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CONCISE DICTIONARY OF INFORMATION TECHNOLOGY & COMPUTER SCIENCE

A Perfect Reference tool for Computer & IT Professionals, Students, Technical writers & Other Readers

Terms Connected with Electronics, Telecommunication & Networking included



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Editorial Board



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Publisher's Note

A fairly good response received from the market to eight dictionaries published last year on science and commerce subjects encouraged us to take up yet another dictionary witnessing a rapid growth in demand - **Concise Dictionary of Information Technology & Computer Science**. Like previous ones this again is a concise version. This edition is expected to fulfil the requirements of students, educationists, researchers, scholars, and writers.

Innumerable dictionaries are available in the market for use as a reference manual. Quite a number of these dictionaries come replete with jargon-filled *terms*; and as such don't quite connect to readers' curiosity level. On top of that, many of them fail to include new computer *terms* that keep finding their way into regular usage every other day. Absence of freshly coined *terms* contributes to difficulty in keeping up to date with definitions and explanations of new words.

Unlike other reference dictionaries that take readers' understanding of scientific *terms* for granted; and make short passing references while alluding to another *term* in the text, we have tried to be more specific and to-the-point. This dictionary has been written with the belief that an average reader is interested only in knowing what specific *terms* mean without getting burdened with heavy sounding inputs.

For easy reference *terms* have been arranged alphabetically. *Terms* that have come into the reckoning lately have been incorporated; and suitably explained such that a secondary and senior secondary student can grasp them easily. Illustrations and examples, where appropriate, have been added. Even an average reader, who has not made a special study of any science subject, explanations of computer terms will be found to be reasonably comprehensible.

This computer dictionary includes important scientific charts, tables, constants, conversion tables as appendices. A glossary of Nobel Prize winners and their contributions is an added attraction

We would be happy to have your views and comments for improving the content and quality of the book.

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A

08/10BLocal Fibre

8-byte/10-byte local fibre. Fibre channel physical media that supports speeds up to 149.76 Mbps over multimode fibre.

10Base2

10-Mbps baseband Ethernet specification using 50-ohm thin coaxial cable. 10Base2, which is part of the IEEE 802.3 specification, has a distance limit of 185 metres per segment.

10Base5

10-Mbps baseband Ethernet specification using standard (thick) 50-ohm baseband coaxial cable. 10Base5, which is part of the IEEE 802.3 baseband physical layer specification, has a distance limit of 500 metres per segment.

10BaseF

10-Mbps baseband Ethernet specification that refers to the 10BaseFB, 10BaseFL, and 10BaseFP standards for Ethernet over fibre-optic cabling.

10BasefB

10-Mbps baseband Ethernet specification using fibre-optic cabling. 10BaseFB is part of the IEEE 10BaseF specification. It is not used to connect user stations, but instead provides a synchronous signalling backbone that allows additional segments and repeaters to be connected to the network. 10BaseFB segments can be up to 2,000 metres long.

10BasefP

10-Mbps fiber-passive baseband Ethernet specification using fiber-optic cabling. 10BaseFP ispart of the IEEE 10BaseF specification. It organizes a number of computers into a star topology without the use of repeaters. 10Base FP segments can be up to 500 metres long.

10BaseT

A specification of the IEEE 802.3 committee for the implementation of 10 Mbit Ethernet on unshielded twisted pair wiring.

10Broad36

10-Mbps broadband Ethernet specification using broadband coaxial cable. 10Broad36, which is part of the IEEE 802.3 specification, has a distance limit of 3,600 metres per segment.

100BaseFX

100-Mbps baseband Fast Ethernet specification using two strands of multimode fiber-optic cable per link. To guarantee proper signal timing, a 100BaseFX link exceed 400 meters in length. Based on the IEEE 802.3 standard.

100BaseT

A 100MB Ethernet specification using Level 5 UTP.

100BaseT4

100-Mbps baseband Fast Ethernet specification using four pairs of Category 3, 4, or 5UTP wiring. To guarantee proper signal timing, a 100BaseT4 segment cannot exceed 100 meters in length. Based on the IEEE 802.3 standard.

100BaseTX

100-Mbps baseband Fast Ethernet specification using two pairs of either UTP or STP wiring. The first pair of wires is used to receive data, the second is used to transmit. To guarantee proper signal timing a 100BaseTX segment cannot exceed 100 meters in length. Based on the IEEE 802.3 standard.

100BaseX

100-Mbps baseband Fast Ethernet specification that refers to the 100BaseFX and 100BaseTX standards for Fast Ethernet over fiber-optic cabling. Based on the IEEE 802.3 standard.

100VG-AnyLAN

100-Mbps Fast Ethernet and Token Ring media technology using four pairs of Category 3, 4, or 5 UTP cabling. This high-speed transport technology, developed by Hewlett-Packard, can be made to operate on existing 10BaseT Ethernet networks. Based on the IEEE 802.12 standard.

10BaseFL

10-Mbps baseband Ethernet specification using fiber-optic cabling. 10BaseFL is part of the IEEE10BaseF specification and, while able to interoperate with FOIRL, is designed to replace the FOIRL specification. 10BaseFL segments can be up to 1,000 meters long if used with FOIRL, and up to 2,000 meters if 10BaseFL is used exclusively.

