Circuit Switching is a network technology that sends data to connected devices. In circuit based switching, two nodes establish a dedicated communication path before any data is ever sent. After a path between the two nodes is established, that path is guaranteed to have full bandwidth as no other network traffic can use the established path until the end of the communication session. It is similar to how two devices that are physically connected with an electrical circuit interact. An example of this technology in use is the telephone service. When a call is made from one phone to another, the two phones create a dedicated connection between each other for as long as the call lasts. Circuit switching can be very inefficient because it guarantees a connection between two devices and ties up that path even when the connection is not in continuous use. This ties up the path so no other devices can use it even though data is not being sent back and forth the entire time. The advantage of circuit switching is that the connection is immediately available after being established, and does not have the overhead of packets, which have a greater chance of data loss and do not maximize bandwidth usage.

Packet switching is another network technology to send data between connected devices. Unlike circuit switching, Packet switching does not set up a predefined path before sending data. Instead it divides the data into small packets with a header address that tells it where to go and describes the sequence for reassembly when it reaches the destination. The packets seek out the most efficient route as circuits become available and each packet could take a different path. When the packets all reach the destination, they are reassembled into the data based on the sequence numbers in their headers. Packet switching optimizes utilization of bandwidth and minimizes response time. Each packet is sent and dynamically chooses the best path, which may not always be the shortest path.