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The Official Dictionary
of Telecommunications,
Networking and the Internet

17th Updated and Expanded Edition
by Harry Newton

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disk subsystem combined with management software which controls the operation of the physical disks and presents them as one or more virtual disks to the host computer.

Disk Cache On a PC, a disk cache is the part of RAM that is set aside to temporarily hold data read from disk. A disk cache doesn't have to hold an entire file, as a RAM disk does, but can hold parts of running application software or parts of a data file. Disk-caching software manages the process of swapping data to and from the disk cache. See Disk Caching.

Disk Caching A technique used to speed up processing. Each time your application retrieves data from the disk, a special program, called a disk caching program, stores data read from the disk in an area of RAM. When the application next requests more data, some of it may already be in RAM, thereby dramatically speeding the retrieval of data. See Disk Cache and Caching.

Disk Cloning Making an exact copy of your hard disk on another hard disk. You do this because you want to back up your hard disk, software and data alike. It's not as easy as it sounds since you need to reinstall the hard disk on an identical machine, with identical hardware.

Disk Controller A hardware device that controls how data is written to and retrieved from the disk drive. The disk controller sends signals to the disk drive's logic board to regulate the movement of the head as it reads data from or writes data to or writes data to the disk. Gateway Computers defines disk controller thus: "Circuitry that manages the physical activity of a disk drive, such as moving the drive heads and creating the actual signals recorded on the disks. The controller is usually a card on the underside of the drive itself. The expansion card that connects to the drive by a ribbon cable enables communication between the disk drive and the computer and is called an adapter or host adapter. Sometimes the adapter circuitry is directly on the system board. Older hard drives had two ribbon cables to the expansion card because one part of the card held controller circuitry and another part held the adapter circuitry."

Disk Dancers Teenagers who use the America Online CDs and floppy disks given away in magazines and via direct mail to hop from one free account to another.

Disk Drive A device containing motors, electronics and other gadgetry for storing (writing) and retrieving (reading) data on a disk. See Disk Duplexing, Disk Mirroring, Disk Operating System and other definitions below starting with the word "Disk." See also IDE and Enhanced IDE.

Disk Drive Performance Three basic things affect your perception of the speed of the hard disk drive inside your PC.

1. The disk transfer rate — the speed at which data can be read from or written to the drive's media. This speed is governed mainly by drive mechanics — especially rotational speed, latency and seek time.

2. The controller transfer rate — the speed at which the drive's controller electronics can move data across the interface. This is governed by the design of the drive controller.

3. The host transfer rate — the speed at which the computer can transfer data across the interface. This is a matter of both CPU and bus speeds as well as the hardware that provides the bridge between the host bus and the disk interface.

Disk Duplexing A method of failsafe protection, used on file servers on local area networks. Disk duplexing involves copying data onto two duplicate hard disks, each using a separate controller and a separate disk channel. Disk duplexing protects data against the failure of a hard disk or of the hard disk channel between the disk and the file server. The hard disk "channel" includes the disk controller and interface cable. If any component on one channel fails, the other channel continues to operate normally. (You hope.) The operating system sends a warning message to the workstations and PCs on the network to indicate the failure. It's a good idea then to fix the problem fast. Very fast. See also Disk Mirroring.

Disk Mirroring A technique for protecting the information on your hard disk. Disk mirroring writes data simultaneously to two identical hard disks using the same hard disk controller. Here's how it works: You have a special hard disk controller card. That's the card which organizes getting information into and off your hard disk. When you come to write information to your hard disk, your hard disk controller writes first to the first hard disk, called the primary hard disk. The controller retains that information in its memory and then writes it to the second hard disk. This causes a 50% degradation in performance since it now takes twice as long to write to the disk. When the controller comes to read, it reads only from the primary disk. Thus there is no performance degradation in reading. Mirroring is designed to protect against mechanical problems with one of your hard disks. If one of the hard disks breaks, the other one will take over instantly. You will get a warning message. You will be told to repair the broken disk and you will be told to designate the other disk now as your primary disk (it may already be). That primary disk will now become your bootable disk, the one you boot your

computer from. Mirroring does not protect against viruses, or corrupt data or losing data. Any idiocy you can perform on one hard disk you can now happily perform on two. Mirroring does not protect you against a lightning strike which could knock out both your hard disks. Mirroring does not protect against the loss of a controller card since you're only using one. Another protection technique called disk duplexing uses two separate controllers to drive two separate hard disks. See also Disk Duplexing.

Disk Operating System See DOS.

Disk Pack A series of disks mounted horizontally and arranged as a single unit. A disk pack contains more space for storing and retrieving information than one single disk.

Disk Sector Magnetic diskettes are typically divided into tracks, each of which contains a number of sectors. A sector typically contains a predetermined amount of data, such as 256 bytes.

Disk Server A device equipped with disks and a program that permits users to create and store files on the disks. Each user has access to their own section of the disk. It gives users disk space which they would not normally have at their own personal computers. The disk server is linked to the PCs via a LAN. The next level of sophistication would be a file server, which would allow users to share files.

Disk Spanning When you want to save a single big file to several floppy disks, it's called disk spanning. Many of the zipping programs allow you to do this.

Disk Striping Writing data in stripes across a volume that has been created from areas of free space on from two to 32 disks.

Disk Subsystem A collection of physical disks and the hardware required to connect them to a host computer or network.

Disk/File Server A mass storage device that can be accessed by several computers, usually through a local area network (LAN).

Diskless PC Just what it says: a PC without a disk drive. Used on a LAN, a diskless PC runs by booting DOS from the file server. It does this via a read-only memory chip on its network interface card called a remote boot ROM. Diskless PCs are cheaper than PCs with disks, they're more compact and they offer better security since users can't make off with floppy disks of important and sensitive data or add their own virus-ridden programs to file servers. Diskless PCs appeal primarily to users interested in security. One system of diskless PCs allows the system operator to disable and physically lock the machine's various ports and the computer case itself. Should something go wrong with the machine, the ports can be restored to operating condition by letting the system allow a technician to attach a laptop computer and run diagnostic programs.

Diskless Workstation See Diskless PC.

DISN Defense Information Systems Network.

DISSOS IBM's Distributed Office Support System.

Disparity Control A function of the 8B/10B transmission encoding scheme, in which the two remaining bits are used for error detection and correction. 8B/10B transmits 8 bits as a 10-bit group, thereby leaving two additional bits for disparity control.

Dispatch A radio communications technique where one communicates to many through short bursts of communication. Users of dispatch services include taxis, trucking companies and service personnel.

Dispatch Walkie-talkie Mode Where one subscriber talks and other subscribers listen on the same talk channel.