4B/5B local fibre

4-byte/5-byte loc 100 Mbps over multimode fibre.

A&B bit signaling

Procedure used in T1 transmission facilities in which each of the 24 T1 subchannels devotes one bit of every sixth frame to the carrying of supervisory signaling information. Also called 24th channel signaling.

AA#

Altered Assembly number is the part number for a motherboard and all its attached components

AAL

ATM adaptation layer. Service-dependent sublayer of the data link layer. The AAL accepts data from different applications and presents it to the ATM layer in the form of 48-byte ATM payload segments. AALs consist of two sublayers, CS and SAR, AALs differ on the basis of the source-destination timing used, whether they use DBR or VBR, and whether they are used for connection-oriented or connectionless mode data transfer. At present, the four types of AAL recommended by the ITU-T are AAL1, AAL2, AAL3/4, and AAL5.

AAL1

ATM adaptation layer 1. One of four AALs recommended by the ITU-T. AAL1 is used for connection-oriented, delay-sensitive services requiring constant bit rates, such as uncompressed video and other isochronous traffic.

AAL2

ATM adaptation layer 2. One of four AALs recommended by the ITU-T. AAL2 is used for connection-oriented services that support a variable bit rate, such as some isochronous video and voice traffic.

AAL3/4

ATM adaptation layer 3/4. One of four AALs (merger from two initially distinct adaptation layers) recommended by the ITU-T. AAL 3/4 supports both connectionless and connection oriented links, but is primarily used for the transmission of SMDS packets over ATM networks.

AAL5

ATM adaptation layer 5. One of four AALs recommended by the ITU-T. AAL5 supports connection-oriented, VBR services, and is used predominantly for the transfer of classic IP over ATM and LANE traffic. AAL5 uses SEAL and is the least complex of the current AAL recommendations. It offers low bandwidth over head and simpler processing requirements in exchange for reduced bandwidth capacity and error-recovery capability.

AARP

AppleTalk Address Resolution Protocol. Protocol in the AppleTalk protocol stack that maps a data-link address to a network address.

AARP probe packets

Packets transmitted by AARP that determine whether a randomly selected node ID is being used by another node in a nonextended AppleTalk network. If the node ID is not being used, the sending node uses that node ID. If the node ID is being used, the sending node chooses a different ID and sends more AARP probe packets.

AB switch

A device used to switch an incoming cable to either an 'A' output or 'B' output. Before the wide-spread introduction of dual output video cards, AB Switches were in common use with VGA outputs to switch from one monitor to another. However AB switches were produced to switch many types of cable interfaces, as in switching from one RS232 output to another, or switching between TV antennas as shown in the graphic to the right.

ABM

Asynchronous Balanced Mode. An HDLC (and derivative protocol) communication mode supporting peer-oriented, point-to- point communications between two stations, where either station can initiate transmission.

ABR

1. Available bit rate. QOS class defined by the ATM Forum for ATM networks. ABR is used for connections that do not require timing relationships between source and destination. ABR provides no guarantees in terms of cell loss or delays, providing only best-effort service. Traffic sources adjust their transmission rate in response to information they receive describing the statue of the network and its capability to successfully deliver data.
2. Area border router. Router located on the border of one or more OSPF areas that connects those areas to the backbone network. ABRs are considered members of both the OSPF backbone and the attached areas. They therefore

maintain routing tables describing both the backbone topology and the topology of the other areas.

ABS plastic
A type of plastic formed by Acrylonitrile Butadiene Styrene and other chemicals.

Absolute address
The location of a storage element.

Absolute gain
The ratio of the signal level at the output of the device to that of its input under a specified set of operating conditions.

Absolute maximum rating
The electrical rating at or above which damage to the device will occur, to include supply voltage, input/ and output voltages and junction temperature. Stress ratings that do not imply functional operation.

Absolute positioning
Using pixel coordinates to position GUI components.

Absolute reference
A cell or range reference in a formula whose location remains the same (absolute) when copied.

Absorption
Dissipation of radio or sound waves as they interact with matter. The absorbing of light waves without reflection or refraction.

Absorption wavemeter
An instrument used to measure audio frequencies.

Absorption, law
In Boolean algebra, the law which states that the odd term will be absorbed when a term is combined by logical multiplication with the logical sum of that term and another term, or when a term is combined by logical addition with the logical product of one term and another term (for example, A(A + B) = A + AB = A).

Abstract class
A class that cannot have direct instances but whose descendents can have instances; a class that has declared one or more methods for which it does not provide definitions (i.e. abstract methods).

Abstract data type (ADT)
A data declaration packaged together with the functions that operate on it.

Abstraction
A mental facility that permits humans to view real-world problems with varying degrees of detail depending on the current context of the problem; the process of focusing on the essential, inherent aspects of an entity and ignoring its accidental properties; the selective examination of certain aspects of a problem.

AC
Alternating Current. An electrical power transmission system in which the direction of current flow alternates on a periodic basis.

AC coupled amplifier
An amplifier circuit that uses AC Coupling to block DC between amplifier stages. In the circuit to the right, C3 blocks the DC component of Q1 from effecting the operation of Q2. This circuit style is also called RC coupling, with the resistors also affecting the signal between stages. Same as DC Blocking.

