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- (2) The part of a communications system from which a message originates. *Synonym:* information source. *Contrast:* message sink. (C) 610.7-1995
- message space** The address space used for packet based communications ranging from interrupts to negotiated data movement. *See also:* packet. (C/MM) 1296-1987s
- messages, species of** A group of messages having in the Command fields of their respective HEADER packets a common command code. The name, S, of a message species is the same as the name of the command that defines the message species. (TT/C) 1149.5-1995
- message stream modification** Attempts to modify, delete, re-order, duplicate, or insert information while the message stream is being transmitted over a communication channel. Message stream modification attacks may be perpetrated at any point in the communication architecture (e.g., data link, network, transport, application), and could result in unauthorized modification of information or unauthorized receipt of services. (C/BA) 896.3-1993w
- message switch (data transmission)** A technique whereby messages are routed to the appropriate receiver by way of message address codes rather than by switching of the communication channel itself. (PE) 599-1985w
- message switching (1)** A method of handling messages over communications networks. The entire message is transmitted to an intermediate point (that is, a switching computer), stored for a period of time, perhaps very short, and then transmitted again towards its destination. The destination of each message is indicated by an address integral to the message. *See also:* circuit switching. (LM/COM) 168-1956w
- (2) In data communications, a method of transporting messages by receiving, storing, and forwarding complete messages over communications networks. *See also:* time multiplexed switching; circuit switching; space-division switching. (C) 610.7-1995
- message telecommunication network (telephone switching systems)** An arrangement of switching and transmission facilities to provide telecommunication services to the public. (COM) 312-1977w
- message-timed release (telephone switching systems)** Release effected automatically after a measured interval of communication. (COM) 312-1977w
- message unit (telephone switching systems)** A basic chargeable unit based on the duration and destination of a call. (COM) 312-1977w
- message-unit call (telephone switching systems)** A call for which billing is in terms of accumulated message units. (COM) 312-1977w
- meta (1)** A word denoting a description that is one level of abstraction above the entity being described. (SCC32) 1489-1999
- (2) A Greek prefix meaning that which pertains to the whole or overall entity or that which is in common or shared with all member entities comprising the whole. (IM/ST) 1451.2-1997
- meta-attribute** A documenting characteristic of a data concept. (SCC32) 1489-1999
- metacomment** A VHDL comment (--) that is used to provide synthesis-specific interpretation by a synthesis tool. (C/DA) 1076.6-1999
- metacompiler** *See:* compiler generator.
- metadata (1)** Data that describes other data; for example, a data dictionary contains a collection of metadata. (C) 610.5-1990w
- (2) The information kept about software. It consists of the values of the various attributes of each of the objects. (C/PA) 1387.2-1995
- (3) Information about the way asset description data is stored and organized within a library. (C/SE) 1430-1996
- (4) Data that defines and describes other data. (SCC32) 1489-1999
- metafile** A file of device-independent commands, typically used to store graphical information to be displayed at a later time or on a different system or device. (C) 610.6-1991w
- META 5 (A)** A programming language used for symbolic data manipulation and for syntax-directed computing. (B) An assembly language for CDC computers. (C) 610.13-1993
- metalanguage (1)** A language used to specify some or all aspects of itself or of another language; for example, Backus-Naur form. (C) 610.13-1993w, 610.12-1990
- (2) A form of notation used to rigorously define the syntax, and sometimes the semantics, of another language. (SCC20) 771-1998
- metal clad** The conducting parts are entirely enclosed in a metal casing. (EEC/PE) [119]
- metal-clad switchgear (1) (electric power distribution for industrial plants)** Metal-enclosed power switchgear characterized by the following necessary features.
- The main circuit switching and interrupting device is of the removable type arranged with a mechanism for moving it physically between connected and disconnected positions and equipped with self-aligning and self-coupling primary and secondary disconnecting devices.
 - Major parts of the primary circuit, such as the circuit switching or interrupting devices, buses, potential transformers, and control power transformers, are enclosed by grounded metal barriers. Specifically included is an inner barrier in front of or a part of the circuit interrupting device to ensure that no energized primary circuit components are exposed when the unit door is opened.
 - All live parts are enclosed within grounded metal compartments. Automatic shutters prevent exposure of primary circuit elements when the removable element is in the test, disconnected, or fully withdrawn position.
 - Primary bus conductors and connections are covered with insulating material throughout. For special configurations, insulated barriers between phases and between phase and ground may be specified.
 - Mechanical interlocks are provided to ensure a proper and safe operating sequence.
 - Instruments, meters, relays, secondary control devices, and their wiring are isolated by grounded metal barriers from all primary circuit elements with the exception of short lengths of wire, such as at instrument transformer terminals.
 - The door through which the circuit interrupting device is inserted into the housing may serve as an instrument or relay panel and may also provide access to a secondary or control compartment within the housing.
- Notes:* 1. Auxiliary frames may be required for mounting associated auxiliary equipment, such as potential transformers, control power transformers, etc. 2. The term metal-clad switchgear can be properly used only if metal-enclosed switchgear conforms to the foregoing definition. All metal-clad switchgear is metal-enclosed, but not all metal-enclosed switchgear can be correctly designated as metal-clad. The most prevalent type of switching and interrupting device used in metal-clad switchgear is the air-magnetic power circuit breaker over 1000 volts (V). (IA/PSE) 141-1986s
- (2) Switchgear that is characterized by the following necessary features:
- The main switching and interrupting device is of the removable (drawout) type arranged with a mechanism for moving it physically between connected and disconnected positions and equipped with self-aligning and self-coupling primary disconnecting devices and disconnectable control wiring connections.
 - Major parts of the primary circuit, that is, the circuit switching or interrupting devices, buses, voltage transformers, and control power transformers, are completely enclosed by grounded metal barriers, that have no intentional openings between compartments. Specifically included is a metal barrier in front of, or a part of, the circuit

