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NEWTON'S TELECOM DICTIONARY

Telecommunications • The Internet • Networking
Information Technologies • Everything voice, data
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26,283 TERMS DEFINED

26th Updated & Expanded Edition

Harry Newton
with Steve Schoen

NEWTON'S TELECOM DICTIONARY

NEWTON'S TELECOM DICTIONARY
26th Expanded and Updated Edition

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over the WAN via an ATM VC (Virtual Channel). LANE is not simple and is prone to bottlenecks, but is a cool way to internetwork LANs over ATM. MPOA (MultiProtocol Over ATM) is even more cool, as it operates at the Network Layer (Layer 3 of the OSI Reference Model). Thereby, MPOA overcomes the limitations of LANE by supporting multiple network protocols such as IP, IPX, and AppleTalk. See also MPOA.

lane A single interactive multimedia network.

language Short for programming language. A formal, artificial language for writing computer programs. A programming language has a syntax, semantics, punctuation rules, and a lexicon. Examples of programming languages include BASIC, C, C++, COBOL, FORTRAN, Java, and Pascal. Programming languages are implemented in software products such as compilers and interpreters, which convert programming language instructions written by humans (such a set of instructions being called source code) into machine-language instructions that a computer's processor can understand (such a set of instructions being called machine code).

language interpreter Any processor, assembler or software that accepts statements in one software language and then produces equivalent statements in another language.

LANI Local Automatic Number Identification.

lanyard The cable or chain that is used to secure a phone book binder to a phone booth or shelf. I suspect this term is pretty well obsolete now. I haven't seen a telephone book in a phone booth for eons. For that matter, I haven't seen a phone booth for a while. They're all being replaced by cell phones.

LAP Link Access Procedure.

LAP-B LAPB. Link Access Procedure Balanced, the most common data-link control protocol used to interface X.25 DTEs with X.25 also specifies a LAP or link access procedure (not balanced). Both LAP and LAP-B are full-duplex, point-to-point bit-synchronous protocols. The unit of data transmission is called a frame. Frames may contain one or more X.25 packets. LAP-B is the data link level of X.25 in a packet switched network. Same as a subset of the asynchronous balanced mode of HDLC. It is the link initialization procedure that establishes and maintains communications between the data terminal equipment (DTE) and data communications equipment (DCE). All public packet data networks (PDNs) support LAPB.

LAP-D Or LAPD. Link Access Procedure-D. Also called Link Access Protocol for the D channel. Link-level protocol devised for ISDN connections, differing from LAPB (LAP-Balanced) in its framing sequence. Likely to be used as basis for LAPM, the proposed ITU-T modem error-control standard.

LAPD phonetic alphabet Words that represent the letters of the alphabet. Used in radio communications by the Los Angeles Police Department and by other local and state law enforcement agencies, sometimes with slight variations, in California and other parts of the western United States. The LAPD phonetic alphabet is as follows: Adam, Boy (Baker, Bravo), Charles, David, Edward, Frank, George, Henry, Ida, John, King, Lincoln, Mary, Nora, Ocean, Paul, Queen, Robert, Sam, Tom, Union, Victor, William, X-ray, Young (Yellow), Zebra. See NATO Phonetic Alphabet.

lapjacking The increasingly common practice, especially in airports, of stealing laptop computers. Definition courtesy Wireless Magazine.

Laplink Laplink was originally a DOS program that transferred files between laptop and desktop computers. It came with a special cable that attached from one computer's serial port to the other. You plugged the cable in, loaded the Laplink software and transferred files back and forth. You could do the transferring from either machine. It was a nifty program, the brainchild of Mark Eppley and he formed a company to sell it, called Traveling Software in Bothell, WA. Eventually the program became so successful that the word "to laplink" became a common verb to connote the transferring of files between computers, as in "I'll laplink these files over to Mary's machine." Eppley's program is now in Windows format. You can transfer across a parallel port cable (which is faster than the serial port). You can also transfer files across phone lines and across the Internet. You don't even have to be in the same city to transfer files. And Eppley has a new feature called SpeedSync that cuts transfer time down by sending only the changed parts of the file. We used to use Laplink every day.

But when it became too complex, we switched to FileSync for backing up files. We still use the old Laplink III occasionally.

