

Lan topologies

[Science](#), [Computer Science](#)



LAN Topologies IT240 10/14/12 1. Case Project 2-1 With a network of 50 computers I will use the Ring Topology to upgrade this network. With this type of topology all the devices are connecting in a loop form and the information travels in one direction, thus avoiding collisions. Here the cabling doesn't terminate, it continually goes from one device to another till it gets back to the original device. It is also easier to manage the network since all the information is passed around the ring in the same direction. . Case project 2-2 With that many computer and four servers, I will use an Extended Star Topology. As pointed out in the case project that there are a few switches available here, I will use a central switch and connect the rest of the available switches to it and connect the 200 PC's to those switches. Switches are good for determining each individual packet's destination and ensuring that they are delivered to the right device.

Note Even though they might have two different uses in some cases, the hubs in my diagram represent the switches. 3. Case project 2-3 * Physical versus logical topology: A physical topology defines how the devices on a particular network are physically connected; logical on the contrast tells us how the systems on the physical topology communicate. * Bus Topology: In this topology all the devices are physical chained to one another through a single cabling system.

This form of topology works better when the numbers of computers on the network are limited. * Star Topology: This is the form of topology where all devices connect to central unit through a hub, switch or even a router. One of the biggest advantages here is; in the event one of the devices failed, it does not bring the entire network down. * Ring Topology: In this form of

topology all the devices are directly connected to the next existing device in a ring form.

This kind of works like the bus topology, however, there is no termination here, as the devices connect from one to another all the way back to the original device. * Ethernet and CSMA/CD: This is the type of technology networks use to sense if there is an ongoing transmission. In the event where there is one, the system goes into wait mode till the channel is free for it to begin its own transmission. This is one of the ways to avoid collision.