

CS 268: Project Ideas

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Feb 6, 2002

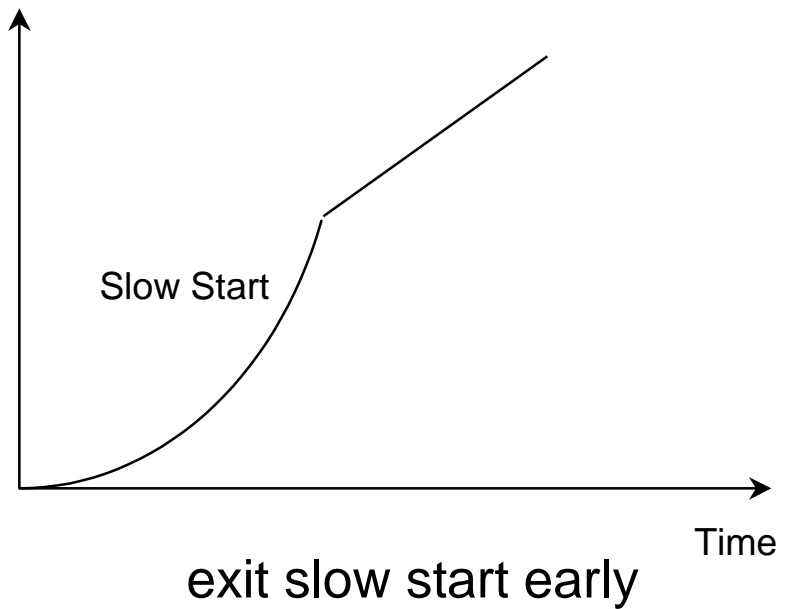
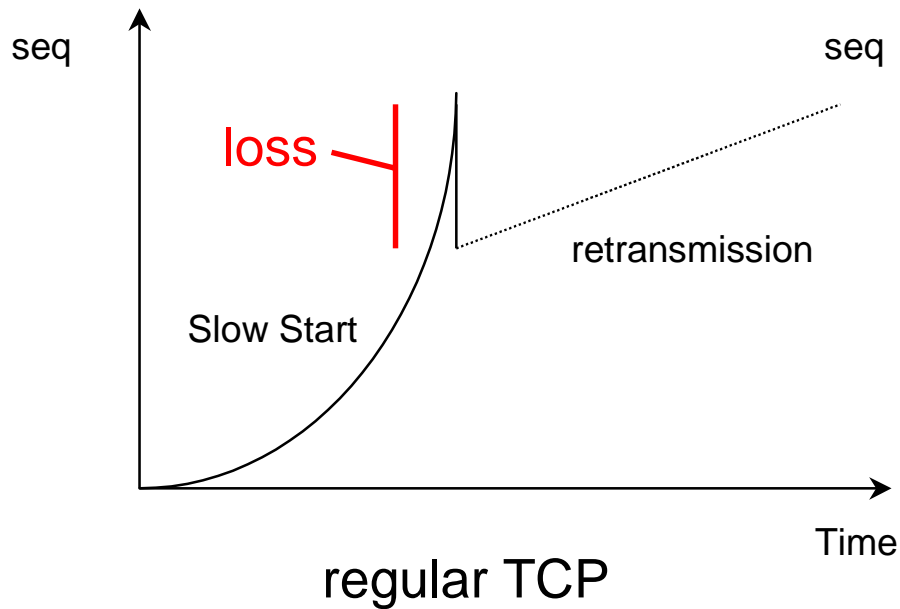
Announcements

- Summary submission method
 - `cp laik.jac88.html ~cs268/reviews`
 - `chmod 755 ~cs268/reviews/laik.jac88.html`
- No email summary submissions accepted after today

Simulation Benchmark

- Motivation
 - No standard benchmark for many classes of networking protocols:
 - e.g. transport protocols, active queue management, multicast, mobility
 - Prevents understanding of consequences of various approaches
- Solution
 - Survey existing papers on a class of network protocols
 - Synthesize benchmark from previous experiments
 - Show validity of benchmark by replicating previous results

Applying Link Bandwidth Measurement to TCP



Applying Link Bandwidth Measurement to TCP

- Two problems with TCP slow start
 - can take a long time if bandwidth and/or latency are high
 - May lose entire window's worth of packets at end of slow start
- Solution
 - Use bottleneck link bandwidth measurement techniques to determine bottleneck link bandwidth
 - Skip slow start, open window to bandwidth
 - Don't allow window to exceed bandwidth

Using FEC and Congestion Control

- Motivation
 - Congestion losses and delays harm real time applications
 - Forward Error Correction allows trading bandwidth for reduction in loss
 - Congestion control allows hosts to safely consume more bandwidth
- Solution
 - Do FEC over congestion control
 - Compare to router based solutions like Fair Queueing

Multipath Transport Protocols

- Motivation
 - Many paths between host A and B in current Internet (multiple base stations, multihoming)
 - Don't know characteristics of paths
- Which one to use?
 - Use all of them
 - Must do so with congestion control
 - For n independent paths, get $n \times$ speedup

