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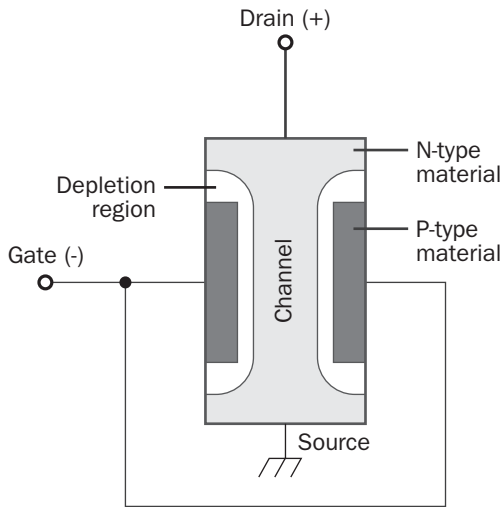
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FET. An N-channel junction field-effect transistor.

fetch *vb.* To retrieve an instruction or an item of data from memory and store it in a register. Fetching is part of the execution cycle of a microprocessor; first an instruction or item of data must be fetched from memory and loaded into a register, after which it can be executed (if it is an instruction) or acted upon (if it is data).

fetch time *n.* See instruction time.

FF *n.* See form feed.

FFT *n.* See fast Fourier transform.

FFTDCA *n.* See Final-Form-Text DCA.

Fiber Distributed Data Interface *n.* See FDDI.

fiberoptic cable or **fiber-optic cable** *n.* A form of cable used in networks that transmits signals optically, rather than electrically as do coaxial and twisted-pair cable. The light-conducting heart of a fiberoptic cable is a fine glass or plastic fiber called the core. This core is surrounded by a refractive layer called the cladding that effectively traps the light and keeps it bouncing along the central fiber. Outside both the core and the cladding is a final layer of plastic or plastic-like material called the coat, or jacket. Fiberoptic cable can transmit clean signals at speeds as high as 2 Gbps. Because it transmits light, not electricity, it is also immune to eavesdropping.

fiber optics *n.* A technology for the transmission of light beams along optical fibers. A light beam, such as that produced in a laser, can be modulated to carry information.

Because light has a higher frequency on the electromagnetic spectrum than other types of radiation, such as radio waves, a single fiber-optic channel can carry significantly more information than most other means of information transmission. Optical fibers are thin strands of glass or other transparent material, with dozens or hundreds of strands housed in a single cable. Optical fibers are essentially immune to electromagnetic interference. See also optical fiber.

fiber to the curb *n.* See FTTC.

fiber to the home *n.* See FTTH.

Fibonacci numbers *n.* In mathematics, an infinite series in which each successive integer is the sum of the two integers that precede it—for example, 1, 1, 2, 3, 5, 8, 13, 21, 34, Fibonacci numbers are named for the thirteenth-century mathematician Leonardo Fibonacci of Pisa. In computing, Fibonacci numbers are used to speed binary searches by repeatedly dividing a set of data into groups in accordance with successively smaller pairs of numbers in the Fibonacci sequence. For example, a data set of 34 items would be divided into one group of 21 and another of 13. If the item being sought is in the group of 13, the group of 21 is discarded, and the group of 13 is divided into groups of 5 and 8; the search would continue until the item was located. The ratio of two successive terms in the Fibonacci sequence converges on the Golden Ratio, a “magic number” that seems to represent the proportions of an ideal rectangle. The number describes many things, from the curve of a nautilus shell to the proportions of playing cards or, intentionally, the Parthenon, in Athens, Greece. See also binary search.

fiche *n.* See microfiche.