no-backoff error A transmission state that results from a transmitter transmitting when there is no carrier, and without waiting for the necessary delay. (C) 610.7-1995

noble potential A potential substantially cathodic to the standard hydrogen potential. *See also:* stray-current corrosion. (IA) [59]

no-busy test call (telephone switching systems) A call in which busy testing is inhibited. (COM) 312-1977w

nochange timing check A timing check similar to a setup/hold timing check except the setup and hold times are referred to opposite transitions of the reference signal. The stable interval is extended to include the period between these transitions; that is, the time for which the reference signal stays in a specified state. This timing check is frequently applied to memory banks and latch banks to establish the stability of the address or to select inputs before, during, and after the write pulse. (C/DA) 1481-1999

nodalization (A) The set of nodes within a system being modeled. (B) The process of developing the nodes as in (A). (C) 610.3-1989

nodal point *See:* node.

nodding-beam height finder A height-finding radar with a fan beam oriented with its narrow beamwidth in elevation, and which mechanically sector scans (nods) in elevation to locate the target and determine its elevation angle. (AES) 686-1997

node (1) (network analysis) One of the set of discrete points in a flow graph. (CAS) 155-1960w

(2) (software) In a diagram, a point, circle, or other geometric figure used to represent a state, event, or other item of interest. *See also:* graph. (C) 610.12-1990

(3) (modeling and simulation) A single entity that is represented in a mathematical model; for example, in a model of a nuclear reactor, a water pump or section of pipe. (C) 610.3-1989w

(4) (data management) In a tree, an element that is used to contain information that describes some object; for which there is at least one key used to identify the node. *Note:* Nodes are connected to each other by link fields to form the tree. *Synonym:* vertex. *See also:* terminal node; child node; parent node; nonterminal node; root node. (C) 610.5-1990w

(5) (A) (broadband local area networks) A point of junction between two connectors. (B) (broadband local area networks) The location where a line has a defined position. (C) (broadband local area networks) The point where signals leave one system and enter another. (LM/C) 802.7-1989

(6) In the context of Open Firmware, node is a synonym for device node. *See also:* device node. (C/BA) 1275-1994

