PC 2001 Glossary

Acronyms and Abbreviations

1V/Pa 1 Volt per Pascal

ABR available bit rate

AC alternating current

ACPI Advanced Configuration and Power Interface

ADC analog-to-digital converter

ADSL asymmetric digital subscriber line

AEC acoustic echo cancellation

AGP Accelerated Graphics Port

AMR audio modem riser

API application programming interface

APIC Advanced Programmable Interrupt Controller

APM Advanced Power Management

ARP address resolution protocol

ATA AT Attachment

ATAPI ATA Packet Interface

ATM Asynchronous Transfer Mode

ATSC Advanced Television Systems Committee

A/V audio/video

BAR base address register

BIOS basic I/O system

BIS Boot Integrity Services

blt block transfer

blting block transferring

bpp bits per pixel

bps bits per second

CAP Carrierless Amplitude Phase

CAPI COMMON ISDN-API

CBR constant bit rate

CDMA code division multiplexed access

CDPD cellular digital packet data

CD-R CD-Recordable

CD-RW CD-ReWritable

CE consumer electronics

CMTS cable modem termination system

CPU central processing unit

CRC cyclic redundancy check

CRT cathode ray tube

CSR control and status register

DAC Dual Address Cycle

DASD direct access storage devices

DAVIC Digital Audio Visual Council

dB decibel

dBSPL decibel Sound Pressure Level

DBC Device Bay Controller

DDC display data channel

DDC2B *DDC Standard, Version 2.0,* Level B

DDI device driver interface

DDK Driver Development Kit

DDMA Distributed Direct Memory Access

DIX Digital-Intel-Xerox

DLS Downloadable Sounds

DMA direct memory access

DMT discrete multitone

DOCSIS Data-Over-Cable Service Interface Specification

DRV device driver

DSL Digital Subscriber Line

DSTN Double Supertwisted Nematic

DTV digital television

DVB Digital Video Broadcast

DVD *See Glossary.*

DVI Digital Visual Interface

EAZ EndgerateAushlZiffer

EC embedded controller-based

ECC error correction code

ECP extended capabilities port

EDID Extended Display Identification Data

E-DDC Enhanced Extended Display Data Channel

E-EDID Enhanced Extended Display Identification Data

ETSI European Telecommunications Standards Institute

FAT file allocation table

FDC floppy disk drive controller

FDD floppy disk drive

FDDI Fiber Distributed Data Interface

FET field effect transistor

FIFO first in/first out

FIR Fast IR

FM frequency modulation

fps frames per second

FS full scale

FSIV full-scale input voltage

FSOV full-scale output voltage

GART Graphics Address Remapping Table

GOP group of pictures

GSM global system for mobile communications

HCI See OpenHCI

HDC hard disk drive controller

HDD hard disk drive

HDLC High-level Data Link Control

HDSL High bit-rate Digital Subscriber Line

HID Human Interface Device

HomePNA Home Phoneline Networking Alliance

HomeRF Home Radio Frequency

HRFWG HomeRF Working Group

HVD high voltage differential

Hz Hertz **ICC** International Color Consortium

ICD Installable Client Driver

ICM Image Color Management

IDE Integrated Device Electronics

IEC International Electrotechnical Commission

IEEE Institute for Electrical and Electronics Engineers, Inc.

IETF Internet Engineering Task Force

IFSC Information Field Size integrated circuit Card

IFSD Information Field Size Device

ILMI Interim Local Management Interface

INF information file

INI initialization file

I/O input/output

IOAPIC Input/Output (subsystem) APIC

IP Internet Protocol

IR infrared

IrDA Infrared Data Association

IRP I/O request packet

IRQ interrupt request

ISA Industry Standard Architecture

ISDN Integrated Services Digital Network

ISO International Standards Organization

ISP Internet service provider

ITU International Telecommunication Union

ITU-T International Telecommunication Union – Telecommunication Standardization Sector

