



IETF IPPM-WG Developments

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IP Performance Metrics WG

Charter

The IPPM WG will develop a set of standard metrics that can be applied to the quality, performance, and reliability of Internet data delivery services. These metrics will be designed such that they can be performed by *[everybody]*.

It is important that the metrics not represent a value judgment (i.e. define "good" and "bad"), but rather provide unbiased quantitative measures of performance.



Logistics

- IPPM is in the transport area
- Mailing list: ippm@ietf.org
 - Subscribe: <https://www1.ietf.org/mailman/listinfo/ippm>
 - Archives: <http://www.ietf.org/mail-archive/web/ippm/>
- Meetings: 3 times a year, at the IETF meetings
- Chairs:
 - Matt Zekauskas (Internet2)
 - Henk Uijterwaal (RIPE NCC)



Work done over the last 10 years

- Framework documents
 - General (RFC 2330)
 - Empirical Bulk Transfer Capacity Metrics (RFC 3148)
 - Defining Network Capacity (RFC 5136)
- Metrics for:
 - Connectivity (RFC 2678)
 - One-way and round trip Delay (RFC 2678 and 2681)
 - Loss (RFC 2680)
 - IP Delay Variation a.k.a. jitter (RFC 3393)
 - Packet Reordering (RFC 4737)
 - One-way Loss Pattern Sample Metrics (RFC 3357)



Work done over the last 10 years (2)

- Protocols:
 - OWAMP: One-way Active Measurement Protocol (RFC 3763 and 4656)
 - IP Performance Metrics (IPPM) metrics registry (RFC 4148)
 - Two-way Active Measurement Protocol (TWAMP) (RFC 5357)
- Network performance measurement for periodic streams (RFC 3432)



Work that is almost finished

- Documents finalized:
 - Delay variation applicability statement
 - Storing traceroute data in XML
 - Packet Duplication
 - Multi-Metrics draft
 - One source, multiple destinations (or the other way around).
- Expect publication in the next months



Work in progress

- Composition of metrics
 - Metrics from multiple sources
 - How to combine them
 - Framework draft, plus drafts discussing individual cases
 - <http://www.ietf.org/internet-drafts/draft-ietf-ippm-spatial-composition-07.txt>
 - Authors are happy but need more readership



More work in progress: Reporting Draft

- Metrics for everything
- Lots of parameters one can set:
 - Packet size
 - Rate
 - Stream type
 - Measurement interval
 - ...
- Settings strongly depends on what you want to know



Something you always want to know...

- How good is my connection?
 - Integrated view
 - Short period (seconds to minutes)
 - Easy to compare with other results
- Reporting 5-tuple:
 - Delay, Loss, Reordering, Duplication, Jitter
 - Measured at the same time with the same packets
 - Reported as a set of numbers



Issues

- Is this a good idea?
- Where to find the draft
 - <http://www.ietf.org/internet-drafts/draft-ietf-ippm-reporting-02.txt>
- Comments from operators and users needed



Future of the group

- Reaching the end of our current charter
 - Is there anything else we have to do?
- *What measurements do you need in daily operations and would you like to see standardized?*
 - Need input from the community
- Meeting in Dublin (July 2008)



Outcome

- Metrics advancement along the standards track.
- Multi-provider use of our metrics, in particular troubleshooting performance problems.
- SLA validation.
 - Additional statistics
 - Application statements for current metrics.
- Application of current metrics for passive measurements



How to contribute?

- More suggestions and contributions welcome
- Further discussion in Minneapolis
 - Priority, people interested in working on the topics
 - Charter amendments
- If you cannot make the meeting, post to the list



Questions/Discussion