LAPM Link Access Procedure for Modems. A type of error control used in V.42 and V.42bis modems. LAPM uses the Automatic Repeat Request (ARR) method, whereby a request for retransmission of an errored data frame is automatically requested by the receiving device. As I was writing this entry, a reader asked "if I can transmit HDLC format data thru the GSM network. The data sheet for one of the GSM engines states it can handle V42 bis data transfer." LAPM and ports LAPM, by definition. Such modems also use HDLC frames, which are synchronous modems, by definition. Therefore, he should be able to accomplish all of this via GSM, as best I can determine.

laptop computer A portable computer you can use on your lap. Also called a notebook. Usually a laptop weighs fewer than ten pounds. Mine weighs three pounds. Laptops weighing fewer than four pounds are sometimes called subnotebooks. To get a laptop to weigh that little, you typically have to sacrifice something—the DVD drive, for example. Laptops are probably the most useful gadget to come along in years. I wrote this dictionary on a laptop in planes, trains, airports, etc. I don't own a desktop. I do all my work on my laptop.

laptop zombie A laptop user using inordinate amounts of free Wi-Fi at a coffee shop or other establishment, who is so absorbed in his Internet session that he is oblivious to the world around him.

LARG LIDB Access Routing Guide. The LARG is a single source for Line Information Database (LIDB) access routing data used for administering and maintaining STP Global Title Translations (GTTs). It identifies the responsible signaling network control center, the intra-network LIDB data, the inter-network route effective date, and the capability code or pseudo-point code. This provides routing information necessary to route an inquiry to the correct LIDB for the validation of calling cards and other Alternate Billing Services. The LARG is available on a one-time and monthly basis and is provided on disc, can be delivered via email, and is web-downloadable from the TRA Product Distribution System (PDS). See also LIDB.

large squaring capability A feature on some key systems which permits all lines to appear on all telephone sets.

laser An acronym for Light Amplification by Stimulated Emission of Radiation. It is a device which produces light. Tunable lasers can produce light of a single frequency, or visible color, in human terms. By turning the laser light signal on and off quickly, you can transmit the ones and zeros of a digital communications channel. Lasers carried through glass fiber are ideal for telecommunications transmission for two major reasons. 1. Glass fiber of such purity has now been developed that only a very minute portion of the laser light traveling through it is lost. In telecom terms, this means very little of the laser signal is attenuated, or loses power. The signal maintains its strength and thus reduces the need for frequent and expensive repeaters (the digital word for "amplifiers"). Laser transmission systems can now carry many thousands of voice conversations for hundreds of miles without repeaters on two fibers no thicker than a human hair. (You need two fibers—one for transmission in each direction) 2. The glass fibers in laser fiber optic telecom systems are totally immune to electromagnetic interference of any kind. There's no humming from electrical motors. You can't pick up the local TV station in the background. You can't pick up any interference from adjacent cables. In recent years, laser fiber optic transmission has been getting cheaper, more reliable and more powerful at roughly the same rate as computers, and like computers, nobody believes there is an end in sight. As we were writing the first edition of this dictionary, there is an end in sight. As we were writing the first edition of this dictionary, Russell Dewitt of Contel (since acquired by GTE, since acquired by Bell Atlantic, now renamed Verizon) delivered a paper entitled Evolution of fiber optics in rural telephone networks. In it, he talked about "Fiber Optics Progress" and said: "In 1860, the Pony Express could deliver a letter from St. Louis to San Francisco in ten days. For three typed pages the data transmission rate was about three bits per minute. In comparison, today in Contel we are transmitting at the rate of 565 Mbps (million bits per second) over single mode fiber. This is a capacity of 8,064 voice channels. Gigabit per second systems will be available for use this year (a gigabit is a thousand million bits) and a 20 Gbps

last extension called Same as Last Number Redial.

Last In First Out LIFO. The last phone call (or data) arriving is the first call (or data) to leave—to be processed, to be saved, whatever. The term LIFO comes from accounting. It's one of several ways to value an inventory. See also FIFO.

last known good configuration In Windows, the last configuration that was used to boot the computer successfully. Windows saves this configuration and can offer it as a startup option during booting.

last mile The last mile is an imprecise term that typically means the link between an end-user and the telephone company central office—local, long distance or Internet. Of course, it doesn't mean a "mile," since that "mile" could be less than a mile or several miles. The term has entered the language referring to the problems of your telecommunications service making it that last mile at a price you can afford, for the quality you deserve and achieving a decent speed. Let's take price first. Competition in telecom has been heavily concentrated on long distance and international. Carriers in long distance and international have relied on local phone companies to deliver their customers' communications. Since there was little competition, the price for the last mile has often been very high. Second, there's the issue of the technology and quality of that last mile. Often that last mile runs over old, limited bandwidth copper wire that has been in the ground or on telephone poles for eons and is supplied by a sleepy phone company which doesn't have any competition and has little incentive to provide its competitors with a competitive edge. The "solution" to the local loop issue has often been to introduce competition in the form of a cable company or have the long distance company build local facilities.