KB kilobyte

Kbps kilobits per second

kHz kilohertz

LAN local area network

LAPM Link Access Protocol Modem

LBA logical block addressing

LCD liquid crystal display

LPD Line Printer Daemon

LPR Line Printer Remote

LPT line printer

LSB least significant bit

LUN logical unit number

LVD low voltage differential

MAC Media Access Control

MB megabyte

Mbps megabits per second

MCD Mini-Client Driver

MCNS Multimedia Cable Network System

MDK Modem Developers Kit

MFP multifunction printer

MHz megahertz

MIDI Musical Instrument Digital Interface

MMC-2 Multimedia Command Set 2

MPEG Moving Picture Expert Group

ms millisecond

MSB most significant bit

MSDN Microsoft Developer Network

MV millivolt

NABTS North American Basic Teletext

NDIS Network Driver Interface Specification

NMI Nonmaskable Interrupt

NTFS Windows NT file system

NTSC National Television System Committee

OAM operation and maintenance

OEM original equipment manufacturer

OOBE out-of-box experience

OpenHCI Open Host Controller Interface

PAL Phase Alternation Line

PAN personal area network

PC personal computer

PCAQM Personal Computer Audio Quality Measurements

PCI Peripheral Component Interconnect

PCIC PC Card I/O cards

PCI-X a proposed extension to PCI

PCMCIA Personal Computer Memory Card International Association

PCR peak cell rate

PES Packetized Elementary Stream

PHY Physical Layer

PIC programmable interrupt controller

PIMA Photographic and Imaging Manufacturers Association

PIN Personal Identification Number

PIO programmed I/O

PIT programmable interrupt timer

PME power management event (PME# assertion)

POST power-on self-test

POTS plain old telephone service

PPP point-to-point protocol

PSTN Public Switched Telephone Network

PTP Picture Transfer Protocol

PTT Post, Telephone, and Telegraph

PXE Preboot Execution Environment

QAM Quadrature Amplitude Modulation

QOS quality of service

RADSL rate adaptive digital subscriber line

RAID redundant array of inexpensive disks

RAM random-access memory

RAMDAC RAM digital-to-analog converter

RBC reduced block command

RF radio frequency

RFC request for comments

RGB red-green-blue

RLI remote lockout interface

RSVP Resource Reservation Setup Protocol

SBC SCSI-3 block commands

SCAM SCSI Configured AutoMagically

SCSI small computer system interface

SDID Subsystem Device ID

SDK Software Development Kit

SDP Service Discovery Protocol

SFF Small Form Factor

SID Subsystem ID

SIG Special Interest Group

SIR Serial IR

SMBIOS system management BIOS

SMBus System Management Bus

SMS short messaging services

SPI SCSI Parallel Interface

SPID service profile ID

SRC sample rate converter

sRGB standard red-green-blue

SVID Subsystem Vendor ID

SWAP Shared Wireless Access Protocol

TAPI Telephony Application Program Interface

TCP/IP Transmission Control Protocol/ Internet Protocol

TDD Telephone Device for the Deaf

TDMA time division multiplexed access

TERMPWR terminator power

THD+N total harmonic distortion

UART Universal Asynchronous Receiver/Transmitter

UBR unspecified bit rate

UDF Universal Disk Format

UID Unique ID

Unimodem universal modem driver

USB Universal Serial Bus

UUID universal unique ID

V volts

VBE VESA BIOS Extension

VBI vertical blanking interval

VBR variable bit rate

VC virtual channel

VCI virtual channel ID

VDC volts direct current

VESA Video Electronics Standards Association

VFIR Very Fast IR

VGA video graphics array

VPI virtual path ID

VRMS volts root-mean-square

VxD virtual device driver

WAN wide area network

WDM Windows Driver Model

WFM Wired for Management initiative

WHIIG Windows Hardware Instrumentation Implementation Guidelines

WHQL Windows Hardware Quality Laboratory

WIA Windows Image Acquisition

WMDM Windows Media Device Manager

WMI Windows Management Instrumentation

Glossary

A

AC-3 An audio standard developed by Dolby Laboratories for delivering 5.1 audio. This system compresses six channels of digital audio into 384 Kbps versus 4 Mb/s uncompressed.

