

# TELECOM DICTIONARY

11<sup>th</sup> Edition

The Official Dictionary of Telecommunications  
Computer Telephony, Data Communications  
Internet Telephony, Voice Processing  
Windows 95 & NT Communications  
LAN, WAN and Wireless Networking

by Harry Newton



**NEWTON'S TELECOM DICTIONARY**

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12 West 21 Street  
New York, NY 10010  
212-691-8215 Fax 212-691-1191  
1-800-999-0345  
1-800-LIBRARY  
Email [harrynewton@mcimail.com](mailto:harrynewton@mcimail.com)

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Application

**Apple Menu** The Apple icon in the upper left hand corner of the Apple Macintosh screen. The Apple menu contains control panels, the chooser and other desk accessories.

**Apple Pie** Both an American icon, and the name chosen for Apple Computer's Personal Interactive Electronics (PIE) chartered with extending the company into new growth areas such as Personal Digital Assistants (PDAs), e.g. the Apple II. The PIE division includes Apple Online Services, Newton and Telecommunications group, publishing activities, and based multimedia PDA development.

**Apple Remote Access** ARA is Apple Computer's dial-in client software for Macintosh users allowing remote access to and third party servers.

**Apple URP** Apple Update Routing Protocol. The network routing protocol developed by Apple for use with AppleTalk.

**AppleShare** Apple Computer's local area network. It uses AppleTalk protocols. AppleShare is Apple system software that allows sharing of files and network services via a file server in the Apple Macintosh environment. See APPLETALK.

**Applet** A small application that performs a specific task, such as the Cardfile and Calculator in Microsoft Windows. See also Application.

**AppleTalk** Apple Computer's proprietary networking protocol for linking Macintosh computers and peripherals, e.g. printers. This protocol is independent of what network it is layered on. Current implementations exist for LocalTalk (230 kbps) and EtherTalk (10Mbps).

**AppleTalk Zone and Device Filtering** Provides an additional level of security for AppleTalk networks. On AppleTalk networks, network managers can selectively hide or show devices and/or zones to ARA clients. See ARA.

**Application** A software program that carries out some useful task. Database managers, spreadsheets, communications programs, graphics programs and word processors are all applications.

**Application Binary Interface** ABI. The rules by which software code is written to operate specific computer hardware. Application software, written to conform to an ABI, is able to be run on a wide variety of system platforms that use the same hardware for which the ABI is designed.

**Application Bridge** Aspect Telecommunications' ACD to host computer link. Originally it ran only over R2-232 serial connections, but it now runs over Ethernet, using the TCP/IP link protocol. See also OPEN APPLICATION INTERFACE.

**Application Class** An SCSA term. A group of client applications that perform similar services, such as voice messages and fax-back services.

**Application Equipment Module** AEM. A Northern Telecom term for a device within the Meridian 1 Universal Equipment Module that supports Meridian Link Modules. The Meridian Link Module (MLM) is an Application Module, specially configured to support the Meridian Link interface to host computers.

**Application For Service** A standard telephone company order form that includes pertinent billing, technical and descriptive information which enables the company to provide communications network service to the customer and individualized users.

**Application Framework** This usually means a class library with a fundamental base class for defining a complete application. The framework provides at least some of the facilities through which a program interfaces with the user, such as menus and windows, in a style that is internally consistent and abstracted from the specific environment for which it has been developed. This is an explanation I received from Borland. I don't quite understand it, yet. An application framework is an object-oriented class library that integrates user-interface building blocks, fundamental data structures, and support for object-oriented programming and output. It defines an application's standard user interface and behavior so that the programmer can concentrate on implementing the specifics of the application. An application framework allows developers to reuse the abstract design of an application by modeling each major component of an application as an abstract class.

**Application Generator** AG. A program to generate actual programming code. An applications generator will let you produce software quickly, but it will not allow you the flexibility had you programmed it from scratch. Voice processing applications generators," despite the name, often do not generate programming code. Instead they are self-contained environments which allow a user to define and execute applications. They are more commonly called applications generator, since an applications generator can define and execute many applications. See APPLICATIONS GENERATOR for a longer explanation.

**Application Module** A Northern Telecom term for a computer that can be attached to a Northern Telecom phone system to add intelligence and programmability to the phone system. Often, the AM will be a computer conforming to open standards such as DOS or Windows, or it may be VME-based.

