# IEEE 100 THE AUTHORITATIVE DICTIONARY OF IEEE STANDARD STERMS



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# IEEE 100 The Authoritative Dictionary of IEEE Standards Terms

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development cycle *See*: software development cycle. development life cycle *See*: software development cycle.

- development methodology (software) A systematic approach to the creation of software that defines development phases and specifies the activities, products, verification procedures, and completion criteria for each phase. *See also:* software. (C/SE) 729-1983s
- **development platform** A system used to prepare an application for execution. Such a system is possibly distinct from the system on which the application will execute.

(C/PA) 1003.13-1998

development specification See: requirements specification.

- development system (1) The computer system used to compile and configure a PCTS.1.
   (C/PA) 2003.1-1992

   (2) The computer system used to compile and configure a PCTS.
   (C/PA) 13210-1994
- development testing Formal or informal testing conducted during the development of a system or component, usually in the development environment by the developer. *Contrast:* acceptance testing; operational testing. *See also:* qualification testing.
- deviation (1) (A) (software) A departure from a specified requirement. Contrast: waiver; engineering change. See also: configuration control. (B) (software) A written authorization, granted prior to the manufacture of an item, to depart from a particular performance or design requirement for a specific number of units or a specific period of time. Note: Unlike an engineering change, a deviation does not require revision of the documentation defining the affected item. Contrast: waiver; engineering change. See also: configuration control. (C) (navigation aid terms) The angle between the magnetic meridian and the axis of a compass card. Indicates the offset of the compass card from magnetic north.

(C/AES/GCS) 610.12-1990, 172-1983 (2) (automatic control) Any departure from a desired or expected value or pattern.

(IA/PE/APP/EDPG/IAC) [69], [3], [60] (3) (nuclear power quality assurance) A departure from specified requirements. (PE/NP) [124] (4) Departure from a specified dimension or design requirement, usually defining upper and lower limits. *See also:* tolerance. (SCC14/QUL) SI 10-1997, 268-1982s

- deviation distortion (data transmission) Distortion in an FM receiver due to inadequate bandwidth and inadequate amplitude modulation rejection, or inadquate discriminator linearity. (PE) 599-1985w
- deviation factor (1) (rotating machinery) (wave) The ratio of the maximum difference between corresponding ordinates of the wave and of the equivalent sine wave when the waves are superposed in such a way as to make this maximum difference as small as possible. *Note:* The equivalent sine wave is defined as having the same frequency and the same root-meansquare value as the wave being tested. *See also:* direct-axis synchronous impedance. (PE) [9]

(2) (electrical measurements in power circuits) The deviation factor is the ratio of the maximum difference between corresponding ordinates of the wave and of the equivalent sine wave to the maximum ordinate of the equivalent sine wave when the waves are superposed in such a way as to make this maximum difference as small as possible. The equivalent sine wave is defined as having the same frequency and the same rms value as the wave being tested.

(PE/PSIM) 120-1989r

#### deviation, frequency See: frequency deviation.

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deviation from a sine wave (harmonic control and reactive compensation of static power converters) (converter characteristics) (self-commutated converters) A single number measure of the distortion of a sinusoid due to harmonic components. It is equal to the ratio of the absolute value of the maximum difference between the distorted wave and the fundamental to the crest value of the fundamental. See also: maximum theoretical deviation from a sine wave.

- (IA/SPC) 936-1987w, 519-1992 deviation integral, absolute See: absolute deviation integral.
- deviation ratio (frequency-modulation systems) (data transmission) The ratio of the maximum frequency deviation to the maximum modulating frequency of the system.

(PE) 599-1985w

deviation sensitivity (1) (navigation aid terms) The rate of change of course indication with respect to the change of displacement from the course line.

(AES/GCS) 172-1983w (2) (frequency-modulation receivers) The least frequency deviation that produces a specified output power. 188-1952w

deviation, steady-state See: steady-state deviation.