ACPI Advanced Configuration and Power Interface. A specification that defines a new interface to the system board. This interface enables the operating system to implement operating system–directed power management and system configuration. ACPI allows system manufacturers to build systems consistent with the OnNow design initiative for instantly available PCs.

ACPI hardware Computer hardware with the features necessary to support operating system power management and with the interfaces to those features described using the Description Tables as specified in the ACPI specification.

adapter *See* device.

add-on devices Devices that are traditionally added to the base PC system to increase functionality, such as audio, networking, graphics, SCSI controller, and so on. Add-on devices fall into two categories: devices built onto the system board, and devices on expansion cards added to the system through a system-board connector such as PCI.

ADSL Asymmetric Digital Subscriber Line. A method for moving data over regular phone lines. An ADSL circuit is much faster than a regular phone connection, even though the wires coming into the subscriber's premises are the same (copper) as used for regular phone service.

Advanced Power Management A legacy software interface (defined by Microsoft and Intel) between hardware-specific power management software (such as that located in a system BIOS) and an operating system power management driver.

analog A method of signal representation by an infinitely smooth universe of numeric values. Measurements that are characterized as analog include readings of voltage and current. *Compare with* digital.

analog video A video signal that represents an infinite number of smooth gradations between given video levels. *Compare with* digital video.

API Application programming interface. A set of routines that an applications program uses to request and carry out lower-level services performed by a computer operating system.

architecture A general term referring to the structure of all or part of a computer system. Also refers to the design of system software, such as the operating system, as well as to the combination of hardware and basic software that links machines on a computer network.

ATA AT Attachment. A compatible register set, and a 40-pin connector and its associated signals. More commonly known as IDE.

ATAPI ATA Packet Interface. A hardware and software specification that documents the interface between a host computer and the CD-ROM drives using the ATA bus.

ATM Asynchronous transfer mode. A transmission protocol that segments user traffic into small, fixed-size units called cells that are transmitted to their destination, where they are reassembled into the original traffic. During transmission, cells from different users may be intermixed asynchronously to maximize utilization of network resources.

B

BIOS Basic I/O system. A set of routines that works closely with the hardware to support the transfer of information between elements of the system, such as memory, disks, and the monitor. Although critical to performance, the BIOS is usually invisible to the end user; however, programmers can access it.

C

CD-ROM Compact disc read-only memory. A 4.75-inch laser-encoded optical memory storage medium (developed by NV Philips and Sony Corporation) with the same constant linear velocity (CLV) spiral format as compact audio discs and some video discs. CD-ROMs can hold about 550 MB of data.

class For hardware, the manner in which devices and buses are grouped for purposes of installing and managing device drivers and allocating resources. The hardware tree is organized by device class.

class driver A driver that provides system-required, hardware-independent support for a given class of physical devices. Such a driver communicates with a corresponding hardware-dependent port driver, using a

set of system-defined device control requests, possibly with additional driver-defined device control requests. Under WDM, the class driver creates a device object to represent each adapter registered by minidrivers. The class driver is responsible for multiprocessor and interrupt synchronization.

codec Coder-decoder. A filter that manipulates data in some form, usually by compressing or decompressing the data stream.

COM (1) Component Object Model; the core of OLE (object linking and embedding). Defines how OLE objects and their clients interact within processes or across process boundaries. (2) Legacy serial port.

configuration manager The Windows Plug and Play system component that drives the process of locating devices, setting up their nodes in the hardware tree, and running the resource allocation process. Each of the three phases of configuration management—boot time, real mode, and protected mode—have their own configuration managers.

control method A definition of how an ACPI-compatible operating system can perform a simple hardware task. For example, the operating system invokes control methods to read the temperature of a thermal zone. Control methods are written in an encoded language called AML (ACPI Machine Language).

CPU Central processing unit. A computational and control unit of a computer; the device that interprets and executes instructions. By definition, the CPU functions as the "brain" of the computer.

D

DDC Display data channel. The Plug and Play baseline for monitors. The communications channel between a monitor and the display adapter to which it is connected. This channel provides a method for the monitor to convey its identity to the display adapter.

device Any circuit that performs a specific function, such as a parallel port.