**Application Module Link** AML. A Northern Telecom internal and proprietary link that connects the Meridian 1 (or MSXL port) to the Meridian Link Module.



computers' Personal Interactive Electronics (PIE) division, Personal Digital Assistants (PDAs), e.g. the Apple Newton, communications group, publishing activities, and ScriptX-

are for Macintosh users allowing remote access to Apple protocol developed by Apple for use with Appletalk. Appletalk protocols. AppleShare is Apple system software that runs in the Macintosh environment. See APPLE TALK. AppleLink and Calculator in Microsoft Windows. See also JAVA. Linking Macintosh computers and peripherals, especially current implementations exist for LocalTalk (230.4 Kbps)

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- Portable across the broad range of system architectures;
- Extensible (their words, not mine)
- Abstracted beyond ISDN to facilitate interworking;
- Defined in terms of services and facilities consistent with OSI layer interface standards.

According to Application Software Interface Group, the primary goal of the ASI is to provide a consistent set of application software interface services and application software interface implementation agreement(s) in order that an ISDN application may operate across a broad range of ISDN vendor products and platforms. The application software interface implementation agreements will be referenced by (and tested against) the IUW (ISDN Users Workshop) generated applications. It is anticipated that the vendor companies involved in the development of these implementation agreements will build products for the ISDN marketplace which conform to them. ASI Implementation Agreements are likely to become a US Government Federal Information Processing Standard (FIPS).

**Applications Engineering** Applications engineering is the process of analyzing your telephone network to find products and services that will reduce your monthly bill without sacrificing network quality. It can be as simple as calling the telephone company to convert a particular service to a Rate Stabilization Plan (RSP). In many instances, the use of applications engineering concepts will increase the quality of your network. For example, putting DIDs onto a T1 will save you money and provide your network with a digital backbone. Unfortunately, most applications engineering is done by the telephone company or by their sales agents. Their main goal is not to save you money, but rather to sell telephone company products. Therefore, they are unlikely to advise you of all the hidden costs of converting to a particular service. A true application engineer will provide you with a complete cost analysis that includes all the conversion costs, and provides you with the "break-even date." The break-even date is the date that you monthly saving offsets the initial conversion cost of the service. It is often used synonymously with the term break-even point.

**Applications Generator** An Application generator (AG) is a software tool that, in response to your input, writes code that a computer can understand. In simple terms, it is software that writes software. Applications generators have three major benefits: 1. They save time. You can write software faster. 2. They are perfect for quickly demonstrating an application. 3. They can often be used by non-programmers. Applications generators have two disadvantages. 1. The code they produce is often not as efficient as the code produced by a good programmer. 2. They are often limited in what they can produce. Applications generators tend to be either general purpose tools or very specific tools, providing support for specific applications, such as connecting voice response units to mainframe databases, voice messaging system development, audiotex system development, etc. There are simple AGs. There are complex AGs. There are general purpose AGs. There are specialized AGs. There are character-based AGs. There are GUI based AGs. In researching AGs to write computer telephony and interactive voice response applications, I found three different levels of AG packages. First, there are the sort of non-generator generators. They don't really create new software, but they allow you to tweak existing application blocks. There's no compiling and they're pretty simple to use (though they often lack database and host connectivity). Then there are the pretty GUI forms-based app gens. They usually entail building a call-flow picture, using either pretty icons or easy to understand templates. When you're done filling in all the blanks, you compile it and actually "generate" new software. They're very cute. Finally, there's the script level language of a company like Parity Software, San Francisco. Real programmers dig this. They often feel it gives them a lot more power and flexibility. For very complex apps (with T-1/ISDN, ANI, host connection, speech recognition, multimedia capabilities, etc.) you'll probably need the power and flexibility of a script language. Most of the better GUI application generators let you drop down to a script-level language (and C too).

**Applications Layer** The seventh and highest layer of the Open Systems Interconnection (OSI) data communications model of the International Standards Organization (ISO). It supplies functions to applications or nodes allowing them to communicate with other applications or nodes. File transfer and electronic mail work at this layer. See OSI MODEL.

**Applications Partner** An Applications Partner is AT&T's new name for an outside company which will write software to work on AT&T phone systems, such as the Merlin, Legend and the Definitely. AT&T is setting up an Applications Partner Program to work with companies to help them develop programs and distribute their products. See also DESKTOP CONNECTION.

