CSCI 446 Introduction to Computer Networks

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Topic

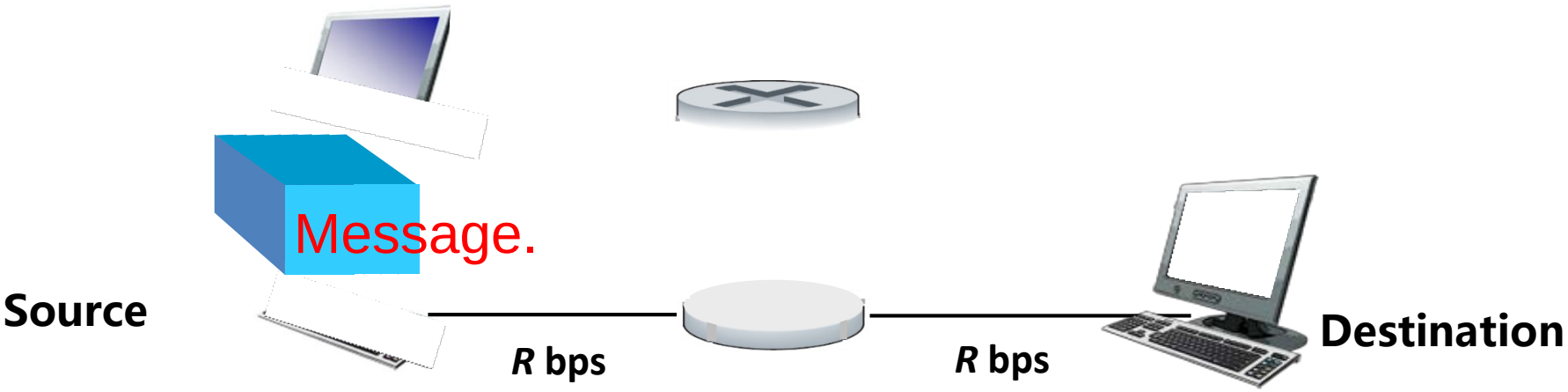
Data Exchange: Message/Packet Switch (1)

Types of Data Exchange

- Circuit switch
- Message switch
- Packet switch

Message switching

- Message: Source (app) sends information as a whole.
  For example: a file.



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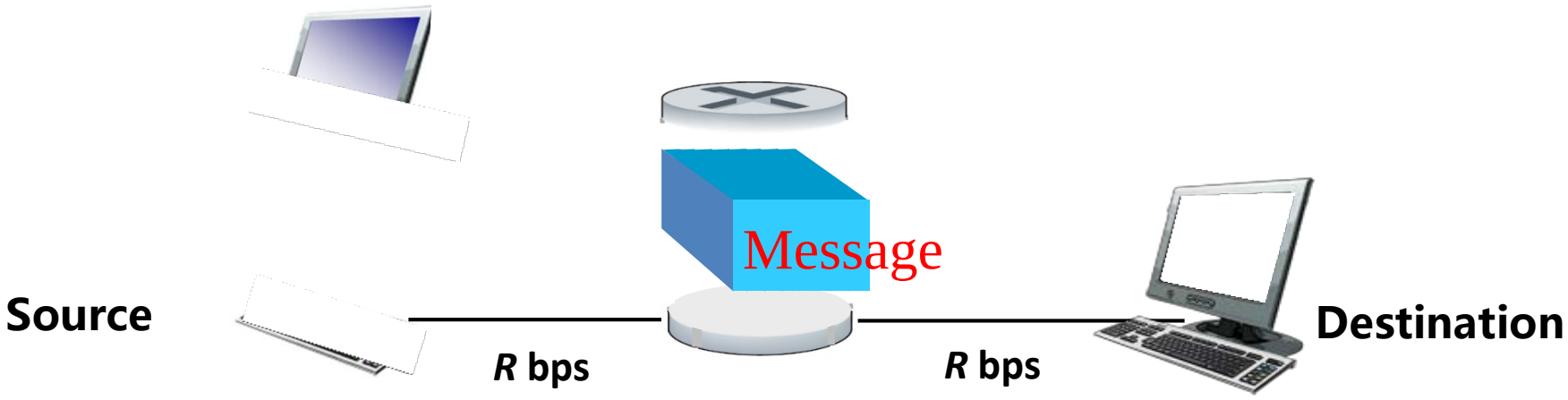