Fidonet *n.* **1.** A protocol for sending e-mail, newsgroup postings, and files over telephone lines. The protocol originated on the Fido BBS, initiated in 1984 by Tom Jennings, and maintaining low costs has been a factor in its subsequent development. Fidonet can exchange e-mail with the Internet. **2.** The network of BBSs, private companies, NGOs (nongovernment organizations), and individuals that use the Fidonet protocol.

field *n.* **1.** A location in a record in which a particular type of data is stored. For example, EMPLOYEE-RECORD might contain fields to store Last-Name, First-Name, Address, City, State, Zip-Code, Hire-Date, Current-Salary, Title, Department, and so on. Individual fields are characterized by their maximum length and the type of data (for

LLC *n.* Acronym for **Logical Link Control**. In the IEEE 802.x specifications, the higher of two sublayers that make up the ISO/OSI data link layer. The LLC is responsible for managing communications links and handling frame traffic. *See also* IEEE 802.x, MAC.

Lmhosts file *n.* A local text file that lists the names of network hosts (sometimes called NetBIOS names) to IP addresses for hosts that are not located on the local subnet. *See also* IP address, systemroot.

load¹ *n.* **1.** The total computing burden a system carries at one time. **2.** In electronics, the amount of current drawn by a device. **3.** In communications, the amount of traffic on a line.

load² *vb.* To place information from storage into memory for processing, if it is data, or for execution, if it is program code.

load-and-go *adj.* In reference to a routine, able to begin execution immediately, once loaded. The term is commonly used in reference to compilers and the machine code they generate.

load balancing *n.* **1.** In distributed processing, the distribution of activity across two or more servers in order to avoid overloading any one with too many requests from users. Load balancing can be either static or dynamic. In the former, the load is balanced ahead of time by assigning different groups of users to different servers. In the latter, software refers incoming requests at runtime to whichever server is most capable of handling them. **2.** In client/server network administration, the process of reducing heavy traffic flows either by dividing a busy network segment into multiple smaller segments or by using software to distribute traffic among multiple network interface cards working simultaneously to transfer information to a server. **3.** In communications, the process of routing traffic over two or more routes rather than one. Such load balancing results in faster, more reliable transmissions.

loaded line *n.* A transmission cable fitted with loading coils, usually spaced about a mile apart, that reduce amplitude distortion in a signal by adding inductance (resistance to changes in current flow) to the line. Loaded lines minimize distortion within the range of frequencies affected by the loading coils, but the coils also reduce the bandwidth available for transmission.

loader *n.* A utility that loads the executable code of a program into memory for execution. On most microcomputers, the loader is an invisible part of the operating system

and is automatically invoked when a program is run. *See also* loader routine, load module.

loader routine *n.* A routine that loads executable code into memory and executes it. A loader routine can be part of an operating system or it can be part of the program itself. *See also* loader, overlay¹ (definition 1).

load module *n.* An executable unit of code loaded into memory by the loader. A program consists of one or more load modules, each of which can be loaded and executed independently. *See also* loader.

load point *n.* The beginning of the valid data area on a magnetic tape.

load sharing *n.* A method of managing one or more tasks, jobs, or processes by scheduling and simultaneously executing portions of them on two or more microprocessors.

load shedding *n.* In electrical systems, the process of turning off power to some electronic equipment in order to maintain the integrity of the power supply to other connected devices. *See also* UPS.

lobby page *n.* A page of information about the broadcast that is displayed in the viewer's browser before the broadcast begins. It can contain a title, subject, host's name, information about the broadcast, and a countdown to the time of the broadcast.

local *adj.* **1.** In general, close at hand or restricted to a particular area. **2.** In communications, a device that can be accessed directly rather than by means of a communications line. **3.** In information processing, an operation performed by the computer at hand rather than by a remote computer. **4.** In programming, a variable that is restricted in scope, that is, used in only one part (subprogram, procedure, or function) of a program. *Compare* remote.

local area network *n.* *See* LAN.

local bus *n.* A PC architecture designed to speed up system performance by allowing some expansion boards to communicate directly with the microprocessor, bypassing the normal system bus entirely. *See also* PCI local bus, VL bus.

local bypass *n.* A telephone connection used by some businesses that links separate buildings but bypasses the telephone company.

