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stalled or connected as a unit to perform one or more functions such as clothes washing, air conditioning, food mixing, deep frying, etc. (NESC/NEC) [86]

(3) Current-conducting, energy-consuming equipment, fixed or portable; for example, heating, cooling, and small motor-operated equipment. (NESC/T&D) C2-1977s, C2.2-1960

appliance branch circuit (1) A branch circuit supplying energy to one or more outlets to which appliances are to be connected; such circuits to have no permanently connected lighting fixtures not a part of an appliance. (NESC/NEC) [86]

(2) A circuit that supplies energy to one or more outlets to which appliances are connected. These circuits have no permanently connected lighting fixtures that are not a part of an appliance. (IA/MT) 45-1998

appliance, fixed *See:* fixed appliance.

appliance outlet (household electric ranges) An outlet mounted on the range and to which a portable appliance may be connected by means of an attachment plug cap. (IA/APP) [90]

appliance, portable *See:* portable appliance.

appliance, stationary *See:* stationary appliance.

application (1) The use to which a computer system is put; for example, a payroll application, an airline application, or a network application. (C) 610.2-1987, 610.5-1990w

(2) The use of capabilities provided by an information system specific to the satisfaction of a set of user requirements. *Note:* These capabilities include hardware, software, and data. (C/PA) 14252-1996

(3) When the User Portability Utilities Option is supported, requirements associated with the term *application* also shall be interpreted to include the actions of the user who is interacting with the system by entering shell command language statements from a terminal. (C/PA) 2003.2-1996

(4) A software program consisting of one or more processes and supporting functions. (PE/SUB) 1379-1997

(5) A computer program that performs some desired function. (C) 1003.5-1999

application-association (1) A cooperative relationship between two applications for the purpose of communication of information and coordination of their joint operations. (C/PA) 1351-1994w

(2) A cooperative relationship between two application-entities, formed by their exchange of application-protocol-control-information through their use of presentation services. (C/PA) 1238.1-1994w

application engineering The process of constructing or refining application systems by reusing assets. (C/SE) 1517-1999

application entity The aspects of an application process pertinent to OSI. (C/PA) 1238.1-1994w

application entity title In OSI, a title that unambiguously identifies an application entity. An application entity title is composed of an application process title and an application entity qualifier. (C) 1003.5-1999

application entity qualifier In OSI, a component of an application entity title that is unambiguous within the scope of the application process. (C) 1003.5-1999

application environment The physical environment of a backplane serial bus. This includes the bus itself, the modules, and the system that contains them. This environment may be a standardized host backplane (e.g., a Futurebus+ profile) that describes signal requirements, transceivers, mechanical arrangement of the modules, and temperature range over which operation is guaranteed. (C/MM) 1394-1995

application environment profile (aep, AEP) (1) A document that describes functional requirements and points to existing standards, selecting and binding options within those standards. An implementer who then designs a specific module and/or system should be reasonably assured that another designer's (manufacturer's or supplier's) modules will properly function within the same system. This includes all aspects of definition: mechanical, electrical, protocol, environmental, and system considerations. (C/BA) 896.2-1991w, 896.3-1993w, 896.4-1993, 896.10-19

(2) A profile specifying a complete and coherent specification of the Open System Environment (OSE), in which the standards, options, and parameters chosen are necessary to support a class of applications. (C/PA) 14252-199

application generator A code generator that produces programs to solve one or more problems in a particular application area; for example, a payroll generator. (C) 610.12-199

application identifier (AID) An identifier that defines the category of dedicated short-range communications (DSRC) applications to which a specific application belongs. (SCC32) 1455-199

application interface The programming access mechanism to the communication resources of a network. (DIS/C) 1278.2-199

application layer (1) (Layer 7) The layer of the OSI reference model (ISO 7498: 1984) that provides the means for simulation applications to access and use the network's communications resources. (DIS/C) 1278.1-1995, 1278.2-199

