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Advancing Metrics on the Standards Track:  
RFC 2679 bis: One-way Delay Metric  
RFC 2680 bis: One-way Loss Metric

`draft-morton-ippm-rfc2679-05`

`draft-morton-ippm-rfc2680-03`

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# Comments on –bis drafts prior to IETF-90

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from Nalini and Barry on-list, support from Ruedger and Joachim, and many off-list comments from Joachim (not yet addressed).

- Loss waiting time parameter – appears quite late in discussion, yet this is critical.
- Hardware or NIC timestamps, improve the difference between “host-time” and “wire-time”
- Network-based Compression, note that e2e encryption will reduce the motivation for this.

# Comments on –bis drafts prior to IETF-90

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- Noted that Faster-Than-Light networks are described in an RFC dated April 1<sup>st</sup>.
- These revisions are not yet mentioned in the –bis change sections!

# Planned Revisions

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- Address Joachim's straightforward comments, which are: ...
  - RFC Standard Formed Packets needs an explicit reference in RFC2679-bis
  - But, Standard formed depends to some extent on header checksum --- IPv6 no-gotz
  - Occasional comments: "yet to be tested", we can add references describing experience
  - Reasons to take host timestamp as late as possible
  - Measurement "Instrument" used but not defined – should be "host"

# Issues to discuss further

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- “wire-time” in the wireless world: wire-entry time as host-exit time instead (?)
- Permanent monitor on host clock synchronization quality (in RFC 2330?).
- Reporting the specific stream sending pattern (covered by the singleton pairs?)
- Some wording inconsistencies and mixed thoughts in the 2679 security section.

# Where is the “Line”?

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- Between Cycling at current Standard level and Advancement?
- Can delete features that were not implemented!
- Are expected to address Errata.

# Where is the “Line”? RFC 6410

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- Updated 2026 with two Maturity Levels
- “The result of this change is expected to be maturity-level advancement based on achieving widespread deployment of quality specifications. Additionally, the change will result in the incorporation of lessons from implementation and deployment experience, and recognition that protocols are improved by removing complexity associated with unused features.”

# Active Metric Attributes:

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- Source and Destination known a priori
- Stream characteristics known at the Source (at least, may be communicated to Dest. later)
- (Most) Parts of the Packet are Dedicated to Measurement (typically the transport payload)
- More...
- (Will still work in the E2E Encrypted world)



# BACKUP

Backup

Backup

Backup

# Overview of 2679bis (first section)

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- [RFC6808] provides the test plan and results supporting [RFC2679] advancement w/mods:
- the assumption of post-processing to enforce a constant waiting time threshold is compliant, RFC should be revised (see section 3.6)
- Type-P-One-way-Delay-Inverse-Percentile ignored, so deprecate
- Reference [RFC6703] in RFC2679bis to incorporate recent experience
- one erratum: "Held for document update"

# 2679bis Editor's proposals

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- Essentially, update unchanged text with Informative References
- Beginning of Section 4, in discussion of alternate sampling methods
  - >>> Editor proposal: Add ref to RFC 3432  
Periodic sampling
- End of Section 4.6, on Methodologies w.r.t. out-of-order packets
  - >>> Editor proposal: Add ref to RFC 4737  
Reordering metric
- NEXT STEPS ? ? ?
  - WG doc? WGLC? How best to proceed?

# Overview of 2680bis (section 7)

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- [draft-ietf-ippm-testplan-2680] provides the test plan and results supporting [RFC2680] advancement w/mods:
- the assumption of post-processing to enforce a constant waiting time threshold is compliant, RFC should be revised (see section 3.6)
- Type-P-One-way-Packet-Loss-Average common usage is -Loss-Ratio, so re-name
- Reference [RFC6703] in RFC2680bis to incorporate recent experience
- two errata: “Verified” "Held for doc. update"

# 2680bis Editor's proposals

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- Essentially, update unchanged text with Informative References
- Beginning of Section 3, in discussion of alternate sampling methods
  - >>> Editor proposal: Add ref to RFC 3432  
Periodic sampling
- End of Section 3.6, on Methodologies w.r.t. out-of-order packets
  - >>> Editor proposal: Add ref to RFC 4737  
Reordering metric
- NEXT STEPS ? ? ?
  - WG doc? WGLC? How best to proceed?

# Next Steps for 2679bis and 2680bis

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- This work is under our existing Charter:
  - The working group will advance these metrics along the standards track within the IETF. The WG will document the process of moving documents along the standards track, based on draft-bradner-metricstest [now RFC 6576].
- NEXT Step: WG docs? WGLC?
- The bottom line:
  - If you've read RFC2679 and RFC2680, and
  - sat through this presentation,
  - Then you've done enough work to help decide