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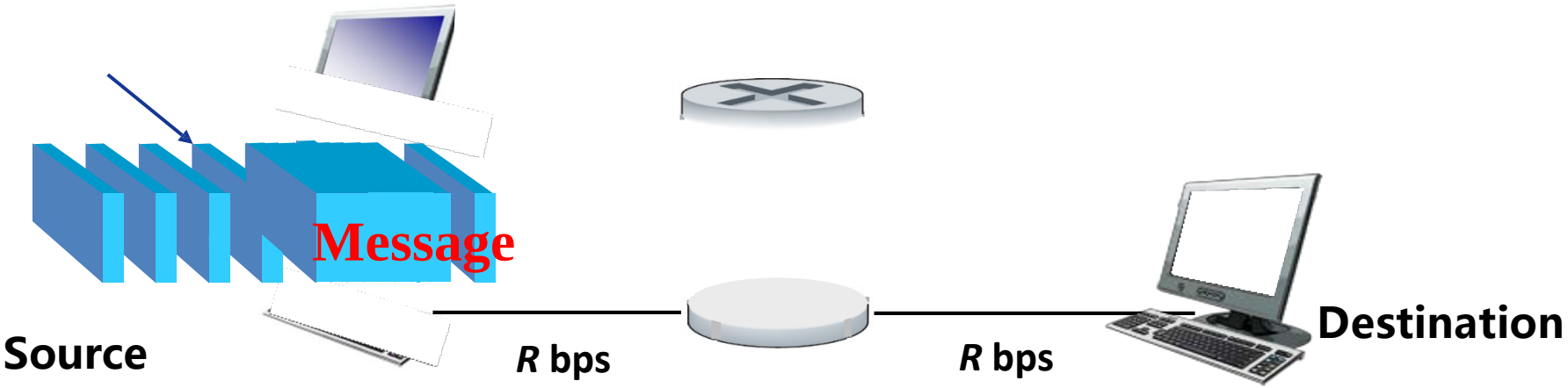
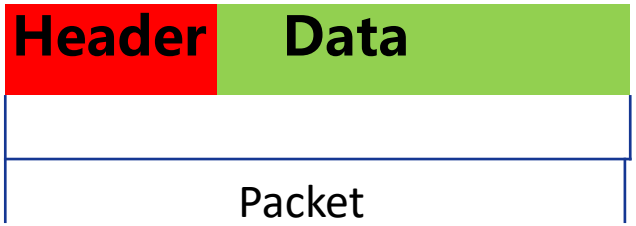
- Grouping: A series of relatively small packets separated from the message.
- Packet switching requires message splitting and reassembly.
- Additional overhead is incurred.





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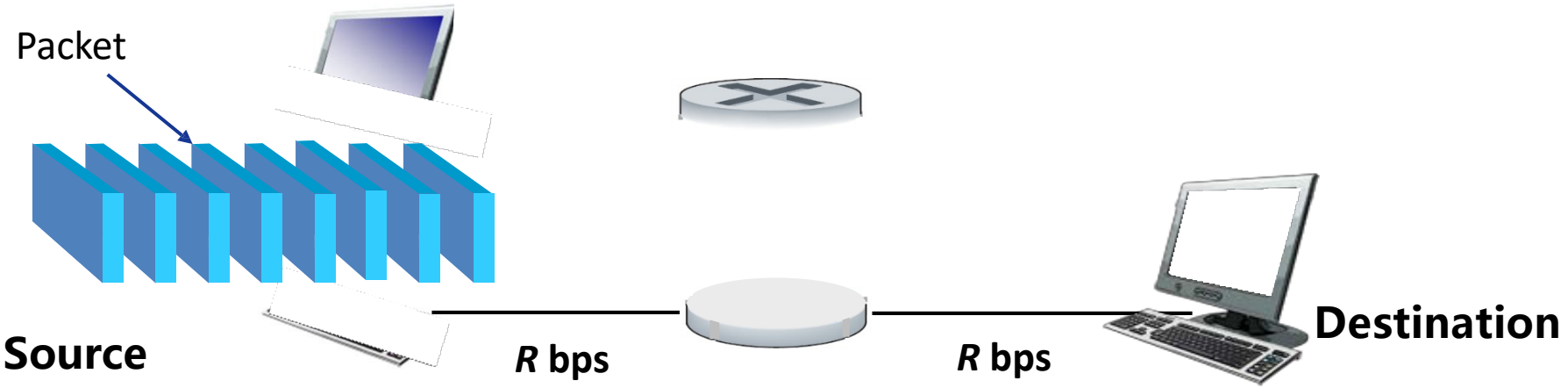

