IETF-109 Online BMWG Meeting
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Draft Status

• No changes since -03 (expired September 7, 2020).
• Discussion at IETF-107, if BMWG WG is a good home for it.
• Views and comments welcome.
Sample Implementation

- Implementation of PLRsearch is in Linux Foundation FD.io CSIT project
- Most recent results in CSIT-2009 report:
  - 30 minute search duration is used
  - Some tests give fairly different estimate on repeated run
- FD.io CSIT project general information:
  - https://wiki.fd.io/view/CSIT
  - https://git.fd.io/csit/
Overview

• PLRsearch is a packet “throughput” search algorithm suitable for probabilistic (as opposed to deterministic) systems.

• It searches for probabilistically defined critical load satisfying given target loss ratio.

• It performs sequential trial measurements of offered load constant within a measurement.

• It still applies many assumptions on the system behavior, often unrealistic for some systems.
  • It assumes results of trial measurements are independent of each other.
  • It assumes possible loss counts follow Poisson distribution.
  • It assumes average loss ratio does not depend on trial duration.
  • It relies on heuristic fitting functions to relate results of trial measurements with different offered loads.

• It uses Bayesian inference computing both trial measurements’ offered load and final estimate.
Open items

• Similarly to MLRsearch, PLRsearch aims to give result similar to TCP goodput
• PLRsearch works with stateless traffic generators
• No analysis comparing measured TCP goodput with estimated critical rate has been done yet
• Tweaking packet loss distribution can make critical rate estimates more consistent
• Tweaking fitting functions can give more realistic / conservative bounds of the estimate

• Divide the draft to “terms part” applicable for any probabilistic performance testing, and “algorithm part” specific to PLRsearch as one of possible search methods.
THANK YOU!

draft-vpolak-bmwg-plrsearch-03

Post IETF-107 Interim BMWG Meeting
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