Dispersion More correctly known as chromatic dispersion. A term used to describe how an electromagnetic signal is distorted because the various frequency components of that signal have different propagation characteristics. Each frequency is chromatically distinct, i.e., has a different color. Dispersion is the degree of scattering taking place in the light beam as it travels along the fiber optic. Or the overlapping of a light signal on one wavelength to different wavelengths because of reflected rays and the different refractive index of the core fiber material. The problem is that each pulse of light comprises multiple wavelengths, each with different propagation characteristics—i.e., each travels at a slightly different speed. In a high-speed, long-haul fiber optic system, particularly one which employs WDM (Wavelength Division Multiplexing), portions of the pulses can overtake portions of the preceding pulses. Dispersion is a particularly significant problem in high-speed networks, which operate at Gbps speeds, and in long-haul networks which involve links exceeding several hundred kilometers. In order to defeat dispersion, the network must be optimized through the placement of regenerative repeaters at appropriate intervals, or through the use of Dispersion-Shifted Fiber. See also Dispersion-Shifted Single-Mode Fibers, SONET, and WDM.

Dispersion Compensation Grating DCG. DCG overcomes the distortion

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the expense of additional cable runs.

Media Gateway Controller See MGCP.

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Media Gateway Control Protocol See MGCP.

Media Independent Interface MII. A part of the Fast Ethernet specification. The MII replaces 10Base-T Ethernet's Attachment Unit Interface (AUI), and is used to connect the MAC layer to the physical layer. The MII establishes a single interface for the three 100Base-T media specifications (100Base-TX, 100Base-T4, and 100Base-FX).

Media Interface Connector An optical fiber connector which links the fiber media to the FDDI node or another cable.

Media Path Same as wire run. The means by which telephone signals are conveyed from the Network Interface Jack to the Communications Outlet.

Media Processor A special microprocessor whose job is to perform processing for multimedia devices, e.g. videophones, audio, computer telephony devices, voice recognition and 3-D, while the computer's main microprocessor (e.g. a Pentium) handled the basic processing and input/output (I/O) processing. Such media processors might have all the characteristics of digital signal processors and then some. See also MMX.

Media Processing The processing of transactions during a telephone call; these transactions may include fax operations, speech recognition and synthesis, Touch Tone recognition, voice and fax store-and-forward messaging, and the conversion of messages from one format to another (such as from text to voice, or fax to text).

Media Server A new term for a file server on a local area network which contains files containing voice, images, pictures, video, etc. In short, a media server is a repository for media of all types. Media servers are also called file servers. Here's a definition of Media Server, courtesy of Oracle Corporation, writing in early 1994: "The media server harnesses the power of the fastest computers ever built — massively parallel computers. Media servers support diverse clients so that users don't have to discard existing systems. They provide storage, network interfaces and memory — plus support for all forms of multimedia information. Because they use thousands of low-cost microprocessors, media servers offer astonishing performance at low cost."

Media Service Instance A logical server providing access to media services (e.g., Accessing a DataStream, Sending & Receiving Faxes, Playing & Recording Sounds, Engaging other VRU services) that can be associated with a call through a Media Access Device. See MediaStreamID.

Media Stream The information content carried on a call—that is, what actually is transmitted and received over the line, and can, with the necessary hardware, be read and written by a media stream API.

Media StreamID Allows an association to be established between a given call and Media Services available on a Media Service Instance that can be associated with the call through a Media Access Device. See Media Service Instance.

Media Type A call's media type describes what type of information the call is carrying, such as data or voice. A computing domain can use this information, for example, to route the call to a more appropriate computing domain, such as a data computing domain for an incoming data call.

Median The average and the mean are the same. What's different is the median. See Mean for a full explanation.

Mediation System A wireless telecommunications term. A mediation system provides for three functions for transporting data from one device to another. These include protocol conversion, message routing, and store-and-forward processing.

Medium 1. The material on which data is recorded; for example, magnetic tape, diskette.

2. Any material substance that is, or can be, used for the propagation of signals, usually in the form of modulated radio, light, or acoustic waves, from one point to another, such as optical fiber, cable, wire, dielectric slab, water, air, or free space.

Medium Access Control MAC. The IEEE sublayer in a LAN (Local Area Network) which controls access to the shared medium by LAN-attached devices. In the context of the OSI Reference Model, the MAC layer extends above to the Data Link Layer (Layer 2), and below to the Physical Layer (Layer 1). Within the MAC sublayer are defined Data Link Layer options which specify the basis on which devices access the shared medium, and the basis on which congestion control is exercised. Defined at the Physical Layer are media options such as UTP (Unshielded Twisted Pair) CAT 3, 4, and 5 (Categories of wire); STP (Shielded Twisted Pair); fiber optic cable; and wireless radio and infrared. Specific IEEE MAC stan-

dards are defined for LANs such as CSMA/CD (802.3), Token Passing Bus (802.4), Token Passing Ring (802.5), Metropolitan Area Networks (802.6), and Wireless LANs (802.11). The MAC sublayer works in conjunction with the Logical Link Control Layer of the IEEE model; at this higher level are defined specific LLC conventions such as frame format and addressing.

Medium Attachment Unit A device used in a data station to couple the data terminal equipment (DTE) to the transmission medium.

Medium Dependent Interface MDI-X. The physical components of a network interface which handle the electrical or optical connection to a cable. This includes the connector, transceivers, and other physical layer components. MDI-X refers to a physical connection which includes an internal crossover of the transmit and receive signals. All standard repeater ports are MDI-X and are often marked with just an X by the port. Some repeater ports are changeable to a DTE port. In this case, the port is changed to a MDI port for connection to a MDI-X port on another repeater. An example of a DTE port is the connection on a NIC.

Medium Earth Orbit MEO. Medium (or Middle) Earth Orbit satellites orbit the earth at distances between LEOs and GEOs (Low Earth Orbit satellites and Geosynchronous Earth Orbit satellites). Because MEOs operate at heights greater than LEOs, they have larger footprints, or areas of coverage, so that fewer satellites are needed to provide complete coverage over the earth. The planned Odyssey system, which will have 12 satellites, is one MEO with complete world coverage. See also LEO, GEO and Geosynchronous.

Medium Frequency MF. Radio frequencies from 300 KHz to 3000 KHz.

Medium Interface Connector MIC. In LAN/MAN systems, the connector at the interface point between the bus interface unit and the terminal, termed the medium interface point.

MEE Multiplex Equipment Engineering.

Meet-Me Conference A teleconferencing term. Meet-Me Conferencing is an arrangement by which you can dial a specific, pre-determined telephone number and security access code to join a conference with other participants. You are automatically connected to the conference through a conference bridge. Conference participants may call in at a preset time or may be directed to do so by a conference coordinator. Meet-Me Conferences may be set up through a teleconferencing service provider, generally with the capability to conference thousands of participants. It also can be provided through a phone system, such as a PBX, key system or hybrid. Some phone systems restrict this to intercom circuits only. In almost all phone systems there is a maximum number of parties that can be connected in such conference at one time.

Meet-Me Intercom Conference Dial a special number ("access code") and any telephone can join an intercom conference call.

