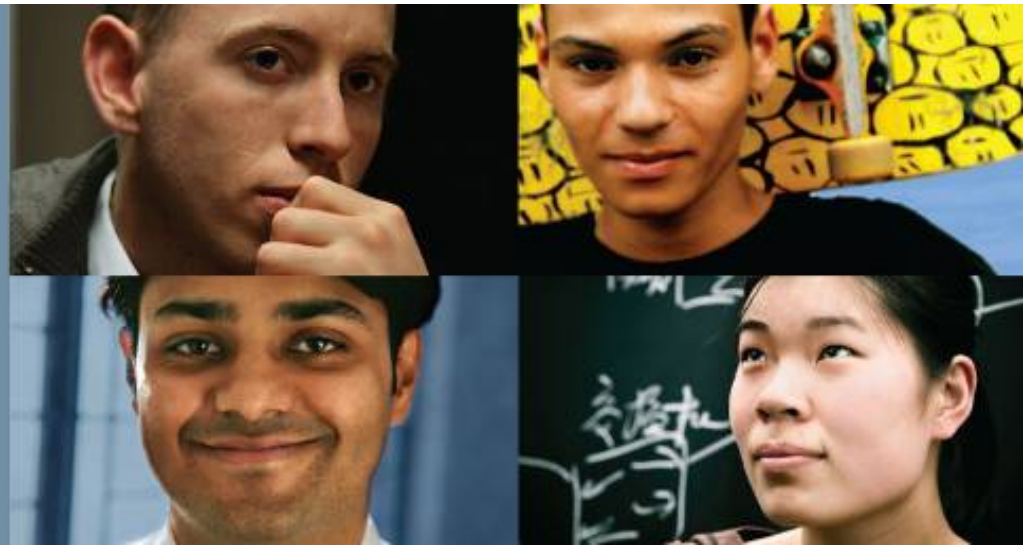
TNE10006/TNE60006: Networks and Switching



Transport Layer – TCP

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Outline

- Introduction to TCP
- Header Format
- Application Processes
- Guaranteed Delivery

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TCP – Transmission Control Protocol

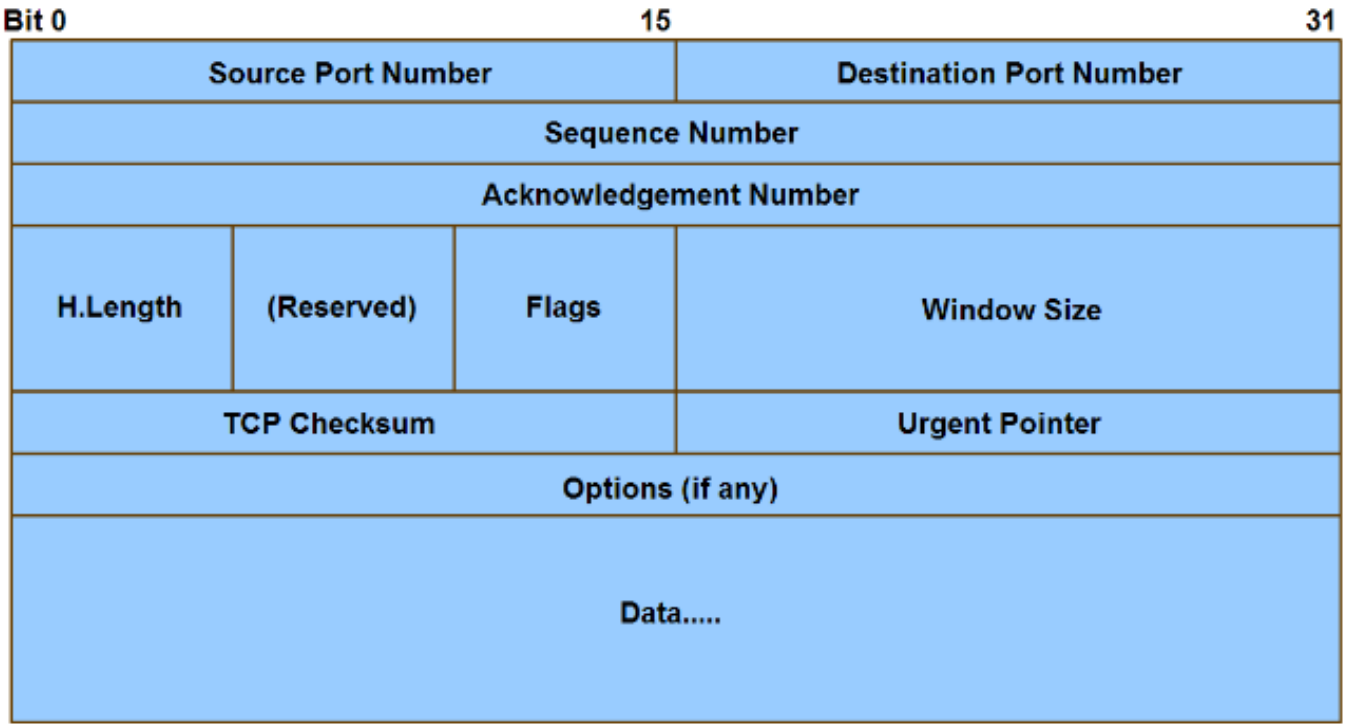
- RFC 793
- Connection Oriented
- Guaranteed Delivery
- In-order delivery
- Flow Control