locale identifier *n.* A 32-bit value that consists of a language identifier and a sort identifier. In code, a locale

devices. A storage area network, or SAN, includes components such as hubs and routers that are also used in local area networks (LANs), but it differs in being something of a “subnetwork” dedicated to providing a high-speed connection between storage elements and servers. Most SANs rely on fiber-channel connections that deliver speeds up to 1000 Mbps and can support up to 128 devices. SANs are implemented to provide the scalability, speed, and manageability required in environments that demand high data availability. *Acronym: SAN. Also called: system area network.*

storage device *n.* An apparatus for recording computer data in permanent or semipermanent form. When a distinction is made between primary (main) storage devices and secondary (auxiliary) storage devices, the former refers to random access memory (RAM) and the latter refers to disk drives and other external devices.

storage location *n.* The position at which a particular item can be found—either an addressed location or a uniquely identified location on a disk, tape, or similar medium.

storage media *n.* The various types of physical material on which data bits are written and stored, such as floppy disks, hard disks, tape, and optical discs.

storage tube *n.* *See* direct view storage tube.

store-and-forward *n.* A method of delivering transmissions in which messages are held temporarily by an intermediary before being sent on to their destination. Store and forward is used by some switches in delivering packets to their destinations. *Compare* cut-through switch.

stored procedure *n.* A precompiled collection of SQL statements and optional control-of-flow statements stored under a name and processed as a unit. They are stored in an SQL database and can be run with one call from an application.

stored program concept *n.* A system architecture scheme, credited largely to the mathematician John von Neumann, in which both programs and data are in direct-access storage (random access memory, or RAM), thereby allowing code and data to be treated interchangeably. *See also* von Neumann architecture.

storefront *n.* *See* virtual storefront.

storm *n.* On a network, a sudden, excessive burst of traffic. Storms are often responsible for network outages.

STP *n.* Acronym for shielded twisted pair. A cable consisting of one or more twisted pairs of wires and a sheath

of foil and copper braid. The twists protect the pairs from interference by each other, and the shielding protects the pairs from interference from outside. Therefore, STP cable can be used for high-speed transmission over long distances. *See also* twisted-pair cable. *Compare* UTP.

straight-line code *n.* Program code that follows a direct sequence of statements rather than skipping ahead or jumping back via transfer statements such as GOTO and JUMP. *See also* GOTO statement, jump instruction. *Compare* spaghetti code.

stream¹ *n.* Any data transmission, such as the movement of a file between disk and memory, that occurs in a continuous flow. Manipulating a data stream is a programming task. Consumers, however, are likely to encounter references to streams and streaming in connection to the Internet, which has increased reliance on stream techniques to enable users (even those with slower equipment) to access large multimedia files—especially those containing audio and video components—and to display or play them before all the data has been transferred.

stream² *vb.* To transfer data continuously, beginning to end, in a steady flow. Many aspects of computing rely on the ability to stream data: file input and output, for example, and communications. If necessary, an application receiving a stream must be able to save the information to a buffer in order to prevent loss of data. On the Internet, streaming enables users to begin accessing and using a file before it has been transmitted in its entirety.

stream cipher *n.* A method for encrypting a data sequence of unlimited length using a key of fixed length. *See also* key (definition 3). *Compare* block cipher.

streaming *n.* **1.** On the Internet, the process of delivering information, especially multimedia sound or video, in a steady flow that the recipient can access as the file is being transmitted. **2.** In magnetic tape storage devices, a low-cost technique to control the motion of the tape by removing tape buffers. Although streaming tape compromises start/stop performance, it achieves highly reliable storage and retrieval of data, and is useful when a steady supply of data is required by a particular application or computer.

streaming buffer *n.* A small sound buffer that can play lengthy sounds because the application dynamically loads audio data into the buffer as it plays. For example, an application could use a buffer that can hold 3 seconds of audio data to play a 2-minute sound. A streaming buffer requires much less memory than a static buffer. *See also* static buffer.