Meet-Me Page A feature which allows a person to answer an intercom page from any phone in the system.

Meet Point A location at which the facilities of two carriers connect.

Meet-Point Billing This is a billing arrangement that applies when two Local Exchange Carriers in the same LATAs are used to complete a private line circuit.

Mega A prefix meaning one million, also represented as an M. MEGABIT — one million bits. MEGABYTE — one million bytes. MEGAHERTZ — one million cycles per second. See also Megabyte.

Megabits per Second A measurement of speed indicating that one million bits of information travel a certain distance in one second.

Megabyte MB. A combination of the Greek "mega," meaning "large," and the English "bite," meaning "a small amount of food." A unit of measurement for physical data storage on some form of storage device—hard disk, optical disk, RAM memory, etc. The actual definition can be confusing, since there are two measurements. In the metric system, a megabyte is 1,000,000 bytes. In the computer world, things tend to be measured in binary terms — 1s and 0s. In binary terms, a megabyte is 2 to the 20th power, i.e., 1,048,576 bytes, which is the closest power of two to one million, i.e., 1024 x 1024. A megabyte can be either a decimal (metric) megabyte or a binary megabyte, depending on the context. A decimal megabyte also is called a "millionsbyte" or a "miobyte," and is used to describe capacity in newer ROM BIOS drives. Binary megabytes are used to describe capacity in DOS FSISK, Windows 3.x File Manager, and CMOS setup in older ROM BIOS drives. Here is a summary of sizes:

MB = Megabyte (2 to the 20th power)

GB = Gigabyte (2 to the 30th power)

TB = Terabyte (2 to the 40th power)

PB = Petabyte (2 to the 50th power)

EB = Exabyte (2 to the 60th power)

ZB = Zettabyte (2 to the 70th power)

YB = Yottabyte (2 to the 80th power)

One googolbyte equals 2 to the 100th power.

MEGACO Media Gateway Control protocol. See MGCP.

Megaflops Million Floating point Operations Per Second. A measure of computing power usually associated with large computers. Mega means million. Also known as MFLOPS.

Megahertz 1. MHz. A unit of frequency denoting one million Hz or one million cycles per second. See Bandwidth and Hertz.

2. What the Vermonters' Guide to Computer Lingo says you get when you're not careful downloading, which it defines as taking firewood off the pickup truck.

Megalink Name for BellSouth's leased T-1 service.

Megaplex Also known as a multiplex. A collection of different movie theaters in the same building, many playing different movies.

Megaserver A large server. Possibly a Microsoft-created term. The idea is that people may keep much of their personal and professional information on large servers. The concept is that a person will be able to tap into a large central database via the Web to get e-mail, personal schedules, news, weather updates and other information anywhere, anytime. See Server.

Megastream British Telecom's brand name for a service of 30 64-Kbps channels (i.e. E-1).

Megohm A resistance of 1,000,000 ohms.

Memex In the 1930s, Vannevar Bush first wrote of the memex — a pocket device that sounds very much like a wireless Palm — in the 1930s. It didn't gain much attention until his seminal 1945 article, "As We May Think," published in the Atlantic Monthly. Here are his words from the article.

"Consider a future device for individual use, which is a sort of mechanized private file and library. It needs a name, and, to coin one at random, 'memex' will do. A memex is a device in which an individual stores all his books, records, and communications, and which is mechanized so that it may be consulted with exceeding speed and flexibility. It is an enlarged intimate supplement to his memory. It consists of a desk, and while it can presumably be operated from a distance, it is primarily the piece of furniture at which he works. On the top are slanting translucent screens, on which material can be projected for convenient reading. There is a keyboard, and sets of buttons and levers. Otherwise it looks like an ordinary desk. In one end is the stored material. The matter of bulk is well taken care of by improved microfilm. Only a small part of the interior of the memex is devoted to storage, the rest to mechanism. Yet if the user inserted 5000 pages of material a day it would take him hundreds of years to fill the repository, so he can be prodigal and enter material freely. Most of the memex contents are purchased on microfilm ready for insertion. Books of all sorts, pictures, current periodicals, newspapers, are thus obtained and dropped into place. Business correspondence takes the same path. And there is provision for direct entry. On the top of the memex is a transparent platen. On this are placed long-hand notes, photographs, memoranda, all sorts of things. When one is in place, the depression of a lever causes it to be photographed onto the next blank space in a section of the memex film, dry photography being employed. There is, of course, provision for consultation of the record by the usual scheme of indexing. If the user wishes to consult a certain book, he taps its code on the keyboard, and the title page of the book promptly appears before him, projected onto one of his viewing positions. Frequently-used codes are mnemonic, so that he seldom consults his code book; but when he does, a single tap of a key projects it for his use. Moreover, he has supplemental levers. On deflecting one of these levers to the right he turns through the book before him, each page in turn being projected at a speed which just allows a recognizing glance at each. If he deflects it further to the right, he steps through the book 10 pages at a time; still further at 100 pages at a time. Deflection to the left gives him the same control backwards." See also Internet.

Memo 1. A telephone feature that enables the user to store a phone number for calling in the future. For example, while speaking to a Directory Assistance operator, you can put the number she gives you into memory, and then call that number by pushing one or two buttons. 2. A call center term. A free form field used to store descriptive text or comments. The information in a memo field can be of any length and type.

Memorandum of Understanding See MOU.

Memory The part of a computer or sophisticated phone system which stores informa-

tion or instructions for use. Memory comes in many variations. There is memory which is lost when the power is switched off. There is memory which is retained when power is turned off.

Memory Administration MA. A set of functions that provide network system database updates, network system database integrity, network system database security and network system database backup and restoration. Definition from Bellcore (now Telcordia) in reference to its concept of the Advanced Intelligent Network.

Memory Board An add-on board designed to increase a computer's RAM.

Memory Caching A technology for increasing hardware performance by storing frequently used sequences of instructions in a memory cache separate from the computer's main memory where they can be more quickly accessed by the CPU.

Memory Call Service A family of central office based voice messaging services from BellSouth.

Memory Cards The memory card is a bunch of memory chips crammed into a small plastic cartridge about the size of a credit card and about three times the thickness. It is used in several palmtop computers. As this dictionary was being written, we were awaiting the release of a 16 megabyte memory card. In contrast to flash memory, a memory card requires small batteries, typically the same ones as used in watches. See Smart Card.

Memory Effect The gradual shorting of a battery's useful life, caused by recharging before the battery is completely discharged. This is a real problem with nickel cadmium batteries, less of a problem with Nickel Hydride and even less of a problem with Lithium ion batteries.

Memory Interface A PCMCIA definition. The memory interface is the default interface after power up, PCMCIA Hard Reset and PCMCIA Soft Reset for both PCMCIA cards and sockets. This interface supports memory operations as defined in PCMCIA Release 1.0 and later and is used by both Memory Cards and I/O Cards.