(2) The seventh and highest layer of the seven-layer OSI model providing the only interface between the user and the application program. *Note:* It hides from the user the physical distribution of processors, communications media, and data resources while maximizing the utility of those resources. *See also:* entity layer; logical link control sublayer; session layer; client layer; data link layer; presentation layer; physical layer; transport layer; sublayer; network layer; medium access control sublayer. (C) 610.7-199

application logic That portion of a module that excludes the MTM-Bus interface logic. *See also:* module. (TT/C) 1149.5-199

application-oriented language A programming language with facilities or notations applicable primarily to a single application area; for example, a language for computer-assisted instruction or hardware design. *See also:* simulation language; specification language; authoring language. (C) 610.13-1993w, 610.12-1990

application platform (1) A set of resources, including hardware and software, that support the services on which application software will run. The application platform provides services at its interfaces that, as much as possible, make the specific characteristics of the platform transparent to the application software. (C/PA) 14252-1996

(2) A set of resources on which an application will run. (C/PA) 1003.13-1998

application process title In OSI, a title that unambiguously identifies an application process. An application process title is a single name, which, for convenience, may be structured internally. (C) 1003.5-1999

application program (1) A computer program that is used for a specific application. (C) 610.5-1990w

(2) A program executed with the processor in **user mode.** *Note:* Statements made in this document regarding application programs may be inapplicable to programs (for example, debuggers) that have access to privileged processor state (e.g., as stored in a memory-image dump). (C/MM) 1754-1994

application program interface (API) The interface between the application software and the application platform, across which all services are provided. (C/PA) 14252-1996

application-service-element The part of an application-entity that provides an OSI environment, using underlying services when appropriate. (C/PA) 1238.1-1994w

application software (1) Software designed to fulfill specific needs of a user; for example, software for navigation, payroll, or process control. *Contrast:* support software; system software. (C) 610.12-1990

(2) Software that is specific to an application and is composed of programs, data, and documentation. (C/PA) 14252-1996

$$F(z, m) = \sum_{n=0}^{\infty} f[nT - (1 - m)T]u[nT - (1 - m)T]z^{-n}$$
$$0 < m < 1$$

(IM) [52]

modify (A) To change the contents of a database. (B) To change the logical structure of a database. *See also:* alter.

(C) 610.5-1990

Modula 2 *See:* MODUlar LAnguage II.

MODULA II *See:* MODUlar LAnguage II.

modular (software) Composed of discrete parts. *See also:* modular decomposition; modular programming.

(C) 610.12-1990

modular assembly A circuit breaker element consisting of sealed interrupters, mechanism, and connecting terminals.

(SWG/PE) C37.59-1996

modular constraint *See:* grid constraint.

modular decomposition (software) The process of breaking a system into components to facilitate design and development; an element of modular programming. *Synonym:* modularization. *See also:* factoring; hierarchical decomposition; demodularization; cohesion; coupling; packaging; functional decomposition.

(C) 610.12-1990

modularity (software) The degree to which a system or computer program is composed of discrete components such that a change to one component has minimal impact on other components. *See also:* cohesion; coupling.

(C) 610.12-1990

modularization *See:* modular decomposition.

MODUlar LAnguage II (MODULA II) A programming language developed, as an expanded version of Pascal, to support modular design, structured programs, and mathematical calculations. *See also:* block-structured language.

(C) 610.13-1993w

modular programming (software) A software development technique in which software is developed as a collection of modules. *See also:* stepwise refinement; data structure-centered design; transaction analysis; rapid prototyping; modular decomposition; input-process-output; structured design; transform analysis; object-oriented design.

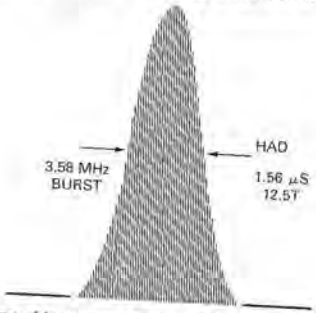
(C) 610.12-1990

MODULAR II *See:* MODUlar LAnguage II.

modulate (A) To convert voice or data signal for transmission over a communications network. *Contrast:* demodulate. (B) To vary one or more attributes of a carrier (amplitude, frequency, phase) such that the frequency information in the modulating signal can be recovered by its inverse process.

(C) 610.7-1995

modulated 12.5T pulse (linear waveform distortion) A burst of color subcarrier frequency of nominally 3.58 MHz. The envelope of the burst is $\sin^2$ shaped with a HAD of nominally 1.56 μs. The MOD 12.5T pulse consists of a luminance and a chrominance component. The envelope of the frequency spectrum consists of two parts, namely signal energy concentrated in the luminance region below 0.6 MHz and in the chrominance region from roughly 3 MHz to 4.2 MHz.