AC coupling
The interconnection between two circuits through a capacitor,

transformer or other device which passes AC voltage but blocks any DC component. C3 in the circuit to the right is a DC blocking capacitor.

AC generator

[Alternator] A rotating machine that converts mechanical energy into alternating current.

AC power plug

A male connector designed to carry 120v or 240 volts. .

AC resistance

The opposition to the flow of current without regard to phase shift or complex impedance.

AC/DC power adapter

A device that converts AC power (electrical outlet power) to DC power (battery power).

AC'97

Audio Codec '97 is a specification for a high quality, 16- or 20-bit audio architecture used in many desktop systems.

Accelerated life testing

A test used to subject a component, device or system to extreme conditions to determine the useful life of the device under test [DUT], which includes operating at elevated temperatures to simulate long term operation.

Accelerating anode

An electrode charged several thousand volts positive and used to accelerate electrons toward the front of a Cathode-Ray Tube.

Acceleration servosystem

A servo-system that controls the acceleration (rate of change in velocity) of a load.

Accelerator

A hardware addition to an existing computing device that increases the computer's processing speed and capabilities.

Accelerometer

A device that measures the acceleration to which it is subjected and develops a signal proportional to it.

Acceptor impurity

An impurity which, when added to a semiconductor, accepts one electron from a neighboring atom and creates a hole in the lattice structure of the crystal. Also called Trivalent Impurity.

Access

The reading or writing of data; as a verb, to gain entry to data. Most commonly used in connection with information access, via a user ID, and qualified by an indication as to the kinds of access that are permitted. For example, read-only access means that the contents of the file may be read but not altered or erased.

Access bus

Is a low speed 4-wire serial bus once used on Personal Computers. Access.Bus uses the I2C [IIC] bus as the electrical hardware interface. The Access bus has a maximum speed is 100kbps over a maximum cable distance of 10 meters, however a repeater may be used. The 4 wires of the interface bus are power/ground, Send Data [SDA] and Serial Clock [SCL].

Access control list

A list of the services available on a server, each with a list of the hosts permitted to use the service.

Access list
List kept by routers to control access to or from the router for a number of services. For example, the list can prevent packets with a certain IP address from leaving a particular interface on the router.

Access method
The type of Media Access Control method that a node uses to gain control of a network.

Access point
Stand-alone Wi-Fi hub that allows any computer that has a Wi-Fi network adapter to communicate with another computer and to connect to the Internet. This device is typically used in an enterprise or corporate environment with a large number of users.

Access time
The difference in time between when data is requested and when data is delivered. The time lapsed between a given command and when the function is performed. The time for the [disk drive] access arm to reach the desired track and the delay for the rotation of the disk to bring the required sector under the read-write mechanism.

Access transparency
A type of transparency that enables local and remote information objects to be accessed using identical operations.

Accessory
An assembly of a group of parts or a unit which is not always required for the operation of a set or unit as originally designed but serves to extend the functions or capabilities of the set, such as headphones for a radio set supplied with a loudspeaker, a separate power unit for use with a set having a built-in power supply, or a remote control unit for use with a set having integral controls.

Accident report
A document that should be filled out by anyone involved in workplace accidents/injuries, regardless of however minor they might be.

Account
Your subscription to a networked computer system.

Account name
Same as your login ID or user ID. The word you type at the “Login:” prompt; your electronic name.

Accumulator
A register that both stores a number and adds to other numbers loaded into the register.

Accuracy
Referring to how closely a test instrument’s measurements compare to a standard value, usually expressed as a percentage of the value measured.

ACF
Advanced Communications Function. A group of SNA products that provides distributed processing and resource sharing.

ACF/NCP
Advanced Communications Function/ Network Control Program. The primary SNA NCP. ACF/NCP resides in the communications controller and interfaces with the SNA access method in the host processor to control network communications.

Acknowledge character
A transmission control character transmitted by the receiving station.

Acknowledgment
Notification sent from one network device to another to acknowledge that some event (for example, receipt of a message) has occurred. Sometimes abbreviated ACK.

Acorn tube
A small tube, used in low power uhf circuits, with closely spaced electrodes and no base. The tube is connected to its circuits by short wire pins that are sealed in a glass or ceramic envelope.

Acoustic noise
The unintended sound a component produces while operating. Some fields apply this to mean an audible sound, while other fields take it to mean any sound.

Acoustic wave
A sound wave.

Acoustics
The science of sound.

ACPI
Advanced Configuration and Power Interface is a specification for power management.

Acquisition
The process of acquiring synchronism.

Acquisition number
A unique number given to an item of inventory

Acquisition time
In a communications system, the time interval required to attain [clock] synchronism.

ACR
Allows cell rate. Parameter defined by the ATM Forum for ATM traffic management. ACR varies between the MCR and the PCR, and is dynamically controlled using congestion control mechanisms.

ACSE
Association control service element. An OSI convention used to establish, maintain or terminate a connection between two applications.

Action
An instantaneous operation. Actions are associated with events and are usually formal in nature.

Active component
A component that draws current or some type of gain.

Active filter
A filter that uses an amplifier in addition to passive components. For example an Active Low Pass Filter Circuit.