last caller announcement A value-added service offered by some phone companies that lets a customer dial a special short access code to hear the telephone number, date, and time of the last telephone call received.

last caller number lookup A service offered by some local phone companies that lets a subscriber enter a special code (*69 in North America) to find out the originating phone number of the last incoming call, whether it was answered or not. After the phone number is announced, the subscriber is given the option of pressing a number (usually "1") to have the number dialed. Local phone companies differ in terms of whether or not they charge for the number lookup and for dialing the number if the subscriber opts for it. Some telcos provide the lookup for free and charge for the dial-up. Some charge for both. It's possible that some may charge for neither. Also called: automatic number recall, automatic recall.

last number redial Most modern electronic phones have a button on them called "Last Number Redial." When you touch this button, your phone will automatically dial the last number you dialed. If you also have speed dial numbers on your phone, any number you dialed with a Speed Dial button will not appear in Last Number Redial. Most Last Number Redial buttons on electronic phones attached to a PBX will only recognize completely-dialed numbers. Last Number Redial buttons are useful. Also useful—but less common—is a stored number dial button. Dial a number, punch in "save," then that number will be saved to that button, ready to be dialed later, even though you might dial some other numbers in the meantime.

last piece of unfinished business What Joel Novak's mother used to call him before he finally succumbed and got married.

LAT 1. Local Area Transport. A proprietary communications protocol developed by DEC for terminal-to-host communications. LAT allows terminal emulators to access VAX and VMS systems over Ethernet. See LAT Protocol.

2. A proprietary protocol used in Digital Equipment Corp. terminal servers, providing communication for terminals across an Ethernet LAN. See LAT Protocol.

LAT protocol The LAT protocol, announced by Digital Equipment Corporation in the mid-80s, is today one of the industry's most widely used protocols for supporting character terminals over Ethernet networks. LAT is currently licensed by more than 40 third party hardware and software developers, and is compatible with the products of more than 30 major system vendors, from Apollo, and Apple to IBM, Tandem and Wang. The basic function of the LAT protocol is to permit a terminal server to connect multiple asynchronous devices—video

has been demonstrated in the laboratory. For the future, the ultimate potential of a single mode fiber has been estimated. It is about 25,000 Gbps (25,000,000,000 bits per second). At that rate you could transmit all the knowledge recorded since the beginning of time in 20 seconds."

That sounded pretty incredible a few years ago, and it was. SONET (Synchronous Optical Network) optical fiber systems currently run at speeds up to hundreds of lambdas (i.e. wavelength of light). DWDM (Dense Wave Division Multiplexing) hundreds of lambdas can be multiplexed to yield speeds in the range of Tbps, at least in the labs. Free-space optics are used in WLL (wireless local loop) applications, routinely running at speeds up to 622 Mbps, with some running at up to 1 Tbps. Free-space systems run over distances of up to several miles through the air, with no requirement for trenching or planting poles, splicing fibers, etc. See associated requirement for trenching or planting poles, splicing fibers, etc. See also DWDM, Laser Diode, Laser Fax, LCD, LED, Fiber Optics, Free-Space Optics, and SONET.

laser clipping The impairment of an optical signal due to an electrical signal falling below the threshold electrical current required to drive the laser's electro-optical conversions.

laser diode Conceptually similar to LEDs, laser diodes are the light source in high-speed fiber optic systems. While LEDs are limited to transmission rates of 500 Mbps or so, laser diodes operate at speeds of many Gbps.

