapter card   A card that manages the SCSI bus and serves as the gateway to the system bus. *Also called* the host adapter.

SCSI ID   A number from 0 to 15 assigned to each SCSI device attached to the daisy chain.

scanstate   A command used by the User State Migration Tool (USMT) to copy user settings and data from an old computer to a server or removable media. *Also see* loadstate.

screen orientation   The layout of the screen that is either portrait or landscape.

screen resolution   The number of dots or pixels on the monitor screen expressed as two numbers such as 1680×1050.

SDRAM II   *See* Double Data Rate SDRAM.

secondary logon   Using administrative privileges to perform an operation when you are not logged on with an account that has these privileges.

sector   On a hard disk drive or SSD, the smallest unit of bytes addressable by the operating system and BIOS. On hard disk drives, one sector equals 512 bytes; SSD drives might use larger sectors.

Secure Digital (SD) card   A type of memory card used in digital cameras, tablets, cell phones, MP3 players, digital camcorders, and other portable devices. The three standards used by SD cards are 1.x (regular SD), 2.x (SD High Capacity or SDHC), and 3.x (SD eXtended Capacity or SDXC).

Secure FTP (SFTP)   A TCP/IP protocol used to transfer files from an FTP server to an FTP client using encryption.

Secure Shell (SSH)   A protocol that is used to pass login information to a remote computer and control that computer over a network using encryption.

Security Center   A center in Vista where you can confirm Windows Firewall, Windows Update, anti-malware settings, including that of Windows Defender, and other security settings.

self-grounding   A method to safeguard against ESD that involves touching the computer case or power supply before touching a component in the computer case.

separation pad   A printer part that keeps more than one sheet of paper from moving forward.

sequential access   A method of data access used by tape drives, whereby data is written or read sequentially from the beginning to the end of the tape or until the desired data is found.

serial ATA (SATA)   An ATAPI interface standard that uses a narrower and more reliable cable than the 80-conductor cable and is easier to configure than PATA systems. *See also* parallel ATA.

serial port   A male 9-pin or 25-pin port on a computer system used by slower I/O devices such as a mouse or modem. Data travels serially, one bit at a time, through the port. Serial ports are sometimes configured as COM1, COM2, COM3, or COM4.

Server Message Block (SMB)   A protocol used by Windows to share files and printers on a network.

Service Set Identifier (SSID) The name of a wireless network.

server-side virtualization Using this virtualization, a server provides a virtual desktop or application for users on multiple client machines.

service A program that runs in the background to support or serve Windows or an application.

service pack A collection of several patches or updates that is installed as a single update to an OS or application.

Services console A console used by Windows to stop, start, and manage background services used by Windows and applications.

Service Set Identifier (SSID) The name of the access point for a wireless network.

setup BIOS Used to change motherboard settings. For example, you can use it to enable or disable a device on the motherboard, change the date and time that is later passed to the OS, and select the order of boot devices for startup BIOS to search when looking for an operating system to load.

shadow copy A copy of open files made so that open files are included in a backup.

share permissions A method to share a folder (not individual files) to remote users on the network, including assigning varying degrees of access to specific user accounts and user groups. Does not apply to local shares and can be used on an NTFS or FAT volume. *Compare to* NTFS permissions.

sheet battery A secondary battery that fits on the bottom of a notebook to provide additional battery charge time.

shell The portion of an OS that relates to the user and to applications.

shielded twisted pair (STP) cable A cable that is made of one or more twisted pairs of wires and is surrounded by a metal shield.

Short Message Service (SMS) A technology that allows users to send a test message using a smartphone.

shoulder surfing Where other people secretly peek at your monitor screen as you work to gain valuable information.

sidebar Located on the right side of the Vista desktop and displays Vista gadgets.

SIM (Subscriber Identity Module) card A small flash memory card that contains all the information a device needs to connect to a cellular network, including a password and other authentication information needed to access the network, encryption standards used, and the services that a subscription includes.

SIMM (single inline memory module) An outdated miniature circuit board used to hold RAM. SIMMs held 8, 16, 32, or 64 MB on a single module. SIMMs have been replaced by DIMMs.

simple file sharing A Windows XP technique to share folders or files with remote network users where you have no control over who has access to the shared folder or file.