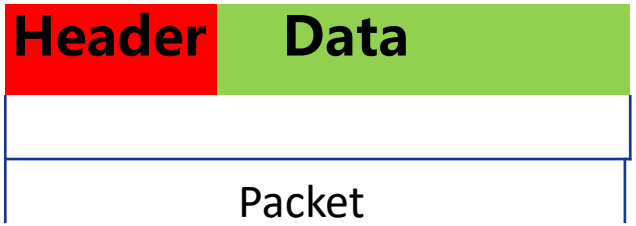

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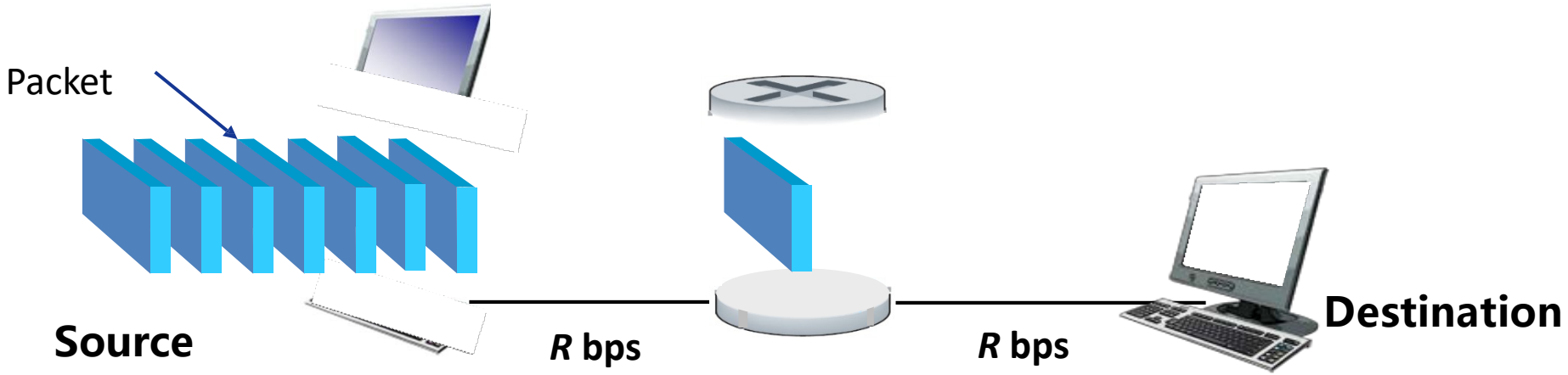