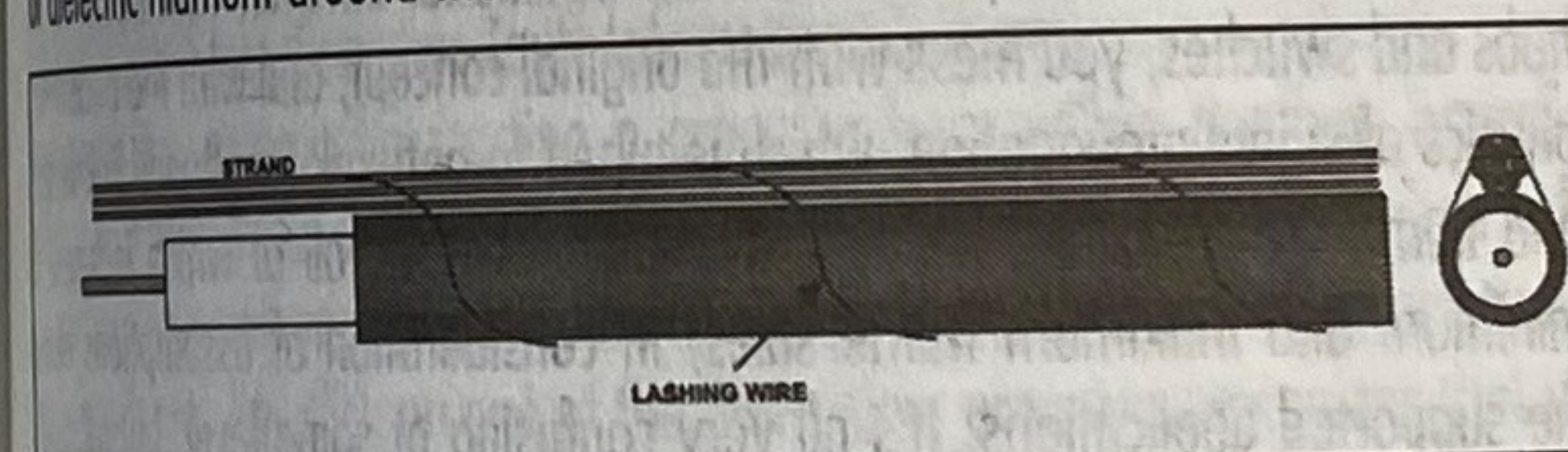
laser fax A conventional laser printer that is also capable of being used as a FAX machine when combined with an optional plug-in cartridge and with a personal computer.

laser optical System of recording on grooveless discs using a optical-tracking pickup. Originally, the technology was WORM—Write Once (i.e. not erasable) Read Many. It's now erasable.

laser printer A high speed non impact dot matrix printer which uses a laser beam to electrostatically form characters on paper. The printer then heats the paper which melts a metallic dust attracted to the electrostatic areas which form the inked images on the paper. Laser printers are fast and the quality of their printing beautiful, rivaling that produced by conventional photo typeset (the way this book was produced).

lasercom Laser communications, i.e. the use of laser beams through free space for communications.

lashing Attachment of a cable to a support strand by wrapping steel wire or dielectric filament around the cable.



LASIK Surgery Laser in Situ Keratomileusis. Eye surgery using a laser which corrects vision problems by sculpting the cornea.

LASS See Local Area Signaling Services.

LAST Local Area Systems Technology. A Digital (DEC) protocol.

last 10 feet The distance between the customer's broadband modem and the TV, which is sometimes expressed as the distance between the customer's PC and the TV, or between the customer's home office and living room. See the next definition.

last 10 yards problem The challenge of delivering a high-quality radio signal indoors from a municipal Wi-Fi network, without the user's having to spend additional money for a repeater. The "last ten yards problem" is rooted in Wi-Fi's use of unlicensed spectrum, its required use of low-power transmitters, and the limited ability of Wi-Fi signals to bounce—all of which limit the ability of Wi-Fi signals to penetrate walls and reach inner rooms of a residence or office building. See the previous definition.

last digit dialed signal Allows the use of the # sign on Touchtone telephones to indicate that the last digit has been dialed on outgoing calls. This signal enables the PBX to process calls more rapidly, since some PBXs count the time after a digit was dialed. If nothing else is dialed within a certain time, it assumes that the dialing is complete and then pulses out the call.

perma-bears Skeptical investors who would rather own gold, silver or water rights than own a blue-chip stock. Perma-bears believe that the stockmarket will always go down.

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

permlink Short for "permanent link," it is the URL for the permanent copy of a blog entry or news item that still will be accessible after it has moved off the home page and into the archive of the blog or news service.

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 over-staffing 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 substantial part of the capacity of a switching system.

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.

Permanent Virtual Path Tunneling See PVP Tunneling.

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 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. See permissions.

permission marketing A marketing method whereby companies get their customers' permission to market products or services to them. Sign up for a email newsletter. It often asks you if it could also send you offers to sell you stuff. It asks your permission. The theory is that by consumers will pay more attention to the marketing message. These days email that is not permissions driven is called spam. The term was coined by Seth Godin in his book, Permission Marketing.

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. Specific features that can be assigned to an individual telephone. Permissions includes full handsfree, handsfree answerback, pickup group, page zone, auxiliary ringer, 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. Permissive dialing is also enabled when a territory's country code is redefined as an area code (in the US or Canada) or as a city code (elsewhere). For example, on October 2,

2004 country code 684, which previously had been the country code of American territory, American Samoa, was converted to a country code in the North American Numbering Plan (NANP). A permissive dialing period began on October 2, 2004, during which callers could continue to use the previous international dialing pattern when making calls to American Samoa instead of using a dialing pattern for a call to an area code in the NANP. The permissive dialing period ended on April 2, 2005, after which calls to American Samoa could only be completed if they were dialed as calls to an area code in the NANP. Calls that used the previous international dialing pattern were routed to an intercept that played a recorded message instructing callers to dial the correct country code and area code.

permitivity See Dielectric Constant.