- Since IP is best effort, this extra functionality must be incorporated into TCP

TCP Header Format

- Larger than UDP Header
- Increased overhead

TCP Segment Header Fields



The fields of the TCP header enable TCP to provide connection-oriented, reliable data communications.

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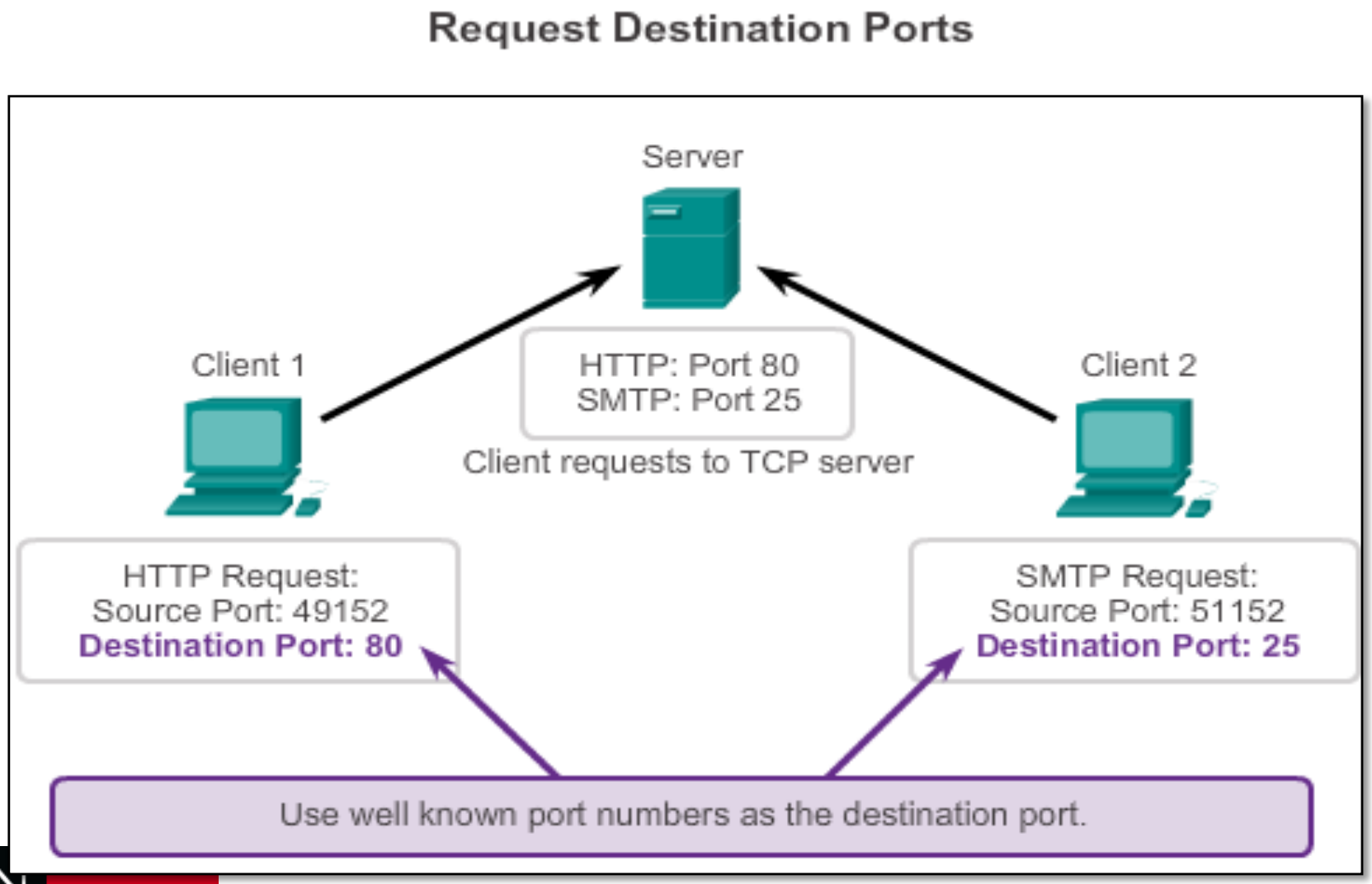
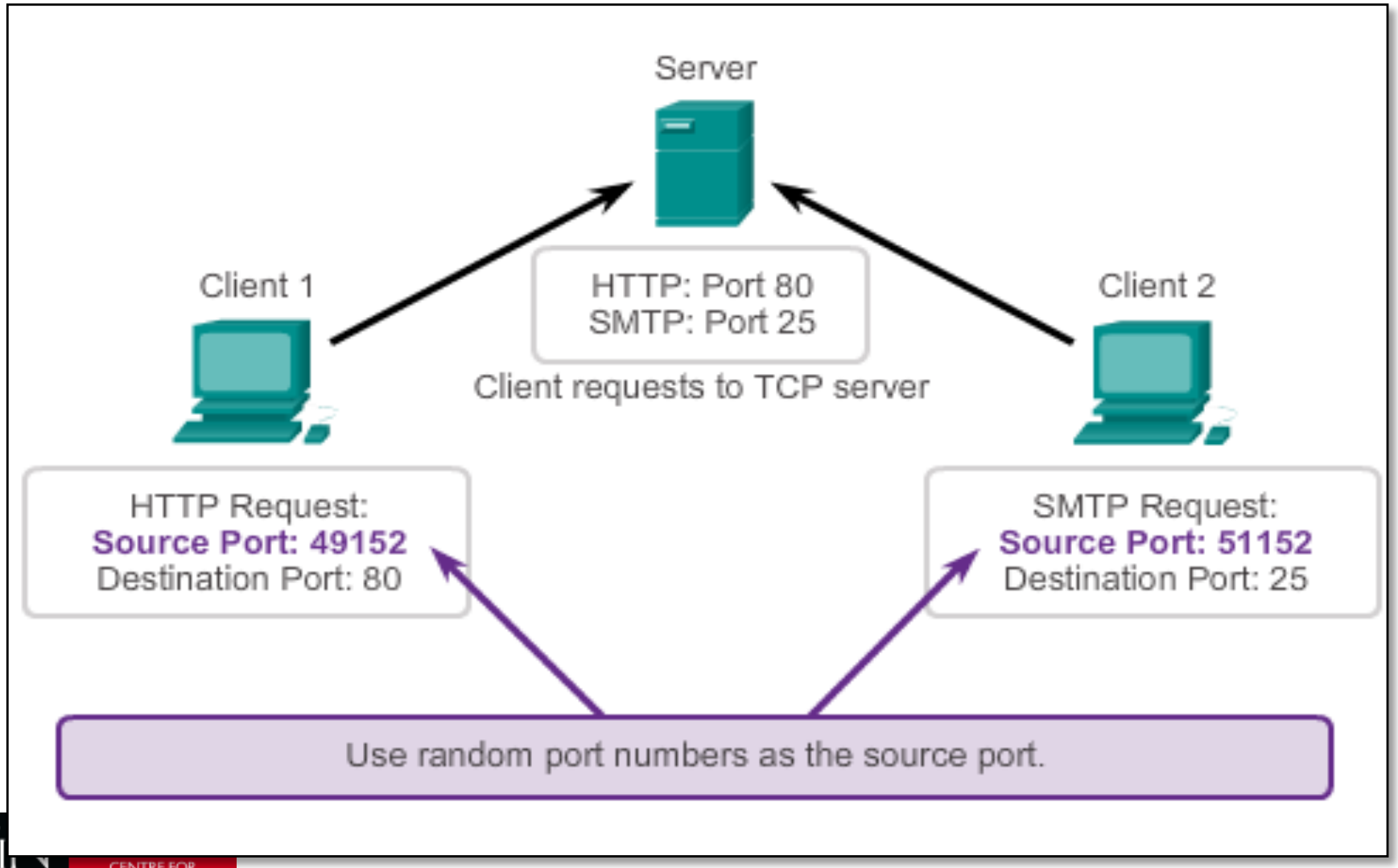
TCP Application Processes