Active high
Refers to a non-inverted output, the output is true when high and false when low. When the Sum-of-Products expression is true the output is high.

Active hub
Multiported device that amplifies LAN transmission signals.

Active listening
Responding to what you hear, indicating you are listening.

Active low
Refers to an inverted output, the output is true when low and false when high. When the Sum-of-Products expression is true the output is low.

Active monitor
Device responsible for managing a Token Ring. A network node is selected to be the active monitor if it has the highest MAC address on the

ring. The active monitor is responsible for management tasks such as ensuring that tokens are not lost or that frames do not circulate indefinitely.

Active pullup

A transistor or FET used to pull a line high instead of a resistor. Active Pull-ups are common within ICs, but they are not designed to sink much current [weak pull-up].

Active rendering

A technique often used in animation where an application manages its own visual updates rather than relying on the operating system's rendering thread.

Active serial interface

A term used with programming an FPGA. In the Active Serial [AS] configuration scheme, Altera FPGAs are configured with serial configuration devices. Also called Active Serial Mode, or Active Serial Scheme; where Active Serial may be Abbreviated as AS.

Activex

A Windows technology which allows programmers to do various things on your computer. The early versions had security issues which hackers could exploit.

Activity

An operation that takes time to complete. Activities are associated with states and represent real-world accomplishments.

Activity diagram

A UML diagram that models the activity (workflow) of a portion of a software system.

Actor object

An active object that drives a data flow graph by producing or consuming values.

Actuating force

The force applied to the actuator to operate the contacts. The force required to operate a mechanical switch.

Actuator

The part of a switch that is acted upon to cause the switch to change contact connections; for example, toggle, pushbutton, and rocker. The mechanism of the switch or housing which, when moved as intended, will operate the contacts.

Ad hoc network

A communication configuration in which every computer has the same capabilities, and any computer can initiate a communication session. Also known as a peer-to-peer or computer-to-computer network.

Adapter

A device used to connect two different components by matching the physical or electrical characteristics of each component

Adapter class

A class in the java.awt.event package that provides empty implementations of event listener methods so that the programmer can write code for only relavant events.

ADCCP

Advanced Data Communications Control Protocol.

Address

A character or group of characters that identify a register, a location or some other data source or destination.

A numerical designation that uniquely refers to a specific communication entity.

Address mapping

Technique that allows different protocols to interoperate by translating addresses from one format to another. For example, when routing IP over X.25, the IP addresses must be mapped to the X.25 addresses so that the IP packets can be transmitted by the X.25 network.

Address mask

Bit combination used to describe which portion of anaddress refers to the network or subnet and which partrefers to the host. Sometimes referred to simply as mask.also subnet mask.

Address resolution

When two addressing systems refer to the same entity, the process of translating or expressing the address of an entity on one system to the equivalent address of the same entity in the second system. For instance, translating an IP address to its given DNS name.

Address space

A collection of ranges of virtual memory locations with specific memory access rights.

Adjacency

Relationship formed between selected neighboring routers and end nodes for the propose of exchangingrouting information. Adjacency is based upon the useof a common media segment.

Adjacent nodes

1. In SNA, nodes that are connected to a given node with no intervening nodes.
2. In DECnet and OSI, nodes that share a common network segment (in Ethernet, FDDI, or Token Ring networks).

Administrative distance

A rate of the trustworthiness of a routing information source. The higher the value, the lower the trustworthiness rating.

ADPCM

Adaptive differential pulse code modulation. Process by which analog voice samples are encoded into high-quality digital signals.

ADSL

Asymmetric Digital Subscriber Line is a technology for transmitting digital information at a high bandwidth on existing phone lines to homes and businesses. ADSL is asymmetric in the sense that it uses most of the channel to transmit downstream to the user and only a small part to receive information from the user. This means, high download rates and slower upload rates. Generally if you see 2Mb ADSL broadband, it refers to 2 Mbit/s Max d/load rate. The upload rate will probably be around 256 kbit/s Max.

ADSU

ATM DSU. Terminal adapter used to access an ATM network via an HSSI-compatible device.

Advertising

Router process in which routing or service updates are sent at specified intervals so that other routers on the network can maintain lists of usable routes.

Adware

Software which displays advertisements on your computer. Sometimes installed as part of a “free”

application, sometimes by stealth.

AEP
AppleTalk Echo Protocol. Used to test connectivity between two AppleTalk nodes. One node sends a packet to another node and receives a duplicate, or echo, of that packet.

AES
Advanced Encryption Standard

AFP
AppleTalk Filing Protocol. The Apple proprietary specification for a network file system.

Agent
1. An active process in a computer that is responsible for a certain type of activity when demanded by an outside entity.
2. In SNMP, the active process in a computing device that is responsible for determining the parameters defined in the MIB (Management Information Base) and reporting them on demand to a Console.

Aggregate
A total created from smaller units. For instance, the population of a county is an aggregate of the populations of the cities, rural areas, etc. that comprise the county.

Aggregate data
Data that have been aggregated.

Aggregation
A tightly coupled form of association, between a whole and its parts, in which the whole is composed of the parts.

Aggressive
To put others down, only see your point of view, pushy and abusive at times.