Device Bay An industry specification that defines a mechanism for both peripheral devices and system bays. Allows adding and upgrading PC peripheral devices without opening the chassis.

device ID A unique ASCII string for a device created by enumerators to identify a hardware device and used to cross-reference data about the device stored in the registry. Distinguishes each logical device and bus from all others on the system.

digital A method of signal representation by a set of discrete numerical values, as opposed to a continuously fluctuating current or voltage. *Compare with* analog.

digital video A video signal represented by computer-readable binary numbers that describe a finite set of colors and luminance levels. *Compare with* analog video.

DLL Dynamic link library. API routines that user-mode applications access through ordinary procedure calls. The code for the API routine is not included in the user's executable image. Instead, the operating system automatically points the executable image to the DLL procedures at run time.

DMA Direct memory access. A method of transferring data between peripheral and host memory without processor intervention. The system board uses a DMA controller to handle a fixed number of channels, each of which can be used by only one device at a time.

docking station The base computer unit into which a user can insert a portable computer, expanding it to a desktop equivalent. A typical docking station provides drive bays, expansion slots, all the ports on an equivalent desktop computer, and AC power.

driver Kernel-mode code used either to control or emulate a hardware device.

DTV Digital television. DTV standards allow standard resolution mode—with about twice the horizontal resolution of conventional analog broadcasts—as well as HDTV mode. Video uses MPEG-2 digital compression, and audio uses AC-3 (Digital Dolby) compression.

DVD Digital video disk. Optical disk storage that encompasses audio, video, and computer data.

E

ECP Extended capabilities port. An asynchronous, 8-bit–wide parallel channel defined by IEEE 1284-1944 that provides PC-to-peripheral and peripheral-to-PC data transfers.

embedded controller The general class of microcontrollers used to support OEM-specific implementations, mainly in mobile environments. The embedded controller performs complex low-level functions through a simple interface to the host microprocessor.

embedded controller interface ACPI defines a standard hardware and software communications interface between an operating system driver and an embedded controller—for example, Smart Battery and AML code. This allows any operating system to provide a standard driver that can directly communicate with an embedded controller in the system, thus allowing other drivers to communicate with and use the resources of system embedded controllers.

expansion bus A group of control lines that provide a buffered interface to devices located either on the system board or on cards that are plugged into expansion connectors. Common expansion buses included on the system board are USB, PC Card, and PCI.

expansion card A card that connects to an expansion bus and contains one or more devices.

F

FDC Floppy disk controller. A special-purpose chip and associated circuitry that directs and controls reading from and writing to a computer's disk drive.

FIFO First in/first out. A method for processing a queue in which items are removed in the same order in which they were added.

FS A Decibels relative to full scale, measured using "A weighting" filters.

H

HCI Host controller interface. For example, a system-level interface supporting USB.

HDC Hard disk controller. A special-purpose chip and circuitry that directs and controls reading from and writing to a computer's disk drive.

HID specification The device class definition developed by the USB standards group for Human Interface Devices. Serves as the basis for WDM input device support, and unifies input devices by providing flexible data reporting, typeless data, and arrayed and variable input and output.

I

ID Identifier. Generally, any text string used as a label, such as the name of a procedure or a variable in a program, or the name attached to a hard drive or floppy disk.

IDE Integrated Device Electronics. A type of disk drive interface where the controller electronics reside on the drive itself, eliminating the need for a separate adapter card.

IEEE Institute of Electrical and Electronics Engineers, pronounced "I-triple-E." Founded in 1963, IEEE is an organization composed of engineers, scientists, and students. IEEE is best known for developing standards for the computer and electronics industry.

INF file Information file. A file created for a particular adapter that provides the operating system with information required to set up a device, such as a list of valid logical configurations for the device, the names of driver files associated with the device, and so on. The device manufacturer typically provides an INF file on a disk with an adapter.

INI file Initialization file. Commonly used under Windows 3.*x* and earlier, INI files have been used by both the operating system and individual applications to store persistent settings related to an application, driver, or piece of hardware. In Windows and Windows NT, INI files are supported for backward compatibility, but the registry is the preferred location for storing such settings.