Simple Network Management Protocol (SNMP) A TCP/IP protocol used to monitor network traffic.

simple volume A type of volume used on a single hard drive. *Compare to* dynamic volume.

single channel The memory controller on a motherboard that can access only one DIMM at a time. *Compare to* dual channel and triple channel.

single-sided A DIMM that has memory chips installed on one side of the module.

site license A license that allows a company to install multiple copies of software, or to allow multiple employees to execute the software from a file server.

slack Wasted space on a hard drive caused by not using all available space at the end of a cluster.

sleep mode A power-saving state for a computer used to save power when not using the computer. *Also see* S3 state.

sleep timers The number of minutes of inactivity before a computer goes into a power-saving state such as sleep mode.

S.M.A.R.T. (Self-Monitoring Analysis and Reporting Technology) A system BIOS and hard drive feature that monitors hard drive performance, disk spin up time, temperature, distance between the head and the disk, and other mechanical activities of the drive in order to predict when the drive is likely to fail.

smart card Any small device that contains authentication information that can be keyed into a logon window or read by a reader to authenticate a user on a network.

smart card reader A device that can read a smart card used to authenticate a person onto a network.

smartphone Primarily a cell phone and includes abilities to send text messages, text messages with photos, videos, or other multimedia content, surf the web, manage email, play games, take photos and videos, and download and use small apps.

SMTP (Simple Mail Transfer Protocol) A TCP/IP protocol used by email clients to send email messages to an email server and on to the recipient's email server. *Also see* POP and IMAP.

SMTP AUTH (SMTP Authentication)   An improved version of SMTP and used to authenticate a user to an email server when the email client first tries to connect to the email server to send email. The protocol is based on the Simple Authentication and Security Layer (SASL) protocol.

snap-ins   A Windows utility that can be installed in a console window by Microsoft Management Console.

social engineering   The practice of tricking people into giving out private information or allowing unsafe programs into the network or computer.

SO-DIMM (small outline DIMM)   A type of memory module used in notebook computers that uses DIMM technology. A DDR3 SO-DIMM has 204 pins. A DDR2 or DDR SO-DIMM has 200 pins. Older, outdated SO-DIMMs can have 72 pins or 144 pins.

soft boot   To restart a PC without turning off the power, for example, in Windows 7, by clicking Start, pointing to Shut down, and clicking Restart. *Also called* warm boot.

Software as a Service (SaaS)   A cloud computing service where the service is responsible for the hardware, the operating systems, and the applications installed.

Software Explorer   A Vista tool used to control startup programs.

software piracy   The act of making unauthorized copies of original software, which violates the Federal Copyright Act of 1976.

software RAID   Using Windows to implement RAID. The setup is done using the Disk Management utility.

solid state device (SSD)   An electronic device with no moving parts. A storage device that uses memory chips to store data instead of spinning disks (such as those used by magnetic hard drives and CD drives). Examples of solid state devices are jump drives (*also called* key drives or thumb drives), flash memory cards, and solid state disks used as hard drives in notebook computers designed for the most rugged uses. *Also called* solid state disk (SSD) or solid state drive (SSD).

solid state drive (SSD)   A hard drive that has no moving parts. *Also see* solid state device (SSD).

South Bridge   That portion of the chipset hub that connects slower I/O buses (for example, a PCI bus) to the system bus. *Compare to* North Bridge.

spacers   *See* standoffs.

spanning   Using a spanned volume to increase the size of a volume.

S/PDIF (Sony-Phillips Digital Interface) sound port   A port that connects to an external home theater audio system, providing digital audio output and the nest signal quality.

spooling   Placing print jobs in a print queue so that an application can be released from the printing process before printing is completed. Spooling is an acronym for simultaneous peripheral operations online.

spyware   Malicious software that installs itself on your computer to spy on you. It collects personal information about you that it transmits over the Internet to web-hosting sites that intend to use your personal data for harm.

staggered pin grid array (SPGA)   A feature of a CPU socket whereby the pins are staggered over the socket in order to squeeze more pins into a small space.

standard account   The Windows 7/Vista user account type that can use software and hardware and make some system changes, but cannot make changes that affect the security of the system or other users.

standard image   An image that includes Windows 7, drivers, and applications that are standard to all the computers that might use the image.