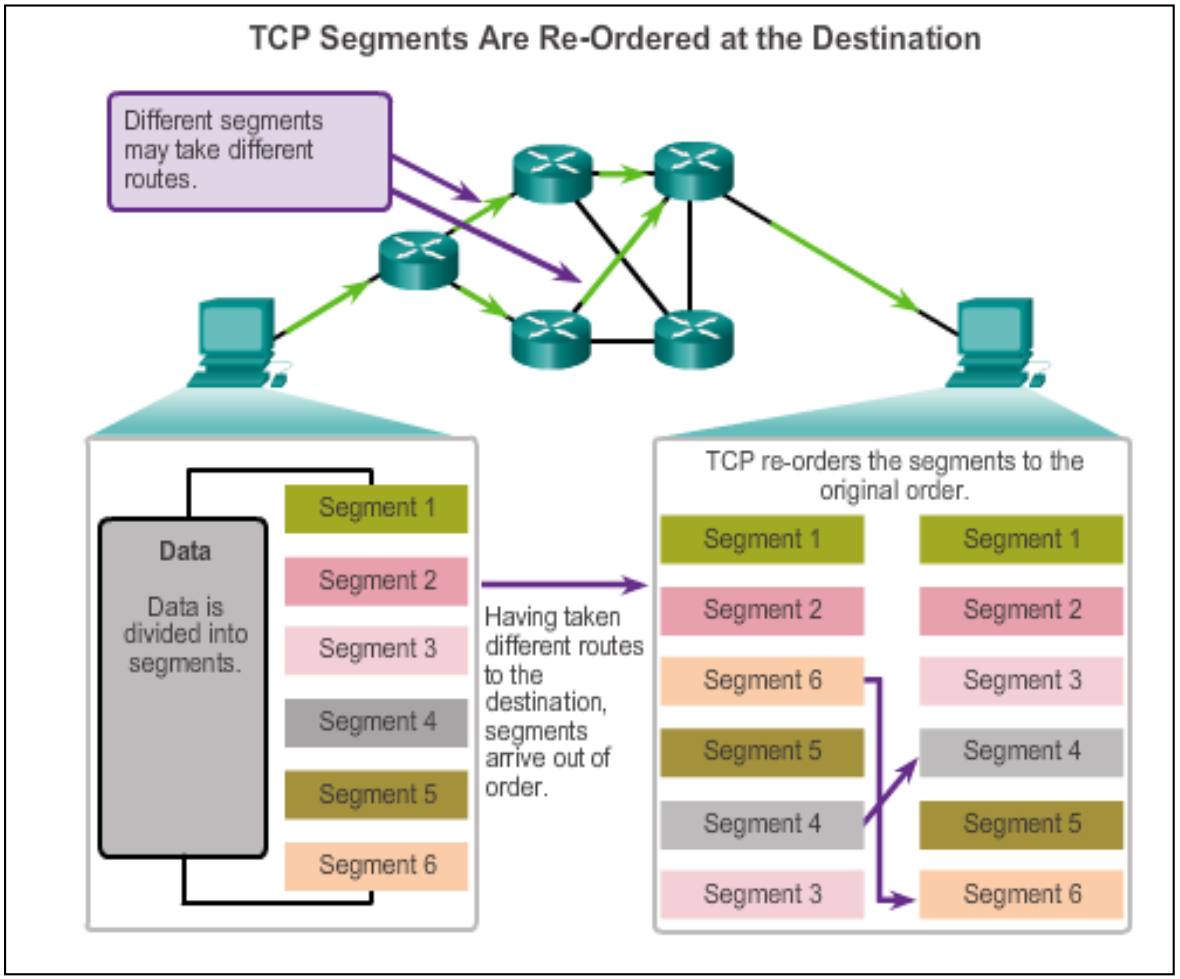


TCP Application Processes

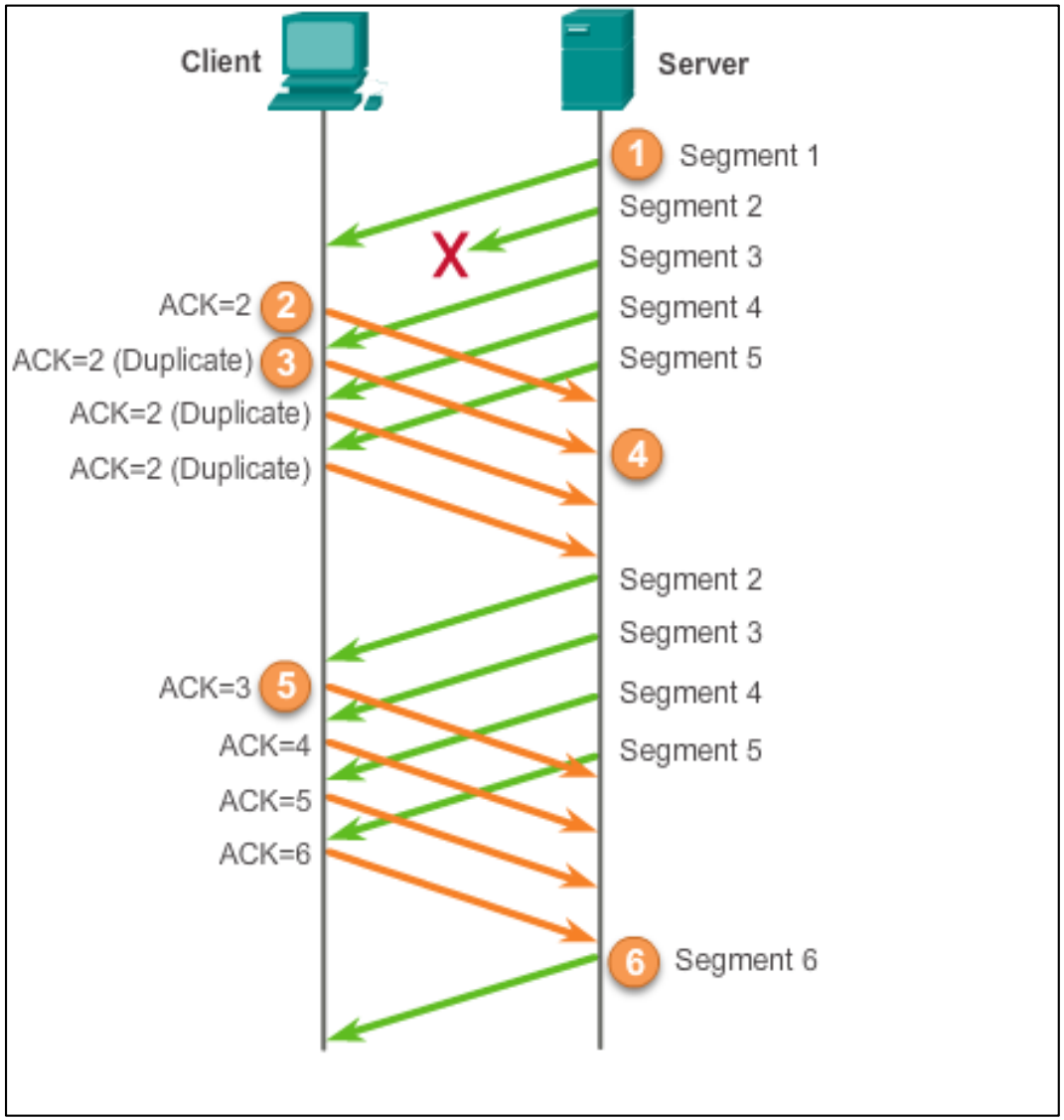


TCP Reliability – Ordered Delivery

Sequence numbers are used to reassemble segments into their original order.



TCP Reliability – Acknowledgements



Summary

In this lecture, we covered:

- Introduction to TCP
- Header Format
- Application Processes
- Guaranteed Delivery