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Memory Protection The structuring of memory resources in Novell's NetWare 4.0 that guards the NetWare server memory from corruption by NLMs. Memory protection allows you to run NLMs in a separate memory domain called the OS PROTECTED domain. Once you determine the NLM to be safe, you can load it into the OS domain, where it can run most efficiently.

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MEMS See MicroElectroMechanical System.

Menu Options displayed on a computer terminal screen or spoken by a voice processing system. The user can choose what he wants done by simply choosing a menu option — either typing it on the computer keyboard, hitting a touchtone on his phone or speaking a word or two. There are basically two ways of organizing computer or voice processing software — menu-driven and non-menu driven. Menu-driven programs are easier to use but they can only present as many options as can be reasonably crammed on a screen or spoken in a few seconds. Non-menu driven screens allow more alternatives but are much more complex and frightening. It's the difference between receiving a bland "A" or "C" prompt on the screen — as in MS-DOS and receiving a menu of "Press A if you want Word Processing," "Press B if you want Spread Sheet," etc. It's very easy to write menus in MS-DOS using BATCH files. See also Audio Menus and Prompts.

Menu Bar call center term. The part of the menu system visible as a single row across the top of the display.

MEO Middle (or Medium) Earth Orbiting satellite. MEOs operate much like LEOs (Low Earth Orbiting satellites systems), although in slightly higher orbits. MEOs generally operate at an altitude of around 10,000 kilometers. Continuous global communications services can be achieved with six to 12 satellites. MEOs are capable of supporting both voice and data serv-

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M

Noise Figure NF. The ratio (in dB) between the signal-to-noise ratio applied to the input of the microwave component and the signal-to-noise ratio measured at its output. It is an indication of the amount of noise added to a signal by the component during normal operation. Lower noise figures mean less degradation and better performance.

Noise Floor The lowest input signal power level which will produce a detectable output signal from a microwave component, determined by the thermal noise generated within the microwave component itself. The noise floor limits the ultimate sensitivity to the weak signals of the microwave system, since any signal below the noise floor will result in an output signal with a signal-to-noise ratio of less than one and will be more difficult to recover.

Noise Measurement Units A series of terms used to express circuit noise. These units include: dB RN — Decibel rated noise — dBmC — C message weighting refers to the noise measured at 1000 Hz.

Noise Suppressor Filtering or digital signal-processing circuitry in a receiver or transmitter that automatically eliminates or reduces noise.

Noise Temperature An amplifier noise rating based upon temperature measured in degrees.

Noise Voltage In optical communication, an rms component of the optical detector electrical output voltage which is incoherent with the signal radiant power.

Noise Weighting A method of assigning a specific value to the transmission impairment due to the noise encountered by an average user operating a particular telephone. Noise weightings generally in use have been established by regulatory agencies concerned with public telephone service. They are tightened as technology improves.

Nom De Ligne For those of you who don't speak French, particularly Old French, "Nom de Ligne" translates to "Line Name." It's a pseudonym, or "handle" that you use when on-line in an Internet Chat Room, for instance. You adopt a Nom de Ligne to give yourself anonymity for whatever reasons you find convenient. Nom de ligne is called a "handle" in some circles. Other French terms for pseudonyms include "Nom de Guerre" (war name) and "Nom de Plume" (pen name). I don't have a "Nom de Ligne" or a "Nom de Plume." My "Nom de Guerre" is "Harry The Terrible."

NOM112 Mexican flavor of C7, which is the ITU flavor (i.e. version) of Signaling System 7, also called SS7. See Signaling System 7.

Nomadic Computing An enterprise application describing laptop users dialing over the public telephone network, from hotel rooms, from client offices, from home or from airports to access information on the corporate LAN.

Nomadic Node See Mobile IP.

NOMDA National Office Machine Dealers Association. NOMDA merged with LANDA (Local Area Network Dealers Association) and became NOMDA/LANDA. It's now known as BTA (Business Technology Association). See BTA.

Nominal Bit Stuffing Rate The rate at which stuffing bits are inserted (or deleted) when both the input and output bit rates are at their nominal values.

Nominal Linewidth In facsimile systems, the average separation between centers of adjacent scanning or recording lines.

Nominal Velocity of Propagation The speed at which a signal moves through a cable, expressed as a percentage or fraction of the speed of light in a vacuum. Some cable testers use this speed, along with the time it takes for a signal to return to the testing device, to calculate cable lengths.

Non-adaptive Routing A routing method that cannot adapt to or accommodate changes in a network.

Non-blocking A device which can support a full traffic load without experiencing congestion. The term typically is applied to a switch, such as a PBX or an ATM switch. A PBX can be characterized as fully non-blocking if the internal switching matrix is capable of supporting connectivity between all ports, simultaneously. In other words, the total number of transmission paths is equal to the total number of ports. In a purely voice application, this means that every user with a telephone set can be talking at the same time; this is a highly unlikely scenario involving a ridiculously expensive PBX. It is especially expensive if the PBX is designed to provide a non-blocked path between every PBX station set and the wide area network, as trunk cards and trunks both are very expensive—it's one thing to equip a system so that all station users can talk to each other, but quite another to expect that they all would be connected to the outside world at the same time. ACDs, on the other hand, typically are effectively non-blocking, as productivity objectives demand that all agents in a call center be active as much as possible. Non-blocking switch architectures can be very important in the data world, as holding times are very long in comparison to voice calls.

ATM backbone switches commonly are virtually non-blocking, as traffic loads are very heavy and as Quality of Service (QoS) requirements can be extreme.

Non-blocking Switch A switching system where a connection path always exists for attached device. See Non-Blocking.

Non-busy Season A telephone company definition. The nine months not selected as part of the Busy Season.

Non-Coherent Interference Any unintelligible television interference such as sparklies, heavy snow, lines in the picture, tearing, or herringbone.

Non-concur IBM-speak for to withhold approval, as in I non-concur with this proposal.

Non-connectable mode A Bluetooth term. A device that does not respond to paging (an attempt to establish a communication link) is said to be in non-connectable mode. The opposite of connectable mode is connectable mode.

Non-sequential Hunting Often referred to as "jump hunting." NON-CONSECUTIVE lines, trunks or extensions can be accessed or "searched" by the switching equipment upon dialing the initial number in the hunting group to find a connection to the first non-busy phone. NON-CONSECUTIVE hunting can be used on incoming and outgoing lines. For example, you could order four trunks from your local phone company which are to "hunt" on. Should the first be busy, the call will go to the next. If the next is busy, then it will hunt to the next. TELECONNECT Magazine has "consecutive" numbering in its first four phone numbers — 212-691-8215, 8216, 8217 and 8218. But let's say we only started with one number and then, because of growth, we needed three more. It's possible consecutive numbers might be taken. Therefore to get the hunting feature, the phone company might have assigned us NON-CONSECUTIVE hunting numbers like 691-8220, 8256, 8678. Sometimes the phone company will also assign us "coded" trunks as part of our trunk group. These are trunks which have no dialable number associated with them. It's best to get real numbers so you can test them by calling them individually. You cannot test coded trunks.