Standard Parallel Port (SPP)   An outdated parallel port that allows data to flow in only one direction and is the slowest of the three types of parallel ports. *Also called* a Centronics port. *Compare to* EPP (Enhanced Parallel Port) and ECP (Extended Capabilities Port).

standby mode   In Windows XP, standby mode is similar to Windows 7/Vista sleep mode where work is saved to memory and a trickle of power preserves that memory.

standoffs   Round plastic or metal pegs that separate the motherboard from the case, so that components on the back of the motherboard do not touch the case.

startup BIOS   Part of system BIOS that is responsible for controlling the computer when it is first turned on. Startup BIOS gives control over to the OS once it is loaded.

static IP address   A permanent IP address that is manually assigned to a computer.

static RAM (SRAM)   RAM chips that retain information without the need for refreshing, as long as the computer's power is on. They are more expensive than traditional DRAM.

ST (straight tip) connector   A type of connector used by fiber-optic cables and can be used with either single-mode or multimode fiberoptic cables.

star network   A network configuration that uses a centralized device such as a switch or hub to manage traffic on the network.

straight-through cable   A cable used to connect a computer to a switch or other network device. *Also called* a patch cable.

striped volume   A type of dynamic volume used for two or more hard drives that writes to the disks evenly rather than filling up allotted space on one and then moving on to the next. *Compare to* spanned volume.

striping   *See* RAID 0.

strong password   A password that is not easy to guess.

stylus   A device that is included with a graphics tablet that works like a pencil on the tablet.

subdirectory   A directory or folder contained in another directory or folder. *Also called* a child directory or folder.

subnet   A group of local networks when several networks are tied together in a subsystem of the larger intranet. In TCP/IP Version 6, one or more links that have the same 64 bits in the first part of the IP address (called the prefix).

subnet ID   In TCP/IP Version 6, the last block (16 bits) in the 64-bit prefix of an IP address. The subnet is identified using some or all of these 16 bits.

subnet mask   In TCP/IP Version 4, 32 bits that include a series of ones followed by zeroes. For example, 11111111.11111111.11110000.00000000, which can be written as 255.255.240.0. The ones identify the network portion of an IP address, and the zeroes identify the host portion of an IP address. The subnet mask tells Windows if a remote computer is on the same or different network. *Also see* classless subnet mask and classful subnet mask.

suspend mode   *See* sleep mode.

S-Video port   A 4-pin or 7-pin round video port that sends two signals over the cable, one for color and the other for brightness, and is used by some high-end TVs and video equipment.

switch   A device used to connect nodes on a network in a star network topology. It also segments the network to improve network performance by deciding which network segment is to receive a packet, on the basis of the packet's destination MAC address.

system BIOS   (basic input/output system) BIOS located on the motherboard that is used to control essential devices before the OS is loaded.

system board   *See* motherboard.

system bus   The bus between the CPU and memory on the motherboard. The bus frequency in documentation is called the system speed, such as 400 MHz. *Also called* the memory bus, FrontSide Bus, local bus, or host bus.

system clock   A line on a bus that is dedicated to timing the activities of components connected to it. The system clock provides a continuous pulse that other devices use to time themselves.

System Configuration Utility (Msconfig.exe)   A Windows utility that can identify what processes are launched at startup and can temporarily disable a process from loading.

System File Checker (SFC)   *See* SFC (System File Checker).

system image   The backup of the entire Windows 7 volume and can also include backups of other volumes. The backup is made using the Windows 7 Backup and Restore utility.

System Information   A Windows tool that provides details about a system, including installed hardware and software, the current system configuration, and currently running programs. The program file is Msinfo32.exe.

System Monitor   The Windows XP Performance Monitor.

system partition   The active partition of the hard drive containing the boot record and the specific files required to start the Windows launch.

System Protection   A utility that automatically backs up system files and stores them in restore points on the hard drive at regular intervals and just before you install software or hardware.

system repair disc   A disc you can create using Windows 7 that can be used to launch Windows RE.

System Restore   A Windows utility used to restore the system to a restore point.

system state data   In Windows 2000/XP, files that are necessary for a successful load of the operating system.

system tray   *See* notification area.

System window   A window that displays brief and important information about installed hardware and software and gives access to important Windows tools needed to support the system.

systray   *See* notification area.

T568A   Standards for wiring twisted-pair network cabling and RJ-45 connectors and have the green pair connected to pins 1 and 2 and the orange pair connected to pins 3 and 6.

T568B   Standards for wiring twisted-pair network cabling and RJ-45 connectors and have the orange pair using pins 1 and 2 and the green pair connected to pins 3 and 6.

tailgating   When someone who is unauthorized follows the employee through a secured entrance to a room or building.

