LEDBAT WG
Charter recap

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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