

HARGRAVE'S COMMUNICATIONS DICTIONARY

Frank Hargrave



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multiaddress calling A service feature that permits a user to designate more than one addressee for the same data. Functionally, multiaddress calling may be performed sequentially or simultaneously. See also *broadcast*.

multibus Intel's central path (channel) for transmitting electrical signals and data; it was developed for use in 8- and 16-bit computer systems.

multibyte character In encoding, a character represented by two or more bytes. These characters arise in languages whose alphabet contains more than 256 characters, as is the case with Chinese and Japanese.

multicarrier modulation (MCM) A method of transmitting data by dividing the data into several bit streams, each of which is used to modulate a separate carrier. *MCM* is a form of frequency division multiplexing (FDM).

multicast A message sent from one source to a subset of all possible destination hosts that could receive the message. The subset is called a *multicast group*, and hosts that desire to participate must subscribe.

Multicasting is applicable to a number of applications, such as teleconferencing and the Internet Talk Radio. Protocols that support multicast include Apple Computer's Simple Multicast Routing Protocol (SMRP), and *IP multicast*. See also *IP multicast*.

multicast address A routing address that is used to address simultaneously all computers in a specified group and usually identifies a group of computers that share a common protocol, as opposed to a group of computers that share a common network. In the Internet protocol, it is called a *class d address*.

Multicast Backbone (MBONE) One implementation of *real-time* video and audio services for the Internet.

The basic premise of data delivery on the Internet is to make it error free, even at the expense of delay. Both audio and video, on the other hand, can tolerate errors but cannot tolerate delay. Therefore, new protocols had to be developed, the *multicast protocol* being one of them. To support the *multicast protocol* with its time-sensitive transmission requirements, a new backbone is required. This alternative backbone consists of computers equipped with special hardware interfaces, new software, and high-speed transmission facilities. Even with all of this equipment in place, the message throughput is not capable of full-motion multimedia transmission. Full motion requires approximately 30 picture frames per second, and the *multicast backbone* can support only about one-tenth of that. Even that data rate is useful for audiovisual teleconferencing and collaborative worksheets (a kind of electronic chalkboard in which all participants can view and change the contents).

multicast bit A bit in the Ethernet addressing structure used to indicate a broadcast message, i.e., a message to be sent to all stations.

multicast group The list of IP addresses to which multicast messages are sent. See also *IP multicast*.

multicast message A message that is intended for a set of stations on a network.

Multicast Open Shortest Path First (MOSPF) See *IP multicast*.

multidrop line A transmission configuration wherein a single transmission line is shared by several end stations.

For example, an Ethernet bus topology provides a *multidrop* connection, as does a telephone party line. Also called a *multi-drop line* or *multipoint line*.

multifiber cable A fiber optic cable having two or more separate fibers, each of which is capable of serving as an independent optical transmission channel.

multihomed host A host that is connected to more than one network.

Each network may operate with a different protocol. The host will have an IP address on each network, and that address may be different. The host may or may not allow transmissions to cross from one network onto another (as a bridge).

multilayer filter See *interference filter*.

multileaving The transmission of a variable number of data streams between user devices and a computer, usually via BiSync facilities and using BiSync protocols.

multilevel code A code where a single signal variable may take on more than two values. Examples include:

- *DPSK*, which has four possible phase angles, 0°, 90°, 180°, and 270°, per transmitted symbol.
- *AMI*, which has three possible voltage levels per transmitted symbol (+V, 0, and -V). Both +V and -V are usually encoded as logical one.
- *2B1Q*, which has four voltage levels, representing the combined value of two bits, in each symbol transmitted.

See also *waveform codes*.

multilevel phase shift key (MPSK) See *MPSK*.

multilink point-to-point protocol (MPPP) A standard communications protocol used to bond separate ISDN data-carrying B-channels together to transfer data effectively through a larger "pipe." At the basic rate, it allows both B-channels to be used for either voice or data transmissions and supports dynamic bandwidth allocation. That is, one of the two channels can be reallocated automatically for an incoming phone call. Upon call completion, the channel can be reconnected to continue data transfer over *MPPP*.

multimedia (1) A generic description of the generation, presentation, or simultaneous transfer of information in more than one way. Media types include text, graphic (drawings), still images (photographs), motion video, and sound. Multimedia therefore involves two or more simultaneous media types to communicate information. Note that multimedia presentations tend to consume huge amounts of resources, computer processing capability, disk memory, and transmission bandwidth. See also *MPC*. (2) In local area networks (LAN) applications, the use of mixed types of transmission media such as coax, UTP, and fiber optics.

Multimedia and Hypermedia information coding Expert Group (MHEG) An ISO standard encoding for multimedia and hypermedia information. It is designed to simplify the use and interchange of information such as with games, electronic publishing, and medical applications.

multimedia mail An e-mail system in which users are allowed to include graphics, sounds, and video in addition to text. Also called *MIME* (Multipurpose Internet Mail Extension).

multimode distortion In multimode optical fibers, the gradual spreading of an optical pulse with increasing distance, i.e., the rounding of the digital light pulse as it traverses the fiber. Two methods can be used to explain the effect:

- In wave optics, the signal is spread in time because the propagation velocity of the optical signal is not the same for all modes.