Task Manager (Taskmgr.exe)   A Windows utility that lets you view the applications and processes running on your computer as well as information about process and memory performance, network activity, and user activity.

Task Scheduler   A Windows tool that can set a task or program to launch at a future time, including at startup.

taskbar   A bar normally located at the bottom of the Windows desktop, displaying information about open programs and providing quick access to others.

Taskkill   A command that uses the process PID to kill a process.

Tasklist   A command that returns the process identifier (PID), which is a number that identifies each running process.

TCP (Transmission Control Protocol)   The protocol in the TCP/IP suite of protocols that works at the OSI Transport layer and establishes a session or connection between parties and guarantees packet delivery.

TCP/IP (Transmission Control Protocol/Internet Protocol)   The group or suite of protocols used for almost all networks, including the Internet. Fundamentally, TCP is responsible for error checking transmissions, and IP is responsible for routing.

technical documentation   The technical reference manuals, included with software packages and hardware, that provide directions for installation, usage, and troubleshooting. The information extends beyond that given in user manuals.

Telnet   A TCP/IP protocol used by the Telnet client/server applications to allow an administrator or other user to control a computer remotely.

Teredo   In TCP/IP Version 6, a tunneling protocol named after the Teredo worm that bores holes in wood. IPv6 addresses intended to be used by this protocol always begin with the same 32-bit prefix. Teredo IP addresses begin with 2001, and the prefix is written as 2001::/32.

Terminal Services   *See* Remote Desktop Services.

terminating resistor   The resistor added at the end of a SCSI chain to dampen the voltage at the end of the chain.

thermal compound   A creamlike substance that is placed between the bottom of the cooler heatsink and the top of the processor to eliminate air pockets and to help to draw heat off the processor.

thermal paper   Special coated paper used by thermal printers.

thermal printer   A type of line printer that uses wax-based ink, which is heated by heat pins that melt the ink onto paper.

thermal transfer printer   A type of thermal printer that uses a ribbon that contains wax-based ink. The heating element melts the ribbon onto special thermal paper so that it stays glued to the paper as the feeder assembly moves the paper through the printer.

thick client   A regular desktop computer or laptop that is sometimes used as a client by a virtualization server.

thin client   A computer that has an operating system, but has little computer power and might only need to support a browser used to communicate with a virtualization server.

thread   Each process that the CPU is aware of; a single task that is part of a longer task or request from a program.

Thunderbolt   A port that transmits both video and data on the same port and cable. The port is shaped the same as the DisplayPort and is compatible with DisplayPort devices.

ticket   An entry in a call-tracking system made by whoever receives a call for help and used to track and document actions taken. The ticket stays open until the issue is resolved.

TKIP (Temporal Key Integrity Protocol)   A type of encryption protocol used by WPA to secure a wireless Wi-Fi network. *Also see* WPA (WiFi Protected Access).

tone probe   A two-part kit that is used to find cables in the walls of a building. *Also called* a toner probe.

toner probe   *See* tone probe.

toner vacuum   A vacuum cleaner designed to pick up toner used in laser printers and does not allow it to touch any conductive surface.

topology   The physical arrangement of the connections between computers in a network.

TouchFLO   A multi-touch technology developed by High Tech Computer (HTC) and widely used by mobile devices.

touchpad   A common pointing device on a notebook computer.

touch screen   An input device that uses a monitor or LCD panel as a backdrop for user options. Touch screens can be embedded in a monitor or LCD panel or installed as an add-on device over the monitor screen.

tower case   The largest type of personal computer case. Tower cases stand vertically and can be as high as two feet tall. They have more drive bays and are a good choice for computer users who anticipate making significant upgrades.

TPM (Trusted Platform Module) chip   A chip on a motherboard that holds an encryption key required at startup to access encrypted data on the hard drive. Windows 7/Vista BitLocker Encryption can use the TPM chip.

Tracert (trace route)   A TCP/IP command that enables you to resolve a connectivity problem when attempting to reach a destination host such as a web site.

traces   A wire on a circuit board that connects two components or devices.

track   One of many concentric circles on the surface of a hard disk drive or floppy disk.