(7) A general term denoting either a switching element in a network or a host computer attached to a network. (DIS/C) 1278.1-1995, 1278.2-1995

(8) An entity associated with one or more interconnected lines and optionally containing other functional units, such as cache and memory. In normal operation each node can be accessed independently (a control-register update on one node has no effect on the control registers of another node). (C/MM) 1596-1992

(9) A device or subsystem having one or more link interfaces. A node may be a terminal node (q.v.). A node may perform a routing function, routing packets between its node interfaces according to the information in the destination field of the packet. (C/BA) 1355-1995

(10) A device that consists of an access unit (AU) and a single point of attachment of the access unit to each bus of a DQDB subnetwork for the purpose of transmitting and receiving data on that subnetwork. Adjacent nodes are connected by a transmission link. (LM/C) 8802-6-1994

(11) (A) In networking, a point or a junction in a transmission system where lines or trunks from one or more systems meet.

Synonyms: branch point; junction point; nodal point; vertex. (B) In data communications, a device or station that implements some part of the communication protocol. (C) 610.7-1995

(12) Within a circuit, a point of interconnection between two or more components such as input and output terminals. (C) 610.10-1994w

(13) An addressable device attached to the Serial Bus with at least the minimum set of control registers. Changing the control registers on one node does not affect the state of control registers on another node. (C/MM) 1394-1995

(14) The entity associated with a particular set of control register addresses (including identification ROM and reset command registers) that is initially defined in a 4 Kbyte (minimum) initial node address space. In normal operation each node can be accessed independently (a control register update on one node has no effect on the control registers of another node). (C/MM) 1596.5-1993

(15) The software visible station on a bus. (each node is allocated a set of control register addresses [including identification-ROM and reset command registers], which are initially defined in a 4 kbyte [minimum] initial node address space. Although multiple nodes may share one bus interface, each node can be reset independently [a reset of one node has no effect on any other node]. Each module consists of one or two nodes that are independently initialized and configured by operating system software.) (C/BA/MM) 14536-1995, 13213-1994

(16) A term used to describe a RamLink slave within the context of the CSR Architecture. The entity associated with a particular set of control-register addresses (including identification ROM and reset-command registers). In normal operation each node can be accessed independently (a control-register update on one node has no effect on the control registers of another node). (C/MM) 1596.4-1996

(17) A modeled function located within the hierarchical graph structure of an IDEF0 model by its designated node number; as a function, a node is represented in a diagram by a named box. (C/SE) 1320.1-1998

(18) A set of Control and Status Register (CSR) addresses (including identification read-only memory and reset command registers) that are initially defined in a 4 kB (minimum) initial node address space. Each node can be reset independently (a reset of one node has no effect on other nodes). (C/BA) 1014.1-1994w, 896.2-1991w, 896.3-1993w, 896.4-1993w, 896.10-1997

(19) A conceptual point (through which logic signals pass) that has been identified as an aid to modeling the timing properties of a cell but may not correspond to any physical structure. In Physical Design Exchange Format (PDEF), this is a physical pin that does not correspond to a logical structure. (C/DA) 1481-1999

(20) A Serial Bus device that may be addressed independently of other nodes. A minimal node consists of only a physical layer (PHY) without an enabled link. If the link and other layers are present and enabled they are considered part of the node. (C/MM) 1394a-2000

(21) *See also:* batch node.

node absorption (network analysis) A flow-graph transformation whereby one or more dependent nodes disappear and the resulting graph is equivalent with respect to the remaining node signals. *Note:* For example, a circuit analog of node absorption is the star-delta transformation. (CAS) 155-1960w

nodecast An adjective used to describe an interrupt or message transaction that is distributed to all units on a node. Also used as a verb; e.g., "transactions may be nodecast to all units on a node." (C/MM) 1212-1991s

node controller A component within a node that provides a coordination point for management functions exclusively local to a given node and involving the application, transaction, link, and physical elements located at that node. (C/MM) 1394-1995

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