Broadcast

In general, to broadcast (verb) is to cast or throw forth something in all directions at the same time. A radio or television broadcast (noun) is a program that is transmitted over airwaves for public reception by anyone with a receiver tuned to the right signal channel.

The term is sometimes used in e-mail or other message distribution for a message sent to all members, rather than specific members, of a group such as a department or enterprise.

On the Internet, certain Web sites deliver original or redistributed broadcasts from existing radio and television stations, using streaming sound or streaming video techniques, to Web users who visit the Web site or "tune it in" using a special program such as RealPlayer. Like publicly available radio and television broadcasts, Web broadcasts are available to anyone. The Web now offers live as well as prepackaged broadcasts and also plays back audio and video tapes. Some programming is scheduled and other prepackaged programs can be delivered on demand. Many Web users listen to music from a particular broacasting site as they surf other sites on the Web.

Broadcast should not be confused with unicast, a transmission to a specific receiver (like most e-mail messages); multicast, a transmission to multiple specific receivers (as in e-mail to a distribution list or a Web transmission over the MBone network to a specific group of receiving addresses); or anycast, a transmission to the nearest of a group of routers, used in Internet Protocol Version 6 (IPv6) as a technique for chain-updating a group of routers with new routing information.

Unicast

Unicast is communication between a single sender and a single receiver over a network. The term exists in contradistinction to multicast, communication between a single sender and multiple receivers, and anycast, communication between any sender and the nearest of a group of receivers in a network. An earlier term, *point-to-point* communication, is similar in meaning to unicast. The new Internet Protocol version 6 (IPv6) supports unicast as well as anycast and multicast.

Multicast

Multicast is communication between a single sender and multiple receivers on a network. Typical uses include the updating of mobile personnel from a home office and the periodic issuance of online newsletters. Together with anycast and unicast, multicast is one of the packet types in the Internet Protocol Version 6 (IPv6).

Multicast is supported through wireless data networks as part of the Cellular Digital Packet Data (CDPD) technology.

Multicast is also used for programming on the MBone, a system that allows users at high-bandwidth points on the Internet to receive live video and sound programming. In addition to using a specific high-bandwidth subset of the Internet, Mbone multicast also uses a protocol that allows signals to be encapsulated as TCP/IP packet when passing through parts of the Internet that can not handle the multicast protocol directly.

Anycast

In Internet Protocol Version 6 (IPv6), anycast is communication between a single sender and the nearest of several receivers in a group. The term exists in contradistinction to multicast, communication between a single sender and multiple receivers, and unicast, communication between a single sender and a single receiver in a network.

Anycasting is designed to let one host initiate the efficient updating of router tables for a group of hosts. IPv6 can determine which gateway host is closest and sends the packets to that host as though it were a unicast communication. In turn, that host can anycast to another host in the group until all routing tables are updated.