TrackPoint   Similar to a touchpad, a unique and popular pointing device embedded in the keyboard of some IBM and Lenovo ThinkPad notebooks.

tractor feed   A continuous feed within an impact printer that feeds fanfold paper through the printer rather than individual sheets, making them useful for logging ongoing events or data.

transfer belt   A laser printer component that completes the transferring step in the printer.

transfer roller   A soft, black roller in a laser printer that puts a positive charge on the paper. The charge pulls the toner from the drum onto the paper.

transformer   An electrical device that changes the ratio of current to voltage. A computer power supply is basically a transformer and a rectifier.

trip hazard   Loose cables or cords in a traffic area where people can trip over them.

triple channels   When the memory controller accesses three DIMMs at the same time. DDR3 DIMMs support triple channeling.

Trojan   A type of malware that tricks you into opening it by substituting itself for a legitimate program.

TV tuner card   An adapter card that receives a TV signal and displays TV on the computer screen.

twisted-pair cabling   Cabling, such as a network cable, that uses pairs of wires twisted together to reduce crosstalk.

Type 1 hypervisor   Software to manage virtual machines that is installed before any operating system is installed.

Type 2 hypervisor   Software to manage virtual machines that is installed as an application in an operating system.

UDF (Universal Disk Format) file system   A file system for optical media used by all DVD discs and some CD-R and CD-RW discs.

UDP (User Datagram Protocol)   A connectionless TCP/IP protocol that works at the OSI Transport layer and does not require a connection to send a packet or guarantee that the packet arrives at its destination. The protocol is commonly used for broadcasting to multiple nodes on a network or the Internet. *Compare to* TCP (Transmission Control Protocol).

ultra-thin client   *See* zero client.

unattended installation   A Windows installation that is done by storing the answers to installation questions in a text file or script that Windows calls an answer file so that the answers do not have to be typed in during the installation.

unicast address   Using TCP/IP version 6, an IP address assigned to a single node on a network.

Unified Extensible Firmware Interface (UEFI)   An interface between firmware on the motherboard and the operating system and improves on legacy BIOS processes for booting, handing over the boot to the OS, and loading device drivers and applications before the OS loads.

uninterruptible power supply (UPS)   A device that raises the voltage when it drops brownouts.

unique local address (ULA)   *See* unique local unicast address.

unique local unicast address   In TCP/IP Version 6, an address used to identify a specific site within a large organization. It can work on multiple links within the same organization. The address is a hybrid between a global unicast address that works on the Internet and a link-local unicast address that works on only one link. *Also called* unique local address (ULA).

unshielded twisted pair (UTP) cable   The most popular cabling method for local networks and is the least expensive and is commonly used on LANs. The cable is made of twisted pairs of wires and is not surrounded by shielding.

upgrade paths   A qualifying OS required by Microsoft in order to perform an in-place upgrade.

USB 3.0 B-Male connector   A USB connector used by SuperSpeed USB 3.0 devices such as printers or scanners.

USB 3.0 Micro-B connector A small USB connector used by SuperSpeed USB 3.0 devices. The connectors are not compatible with regular Micro-B connectors.

USB (Universal Serial Bus) port A type of port designed to make installation and configuration of I/O devices easy, providing room for as many as 127 devices daisy-chained together.

User Account Control (UAC) dialog box A Windows 7/Vista security feature that displays a dialog box when an event requiring administrative privileges is about to happen.

User group The group of standard user accounts.

user mode In Windows, a mode that provides an interface between an application and the OS, and only has access to hardware resources through the code running in kernel mode.

user profile A collection of files and settings about a user account that enables the user's personal data, desktop settings, and other operating parameters to be retained from one session to another.

user profile namespace The group of folders and subfolders in the C:\Users folder that belong to a specific user account and contain the user profile.

User State Migration Tool (USMT) A Windows utility that helps you migrate user files and preferences from one computer to another to help a user make a smooth transition from one computer to another.

VGA (Video Graphics Adapter) port A 15-pin analog video port popular for many years.

VGA mode Standard VGA settings, which include a resolution of 640 × 480.

video capture card An adapter card that captures video input and saves it to a file on the hard drive.

video memory Memory used by the video controller. The memory might be contained on a video card or be part of system memory. When part of system memory, the memory is dedicated by Windows to video.

