LEDBAT WG
Charter recap

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IETF 73, Minneapolis, LEDBAT WG, Nov 20, 2008
The LEDBAT WG is chartered to standardize a congestion control mechanism that should saturate the bottleneck, maintain low delay, and yield to standard TCP.
WG history

- New WG: this is the first meeting
- P2PI workshop at MIT in May
  - community interest
- TANA BoF: transport
- ALTO BoF: overlay routing
- TANA BoF at IETF 72 in Dublin
  - strong consensus to move forward
- WG approved just before IETF 73
Charter background

- TCP fills buffer
- Buffer can be large
- Likely worst case are home uplinks
  - RTT can be in seconds
  - Most traffic on home uplinks is P2P
- Everyone is delayed
- Interactive applications can’t work
Chartered work items

- experimental congestion control
- current practices and implications of using multiple connections in applications
Congestion control requirements

- saturate the bottleneck
- keep delay low when no other traffic
- quickly yield to TCP
- add little to queuing delays induced by TCP
- work with FIFO/drop-tail
- work with AQM, DiffServ, and ECN where available
Congestion control document track

• Initially experimental

• Application to TCP, SCTP, DCCP in respective WGs

• WG will consider if appropriate to ask IESG to advance to standards track
Multiple connections

• Applications routinely open multiple connections

• BitTorrent: to create a connected mesh

• Web browsers: to parallelize web app latency and TCP slow starts

• Postfix and Qmail: to parallelize SMTP RTTs and application latencies

• Download managers: to get more and more stable throughput
Multiple connections

• Evil? Mostly not
  • “limit of one connection per family”?
• Poorly documented
• Poorly understood
• Full of hacks and extra control loops
• No guidelines
Multiple connections document

- Document current techniques
- Discuss consequences
- Provide guidance (where appropriate)
- Individual draft-penno-tana-app-practices-recommendation-01
Goals and milestones

• Oct 2009 Submit "Multiple Transport Connections in Applications Design" to the IESG for consideration as an Informational RFC

• Oct 2009 Submit "Low Extra Delay Background Transport (LEDBAT)" to the IESG for consideration as an Experimental RFC