Envelope of frequency spectrum of modulated 12.5T pulse

modulated 12.5T pulse

(BT) 511-1979w

modulation (1) (A) (data transmission) *(Carrier).* (i) The process by which some characteristic of a carrier is varied in accordance with a modulating wave. (ii) The variation of some characteristic of a carrier. *See also:* angle modulation; modulation index. **(B) (data transmission)** *(Signal transmission system).* (i) A process whereby certain characteristics of a wave, often called the carrier, are varied or selected in accordance with a modulating function. (ii) The result of such a process. *See also:* angle modulation; modulation index.

(PE) 599-1985

(2) (diode-type camera tube) The ratio of the difference between the maximum and minimum signal currents divided by the sum. To avoid ambiguity, the optical input image intensity shall be assumed to be sinusoidal in the direction of scan.

(ED) 503-1978w

(3) (fiber optics) A controlled variation with time of any property of a wave for the purpose of transferring information.

(Std100) 812-1984w

(4) (overhead-power-line corona and radio noise) The process by which some characteristic of a carrier is varied in accordance with a modulating signal. (T&D/PE) 539-1990

(5) (broadband local area networks) The method whereby information is superimposed onto a RF carrier to transport signals through a communications channel.

(LM/C) 802.7-1989r

(6) The process of changing or regulating the characteristics of a carrier that is vibrating at a certain amplitude and frequency so that the variations represent meaningful information. *Contrast:* demodulation.

(C) 610.7-1995

modulation contrast (diode-type camera tube) The ratio of the difference between the peak and the minimum values of irradiance to the sum of the peak and the minimum value of irradiance of an image or specified portion of an image.

(ED) 503-1978w

modulation index (angle modulation with a sinusoidal modulating function) (data transmission) The ratio of the frequency deviation of the modulated wave to the frequency of the modulating function. *Note:* The modulation index is numerically equal to the phase deviation expressed in radians.

(PE) 599-1985w

modulation threshold (illuminating engineering) In the case of a square wave or sine wave grating, manipulation of luminance differences can be specified in terms of modulation and the threshold may be called the modulation threshold.

$$\text{modulation} = \frac{L_{max} - L_{min}}{L_{max} + L_{min}}$$

Periodic patterns that are not sine wave can be specified in terms of the modulation of the fundamental sine wave component. The number of periods or cycles per degree of visual angle represents the spatial frequency.

(EEC/IE) [126]

modulator A device that converts a signal into a modulated signal that is suitable for transmission.

(C) 610.7-1995

modulation transfer function (diode-type camera tube) $R_o(N)$, the modulus of the optical transfer function (OTF), is synonymous with the sine amplitude response. That is, the response of the imaging sensor to sinewave images. When the modulation transfer functions or MTFs of a linear sensor's components are known, the overall system MTF can be found by multiplying the individual component MTFs together.

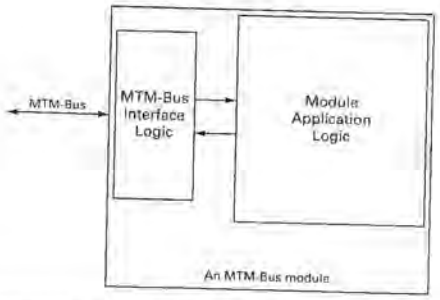
(ED) 503-1978w

modulator-demodulator *See:* modem.

module (1) (cable penetration fire stop qualification test) An opening in a fire resistive barrier so located and spaced from adjacent modules (openings) that its respective cable penetration fire stop's performance will not affect the performance of cable penetration fire stops in any adjacent module. A module may take on any shape to permit the passage of cables from one or any number of raceways.

(ED) 581-1978w

(2) (A) (software) A program unit that is discrete and identifiable with respect to compiling, combining with other units, and loading; for example, the input to, or output from, an



NOTE–An MTM-Bus module consists of MTM-Bus interface logic and module application logic.