AGP
(Advanced Graphics Port) A special slot on the PC **motherboard**for graphics cards, and the format of the cards themselves. Standard on new PCs from 1998. “AGP x 2” runs at twice the speed of the original AGP, AGP x 4 at four times the speed etc. Now being replaced by **PCI Express**.

AHCI
Advanced Host Controller Interface is a specification that defines communication between a storage controller and Serial ATA hard drives

AI (Artificial Intelligence)
A program designed to respond “intelligently” to various situations, for example the computer opponent(s) in a game.

AIS
Alarm indication signal. In a T1 transmission, an all-ones signal transmitted in lieu of the normal signal to maintain transmission continuity and to indicate to the receiving terminal that there is a transmission fault that is located either at, or upstream from, the transmitting terminal.

AIUI
(As I Understand It) Internet slang.

AIX
IBM’s implementation of Unix.

Alarm
Message notifying an operator or administrator of a network problem.

Algorithm
A finite sequence of unambiguous instructions which, when given the required input, produces the correct output and then stops; A procedure for solving a problem in terms of the

steps to be taken and the order in which the steps are to be carried out.

Alias
A file whose sole purpose is to represent another file.

Alignment error
In IEEE 802.3 networks, an error that occurs when the total number of bits of a received frame is not divisible by eight. Alignment errors are usually caused by frame damage due to collisions.

All-routes explorer
Explorer packet that traverses an entire SRB network, following all possible paths to a specific destination. Sometimes called all-rings explorer packet.

Aloe
Archaic. AppleTalk Low Overhead Encapsulation. A vendor-developed alternative to AURP, ALOE provides a mechanism to tunnel AppleTalk protocols inside IP packets, typically in WAN links.

Alpha blending
A graphics term where the material property of transparency or opacity is added to an object.

Alpha stippling
A graphics term that gives a screen door effect by allowing only partial pixels from the source surface to appear over the destination surface.

Alphanumeric
Referring to a group of printable characters that includes the letters of the alphabet in both upper and lower case, the numerals plus a limited group of additional symbols and punctuation marks.

ALU
Arithmetic/Logic Unit — the part of the CPU responsible for performing arithmetic and Boolean operations.

Always-on
An internet connection which remains on 24/7 such as **ADSL** or**cable**, rather than only connecting on demand like a dialup.

AM
Amplitude Modulation. Modulation technique whereby information is conveyed through the amplitude of the carrier signal.

Ambient I
When referring to temperature, ambient refers to the temperature of the surrounding air

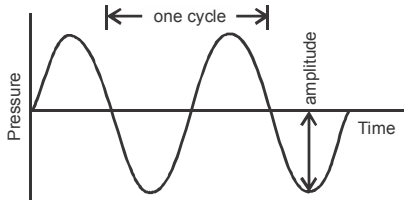
Ambient II
Referring to a set of conditions that exist independently of the system of interest.

AMI
Alternate mark inversion. Line-code type used on T1 and E1 circuits. In AMI, zeros are represented by 01 during each bit cell, and ones are represented by 11 or 00, alternately, during each bit cell. AMI requires that the sending device maintain ones density. Ones density is not maintained independent of the data stream. Sometimes called binary coded alternate mark inversion.

Amp
Ampere. A standard unit of measurement for electrical current flow.

Amplitude
In the terminology of wave motion, the height of the wave. Amplitude is usually measured from a reference

point of 0. In electrical waves, amplitude is typically expressed in volts.



AMT

Intel® Active Management Technology is a feature of specific Intel processors that allows IT to locate, protect, and heal the computer systems on their network

Analog

A method of storing information, used by most audiotapes, videotapes and laserdiscs. An analog device uses a physical quantity, such as length or voltage, to represent the value of a number. By contrast, digital storage relies on a coding system of numeric units.

Analog transmission

Signal transmission over wires or through the air in which information is conveyed through variation of some combination of signal amplitude, frequency, and phase.

Analysis

A stage in the development cycle in which a real-world problem is examined to understand its requirements without planning the implementation.

Android

A popular operating system for **smartphones** and **tablets**, owned by Google.

Anomaly

An unusual instance or circumstance.

Anonymous class

A local class that is declared and instantiated in a single statement, often as a parameter to a method.

Anonymous FTP site

Sites that offer files that are open to the general public for downloading.

ANSI

American National Standards Institute. The principle group in the US. for defining standards.

Answering machine

A machine that records messages when the telephone is unanswered. The recipient can play these messages back.

Antispam

An antispam program is used to filter out email spam.

Antivirus

Software which protects computers from viruses and suchlike. Has to be updated frequently to keep up with the latest threats, so is usually sold with a subscription which enables you to download updates from the internet.

AOCE

Apple Open Collaboration Environment. A system of higher- level protocols used for the transmission of data and authentication between applications.

AOL

(America On Line) An Internet Service Provider, or ISP. AOL were in business as a large commercial bulletin board before the internet really took off. Now they are an ISP specialising in family-friendly internet access.

AP

Access Point, a device that connects wireless devices to another network. For example, a wireless LAN, Internet modem or others.

Apart

Automated packet recognition/ translation. Technology that allows a server to be attached to CDDI or FDDI without requiring the reconfiguration of applications or network protocols. APaRT recognizes specific data link layer encapsulation packet types and, when these packet types are transferred from one medium to another, translates them into the native format of the destination device.

