Export of On-Path Delay in IPFIX

draft-opsawg-ipfix-on-path-telemetry-02

Enabling a statistical network delay view, giving insights where delay is being accumulated in the forwarding path.

thomas.graf@swisscom.com
benoit.claise@huawei.com
alex.huang-feng@insa-lyon.fr

27. March 2023
On-Path Delay @ IPFIX
Draft Status

- Extended the introduction and the terminology section with performance registry relevant information's.
- Corrected some small nits in the performance registry sections.
- Increased IPFIX entity data type sizes based on implementation tests results.
- Corrected IPFIX entity data type semantic.
- Describing how IPFIX reduced-size encoding is applicable in new operational consideration section.
- According input from Greg Mirsky detailing IOAM Application section.
- Removed nanosecond granularity.
- Added Implementation Status section.
On-Path Delay @ IPFIX
Running Code at IETF 116 hackathon

• INSA Lyon showed running open-source code based on IOAM-Trace-Type in FD.io VPP (https://github.com/network-analytics/vpp-srh-onpath-telemetry) and Huawei based on IFIT SRH TLV their implementation in VRP.

• pmacct data collection calculates PathDelayMeanDeltaMicroseconds by dividing PathDelaySumDeltaMicroseconds by packetDeltaCount.
On-Path Delay @ IPFIX
Running Code at IETF 116 hackathon

(1) Shows SRv6 SID list change of the traffic engineered paths.
(2) Shows on which node how much on-path delay was being measured.
(3) Shows the BGP update/withdrawals from the topology change.
(4) Shows that Network Anomaly Detection detects the topology and delay change and the Max Concern Score calculation.
On-Path Delay @ IPFIX

Next steps

• Do you recognize the problem statement?
• Network operators want to understand
  • where delay with which network and device dimensions is being accumulated
  • at highest scale for a statistical network delay view.
• IEs in document defined are independent from how the delay is being metered.
• Two vendors are validating technical feasibility. Others showing interest.
• Draft version -03 will contain data record and template examples.