

Section 14.2 - Circuit Switching, Packet Switching

Layer 8: Networking

Syllabus Content Section 14: Communication and Internet Technologies

S14.2.1 Show understanding of circuit switching

- Benefits, drawbacks and where it is applicable
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- There are steps to this:

1. Sender says who they want to send to (who is the receiver)
2. System checks to make sure the receiver is ready to accept
3. If receiver is available then the links are established (the circuit)
4. Data is sent
5. The links are removed

Because the links made are dedicated, data can be sent without impediment.

Its reliable because you are only sending if you know the receiver can receive and you know the medium is stable enough to handle it.

At the end of transmission the circuit lines can either be removed or if the line was a leased line the connection is permanent.

Like if you had a dedicated phone line that always goes to one number.

S14.2.2 Show understanding of packet switching

- Benefits, drawbacks and where it is applicable
 - Show understanding of the function of a router in packet switching
 - Explain how packet switching is used to pass messages across a network, including the internet
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When data is split into packets but sent over different routes

The receiver then has to arrange the packets in the correct order, which may be different then the order the packet arrived.

That's why we need packet numbers

- Each Packet must have:

1. Sender
2. Receiver
3. Protocol Used
4. Packet Number
5. Payload
6. Error Correction
7. End of Packet