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.

persistence of vision The physiological phenomena whereby at the longer visible.

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 (AN 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 carrier charges 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 access system See PAS.

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 area network See 802.15.1 and PAN.

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, antenna 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 lower price. There was talk that they'll put PCN antennas in communities and issue everyone in the community with a PCN phone that would hub off that one 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. Sorin Cohn of Nortel called the new low-power, wireless, personal communications systems an "enabler of unplanned growth." Nice definition. The idea really never got widely implemented, though there is a variation of it in China, a sort of local city-wide cell phone. See PCN and 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 possibly use a new category of wireless, voice and data communications—using low power, lightweight pocket telephones and hand-held computers.

personal computer PC. A computer for one person's use. That's why it was originally called a personal computer—to distinguish it from other computers that existed at the time of the PC's invention, or 1981, the date IBM introduced its first PC. Those other computers were mainframes and mini-computers. They were shared by many users—airline reservations, being an example. Of course, as the PC got more powerful, things got more complex. In

1983, Novell introduced its first local area network software called NetWare. NetWare was originally introduced to allow a handful of personal computers to share a single hard disk, which at that stage was costly and scarce. As hard disks became more available and cheaper, NetWare evolved to allow sharing of printers and file servers. Networking developed in the 1980s and 1990s and gave PCs the shared-user power of mainframes and minicomputers. As a result, today some PCs are personal computers (most commonly a laptop), used by one person standalone. All PCs today can attach to a local area network (LAN). For some reason, people call these PCs workstations. And there are some PCs which have become servers—i.e. they "serve" many PCs. They may serve them with files. They may do faxing. They may do voice mail for the company. They may run the company's entire phone system. Banks of personal computers are the power for Google's worldwide searching services. In short, meanings change as technology changes. Not all PCs are personal computers any longer.

Personal Computer Memory Card International Association See PCMCIA.

Personal Computing Systems Architecture PCSA. A network architecture defined and supported by Digital Equipment Corp. for the incorporation of personal computers into server-based networks.

personal computer terminal adapter PCTA. A printed circuit card that slips into an IBM PC or PC compatible and connects the PC to the ISDN T-interface. The PCTA basically turns a normal PC into an ISDN phone and ISDN terminal, ready for voice and data communications. According to Nortel, one of the manufacturers of such a device, the PCTA does:

- Functional signaling call setup.
- B channel for circuit switched data.
- X.25 packet data services on the B or D channel.
- Simultaneous operation of the B and D channels.
- M5317T digital telephone to PC messaging for integrated voice and data operation.

NetBIOS interface to applications software.

Personal Data Interchange PDI. A format for exchanging information, such as electronic business, cards via wired or wireless connections.

personal data module A removable module, unique to the ROLM Cypress and Cedar, which stores all information entered by the user. Such items as phone numbers, terminal profiles and log-on sequences are stored in the PDM, which also features battery backup to protect the memory in the event of a power failure. The user can take his personal data module with him, plug it into another Cypress or Cedar and get all his speed dial and other personalized programming on his phone he just moved from.

personal digital assistant PDA. A consumer electronics gadget that looks like a palmtop computer. Unlike personal computers, PDAs will perform specific tasks—acting like an electronic diary, carry-along personal database, personal communicator, memo taker, calculator, alarm clock. The communications will take place through the phone, through a cable attached to your PC or through infrared. See also Windows CE.

personal hotspot See Mi-Fi hotspot.

personal identification number PIN number. 1. An AT&T term meaning the last four digits of your AT&T, MCI Bell operating company Credit Card—the card you use for making long distance numbers. 2. Some banks and financial institutions issue credit cards for machine, teller-less banking. These machines, called Automated Teller Machines, ask you for a password consisting of several numbers or characters. These are not on your credit card. These numbers or characters, called PIN numbers, are designed to make sure the right person is using your card. It's not a good idea to use your birthday as your PIN number.

personal information assistant Tandy's name for what Apple calls a Personal Digital Assistant. See PDA.

personal information manager PIM. Software application which allow the user to organize personal information. similar to an appointment book but personalized and programmed into the PC. PIMs now support Caller ID. When the phone rings, the phone system passes the calling number

