

Packet Switching

PACKET SWITCHING NETWORK:

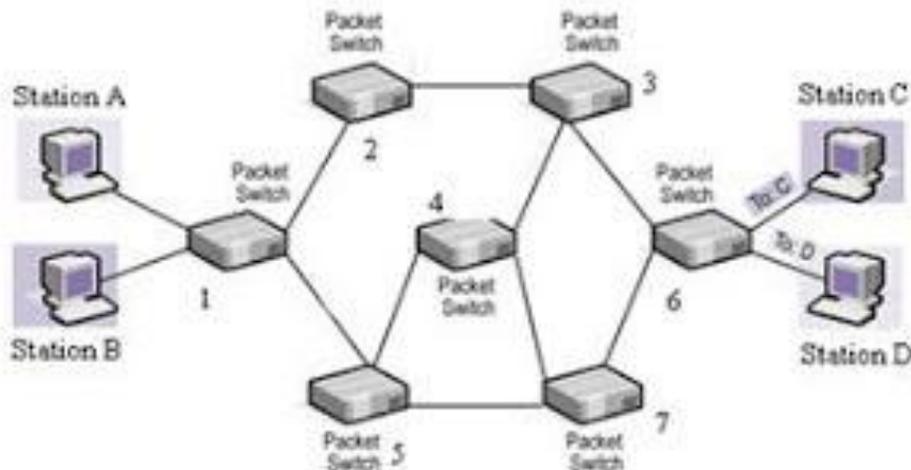
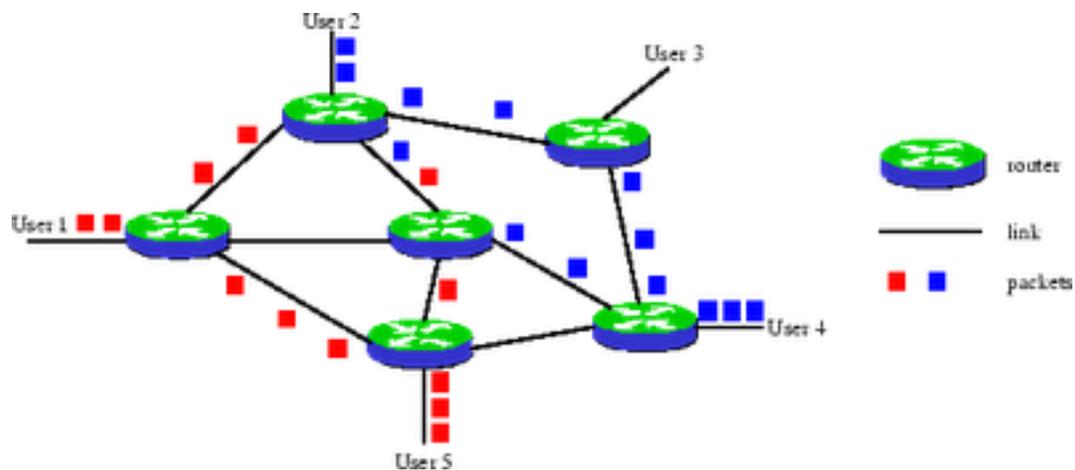


Figure shows a simple packet switching network. Consider a packet to be sent from station A to station D. The packet includes the control information that indicates the intended destination is D. The packet is sent from station/node A to node 1. Node 1 stores the packet, determines the route, and queues the packet to go out on that link (1-5). When the link is available, the packet is transmitted to node 5, then 5-4, 4-7, and finally to D. This approach has a number of advantages over circuit switching.

Switching Techniques:

If the station has a message to send through a packet switching network which is of length greater than the maximum packet size, it breaks the message into packets and sends these packets one at a time to a network. A question arises: how does the network handle this stream of packets. There are two techniques used, (1) Datagram (2) Virtual Circuit

DATAGRAM:



In datagram approach each packet is treated independently with no reference to packets that have gone before. So the packets each with same destination address do not follow the same route and they may arrive out of sequence at exit point. Hence exit node restores their packets to their original order before delivering them to destination.

VIRTUAL CIRCUIT:

In virtual circuit approach a preplanned route is established before any packet is sent. Once the route is established all the packets between the pair of communication parties follows the same route through the network. The route is fixed for the duration of logical connection. Each packet contains a virtual circuit identifier as well as data, Note that it does not mean that this is dedicated path as in circuit switching. A packet is still buffered at each node and queued for output over a line.

Source:

<http://datacombasic.blogspot.in/2011/03/packet-switching.html>