I/O Input/output. Two of the three activities that characterize a computer (input, processing, and output). Refers to the complementary tasks of gathering data for the microprocessor to work with and making the results

available to the user through a device such as the display, disk drive, or printer.

IPL Initial program load. A device used by the system during the boot process to load the operating system into memory.

IRP I/O request packet. Data structures that drivers use to communicate with each other. The basic method of communication between kernel-mode devices. An IRP is a key data structure for WDM, which features multiple layered drivers.

IRQ Interrupt request. A method by which a device can request to be serviced by the device's software driver. The system board uses a PIC to monitor the priority of the requests from all devices. When a request occurs, a microprocessor suspends the current operation and gives control to the device driver associated with the interrupt.

ISA Industry Standard Architecture. An 8-bit (and later, a 16-bit) legacy expansion bus that provides a buffered interface from devices on expansion cards to the PC internal bus.

ISDN Integrated Service Digital Network. A set of communications standards that enables a single phone line or optical cable to carry voice, digital network services, and video.

L

LAN Local area network. A group of computers and other devices dispersed over a relatively limited area and connected by a communications link that enables any device to interact with any other device on the network. *Compare with* WAN.

LBA Logical block address. A unit of data supplied or requested by a host computer.

legacy Any feature in the system based on older technology for which compatibility continues to be maintained in other system components.

M

Microsoft DirectShow A cross-platform API for developers of multimedia applications that provides a user-mode connection and Stream architecture to support high-quality digital video, high-fidelity audio, and special effects.

Microsoft DirectX A low-level API that provides user-mode media interfaces for games and other high-performance multimedia applications. DirectX is a thin layer, providing direct access to hardware services. DirectX takes advantage of available hardware accelerators and emulates accelerator services when accelerators are not present.

MIDI Musical Instrument Digital Interface. An industry-standard connection for computer control of musical instruments and devices. A hardware and data standard for communicating between hardware. Most references involve only the data standard, which is a byte stream used for controlling musical instruments and storing the output of such instruments.

minidriver A hardware-specific DLL that uses a Microsoft-provided class driver to accomplish most actions through functions call and provides only device-specific controls. Under WDM, the minidriver uses the class driver's device object to make system calls.

miniport driver A device-specific kernel-mode driver linked to a Windows NT or WDM port driver, usually implemented as a DLL that provides an interface between the port driver and the system.

motherboard *See* system board.

MPEG Moving Picture Expert Group. Refers to one of several standard video-compression schemes. A codec for squeezing full-screen, VHS-quality digital video into a small data stream so that it can be played from a CD-ROM drive.

multifunction device A piece of hardware that supports multiple, discrete functions, such as audio, mixer, and music, on a single adapter.

multimedia Refers to the delivery of information that combines different content formats, such as motion video, audio, still image, graphics, animation, text, and so forth.

N

NDIS Network Driver Interface Specification. The interface for network drivers used in Windows and Windows NT operating systems. NDIS provides a common mechanism by which any given NDIS-compatible transport driver can communicate with any NDIS-compatible network adapter driver. Moreover, it provides for multiple transports to work over multiple network adapters by supporting multiplexing between transports and drivers.

NMI Nonmaskable Interrupt. An interrupt that cannot be overruled by another service request. A hardware interrupt is called nonmaskable if it cannot be masked by the processor interrupt flag.

NTSC National Television System Committee of the Electronics Industries Association (EIA). The standards-setting body for television and video in the United States. Sponsor of the NTSC standard for encoding color, a coding system compatible with black-and-white signals and the first system used for color broadcasting in the United States. The broadcast standard for the United States and Japan. *See also* PAL format *and* SECAM.

NTSC format A color-television format having 525 scan lines, a field frequency of 60 Hz, a broadcast bandwidth of 4 MHz, line frequency of 15.75 KHz, frame frequency of 1/30 of a second, and a color subcarrier frequency of 3.58 MHz. *See also* PAL format *and* SECAM.