Virtual Desktop Infrastructure (VDI) A presentation of a virtual desktop made to a client computer by a server that is serving up a virtual machine.

virtual machine (VM) One or more logical machines created within one physical machine.

virtual machine manager (VMM) Software that creates and manages virtual machines on a server or on a local computer. *Also called* hypervisor.

virtual memory A method whereby the OS uses the hard drive as though it were RAM. *Also see* pagefile.sys.

virtual private network (VPN) A security technique that uses encrypted data packets between a private network and a computer somewhere on the Internet.

virtualization When one physical machine hosts multiple activities that are normally done on multiple machines.

virtualization server A computer that serves up virtual machines to multiple client computers and provides a virtual desktop for users on these client machines.

virtual machine (VM) One or more logical machines created within one physical machine.

virus A program that often has an incubation period, is infectious, and is intended to cause damage. A virus program might destroy data and programs or damage a disk drive's boot sector.

virus definition A set of distinguishing characteristics of a virus and used by antivirus software to identify new viruses as they get into the wild. *Also called* virus signatures.

virus encyclopedia A database about viruses that is kept on the Internet.

virus signature *See* virus definition.

VoIP (Voice over Internet Protocol) A TCP/IP protocol and an application that provides voice communication over a network. *Also called* Internet telephone.

VoIP phone A telephone that connects to a network and uses the VoIP TCP/IP protocol for voice communication over the network or the Internet.

volume A primary partition that has been assigned a drive letter and can be formatted with a file system such as NTFS. *Compare to* logical drive.

volt A measure of potential difference in an electrical circuit. A computer ATX power supply usually provides five separate voltages: +12 V, −12 V, +5 V, −5 V, and +3.3 V.

wait state A clock tick in which nothing happens, used to ensure that the microprocessor isn't getting ahead of slower components. A 0-wait state is preferable to a 1-wait state. Too many wait states can slow down a system.

Wake on LAN Configuring a computer so that it will respond to network activity when the computer is in a sleep state.

WAN (wide area network) A network or group of networks that span a large geographical area.

warm boot *See* soft boot.

watt The unit of electricity used to measure power. A typical computer may use a power supply that provides 500W.

WEP (Wired Equivalent Privacy) An encryption protocol used to secure transmissions on a Wi-Fi wireless network; however, it is no longer considered secure because the key used for encryption is static (it doesn't change).

Wi-Fi (Wireless Fidelity) The common name for standards for a local wireless network as defined by IEEE 802.11. *Also see* 802.11 a/b/g/n.

Wi-Fi Protected Setup (WPS) A method used to secure a wireless network from an outside attack and was designed to make it easier for users to connect their computers to a wireless network when a hard-to-remember SSID and security key are used.

wildcard An * or ? character used in a command line that represents a character or group of characters in a filename or extension.

Windows 7 Enterprise A Windows operating system that includes additional features over Windows 7 Professional. The major additional features include BitLocker Drive Encryption used to encrypt an entire hard drive and support for multiple languages. The edition does not include Windows DVD Maker. Multiple site licenses are available.

Windows 7 Home Basic A Windows operating system that has limited features and is available only in underdeveloped countries and can only be activated in these countries.

Windows 7 Home Premium A Windows operating system that is similar to Windows 7 Home Basic but includes additional features.

Window 7 Professional A Windows operating system that is intended for business users. You can purchase multiple site licenses (*also called* volume licensing) using this edition.

Windows 7 Starter A Windows operating system that has the most limited features and is intended to be used on netbooks or in developing nations. In the United States, it can only be obtained preinstalled by the manufacturer on a new netbook computer. Windows Starter comes only in the 32-bit version. All other editions of Windows 7 are available in either the 32-bit or 64-bit version.

Windows 7 Ultimate A Windows operating system that includes every Windows 7 feature. Multiple licenses are not available with this edition.

Windows Automated Installation Kit (AIK) The Windows AIK for Windows 7 contains a group of tools used to deploy Windows 7 in a large organization and contains the User State Migration Tool (USMT).

Windows Boot Loader (WinLoad.exe) One of two programs that manage the loading of Windows 7/Vista. The program file is stored in C:\ Windows\ System32, and it loads and starts essential Windows processes.

Windows Boot Manager (BootMgr) The Windows 7/Vista program that manages the initial startup of Windows. The BootMgr program file is stored in the C:\ root directory and has no file extension.

Windows Defender Antispyware utility included in Windows 7/Vista.

Windows Easy Transfer A Windows tool used to transfer Windows 7/Vista/XP user data and preferences to the Windows 7/Vista/XP installation on another computer.

