

Hub And Bridges

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In general, a hub is the central part of a wheel where the spokes come together. The term is familiar to frequent fliers who travel through airport “hubs” to make connecting flights from one point to another. In data communications, a hub is a place of convergence where data arrives from one or more directions and is forwarded out in one or more other directions. A hub usually includes a switch of some kind. (And a product that is called a “switch” could usually be considered a hub as well.) The distinction seems to be that the hub is the place where data comes together and the switch is what determines how and where data is forwarded from the place where data comes together. Regarded in its switching aspects, a hub can also include a router.

- 1) In describing network topologies, a hub topology consists of a backbone (main circuit) to which a number of outgoing lines can be attached (“dropped”), each providing one or more connection port for device to attach to. For Internet users not connected to a local area network, this is the general topology used by your access provider. Other common network topologies are the bus network and the ring network. (Either of these could possibly feed into a hub network, using a bridge.)
- 2) As a network product, a hub may include a group of modem cards for dial-in users, a gateway card for connections to a local area network (for example, an Ethernet or a token ring), and a connection to a line (the main line in this example).

BRIDGES

A bridge is used to connect two networks together. Just like a bridge connects two roads, this bridge can join two different networks to extend the network. Say you have two home networks, one in the basement and one upstairs. You can put a bridge in the middle of the house, and then transfer files between networks while still having two separate networks. The only disadvantage to doing is, is that the collision domain becomes larger (more chance of packets colliding) since the network is much larger.

REPEATERS

A repeater is like a router, but is used to re-strengthen a signal over a long distance. There are analog repeaters, which can only amplify the signal and there are digital repeaters that can restore a signal to near original quality. Some hubs can act as repeaters aswell. Repeaters cannot route internet like a router can though, they are strictly used to regenerate a signal. A repeater should be used when cat5e cabling is over 300feet (100metres) in length. A wireless repeater can be placed between the router and the computer, when length is an issue and the signal is degraded.



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