Non-critical Technical Load That part of the technical load not required for synchronous operation.

Non-data Bit Bit with encoding violating normal format: used for special control purposes.

Non-dedicated Server A node on which user applications are available while network resource maintenance applications execute in the background.

Non-deterministic A term which refers to the inability of being able to predict the performance or delay on a network where collision is possible.

Non-deterministic Network A network where access to the transmission medium within some specified period, cannot be guaranteed.

Non-dialable Toll Point Six-digit telephone numbers which follow the pattern 88X-NXX, for routing and billing of calls to extremely isolated stations. Such stations are either beyond the reach of the wireline public switched telephone network (PSTN) or are too low (e.g., in a canyon) for satellite communications. Operator intervention is required to reach these remote areas by radio or some other means. Note that each non-dialable toll point consumes a full NNX, often referred to as a Central Office prefix, of 10,000 telephone numbers. This fact adds to the strain on the North American Numbering Plan (NANP).

Non-directional Antenna An antenna that transmits and receives equally well in all directions, usually on one plane; also called omnidirectional antenna.

Non-discoverable mode A Bluetooth term. A device that cannot respond to an inquiry is said to be in non-discoverable mode. The device will not enter the INQUIRY_RESPONSE state in this mode. See also discoverable mode, non-pairable mode. A device that does not accept pairing, is said to be in non-pairable mode. The opposite of non-pairing mode is pairable mode.

Non-DIV Non Diversity.

Non-dominant carrier Have we run any press on the FCC's August decision to tariff nondominant long distance carriers, and their simultaneous new policy decision to not require those carriers to make public rate information?

Non-duplication Rules Restrictions placed on cable television systems prohibiting them from importing distant programming that is simultaneously available locally.

Non-email Stockbrokers are subject to all sorts of rules and regulations by the Federal Government. Every phone call they make or receive is recorded. Every correspondence they send — from faxes to handwritten notes, from xeroxes to business cards — is checked by a compliance officer. Sort of like having on-staff your own censor. Most brokers don't

have email because their bosses haven't figured out how to include email in the censoring process. Some brokers, however, have subscribed to their own email service, e.g. with AOL or MSN. They refer to this email as "non-email," since their firms won't allow them to have real email. This way when they talk to their clients on the phone (which is recorded), they won't be talking about a verboten subject, email. They will talk about a non-verboten subject, namely non-email. Of course, if they didn't have email, they wouldn't have many clients. You figure Wall Street.

Non-erasable A switch where a through traffic path always exists for each attached phone. Generically, a switch or switching environment designed never to experience a busy condition due to call volume. See Non-Blocking, which is a better term.

Non-impact Printer Refers to printers that do not strike a hammer to a platen as typewriters do. Usually a heat sensitive paper or laser printing technology is involved.

Non-intelligible Crosstalk Crosstalk which is not of sufficient level to be understood by a listener but which is more annoying than other crosstalk because you think it's intelligible. Or think it should be intelligible.

Non-interlaced Non-interlaced refers to monitors whose electron gun scans the entire screen without skipping any scan lines. There's a good definition on interlacing and non-interlacing under Interlacing.

Non-ionizing Emissions Radio waves, infrared rays and visible light rays, none of which can affect an atom's electrical balance.

Non-ISDN Line Any connection from a CPE to a central office switch that is not served by D-channel signaling.

Non-ISDN Trunk In ISDN language, a non-ISDN trunk is any trunk not served by either SS7 or D-channel signaling.

Non-linear Distortion Amplitude distortion of a signal in which the output signal does not have a linear relationship to the input signal.

Non-loaded Lines Cable pairs or transmission lines with no added inductive loading coils. In short, straight, raw copper pairs. See Load Coils.

Non-maskable interrupt An interrupt on a PC that cannot be disabled by another interrupt.

Non-persistent In local area networking technology, describes a carrier sense multiple access (CSMA) local area network (LAN) in which the stations involved in a collision do not try to retransmit immediately — even if the network is quiet. Compare with persistent and p-persistent.

Non-printing Character A character in a transmission code which performs a control function but is not reproduced when the transmission is printed.

Non-progressive Display See Interlaced GIF.

Non-proprietary LAN A Local Area Network that can connect the equipment of many vendors. See Proprietary LAN.

Non-published There are various interpretations of what constitutes a "non-published," "unpublished" and "unlisted" phone number in North America. Some phone companies use these words interchangeably. Some don't. In California, Pacific Bell offers unpublished phone service. Your phone number is not listed in the paper phone directories, but is listed with dial up "Directory Assistance." Pacific Bell also has a more expensive service called "Unlisted Service." Here, your phone number is not included in the paper phone directories or given out to callers to Directory Assistance. Nynex (and I presume other phone companies) has a service whereby you can leave a message for the owner of an unlisted number. "Please call me. You've won the lottery." The owner of the unlisted number then has the choice to return the call or not. He doesn't pay to receive this message. Some telephone companies confuse the definitions and some invent new ones. For example, some phone companies use the term "non-published" number. You won't find the number in a phone book or by calling Directory Assistance. Over 25% of many private phone numbers in major metropolitan areas are unlisted, unpublished or non-published — a "service" their subscribers pay extra for. To my simple brain, it's a lot easier to simply publish your name as "Apple Plumpudding." See Unpublished.

Non-receipt Notification In X.400, a non-receipt notification is a report prepared by a recipient UA (User Agent) or Access Unit (upon request) and sent to the originating UA or Access Unit when a message is deemed unreceivable by a recipient.

Non-repudiation A mechanism which prevents a user from denying a legitimate, billable charge. For instance, a user engaged in an Internet-based voice or video conference might later repudiate the charge, alleging that he was not a party to the conference. A non-repudiation mechanism would provide for monitoring of all endpoints (connected users or machines) during the course of the conference in order that any applicable charges might be supported in

the event that they are challenged.

Non-routable Protocols LAN protocols, such as IBM's NetBIOS, LAN Server and SNA, that use names and not Network Layer Addresses to identify devices and therefore supply no routing information. Internetworking devices must find other ways to route traffic in networks that use nonroutable protocols.

Non-selective Routing In the US emergency services telephone network, the routing of 911 calls to a serving public safety answering point based only on the originating Central Office. Compare to Selective Routing. See E-911 Service.

Non-sent Paid Utility industry term for calls made as third party billings, reversed charges or with a Calling Card.

Non-session A type of synchronous access mode that can exist between an end user and a host computer in an Amdahl packet network. In non-session access, the calling line (PU) is mapped to a specific offering line (LU). The offering line is reserved for that calling line at all times.