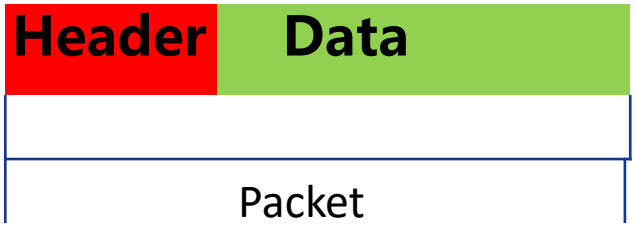

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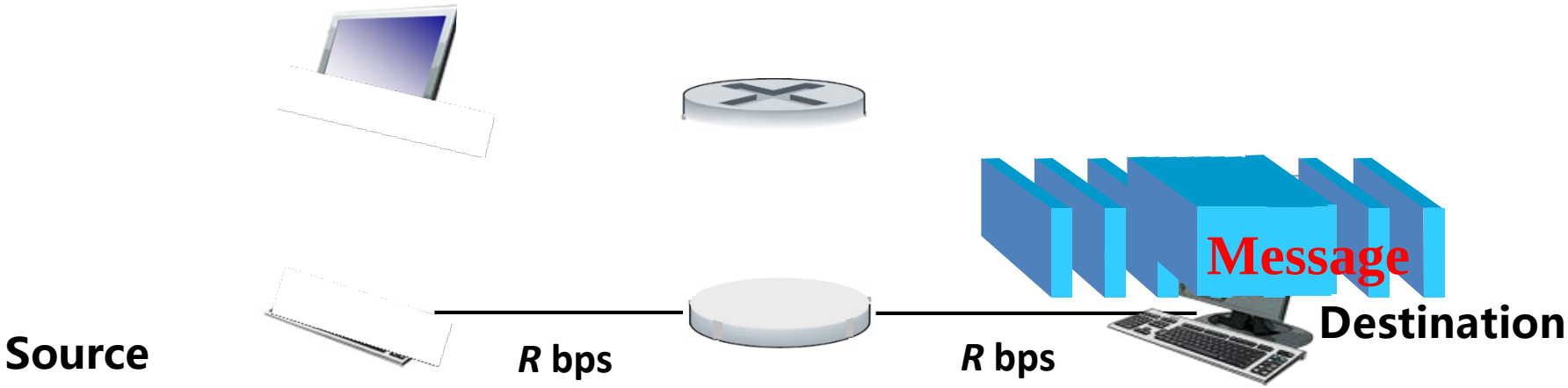
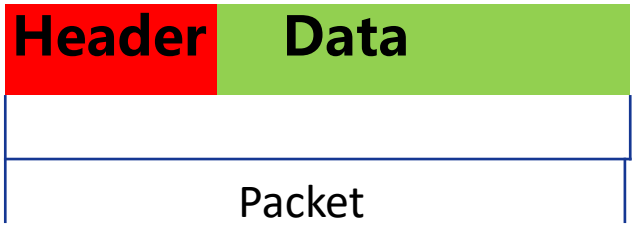
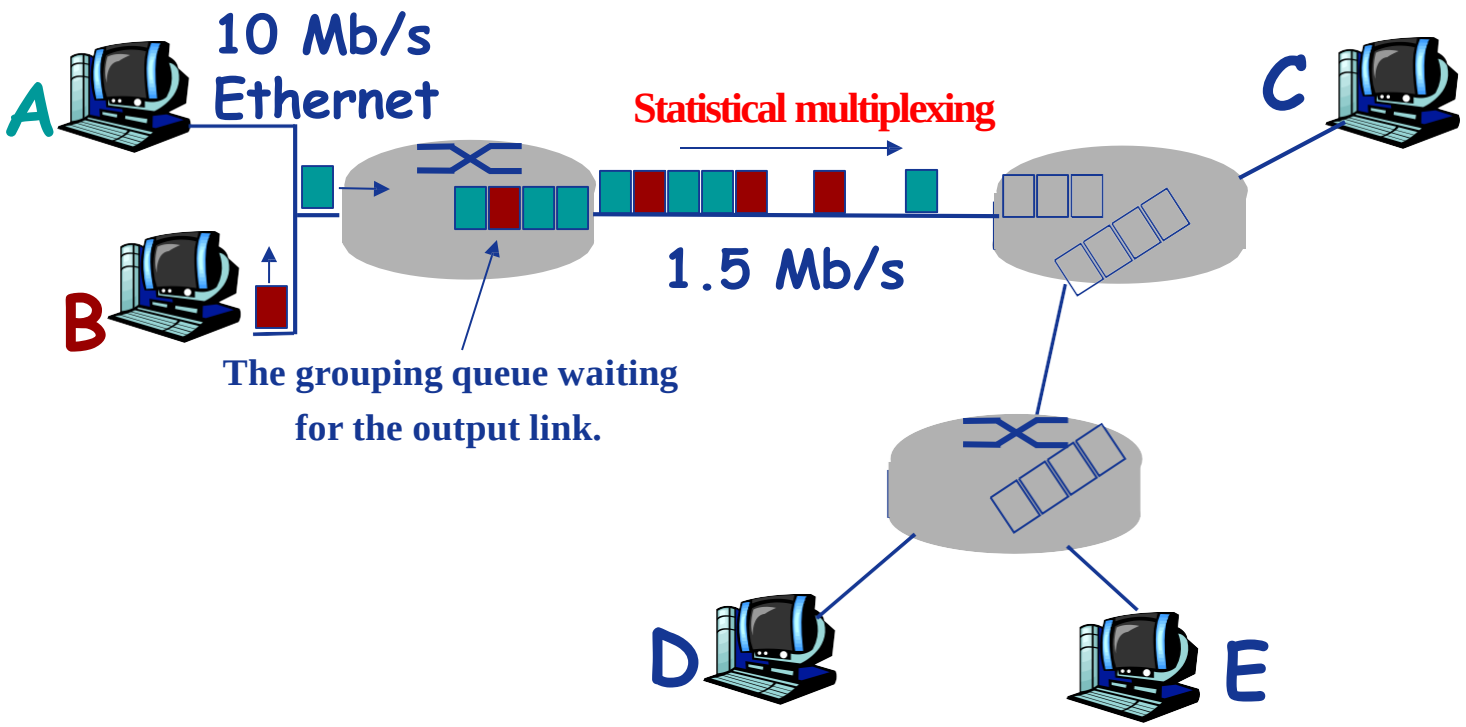




