End-to-end Internet Packet Dynamics: [Paxson99b]

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Key Ideas

- packet dynamics: detailed, fine-timescale network behavior
- · describes methodology to observe these things
- network phenomena, ex:
 - reordering
 - loss, corruption, delay
- replication
- protocol design implications
 - re-evaluates some network design decisions · RTO calculation, fast retransmit parameters, etc.

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Impact of Reordering? • problem: unneeded retransmission from TCP

- TCP looks at the ACK stream and makes assumptions (ex. triple-dup-acks)
- fixes

- wait longer on either end to see if reordering works out

-SACK



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bandwidth?

- packet pair

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