Reporting Metrics: Different Points of View (Short Update)

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March 10, 2008

draft-morton-ippm-reporting-metrics-03

"Our plans miscarry because they have no aim. When a man does not know what harbor he is making for, no wind is the right wind."
Seneca

Version 04 Status

- **Resolved Steve Konish's comments**
  - **Section 4 reorganized**
    - **New sub-sections to help with this.**
  - **Clarified the meaning of processing "forks"**
- **Section 6 now:**
  - **Summarizes results for each metric, loss, delay delay var.**
  - **Discusses Long-Term Reporting**
  - **Advantages of Short term collection to support Long term reporting**

Summary of Recommendations so far:

- **Set a LONG Loss threshold**
  - ➔ **Distinguish between Long Finite Delay and Loss**
  - ➔ **Avoid truncated distributions**
- **Delay of Lost Packets is UNDEFINED**
  - ➔ **Maintain orthogonality – avoid double-counting defects**
  - ➔ **Use <u>conditional distributions</u> and compute statistics**
- **Report BOTH Loss and Delay**
- **Report BOTH the Sample Mean and Median.**
  - ➔ **Comparison of the Mean and Median is informative**
  - ➔ **Means may be combined over time and space (when applicable)**
  - ➔ **Means come with a weighting function for each sample if needed, the sample Size, and Loss simply reduces the sample size**
  - ➔ **Means are more Robust to a single wonky measurement when the sample size is Large**
- **Move the Industry Away from "Average Jitter"**
  - ➔ **Use the 99.9%-ile minus minimum PDV**
  - ➔ **Portray this as a Delay Variation "Pseudo-Range"**

What's Next?

- **Homework from IETF-70**
  - ➔ **Did you read either draft?**
  - ➔ **No comments received …**
- **Point to Recognize:**
  - ➔ **This work Complements the current (short-term) draft, without the restrictions brought-on by producing a result every 10 seconds**
- **Need people to <u>Read Both Drafts</u> and suggest what makes the most sense for this topic**

New Section: Long-Term Reporting

- **Section 6 now:**
  - ➔ **Summarizes results for each metric, loss, delay delay var.**
  - ➔ **Discusses Long-Term Reporting**
- **Measurement Intervals need not be the same length as "Long" Reporting Intervals (days, weeks, months)**
- **Long Measurements come with some risks**
  - ➔ **Temporary power failure: loose results to date.**
  - ➔ **Timing signal outage invalidating some measurements.**
  - ➔ **Maintenance on the meas. system, or its connectivity.**
- **Relatively Short Meas. Intervals can help to**
  - ➔ **match user session length**
  - ➔ **allow dual-use of measurements in monitoring activities**

Approaches to Measurement Aggregation

- **Store all the singletons of the Measurement Intervals**
  - ➔ **Evaluate all singletons in the Reporting Interval**
- **Methods like those envisioned in "Framework for Metric Composition", draft-ietf-ippm-framework-compagg-05, for Temporal Aggregation**
  - ➔ **Produce an <u>estimate</u> of the metric for the Reporting Interval using a deterministic process to combine the metrics from measurement intervals.**
- **Use a numerical objective for the metric, and compare the results of each measurement interval:**
  - ➔ **Every measurement interval where the results meet the objective contribute to the fraction of time with performance as specified.**
  - ➔ **Present the results as "metric A was less than or equal to objective X during Y% of time.**