MTM-Bus module

assembler, compiler, linkage editor, or executive routine. **(B) (software)** A logically separable part of a program. *Note:* The terms "module," "component," and "unit" are often used interchangeably or defined to be sub-elements of one another in different ways depending upon the context. The relationship of these terms is not yet standardized. (C) 610.12-1990

(3) (STEbus) A plug-in unit consisting of one or more boards that contains at least one bus interface conforming to IEEE Std 1000-1987, which plugs into the backplane. (C/MM) 1000-1987r

(4) (MULTIBUS) A basic functional unit within an agent. (C/MM) 1296-1987s

(5) Collection of circuitry designed to perform specific functions that includes an interface to Futurebus+. (C/BA) 10857-1994, 896.4-1993w, 896.3-1993w

(6) (NuBus) *See also:* board. (C/MM) 1196-1987w

(7) A board or board set that comprises a single physical unit. It provides mechanical mounting and protection of electronic components, thermal transfer of heat away from the components to an external heat sink, and electrical and fiber-optic connections. A module is removable and replaceable. (BA/C) 14536-1995

(8) A plug-in unit per IEC 50. (C/BA) 1101.4-1993, 1101.3-1993

(9) A board, or board set, consisting of one or more nodes, that share a physical interface to SCI. If a module has multiple boards with backplane-mating connectors, it only uses one for the logical connection to the node. The others may provide additional power or I/O for their associated boards, but otherwise merely pass the input link signals through to the output link to provide continuity in case the module is plugged into a ring-connected backplane. (C/MM) 1596-1992

(10) Typically a board assembly and its associated mechanical parts, front panel, optional shields, etc., which contains everything required to occupy a slot in a mainframe. A module may occupy one or more slots. (C/MM) 1155-1992

(11) A collection of circuitry that is designed to perform a specific operation. This is standard terminology for Futurebus+, while VME64 uses board synonymously. (C/BA) 1014.1-1994w

(12) A board, or board set, consisting of one or more nodes that share a physical interface. Although only one board in a module connects to bus signals, each board connector could provide power from the bus. (C/MM) 1212-1991s

(13) An electronic circuit assembly that connects to one or more slots on the backplane. It is removable from and replaceable in a backplane assembly via connectors. (C/BA) 896.2-1991w

(14) An addressable unit or interconnected set of units attached to the MTM-Bus and fully supporting the MTM-Bus protocols. The boundary of an MTM-Bus module may correspond to the physical partitioning of the system, but is not required to do so. For the purposes of this document, a module is comprised of an MTM-Bus interface and module application logic, as shown in the figure below. (TT/C) 1149.5-1995

(15) (FASTBUS module) Any FASTBUS Device that can be housed in a FASTBUS crate, that can connect to a crate segment and that conforms with the mandatory specifications for a FASTBUS module. (NID) 960-1993

(16) A packaged functional hardware unit designed for use with other components. (C) 610.10-1994w

(17) The smallest component of physical management; i.e., a replaceable device. (C/MM) 1394-1995

(18) Multiple cells/units in a single assembly. (SB) 1188-1996

(19) A board or board set consisting of one or more nodes that share a physical interface, although only one board in a module connects to bus signals. Each board connection could provide power from the bus. (C/BA) 1156.4-1997

(20) Any assembly of interconnected components that constitutes an identifiable device, instrument, or piece of equipment. A module can be disconnected, removed as a unit, and replaced with a spare. It has definable performance characteristics that permit it to be tested as a unit. A module could be a card, a drawout circuit breaker, or other subassembly of a larger device, provided it meets the requirements of this definition. (PE/NP) 603-1998

module accelerated aging (nuclear power generating station) (advanced life conditioning) The acceleration process designed to achieve an advanced life condition in a short period of time. It is the process of subjecting a module or component to stress conditions in accordance with known measurable physical or chemical laws of degradation in order to render its physical and electrical properties similar to those it would have at an advanced age operating under expected service conditions. In addition, when operations of a device are cyclical, acceleration is achieved by subjecting the device to the number of cycles anticipated during its qualified life. (PE/NP) 381-1977w

module accuracy (nuclear power generating station) Conformity of a measurement value to an accepted standard value or true value. *Note:* For further information, see Process Measurement and Control Terminology SAMA PMC-20.1-1973. (PE/NP) 381-1977w

module address (MA) (1) (FASTBUS acquisition and control) The group of bits assigned in the device address field of a FASTBUS address which identifies the module on its segment. The module address may partially overlap the group address. (NID) 960-1993

(2) An eight-bit value uniquely identifying an MTM-Bus module. (TT/C) 1149.5-1995

module aging (nuclear power generating station) (natural) The change with passage of time of physical chemical, or electrical properties of a component or module under design range operating conditions which may result in degradation of significant performance characteristics. (PE/NP) 381-1977w

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