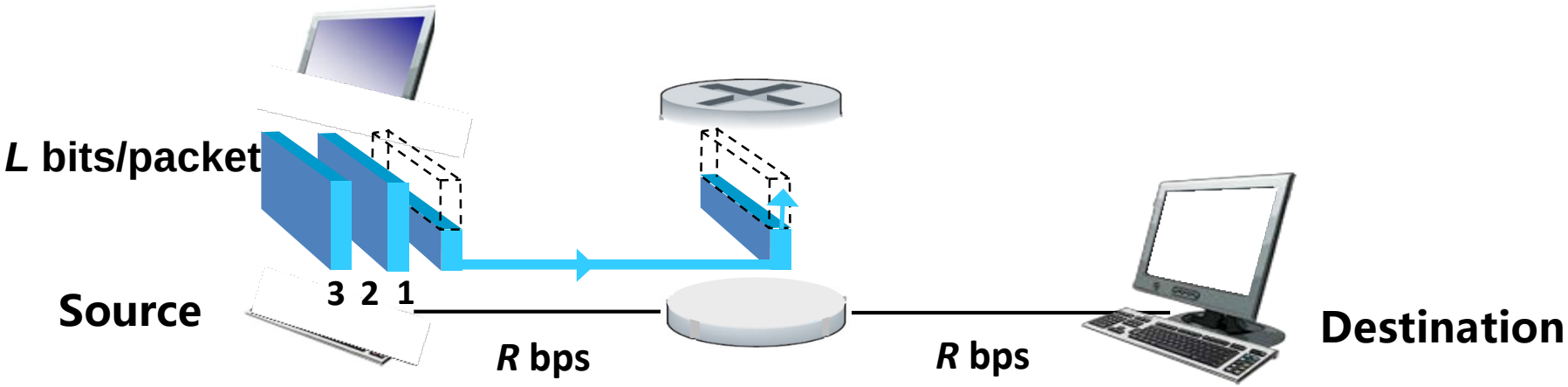
Packet switching: Statistical Multiplexing



The A & B grouping sequence is uncertain and the link is shared on demand.

➔ ***statistical multiplexing***.

store-and-forward



- Both message exchange and packet exchange use store-forward exchange.
- Difference:
  - Message exchange "store-forward" with full message
  - Packet switching "store-forward" in smaller groups
- Which exchange method is better?

Thank you!