**Applications Processor** A special purpose computer which attaches to a telephone system and allows it (and the people using it) to perform different "applications," such as voice mail, electronic mail or packet switching. We think AT&T invented the term. See also ADD-ON.

Application

terminal equipment and the interconnecting lines.  
**Protected Mode** A computer's operating mode that is capable of addressing extended memory directly. The operating mode for the Intel 80286 and higher processors (the 80386, 80486 and Pentium) that supports multi tasking, data security, and real memory. The 80286 processor can run in either of two modes: real or protected. In real mode, it emulates an 8086 (it uses a maximum of 640KB of RAM and runs only one software application at a time). Protected mode allows the 80286 processor to access up to 16MB of memory. It uses a 24-bit address bus. Since a bit can have one of two values, raising the base of 2 to the power of 24 is equal to 16,777,316 unique memory addresses. Each memory address can store one byte of information (16,777,216 bytes equals 16MB). Protected mode operation also makes it possible to run more than one application and to handle more processes because more memory is available. Processes can be requests from an operating system application to perform disk I/O, memory management, printing, or other functions. Processes are assigned priority number in protected mode. The processor gives priority to those with higher numbers. Operating system processes always have higher priority than application processes. See also REAL MODE and VIRTUAL 8086 MODE.

**Protective Connecting Arrangement** PCA. A device leased from the telephone company and placed between your (customer-provided) telephone equipment and the lines of the telephone company. The idea was to protect their lines from junky equipment. No instance/case was ever proven of harm occurring to the network from faulty customer-provided equipment and the PCAs were thrown out and replaced by the FCC's Part 68 Registration Program. Under this program, customer-equipment which passes FCC tests can be registered and connected directly to the phone network without these device phone industry eventually refunded most of the fees it charged on the PCAs. NATA and many manufacturers claimed they were designed to prevent the growth of the interconnect or customer-owned phone industry. They were probably right. The provision is now moot, since the charges and the devices no longer exist, except in a museum or attached to very old equipment also PROTECTIVE COUPLING ARRANGEMENT and PCA.

**Protective Coupling Arrangement** PCA. A device placed between the phone company's trunks and your particular phone gadget. The objective of the PCA is to isolate the telephone company's lines from your equipment and thus protect lines from your equipment. The device is not needed if your equipment has passed FCC approval — under Part 68 of the rules. See also PROTECTIVE CONNECTIVE ARRANGEMENT, which is another term for the same thing.

**Protector Block** A device interconnected to an exchange access line to protect the connected equipment from over-voltage and/or over-current of 600 volts or greater. Hazardous voltages and currents are shunted to ground.

**PROTEL** PROcedure Oriented Type Enforcing Language. Protel is a block-structured, type-enforcing, high level, software language that enables extensive type checking on the source code at compile time. It was developed at Bell Northern Research subsidiary of Northern Telecom. Protel is used in the DMS-100, a family of Northern Telecom central office telephone switchboards. Both the central control CPU and the DMS SuperNode CPU are programmed in Protel.

**Protn** Protection.

**Protocol** A procedure for adding order to the exchange of data. A protocol is a specific set of rules, procedures or conventions relating to format and timing of data transmission between two devices. A standard procedure that two data devices must use and use to be able to understand each other. Sort of like us both speaking English so we can communicate. The protocol for data communications cover such things as framing, error handling, transparency and line control. There are three basic types of protocol: character-oriented, byte-oriented and bit-oriented.

Protocols break a file into equal parts called blocks or packets. These packets are sent and the receiving computer checks each arriving packet and sends an acknowledgement (ACK) back to the sending computer. Because modems use phone lines to transfer data, noise or interference on the line will often mess up the block. When a block is damaged in transit, an error occurs. The purpose of a protocol is to set up a mathematical way of measuring if the block came through accurately. And if it didn't, ask the distant end to re-transmit the block until it gets it right. See PROTOCOLS for a list of the more common protocols.

**Protocol Analyzer** A specialized computer and/or program that hooks into a LAN and analyzes its traffic. Good protocol analyzers can record and display data on all levels of traffic on a LAN cable, from the lowest media access control packets to NetBIOS commands and application data. They are excellent for diagnosing network problems, but they require some expertise as their data output can be obscure.

**Protocol Control** Protocol Control is a mechanism which a given application protocol may employ to determine or control the performance and health of the application. Example, protocol liveness may require that protocol control information be sent at some minimum rate; some applications may become intolerable to users if they are unable to send at least at some minimum rate. See MCM