API

Application Programming Interface is an interface that allows two independent computer programs to communicate with each other

APM

Advanced Power Management is an API that enables an operating system to work with the BIOS to achieve power management

Apollo domain

Proprietary network protocol suite developed by Apollo Computer for communication on proprietary Apollo networks.

App

(APPlication) Any software used to carry out a particular task, such as office programs or games, particularly on smartphones. Usually downloaded to the device from an online store. Essentially another word for program.

Appc

Advanced Program-to-Program Communication. IBM SNA system software that allows high-speed communication between programs on different computers in a distributed computing environment. APPC establishes and tears down connections between communicating programs, and consists of two interfaces, a programming interface and a data-exchange interface. The former replies to requests from programs requiring communication; the latter establishes sessions between programs. APPC runs on LU 6.2 devices.

Apple

The Apple Corporation makes the only successful mass-market personal computer which doesn't use Microsoft Windows, the Mac, and the phenomenally successful iPhone (smartphone), iPod (music player) and iPad (tablet).

Appleevent

Apple's primary mechanism for interprocess communication.

Applescript

A programming language that can call tasks within Macintosh applications.

Appleshare

An application published by Apple that allows a Macintosh to be a file server using the AFP protocol.

Applet

A small program used to carry out a particular task, often on a web page.

Appletalk

1. Apple's proprietary network architecture.
2. The protocols, applications, networks and services included in Apple's network architecture.

Application
The use to which a data processing system is put within a given discipline, such as a payroll application, an airline reservation application or a network application.

Application layer
Layer 7 of the OSI reference model. This layer provides services to application processes (such as electronic mail, file transfer, and terminal emulation) that are outside of the OSI model. The application layer identifies and establishes the availability of intended communication partners (and the resources required to connect with them), synchronizes cooperating applications, and agreement on procedures for error recovery and control of data integrity. Corresponds roughly with the transaction services layer in the SNA model.

Application program
A program that is written for or by a user that applies to the users discipline.

Application server
Application Server is a specialized server that is based on client/server architecture. Its sole responsibility is to run specific applications within the network.

Application software
A group of programs designed to perform tasks that can be tailored to a users specific needs.

Appn
Advanced Peer-to-Peer Networking. Enhancement to the original IBM SNA architecture. APPN handles session establishment between peer nodes, dynamic transparent route calculation, and traffic prioritization for APPC traffic.

Appn+
Next-generation APPN that replaces the label-swapping routing algorithm with source routing. Also called high-performance routing.

Ara
AppleTalk Remote Access. Protocol that provides Macintosh users direct access to information and resources at a remote AppleTalk site.

Archie
A search engine for anonymous FTP sites.

Architecture
The basic design of a computer's hardware. Computers with different architecture, such as the PC and the Mac, cannot run each others' programs.

Archive
To copy programs and data onto an auxiliary storage medium (disk, tape,etc.) for long-term retention, such as when disk space has become full. A file with a structure that allows storage of multiple files within it in such a way that the names of the files can be listed and files can be individually added and deleted. The terminology is typically associated with microcomputers. On a mainframe, such a file is typically called a library.

Arcnet
Attached Resource Computer Network. A 2.5-Mbps token-bus LAN developed in the late 1970s and early 1980s by Datapoint Corporation.

Area
Logical set of network segments (either CLNS-, DECnet-, OSPF-based) and their attached devices. Areas are usually connected to other

areas via routers, making up a single autonomous system.

Argument

A value supplied to a procedure, macro, subroutine, or command that is required in order to evaluate that procedure, macro, subroutine, or command. Synonymous with parameter.

ARM

Asynchronous response mode, HDLC communication mode involving one primary station and at least one secondary station, where either the primary or one of the secondary stations can initiate transmissions.

ARP

Address Resolution Protocol. The protocol for mapping IP addresses to physical addresses such as Ethernet or Token Ring.

ARPA

Advanced Research Projects Agency, Research and development organization that is part of DoD. ARPA is responsible for numerous technological advances in communications and networking. ARPA evolved in DARPA, and then back into ARPA again (in 1994).

Arpanet

Advanced Research Projects Agency Network. Landmark packet-switching network established in 1969. ARPANET was developed in the 1970s by BBN and funded by ARPA (and later DARPA). It eventually evolved into the Internet. The term ARPANET was officially retired in 1990.

Arq

Automatic repeat request. Communication technique in which the receiving device detects errors and requests retransmission.

Array

An array is similar data saved on a computer system in a sequential form.

ASBR

Autonomous system boundary router. ABR located between an OSPF autonomous system and a non-OSPF network. ASBRs run both OSPF and another routing protocol, such as RIP, ASBRs must reside on a nonstub OSPF area.

ASCII

American Standard Code for Information Interchange (pronounced ask-ee). The form in which text characters are handled in most computer systems and networks. ASCII text has no special characters for formatting such as underlined or bold characters, font changes, etc., thus can be viewed on any personal computer or terminal.

ASDSP

AppleTalk Secure Data Stream Protocol. An encrypted version of ADSP used by AOCE.