- deviation system (control) The instantaneous value of the ultimately controlled variable minus the command. Note: The use of system error to mean a system deviation with its sign changed is deprecated. Synonym: system overshoot. See also: deviation. (PE/IA/EDPG/IAC) 421-1972s, [60] deviation, transient See: transient deviation.
- device (1) (FASTBUS acquisition and control) (FASTBUS device) Any equipment capable of connecting to a segment and responding to the mandatory features of the FASTBUS protocol. (NID) 960-1993 (2) (696 interface devices) (general system) A circuit or log-

ical group of circuits resident on one or more boards capable of interacting with other such devices through the bus. (C/MM) 696-1983w

(3) (nuclear power generating station) An item of electric equipment that is used in connection with, or as an auxiliary to, other items of electric equipment. (For example, as used in IEEE Std 649-1980, a device is a starter, contactor, circuit breaker, relay, etc.).

(PE/COM/TA/NP) 649-1980s, 455-1985w, 344-1975s (4) (programmable instrumentation) A component of a system that does not function as the system-controller but typically receives program messages from and sends response messages to the controller. A device may optionally have the capability to receive control from the controller and become the controller-in-charge of the system. A device meets all the requirements stated in IEEE Std 488.2-1987.

(IM/AIN) 488.2-1992r (5) (packaging machinery) A unit of an electrical system which is intended to carry but not consume electrical energy. (IA/PKG) 333-1980w

(6) A medical instrument or other device used to generate data on a particular patient. (EMB/MIB) 1073.3.1-1994
(7) A hardware unit that is capable of performing some specific function. (C/BA) 1275-1994
(8) A component of an VXIbus system. Normally, a device will consist of one VXIbus board. However, multiple-slot devices and multiple-device modules are permitted. Some examples of devices are computers, multimeters, multiplexers, oscillators, operator interfaces, and counters.

(C/MM) 1155-1992

(9) In networking, a unit that provides a means for inputting and outputting data over the transmission medium.

(C) 610.7-1995 (10) (software) A mechanism or piece of equipment designed to serve a purpose or perform a function.

(C) 610.10-1994w, 610.12-1990 (11) A computer peripheral or an object that appears to the application as such. (C/PA) 9945-1-1996, 1003.5-1999 (12) (electrical equipment) An operating element such as a relay, contactor, circuit breaker, switch, valve, or governor used to perform a given function in the operation of electrical equipment. (SWG/PE/SUB) C37.100-1992, C37.1-1994 (13) Any independent test resource. A test resource may be either manually or automatically controlled. Devices can generate stimuli, measure response, or provide switching control. Examples include voltmeters, counters, and power supplies. (SCC20) 993-1997

device

(14) A reference to an integrated circuit or other design structure. (C/TT) 1450-1999

- device address The (32-m)-bit identifying number assigned to a FASTBUS device that is compared with the signals on the AD lines during a logical primary address cycle of a FAST-BUS operation. The device address is formed by the group and module address fields. The (remaining) low-order m bits are assigned to the internal address field. (NID) 960-1993
- device alias A shorthand representation for a device path. (C/BA) 1275-1994
- device arguments The component of a node name that is provided to a package's open method to provide additional device-specific information. (C/BA) 1275-1994
- device class-broadcast Selective broadcast-class specified by CSR#7. Controls device response to subsequent cycles within the broadcast. (NID) 960-1993
- device communications controller (DCC) A communications interface associated with a medical device. A DCC may support one or more physically distinct devices acting as a single network communications unit. Its purpose is to provide a point-to-point serial communication link to a bedside communications controller (BCC).
- (EMB/MIB) 1073.4.1-2000, 1073.3.2-2000 device control character (data management) A control character used for the control of auxiliary devices associated with a data processing system or data communication system; for example, a control character for switching such devices on or off. (C) 610.5-1990w
- device control language A language used to monitor and/or control the state of a device. (C/MM) 1284.4-2000
- device coordinate system (computer graphics) A device-dependent coordinate system in which the coordinates of addressable points are expressed in integer addressable units. *Note:* A device driver maps normalized device coordinates or world coordinates to actual device coordinates.