Non-Signaling Data Protocol for Billing and Settlements NSDP-B&S. Part of the EIA/TIA Interim Standard-124 (IS-124) for Data Message Handler (DMH), a method used in the cellular industry for exchanging non-signaling messages between service providers on a near real-time basis. DMH originally was used to facilitate call hand-offs between carriers. It was extended to serve a number of other purposes. NSDP-B&S is the DMH extension for the transfer of billing and settlement information on an electronic basis. It facilitates the exchange of roamer information between systems and countries, regardless of the air interface (e.g., AMPS, TDMA, and GSM), thereby considerably reducing clearing costs for both charges and adjustments.

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Non-simultaneous Transmission Half duplex transmission. Transmission in one direction at a time. This mode of transmission may be the result of limitations of the transmission channel or of the transmitting/receiving equipment.

Non-subscriber calling See Casual Calling.

Non-synchronous Communications See Asynchronous Communications.

Non-traditional Retailing A fancy word for selling your wares via a Web page on the Internet.

Non-traffic Sensitive Plant Telephone company facilities which are unaffected by changes in volume of telephone activity.

Non-transparent Mode A transmission environment, mainly of bisynch transmission, in which control characters and control-character sequences are recognized through the examination of all transmitted data. Compare with transparent mode. Also called normal mode.

Non-trivial Microsoft word for "hard."

Non-volatile Memory which is not lost (i.e. that does not "forget") when the power is shut off.

Non-volatile Random Access Memory Electronic circuitry that provides back-up operation of CMOS RAM and/or Flash PROM in case of a power failure.

Non-Volatile (Nonvolatile) Storage A storage medium that does not lose its contents when power is removed.

Non-wireline Also called the block "A" carrier. The "A" originally stood for "alternate."

have email because their bosses haven't figured out how to include email in the censoring process. Some brokers, however, have subscribed to their own email service, e.g. with AOL or MSN. They refer to this email as "non-email," since their firms won't allow them to have real email. This way when they talk to their clients on the phone (which is recorded), they won't be talking about a verboten subject, email. They will talk about a non-verbatim subject, namely non-email. Of course, if they didn't have email, they wouldn't have many clients. You figure Wall Street.

Non-erasable A switch where a through traffic path always exists for each attached phone. Generically, a switch or switching environment designed never to experience a busy condition due to call volume. See Non-Blocking, which is a better term.

Non-impact Printer Refers to printers that do not strike a hammer to a platen as typewriters do. Usually a heat sensitive paper or laser printing technology is involved.

Non-intelligible Crosstalk Crosstalk which is not of sufficient level to be understood by a listener but which is more annoying than other crosstalk because you think it's intelligible. Or think it should be intelligible.

Non-interlaced Non-interlaced refers to monitors whose electron gun scans the entire screen without skipping any scan lines. There's a good definition on interlacing and non-interlacing under Interlacing.

Non-ionizing Emissions Radio waves, infrared rays and visible light rays, none of which can affect an atom's electrical balance.

Non-ISDN Line Any connection from a CPE to a central office switch that is not served by D-channel signaling.

Non-ISDN Trunk In ISDN language, a non-ISDN trunk is any trunk not served by either SS7 or D-channel signaling.

Non-linear Distortion Amplitude distortion of a signal in which the output signal does not have a linear relationship to the input signal.

Non-loaded Lines Cable pairs or transmission lines with no added inductive loading coils. In short, straight, raw copper pairs. See Load Coils.

Non-maskable interrupt An interrupt on a PC that cannot be disabled by another interrupt.

Non-persistent In local area networking technology, describes a carrier sense multiple access (CSMA) local area network (LAN) in which the stations involved in a collision do not try to retransmit immediately — even if the network is quiet. Compare with persistent and p-persistent.

Non-printing Character A character in a transmission code which performs a control function but is not reproduced when the transmission is printed.

Non-progressive Display See Interlaced GIF.

Non-proprietary LAN A Local Area Network that can connect the equipment of many vendors. See Proprietary LAN.

Non-published There are various interpretations of what constitutes an "non-published," "unpublished" and "unlisted" phone number in North America. Some phone companies use these words interchangeably. Some don't. In California, Pacific Bell offers unpublished phone service. Your phone number is not listed in the paper phone directories, but is listed with dial up "Directory Assistance." Pacific Bell also has a more expensive service called "Unlisted Service." Here, your phone number is not included in the paper phone directories or given out to callers to Directory Assistance. Nynex (and I presume other phone companies) has a service whereby you can leave a message for the owner of an unlisted number. "Please call me. You've won the lottery." The owner of the unlisted number then has the choice to return the call or not. He doesn't pay to receive this message. Some telephone companies confuse the definitions and some invent new ones. For example, some phone companies use the term "non-published" number. You won't find the number in a phone book or by calling Directory Assistance. Over 25% of many private phone numbers in major metropolitan areas are unlisted, unpublished or non-published — a "service" their subscribers pay extra for. To my simple brain, it's a lot easier to simply publish your name as "Apple Plumpudding." See Unpublished.

Non-receipt Notification In X.400, a non-receipt notification is a report prepared by a recipient UA (User Agent) or Access Unit (upon request) and sent to the originating UA or Access Unit when a message is deemed unreceivable by a recipient.

Non-repudiation A mechanism which prevents a user from denying a legitimate, billable charge. For instance, a user engaged in an Internet-based voice or video conference might later repudiate the charge, alleging that he was not a party to the conference. A non-repudiation mechanism would provide for monitoring of all endpoints (connected users or machines) during the course of the conference in order that any applicable charges might be supported in

the event that they are challenged.

Non-routable Protocols LAN protocols, such as IBM's NetBIOS, LAN Server and SNA, that use names and not Network Layer Addresses to identify devices and therefore supply no routing information. Internetworking devices must find other ways to route traffic in networks that use nonroutable protocols.

Non-selective Routing In the US emergency services telephone network, the routing of 911 calls to a serving public safety answering point based only on the originating Central Office. Compare to Selective Routing. See E-911 Service.

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Perforator, Paper Tape An electro-mechanical device which converts electrical signals into coded holes in a paper tape. See Paper Tape Punch. Performance Management

Measures and records resource utilization. It is one of the categories of network management defined by the ISO (International Standards Organization).

Periapsis In satellite systems, the point on a satellite's orbit at which it is closest to the center of the primary body about which it is orbiting. Where Earth-based satellite systems are concerned, the term is synonymous with perigee. See also Geostationary Orbit.

Perigee The point at which a satellite orbit is the least distance from the center of the gravitational field of the Earth. The point in an orbit at which the satellite is farthest from the Earth is known as the apogee. In commercial application, the terms have most significance with respect to LEOs (Low Earth Orbiting) and MEOs (Middle Earth Orbiting) satellite constellations, which travel in elliptical orbits. See also LEO, MEO, and PERIAPSIS.

Perimeter Firewall There are two types of perimeter firewalls: static packet filtering and dynamic firewalls. Both work at the IP address level, selectively passing or blocking data packets. Static packet filters are less flexible than dynamic firewalls. See Firewall.