ASF

Alert Standards Format is a specification for technologies that are used to allow a computer system to be remotely managed and controlled even if an operating system is not present

ASIC

Application-Specific Integrated Circuit is an integrated circuit that has been customized for a particular use

ASLM

Apple Shared Library Manager.

ASN.1

Abstract Syntax Notation One. In SNMP, the language used to describe data managed by the MIB.

Assembler
A program that converts symbolically-coded programs into object level, machine code. In an assembler program, unlike a compiler, there is a one-to-one correspondence between human-readable instructions and the machine-language code.

Assertive
To be clear and honest when speaking about your feelings and respect the rights and needs of others without making judgements.

Asset
An item having some value.

Assignment
An operation that places a value in a variable.

Association
A relationship between objects and classes that describes a group of links with common structure and common semantics.

Associative memory
Memory that is accessed based on its contents, not on its memory address. Sometimes called content addressable memory (CAM).

AST
Automatic spanning tree. Function that supports the automatic resolution of spanning trees in SRB networks, providing a single path for spanning explorer frames to traverse from a given node in the network to another. AST is based on the IEEE 802.1 standard.

ASTA
Advanced Software Technology and Algorithms. Component of the HPCC program intended to develop software and algorithms for implementation on high-performance computer and communications systems.

Asymmetric mode
This mode is used when only one DIMM is installed or the memory capacities are unequal. Also known as single-channel mode.

Asymmetry
In networking, a system in which the relationship between two entities is inherently unequal, with each entity restricted to a set of operations and prerogatives defined by its role in the relationship.

Asynchronous
Term describing digital signals that are transmitted without precise clocking. Such signals generally have different frequencies and phase relationships. Asynchronous transmissions usually encapsulate individual characters in control bits (called start and stop bits) that designate the beginning and end of each character.

Asynchronous communication
communication in which the sending process can proceed as soon as the message has been sent out to a buffer.

AT (form factor)
The AT form factor referred to the dimensions and layout (form factor) of the motherboard for the IBM AT.

AT commands transmission
A set of commands that control a modem or alter its characteristics.

ATA
Advanced Technology Attachment is an interface between storage devices such as hard drives and a computer.

ATAPI

(At achment Packet Interface) An upgrade to EIDE which allows the hard disk controller to control CD drives as well. Almost all CD and DVD drives are controlled this way.

ATB

(All The Best) Internet slang.

ATDM

Asynchronous time-division multiplexing. Method of sending information that resembles normal TDM, except that time slots are allocated as needed rather than preassigned to specific transmitters.

At-least-once call semantics

RPC semantics in which a caller sends a request message several times until a reply is received.

ATM

Asynchronous Transfer Mode. A standard for cell relay that uses fixed length cells of 53 bytes, 5 bytes of which are headers. Can support multiple services including voice, video and data.

Atm

(At The Moment) Internet slang.

Atm forum

An industry-wide effort that is now an international consortium of more than 400 companies who define ATM interoperability specifications and promote industry-wide cooperation to help proliferate ATM and thus drive implementation costs down.

At-most-once call semantics

RPC semantics in which duplicate messages are filtered out and replies are retransmitted without re-executing operations so that the remote procedure is executed once or not at all.

Atomic multicast

A multicast message that is either received by all intended recipients or none of them.

ATP

AppleTalk Transaction Protocol. Transport-level protocol that allows reliable request-response exchanges between two socket clients.

Attachment

A file sent by email is “attached” to the email. An attachment can be a picture, a document, a program or any other type of file. You should never open an attachment if you are not sure what it is, because someviruses propagate as email attachments; but they can’t infect your machine if you don’t open the attachment.

Attenuation

A loss in the amplitude or strength of a signal due to an interaction with the signal’s media. Generally expressed in decibels.

Attribute

Configuration data that defines the characteristics of database objects such as the chassis, cards, ports, or virtual circuits of a particular device. Attributes might be preset or user-configurable. On a LightStream 2020 ATM switch, attributes are set using the configuration program or CLI commands.

ATX

Advanced Technology Extended is a motherboard form factor where the motherboard is typically 9.6x12 inches

Audit

A personal or computerized review process that accounts for the adequacy, effectiveness, security and overall functionality of a data activity.

AUI

Attachment unit interface. IEEE 802.3 interface between an MAU and a NIC (network interface card). Also called transceiver cable.

AUP

(Acceptable Use Policy) A document setting out what an Internet Service Provider deems an acceptable use of their services, usually published on their website. Typically it will forbid the publication of obscene or defamatory material, and sending email or newsgroupspam. If you violate your ISP's AUP, they will usually close your account down immediately.

AURP

AppleTalk Update-Based Routing Protocol. Apple's WAN protocol.

AURP tunnel

Connection created in an AURP WAN that functions as a single, virtual data link between AppleTalk internetworks physically separated by a foreign network (a TCP/IP network, for example).

Authentication

Verifies the identity of a user logging onto a network. Passwords, digital certificates, smart cards and biometrics are used to prove the identity of the client to the network. Passwords and digital certificates are also used to identify the network to the client.

Authentication server

A server that provides a secure way for pairs of processes to obtain secret keys for secure encryption.

Authority zone

Associated with DNS, an authority zone is a section of the domain-name tree for which one name server is the authority.

Authorization

Permission to access non-public information or use equipment that is either fully or partially restricted. Process of establishing what you can do.