(C) 610.6-1991w

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- device-dependent (computer graphics) Pertaining to that which can be used only on a particular device. Contrast: device-independent. (C) 610.6-1991w
- device driver (1) (computer graphics) The software that translates device-independent commands into device-specific (C) 610.6-1991w commands. (2) The software responsible for managing low-level I/O operations for a particular hardware device or set of devices. Contains all the device-specific code necessary to communicate with a device and provides a standard interface to the rest of the system. See also: firmware device driver; operating (C/BA) 1275-1994 system device driver. (3) A program that runs on the host and manages the sending and receiving of information from the peripheral. The driver utilizes the link level interface defined in this standard to communicate data between the application program and the pe-(C/MM) 1284-1994 ripheral personality. (4) A software component that permits a system to control and communicate with a peripheral device. See also: printer (C) 610.10-1994w driver; disk driver.
- **Device ID** A structured, variable length ASCII message identifying the manufacturer, command set, and model of the peripheral. The message is provided by the peripheral in response to a request issued by the host during the negotiation phase. Provided that the peripheral supports the bidirectional mode requested by the host, this message is provided in the requested mode. The Device ID is intended to assist the host in selecting the device and/or peripheral driver appropriate to the peripheral. (C/MM) 1284-1994
- device-independent (computer graphics)
   Pertaining to that which can be used on a variety of devices. Contrast: device-dependent.

   (C)
   610.6-1991w
- **device interface** One of the interfaces specified in this standard that allows devices to be identified, characterized, and used to assist other Open Firmware functions such as booting.

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- device media control language (data management) A language that may be used to describe the physical layout and organization of data within some physical storage media. (C) 610.5-1990w
- device node A particular entry in the device tree, usually describing a single device or bus, consisting of properties, methods, and private data. (A device node may have multiple child nodes and has exactly one parent node. The root node has no parent node.). (C/BA) 1275-1994
- device path A textual name identifying a device node by showing its position in the device tree. (C/BA) 1275-1994
- device register (A) An addressable register used to store information describing the device. See also: control register.
  (B) An addressable register used to store status and control information, and data for transmission to or from a device. Synonym: device status word.
  (C) 610.10-1994
- device rise time (photomultipliers for scintillation counting) The mean time difference between the 10- and 90-percent amplitude points on the output waveform for full cathode illumination and delta-function excitation. DRT is measured with a repetitive delta-function light source and a sampling oscilloscope. The trigger signal for the oscilloscope may be derived from the device output pulse, so that light sources such as the the scintillator light source may be employed.

(NPS) 398-1972r

- device space (computer graphics) The area defined by the addressable points of a display device. (C) 610.6-1991w
- device specifier Either a device path, a device alias, or a hybrid path that begins with a device alias and ends with a device path. (C/BA) 1275-1994

device status word See: device register.

- device tree A hierarchical data structure representing the physical configuration of the system. (The device tree describes the properties of the system's devices and the devices' relationships to one another. Most Open Firmware elements [devices, buses, libraries of software procedures, etc.] are named and located by the device tree.). (C/BA) 1275-1994
- dew point The temperature at which the water vapor in the gas begins to condense, expressed in degrees Fahrenheit (°F) or Celsius (°C). (PE/IC) 1125-1993
- **device port** The physical connection points through which signals flow into or out of a device or where timing, synchronization, and triggering control are accomplished.

(SCC20) 993-1997

- device type Identifies the set of properties and package classes that a node is expected to implement. Specified by the "device\_type" property. (C/BA) 1275-1994
- device under test (DUT) The device to be placed in a test fixture and tested. (C/TT) 1450-1999
- dew point temperature The temperature at which condensation of water vapor begins in a space. (IA/PSE) 241-1990r
- **dew withstand voltage test** A test to determine the ability of the insulating system to withstand specified overvoltages for a specified time without flashover or puncture while completely covered with dew.

(SWG/PE) C37.100-1992, C37.23-1987r

dezincification Parting of zinc from an alloy (parting is the preferred term). *Note:* Other terms in this category, such as denickelification, dealuminification, demolybdenization, etcetera, should be replaced by the term parting. *See also:* parting. (IA) [59]

DF See: direction finder.

DF antenna See: direction finder antenna system.

DFD See: data flow diagram.

**D** Filter A 300 Hz to 3400 Hz bandpass filter used for measuring noise, impulse noise, or data modem signal power. Noise measured through the D-Notched filter is used to evaluate its effect on the performance of a data modem.

(COM/TA) 743-1995

D flip-flop A flip-flop that has one data input, one trigger, and an output which assumes the state of the data input when the

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