Windows Experience Index A Windows 7/Vista feature that gives a summary index designed to measure the overall performance of a system on a scale from 1.0 to 7.9.

Windows Firewall A personal firewall that protects a computer from intrusion and is automatically configured when you set your network location in the Network and Sharing Center.

Windows Preinstallation Environment (Windows PE) A minimum operating system used to start the Windows installation.

Windows Recovery Environment (Windows RE) A lean operating system installed on the Windows 7/Vista setup DVD and also on a Windows 7 hard drive that can be used to troubleshoot problems when Windows refuses to start.

Windows Vista Business The Vista edition designed for business users and includes support for a domain, Group Policy, and Encrypted File System, and does not include consumer features such as Movie Maker.

Windows Vista Enterprise The Vista edition that expands on Windows Vista Business, adding security features such as BitLocker Encryption.

Windows Vista Home Basic The Vista edition that is designed for low-cost home systems that don't require full security and networking features. It does not include the Aero glass interface.

Windows Vista Home Premium The Vista edition that includes more features than Windows Vista Home Basic, including the Aero user interface, DVD Maker, Media Center, SideShow, and backups.

Windows Vista Starter The Vista edition with the most limited features and intended to be used in developing nations.

Windows Vista Ultimate The Vista edition that includes every Windows Vista feature. Multiple licensing is not available.

Windows XP Home Edition The XP edition that does not include Remote Desktop, multilingual capabilities, roaming profiles, and support for high-end processors.

Windows XP Media Center Edition This XP edition is an enhanced version of XP Professional that includes support for digital entertainment hardware.

Windows XP Mode A Windows XP environment installed in Windows 7 that can be used to support older applications.

Windows XP Professional The XP edition that includes Remote Desktop, roaming profiles, multilingual capabilities and enhanced security features.

Windows XP Professional x64 Edition (formally called Windows XP 64-Bit Edition) A 64-bit operating system and can support up to 128 GB of memory. (All other editions of XP are 32-bit and can support up to 4 GB of memory.)

Windows XP Tablet PC Edition The XP edition designed for notebooks and tablet PCs.

wireless access point A wireless device that creates a wireless network.

wireless access point A wireless device that is used to create and manage a wireless network.

wireless LAN (WLAN) A type of LAN that does not use wires or cables to create connections, but instead transmits data over radio or infrared waves.

wireless locator A tool that can locate a Wi-Fi hotspot and tell you the strength of the RF signal.

wireless wide area network (WWAN) A cellular network for computers and mobile devices using broadband. *Also called* a cellular network.

wire stripper A tool used when terminating a cable. The tool cuts away the plastic jacket or coating around the wires in a cable so that a connector can be installed on the end of the cable.

workgroup In Windows, a logical group of computers and users in which administration, resources, and security are distributed throughout the network, without centralized management or security.

worm An infestation designed to copy itself repeatedly to memory, on drive space, or on a network, until little memory, disk space, or network bandwidth remains.

WPA (WiFi Protected Access) A data encryption method for wireless networks that use the TKIP (Temporal Key Integrity Protocol) encryption method and the encryption keys are changed at set intervals while the wireless LAN is in use. WPA is stronger than WEP.

WPA2 (WiFi Protected Access 2) A data encryption standard compliant with the IEEE802.11i standard that uses the AES (Advanced Encryption Standard) protocol. WPA2 is currently the strongest wireless encryption standard.

x86 processor An older processor that first used the number 86 in the model number and processes 32 bits at a time.

x86-64 bit processor Hybrid processors that can process 32 bits or 64 bits.

xD-Picture Card A type of flash memory device that has a compact design and currently holds up to 8 GB of data.

XPS (XML Paper Specification) A standard introduced with Windows Vista and designed to ultimately replace GDI as the method Windows uses to render a printed page before sending it to the printer.

XPS Document Writer A Windows 7/Vista feature that creates a file with an .xps file extension. The file is similar to a .pdf file and can be viewed, edited, printed, faxed, emailed, or posted on Web sites.

zero client A client computer that does not have an operating system and merely provides an interface between the user and the server.

zero insertion force (ZIF) socket A socket that uses a small lever to apply even force when you install the processor into the socket.

zero-fill utility A hard drive utility that fills every sector on the drive with zeroes.

zero-touch, high volume deployment An installation strategy that does not require the user to start the process. Instead a server pushes the installation to a computer when a user is not likely to be sitting at it.