Auto correct

Automatically corrects common typing and spelling errors as your type

Auto text

Offers a way to store and quickly insert text, graphics, fields, tables, bookmarks, and other items that you use frequently.

Autocorrect

A feature in many programs which automatically corrects your spelling, and even your grammar, as you type. Better switched off if you use obscure technical terms, or prefer your own interpretation of the rules of grammar, or else you are likely to find that it's "corrected" your text to something you didn't intend.

Automatic call reconnect

Feature permitting automatic call rerouting away from a failedtrunk line.

Automatic data processing (ADP) system

An organized assembly of resources and methods used to collect, process, and distribute messages largely by automatic means.

Automatic variable

A local variable.

Autonomous confederation

Group of autonomous systems that rely on their own networkreachability and routing information more than they rely on that received from other autonomous systems or confederations.

Autonomous system

Collection of networks under a common administration sharing a common routing strategy. Autonomous systems are subdivided by areas. An autonomous system must be assigned a unique 16-bit number by the IANA.

Auto reconfiguration

Process performed by nodes within the failure domain of a Token Ring network. Nodes automatically perform diagnostics in an attempt to reconfigure the network around the failed areas.

Auxiliary carry flag (AC)

A carry flag used by instructions that perform binary coded decimal (BCD) arithmetic; the second bit in the PSW register.

Availability

A measure of a proportion of time that something can be used.

Avatar

A picture or figure representing a person in an online environment.

Average rate

The average rate, in kilobits per second (kbps), at which a given virtual circuit will transmit.

B

B channel
Bearer channel. In ISDN, a full-duplex, 64-kbps channel used to send user data.

B8zs
Binary 8-zero substitution. Line-code type, used on T1 and E1 circuits, in which a special code is substituted whenever 8 consecutive zeros are sent through the link. This code is then interpreted at the remote end of the connection. This technique guarantees ones density independent of the data stream. Sometimes called bipolar 8-zero substitution.

Back end
Node or software program that provides services to a front end.

Back end processor
A computer running an application that supplies data to other computers on demand, but has no user interface.

Back pressure
Propagation of network congestion information upstream through an internetwork.

Back resistance
The larger resistance value observed when you are checking the resistance of a semiconductor.

Back shell
The rear portion of a connector.

Backbone
A high traffic connectivity portion of any communications network. In packet-switched networks, a primary forward direction path traced sequentially through two or more major relay or switching stations. In packet-switched networks, a backbone consists primarily of switches and inter-switch trunks.

Background noise
The total system noise in the absence of a signal.

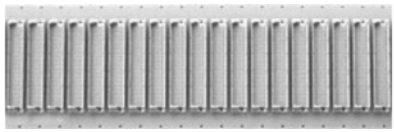
Background processing
Users may use a terminal for one project and concurrently submit a job that is placed in a background queue that the computer will run as resources become available. Also refers to any processing in which a job runs without being connected to a terminal.

Background task
A computing task that is executing while another task or application is displaying its user interface.

Backoff
The (usually random) retransmission delay enforced by contentious MAC protocols after a network node with data to transmit determines that the physical medium is already in use.

Backplane
A circuit card that contains two or more connectors of the same type

which are connected together via discrete wires or copper traces on the circuit board to form an interface bus, which allows the boards to communicate with each other.



19 Slot VME Backplane

Backspace

A keyboard operation that moves the cursor one place to the left. A destructive backspace erases characters as it goes, thus allowing users to modify what has been typed (distinguished from the left- arrow key).

Backup

A backup is an extra copy of your work, eg documents, pictures etc, saved onto a removable storage medium such as CD, DVD or magnetic tape, so that if your computer is stolen or breaks down you don't lose everything. Backup is a noun, back up is a verb.

Backward compatible

An upgraded component of a computing system that can be used interchangeably with its previous version.

Backward learning

Algorithmic process used for routing traffic that surmises information by assuming symmetrical network conditions. For example, if node A receives a packet from node B through intermediate node C, the backward-learning routing algorithm will assume that A can optimally reach B through C.

Bad block / bad sector

An area on a hard disk drive that is damaged or detected as unreliable.

Balance

In electrical circuits and networks, to adjust the impedance to achieve specific objectives, such as to reach specified return loss objectives at a hybrid junction of two-wire and four-wire circuits.

Balanced amplifier

An amplifier with two identical branches connected to operate in opposite phase, with their input and outputs connections balanced to ground. A Push-Pull Amplifier. An amplifier having one output is considered balanced when the quiescent DC output voltage is reduced to zero or a specified level. An amplifier having two outputs is considered balanced when the difference between the quiescent DC output voltages is reduced to zero or a specified level.

Balanced attenuator

An attenuator which uses resistance elements in both sides of the line. Refer to the Resistor Attenuator page for a schematic of many of the different types of balanced attenuators.

Balanced bridge

A bridge circuit adjusted to produce a zero output.

Balanced code

In PCM systems, a code constructed so that the frequency spectrum resulting from the transmission of any code word has no DC component. A code that has a finite digital sum variation. A number of additional terms are related, use the search bar, below right, to find the correct definition.

Balanced configuration

In HDLC, a point-to-point network configuration with two combined stations.