O

OEM Original equipment manufacturer. Used primarily to refer to PC systems manufacturers.

OnNow A design initiative that seeks to create all the components required for a comprehensive, system-wide approach to system and device power control. OnNow is a term for a PC that is always on but appears off and that responds immediately to user or other requests.

OpenGL An operating system independent, industry-standard API for 3-D color graphics programming. Typically used for engineering, visualization, simulation, and other graphics-intensive applications.

option ROM *Also* expansion ROM. Optional read-only memory found on an expansion card. Option ROMs usually contain additional firmware required to properly boot the peripheral connected to the expansion card, for example, a hard drive.

P

PAL format Phase Alternation Line format. The European video standard, except for France. *See also* NTSC *and* SECAM.

PC Card A trademark of PCMCIA. A removable device that is designed to be plugged into a PCMCIA slot and used as a memory-related peripheral.

PCI Peripheral Component Interconnect. A high-performance, 32-bit or 64-bit bus designed to be used with devices that have high bandwidth requirements, such as a display subsystem.

PCMCIA Personal Computer Memory Card International Association. Sometimes used to refer to a controller for a type of expansion card documented in the PCMCIA standards.

Plug and Play A design philosophy and set of specifications that describe hardware and software changes to the PC and its peripherals that automatically identify and arbitrate resource requirements among all devices and buses on the system. Plug and Play specifies a set of API elements that are used in addition to, but not in place of, existing driver architectures.

Plug and Play BIOS A BIOS with responsibility for configuring Plug and Play cards and system-board devices during system power up. Provides run-time configuration services for system-board devices after start-up. *See also* ACPI.

power management Mechanisms in software and hardware to minimize system power consumption, to manage system thermal limits, and to maximize system battery life. Power management involves trade-offs among system speed, noise, battery life, processing speed, and power consumption.

R

RAM Random access memory. Semiconductor-based memory that can be read and written by the microprocessor or other hardware devices.

RAMDAC RAM digital-to-analog converter. A chip built into some VGA and SVGA display adapters that translates the digital representation of a pixel into the analog information needed by the monitor to display it.

rasterization The conversion of vector graphics (images described mathematically as points connected by straight lines) to equivalent images composed of pixel patterns that can be stored and manipulated as sets of bits.

Redbook audio The data format standard for conventional audio CDs used in home stereo systems.

registry In Windows and Windows 2000, the tree-structured hierarchical database where general system hardware and software settings are stored. The registry supersedes the use of separate INI files for all system components and applications that know how to store values in the registry.

resource (1) Any sort of set from which a subset can be allocated for use by a client, such as memory or bus bandwidth. This is not the same as resources that are allocated by Plug and Play. (2) A general term that refers to IRQ signals, DMA channels, I/O port addresses, and memory addresses for Plug and Play.

resource conflict In Plug and Play device configuration, the result of more than one device sharing a nonshareable resource. Conflicts can cause the device to be partially functional or nonfunctional, or can cause the PC to malfunction completely.

S

SCSI Small computer system interface, pronounced "scuzzy." An I/O bus designed as a method for connecting several classes of peripherals to a host system without requiring modifications to generic hardware and software.

sealed case A PC system design that does not provide end-user–accessible internal expansion slots. This is the equivalent of "no user-serviceable parts inside" for consumer appliances. A sealed case can provide external expansion capabilities.

SECAM Sequential Couleur a Memoire (Sequential Color with Memory). The television standard for France, Russia, and most of Eastern Europe. As with PAL, SECAM is based on a 50-Hz power system, but it uses a different encoding process and displays 819 horizontal lines per frame at a scan rate of 25 frames per second (50 fields per second). *See also* NTSC *and* PAL format.

SMBus System Management Bus. A two-wire interface based on the I²C protocol. The SMBus is a low-speed bus that provides positive addressing for devices, as well as bus arbitration.

software device A filter in kernel streaming and DirectShow (formerly ActiveMovie) that has no underlying hardware associated with it.