Perimeter Protection System A field disturbance sensor which uses buried leaky cables installed around a facility to detect any unauthorized entry or exit.

Period Of A Satellite The time elapsing between two consecutive passages of a satellite through a characteristic point on its orbit.

Periodic Postings Articles that are posted periodically to a newsgroup for the benefit of people who are new to the newsgroup. An Internet term.

Periodic Registration A cellular term. A MSC (Mobile Switching Center) periodically sends out a broadcast message, requesting that all active cell phones register themselves. This process helps the MSC keep track of the active devices, and determine which cell sites are serving them.

Peripheral Device See Peripheral Equipment or Applications Processor.

Peripheral Equipment Equipment not integral to but working with a phone system. An example might be a printer or television screen on which calling traffic statistics are displayed. It might also be a voice mail or an automated attendant system. AT&T once called PBX peripheral equipment "applications processors," because they process specific applications. Some people now call them Adjunct Processor or Outboard Processors.

Perl Practical Extraction and Report Language. An interpreted scripting programming language, first released in 1987 by Larry Wall to streamline the administration of a network of Sun and DEC VAX computers. Perl is a highly portable language widely used in writing CGI (Common Gateway Interface) scripts, which are the standard means of performing actions — like searching or running applications when the user clicks on certain buttons or on parts of Web screen pages. The form Perl is preferred for the language itself; perl is used for the interpreter for the Perl language. See CGI.

Permalancer A permanent freelancer. A person hired on a per-project basis who lives a benefits-free existence.

Permanent Path Fixed communication path between fibre channel nodes that provides guaranteed bandwidth. See Dynamic Path.

Permanent Presentation Status PPS. A PPS has a public value of a "public" or "anonymous" and is used as the presentation status of a call if no per-call CIDB (Calling Line Identification Delivery Blocking) feature is active. A PPS should exist for each calling identity item. A Bellcore definition.

Permanent Shift Type A call center term. A shift definition that the program gives priority to in creating schedules but uses only as long as no overstaffing results in any intra-day period (at which point flexible shift types are used). When scheduling is done for more than a week at a time, the permanent schedules are always identical from one week to the next.

Permanent Signal A sustained off-hook supervisory signal originating outside a switching system and not related to a call in progress. Permanent signals can occupy a sub-

stantial part of the capacity of a switching system.

Permanent vacation What Gerry, my partner, wants. What Harry won't let him have.

Permanent Virtual Circuit 1. PVC. A virtual circuit that is "permanently" defined in routing tables in packet network switches or routers, at least until such time as it is "permanently" changed. The network path, therefore, is fixed in programmed logic, and can be exercised quickly. A PVC uses a fixed logical channel over a physical network. Once a PVC is defined, it requires no setup operation before data is sent and no disconnect operation after data is sent. PVCs are used in packet-switched networks such as Frame Relay and TCP/IP. See also Switched Virtual Circuit.

2. PolyVinyl Chloride. A type of plastic material used in the manufacture of flame-retardant cable jackets.

Permissible Interference Observed or predicted interference which complies with quantitative interference and sharing criteria contained in these [Radio] Regulations or in CCIR Recommendations or in special agreements as provided for in these Regulations. (RR) See also accepted interference, interference.

Permission A Windows NT term. A rule tied to an object (usually a directory, file or printer) to regulate which users can have access to the object and in what manner.

Permissions 1. A call center term. Privileges granted to each user with respect to what data that user is allowed to access and what menu options or commands he or she is allowed to use. Permissions are under control of the System Administrator.

2. A Northern Telecom Norstar definition to define specific characteristics that can be assigned to an individual telephone. Permissions includes Full Handsfree, Handsfree Answerback, Pickup Group, Page Zone, Auxiliary Ring, Receive tones, and Priority Call.

Permissive Dialing There's an area code change. Many peoples' phones now have different area codes. People calling them will have to dial a different area code. There'll be a time, perhaps three months, in which a caller will be able to reach the number by dialing the old area code or the new area code. That period is known as permissive dialing. Once the period of permissive dialing is over, the period of mandatory dialing begins.

Perpetrator Someone who carries out an illegal or malicious act affecting information security.

Persistence 1. In a CRT, the time a phosphor dot remains illuminated after being energized. Long-persistent phosphors reduce flicker, but generate ghost-like images that linger on screen for a fraction of a second.

2. The probability that when a device on a local area network which has the data to transmit senses a free transmission line it will attempt the transmission. 1.0 persistence indicates that there is 100 percent probability that the device will always attempt to transmit. IEEE 802.3 and Ethernet both use 1.0 persistence. A 0.5 persistence indicates that when a device senses a free line it will only attempt to transmit 50 percent of the time.

Persistency A persistent configured site will attempt to re-establish the connection in the event of an unexpected line drop. A non-persistent configured site will not.

Persistent Communication A dialogue between an ASC (AIN Switch Capabilities) and a SLEE (Service Logic Execution Environment) that may involve a sequence of messages. Definition from Bellcore in reference to its concept of the Advanced Intelligent Network.

Persistent Information Information for which a permanent data object exists. Definition from Bellcore in reference to its concept of the Advanced Intelligent Network.

Person Call There will be two types of calls: person calls and place calls. I make a place call when I call a phone number which ends in one designated, fixed RJ-11 jack attached to the wall or floor. I make a person call when I call a phone number which doesn't necessarily end on a fixed place. A typical person call might be a cellular or wireless phone call. It might also be a service like MCI's Personal 800 Service. The major characteristic of a person call is that I am calling a person and I don't know where that person is. As a result, the person I called might answer my call anywhere — from his car, from vacation home, from his wireless phone, etc.

Person To Person Call The most expensive way to make a long distance call. Call the operator. Say "I want to speak to Harry Newton on 212-691-8215." The operator dials Mr. Newton's phone number, gets Mr. Newton on the phone. "Are you Mr. Newton?" Mr. Newton replies: "Yes, I am." The operator bows out of the conversation and sends you, the caller, a hefty bill for that personalized service. Until recently, person-to-person service was only offered by AT&T. Now it's offered by most phone companies. But prices, in the main, are not regulated. And some companies charge an arm and a leg. Please be careful.

Personal 800 Number Several long distance companies are now offering Personal 800 numbers, which are basically party line 800 numbers with call routing. The way they work is as follows: You dial a number, e.g. 800-484-1000. A machine answers with a double beep. You punch in four or five digits on your touchtone pad. A voice response unit at the other end hears the digits, says "Thank you for using MCI" and dials out your long distance number which might be 212-691-8215 (mine). The long distance carriers are charging under \$5 a month and 15 to 25 cents a minute for the service. The per minute charges are more expensive than normal 800 lines. One company, MCI, is also offering FOLLOW ME 800 which allows you to change the routing of your personal 800 number instantly with one phone line.

Personal Agent A personal agent is a piece of software on your personal computer that does your bidding. It may answer your emails (or at least some of them). It may find things on the web you're looking for. It may schedule appointments for you. The concept is easy: No one has a secretary anymore. So why not program your computer to do your bidding? Easier said than done. A software agent is software in the making.

