Responsiveness under Working Conditions

draft-ietf-ippm-responsiveness-02

Christoph Paasch, Randall Meyer, Stuart Cheshire, Will Hawkins
01 to 02: Major update

GitHub ChangeLog

- Closed 12 issues
- Merged 6 pull-requests
- Pushed 22 commits

Major changes

- Entirely revised algorithm
- Discovery through DNS
- .well-known URL for configuration
Revised algorithm

Load-generation

• Add one load-generating connection per interval

Stability Detection

• Standard-deviation of last 4 intervals is within 5% of moving average
• Achieving stability not only for capacity but also for responsiveness

Responsiveness computation

• 95th percentile Trimmed Mean of last 4 intervals
Revised algorithm

Graphs showing the relationship between time, goodput, buffer occupancy, and maximum goodput and buffer occupancy.
DNS-based service discovery

• Service-Type _nq._tcp

• Example: Organization “obs.cr” hosting a test-server at rpm.obs.cr

  $ nslookup -q=ptr _nq._tcp.obs.cr

Non-authoritative answer:

  _nq._tcp.obs.crname = rpm._nq._tcp.obs.cr.

  $ nslookup -q=srv rpm._nq._tcp.obs.cr.

Non-authoritative answer:

  rpm._nq._tcp.obs.cr.service = 0 0 443 rpm.obs.cr.
Next Steps

• Minor cleanups

• Review structure/wording of algorithm description
RPM-Community

https://github.com/network-quality/community/wiki

Scope-of-work

• Design and develop measurement methodologies for the metrics that matter.
• Integrate those methodologies in existing open-source tools.
• Work on improving open-source implementations like webservers, networking stacks,...
RPM-Community
https://github.com/network-quality/community/wiki

• ~ 3 months old

• 31 members on Slack workspace (more than 10 companies/universities)

• Open-source work on goresponsiveness, librespeed, iperf2, go-lang, Apache Traffic Server,… (more to come)
  • More than 10 open-source contributions

• Join our Slack workspace, join our weekly meeting!
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