Sound Blaster Hardware produced by Creative Labs, Inc., that represents for MS-DOS–based games one of the major hardware interfaces for both audio and music (specifically MIDI) data.

spin down A power-management capability in which a hard drive shuts down its spindle motor.

S-video *Also* Y/C video. A video signal that separates the luminance and color (Y and C) components of the signal for improved quality over composite video. The type of video signal used in the Hi8 and S-VHS videotape formats. Transmits luminance and color portions separately, using multiple wires, thus avoiding the NTSC encoding process and its inevitable loss of picture quality.

system board *Also* motherboard *or* planar. The primary circuit board in a PC that contains most of the basic components of the system.

system devices Devices on the system board, such as interrupt controllers, keyboard controller, real-time clock, DMA page registers, DMA controllers, memory controllers, FDC, IDE ports, serial and parallel ports, PCI bridges, and so on. These devices are typically integrated into the supporting chip set.

T

TAPI Telephony API. A set of Win32-based calls that applications use to control modems and telephones by routing application function calls to the appropriate service-provider DLL for a modem.

telephony Telephone technology.

U

UART Universal Asynchronous Receiver/Transmitter. A module composed of a circuit that contains both the receiving and transmitting circuits required for asynchronous serial communication.

Unimodem Universal modem driver. A driver-level component that uses modem description files to control its interaction with the communications driver.

USB Universal Serial Bus. A bidirectional, isochronous, dynamically attachable serial interface for adding peripheral devices such as game controllers, serial and parallel ports, and input devices on a single bus.

user mode The nonprivileged processor mode in which application code executes, including protected subsystem code in Windows NT.

V

VBI Vertical blanking interval. The time interval between television fields needed for the scanning gun to move from the bottom of the screen to the top for the start of the next field.

VGA Video graphics array. A video adapter that supports 640 × 480-pixel color resolution. A video display standard for boot devices under Windows operating systems.

VxD Virtual device driver. A device driver that runs at the privileged ring 0 protected mode of the microprocessor. Can extend the services of the Windows kernel, supervise hardware operations, or perform both functions. Such driver files are usually named according to the scheme VxD, where x refers to the device or service supported.

W

WAN Wide area network. A communications network that connects geographically separated areas. *Compare with* LAN.

warm docking A method of removing or installing a mobile system in a docking station by which the computer can be docked or undocked while in a reduced power state, such as suspend.

WDM Windows Driver Model. A driver model based on the Windows NT driver model that is designed to provide a common architecture of I/O services for both Windows and Windows NT for specific classes of drivers. These driver classes include USB and IEEE 1394 buses, audio, still-image capture, video capture, and HID-compliant devices such as USB mice, keyboards, and joysticks. Provides a model for writing kernel-mode drivers and minidrivers, and provides extensions for Plug and Play and power management.

WHQL Windows Hardware Quality Labs. Provides compatibility testing services to test hardware and drivers for Windows. Administers testing for the "Designed for Microsoft Windows" logo programs. For more information, see the web site at http://www.microsoft.com/hwtest/.

Win32 API A 32-bit application programming interface for both Windows and Windows NT that includes operating system capabilities, security, and API routines for Windows-based applications.

Windows Refers to the Microsoft Windows 98 operating system, including any add-on capabilities and any later versions of the operating system.

Windows DDK Documents the Windows NT driver model (upon which WDM is based) and is an essential component for building WDM drivers.

WMI Windows Management Instrumentation. Extensions to WDM developed for Windows NT 5.0 and Windows 98 to provide an operating system interface through which instrumented components can provide information and notifications.

workstation In general, a powerful computer with considerable calculating and graphics capabilities.

Y

YcrCb *See* YUV.

YUV The method of color encoding for transmitting color video images while maintaining compatibility with black-and-white video. Uses less bandwidth than the three separate video signals in an RGB video transmission. Consists of two major components: luminance (Y), which corresponds to the brightness of an image pixel, and chrominance (UV or CrCb), which corresponds to the color of an image pixel.

Z

Zero Administration initiative for Windows
Also Zero Administration initiative. An initiative that focuses on improving Windows and Windows NT for maximum automation of administrative tasks with centralized control and maximum flexibility.