Personal Authentication Device P.A.D. A portable or fixed device which allows for precise identification and validation of each user. Used in fraud prevention and unauthorized access. Also called a "token".

Personal Central Office Trunk Line Also known as a "private line." Allows a user behind a PBX to access a central office trunk line dedicated to him; also allows people to call him directly, bypassing the PBX. Such a private line can appear on a line access button on an electronic PBX phone, or can terminate on a separate phone. As the private line bypasses the PBX, the console attendants can't listen to your conversations; neither can the technicians, unless they physically tap the line. Private lines, therefore, are more secure than the typical PBX station line. They also are CO-powered; as a result, they are not susceptible to power outages which might affect the PBX system. Senior executives use them, as do venture capitalists and others who conduct highly confidential negotiations. See also Private Line.

Personal Communications Industry Association PCIA. The trade association of the new cellular phone providers. PCIA represents a wide range of interests, including Broadband PCS, paging and narrowband PCS, antennae site owners and managers, Specialized Mobile Radio (SMR), suppliers and manufacturers. See also PCS. www.pcia.com

Personal Communications Networks PCN. A new type of wireless telephone system that would use light, inexpensive handheld handsets and communicate via low-power antennas. PCN is primarily seen as a city communications system, with far less range than cellular. Subscribers would be able to make and perhaps receive calls while they are traveling, as they can do today with cellular radio systems, but at a low price. There's talk that they'll put PCN antennas in communities and issue everyone in the community with a PCN phone that would hub off the PCN antenna. This would save the phone company wiring up each house. In this way, the PCN phone would resemble the common household cordless phone, but with a larger range. Dr. Sarin Cahn of Northern Telecom calls the new low-power, wireless, personal communications systems an "enabler of unplanned growth." Nice definition. See PCN and Personal Communications Services.

In the fall of 1992 MCI broadened the definition of PCN. It proposed a national consortium of local PCNs joined together by a long distance carrier (namely it). In its release, MCI said that "PCNs are the next generation of digital wireless communications technology. PCNs use less power and are less expensive than the current cellular technology and permit the use of inexpensive pocket telephones with much longer battery life than cellular portables. PCN phones will have many more features than today's cellular or conventional telephones, and unlike cellular phones, will be usable in most areas of the world. PCNs will operate in the same frequency band in most countries, (1850-1990 MHz) while cellular is operating in several different frequency bands in various countries, and thus is not portable from country to country." See also Personal Communications Services.

Personal Communications Services PCS are a broad range of individualized telecommunications services that let people or devices to communicate irrespective of where they are. Some of the services include:

- Personal numbers assigned to individuals rather than telephones
- Call completion regardless of location ("find me")
- Calls to the PCS customer can be paid for by the caller, or by the PCS customer
- Call management services giving the called party much greater control over incoming calls. PCS can both find and complete a call to a person regardless of location, but give that person the choice of accepting or rejecting the call or sending it somewhere else. PCS will pos-

Pen Register / Permanent Signal

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Perforator, Paper Tape An electro-mechanical device which converts electrical signals into coded holes in a paper tape. See Paper Tape Punch.

Performance Management

Measures and records resource utilization. It is one of the categories of network management defined by the ISO (international Standards Organization).

Periapsis In satellite systems, the point on a satellite's orbit at which it is closest to the center of the primary body about which it is orbiting. Where Earth-based satellite systems are concerned, the term is synonymous with perigee. See also Geostationary Orbit.

Perigee The point at which a satellite orbit is the least distance from the center of the gravitational field of the Earth. The point in an orbit at which the satellite is farthest from the Earth is known as the apogee. In commercial application, the terms have most significance with respect to LEOs (Low Earth Orbiting) and MEOs (Middle Earth Orbiting) satellite constellations, which travel in elliptical orbits. See also LEO, MEO, and PERIAPSIS.

Perimeter Firewall There are two types of perimeter firewalls: static packet filtering and dynamic firewalls. Both work at the IP address level, selectively passing or blocking data packets. Static packet filters are less flexible than dynamic firewalls. See Firewall.

Perimeter Protection System A field disturbance sensor which uses buried leaky cables installed around a facility to detect any unauthorized entry or exit.

Period Of A Satellite The time elapsing between two consecutive passages of a satellite through a characteristic point on its orbit.

Periodic Postings Articles that are posted periodically to a newsgroup for the benefit of people who are new to the newsgroup. An Internet term.

Periodic Registration A cellular term. A MSC (Mobile Switching Center) periodically sends out a broadcast message, requesting that all active cell phones register themselves. This process helps the MSC keep track of the active devices, and determine which cell sites are serving them.

Peripheral Device See Peripheral Equipment or Applications Processor.

Peripheral Equipment Equipment not integral to but working with a phone system. An example might be a printer or television screen on which calling traffic statistics are displayed. It might also be a voice mail or an automated attendant system. AT&T once called PBX peripheral equipment "applications processors," because they process specific applications. Some people now call them Adjunct Processor or Outboard Processors.

Perl Practical Extraction and Report Language. An interpreted scripting programming language, first released in 1987 by Larry Wall to streamline the administration of a network of Sun and DEC VAX computers. Perl is a highly portable language widely used in writing CGI (Common Gateway Interface) scripts, which are the standard means of performing actions — like searching or running applications when the user clicks on certain buttons or on parts of Web screen pages. The form Perl is preferred for the language itself; perl is used for the interpreter for the Perl language. See CGI.

Permalancer A permanent freelancer. A person hired on a per-project basis who lives a benefits-free existence.

Permanent Path Fixed communication path between fibre channel nodes that provides guaranteed bandwidth. See Dynamic Path.

Permanent Presentation Status PPS. A PPS has a public value of a "public" or "anonymous" and is used as the presentation status of a call if no per-call Cldb (Calling Line Identification Delivery Blocking) feature is active. A PPS should exist for each calling identity item. A Bellcore definition.

Permanent Shift Type A call center term. A shift definition that the program gives priority to in creating schedules but uses only as long as no overstaffing results in any intra-day period (at which point flexible shift types are used). When scheduling is done for more than a week at a time, the permanent schedules are always identical from one week to the next.

Permanent Signal A sustained off-hook supervisory signal originating outside a switching system and not related to a call in progress. Permanent signals can occupy a sub-

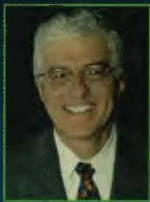
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Harry Newton has 31 years studying, writing, lecturing and investing in telecommunications. He founded LAN (now Network), Teleconnect, Call Center and Computer Telephony magazines. He also founded the enormously successful trade shows, Computer Telephony Conference and Exposition (CT Expo) and Call Center Demo. Newton has an MBA from the Harvard Business School and an Economics degree from the University of Sydney, Australia.

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