A Survey of Lower-than-Best-Effort Transport Protocols (draft-ietf-ledbat-survey-01)

Michael Welzl and David Ros
IETF-79 Beijing
November 9, 2010
About the draft

• Survey of LBE mechanisms involving the transport layer

• Current classification (more on this later):
  • delay-based — react early to queue growth
  • non-delay-based — different CA behavior
  • application layer — may be delay-based or not
  • orthogonal — other stuff worth mentioning
Changes from version -00

- Relatively minor update
  - Several additional references added to:
    - delay-based
    - app-layer
    - orthogonal
  - Got detailed reviews from Mayutan Arumaithurai & Mirja Kühlewind — thanks to both!
Summary of major comments

• [Mayutan, Mirja] State pros and cons of the approaches

• There’s already some text, though probably not done in a systematic, consistent manner

• => Will do it on a per-category basis

• => Will better explain common points and differences between proposals
Summary of major comments

• [Mirja] Clarify classification / taxonomy
  • => We’ll make the focus clearer — it’s end-to-end approaches for attaining LBE-ness
  • => Some clean-up may be needed
  • => E.g., remove REALLY orthogonal stuff (e.g., DiffServ-based LBE)
Summary of major comments

- [Mirja] Clarify classification / taxonomy
  
  - => Proposal:
    
    - Delay-based approaches
    - Non-delay-based approaches
    - Upper-layer approaches
      
      - i.e., approaches that don’t require modifying transport protocol standards
      
      - e.g., approaches that run on top of an existing transport, leveraging existing transport features
    
    - Network-assisted approaches
Summary of major comments

• Q: About the «upper-layer» stuff

• This is «A Survey of LBE Transport Protocols»

• => Do we also want to cover approaches that use, but do not change, existing transports?

• => Do we also want to cover truly app-layer stuff?
Summary of major comments

- [Mayutan, Mirja] Improve the explanation of some proposals
  - E.g., TCP-LP, Vegas
  - => Will do it (but have to avoid going into too much detail)

- [Mayutan, Mirja] Re-organize the section on delay-based proposals
  - => Will do it (yes, it is a little messy now)
Other comments

• [Mayutan] Wording: change «low-priority background traffic» to either «LBE background traffic» or «delay-insensitive»

• => Any will do for us; any particular preferences?

• [Mirja] Issue with Sync-TCP

• Non-issue — same name, two different «Sync-TCP» protocols...
Other comments

• [Mirja] Mention all protocols by name
  • => Will do it in a more-consistent manner

• [Mirja] Cite Vegas’s ancestors explicitly
  • => Will do it
Reviews & feedback

• The chairs have asked for three reviews
  • => We’d need a 3rd reviewer — any volunteers?

• Are there any other major issues that need to be addressed?
Thank you!