ConEx Concepts and Abstract Mechanism

draft-ietf-conex-abstract-mech-01.txt

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ConEx Concepts and Abstract Mechanism

- working group draft: [draft-ietf-conex-abstract-mech-01.txt](#)
- intended status: informational
- immediate intent: attract review comments, then WGLC
- milestone target: Jul 2011

recall

- defer encoding to avoid obscuring underlying design
  - abstract design of algorithms & protocol
  - encoding in different protocol headers can follow (IPv6, v4)
- scope
  - loss-based (for incremental deployment), not just ECN
  - any transport, ConEx just using TCP as first concrete step
basic signals and functional units

transport sender

transport receiver

SACK
ECE

congested network element

policy

audit

ECN
loss

Re-Echo-ECN
Re-Echo-Loss

ACKS
improvements to draft

• what ConEx is not (requested on & off list)
  • sender does NOT expose congestion to network so that routers can do
detailed congestion control

• rational for Credit signal (presented in Beijing)
  • simplify audit by making e2e transport responsible for RTT delay

• change to TCP ECN feedback could have wider use than ConEx
  • feeding back all congestion events, not just one per RTT
  • data centre (DCTCP) needs this, and others...?
  • chartered ConEx-TCP draft should make this feedback a separate module

• behaviour constraints for audit function (see next slide)
  • normative text in an informative draft

• monitoring against policy as most generic function
  (insight from concepts-uses)
  • combined with other actions
    – capacity upgrade, penalty clause, charge, warning
  • congestion policing → policy monitoring + congestion policing
added whole subsection

behaviour constraints for audit function

• Minimal false hits
• Minimal false misses
  • responsive – pref at first packet that sends balance negative
• Transport oblivious
• Sufficient sanction
  • even against tradeoff attack between policer & audit
• Non-vulnerability to memory exhaustion
• Non-vulnerability to identifier white-washing
minor mods

• updated filename etc (wg item)
• general clarifications and tarted up ASCII art
• acks: Toby M, Nandita D, Mirja K, Caitlin B
  • oops – missed off acknowledging Marcelo’s review
main item left on To Do list: partial deployment

• propose new section collecting pointers to all aspects of partial deployment
  1. ConEx and/or non-ConEx packets
     • encoding [abstract-mech]
  2. ConEx and/or non-ConEx receivers
     • ConEx Components [abstract-mech]
  3. Interwork with loss and/or ECN queues
     • encoding & reqs [abstract-mech]
  4. Some networks use ConEx signals, others don't
     • partial deployment [concepts-uses]
  5. other non-e2e arrangements
     • eg. ConEx proxy [draft-kutscher-conex-mobile]
status & plans

• more “What ConEx is NOT”
• more & better ASCII art
  • e.g. the architecture I just showed
• new section to collect partial deployment pointers
• consider interaction between ECN & drop
• get wider review
• otherwise, looking in fairly good shape
• could go to WGLC then queue for concepts-uses?
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Q&A