Streaming Telemetry Isn't Better

Internet2 Tech Exchange
September 21, 2023

David Sinn
University of Washington
Wait, What? What, Wait?

- These are results from a pilot that was run on the Pacific Wave Internet Exchange

- Supported in part by a grant from the US National Science Foundation (Award 2029306)
But!!!

- Yes, many other presentations have highlighted Streaming Telemetry's benefit
- Deployment, hardware and config dependent
- This is a cautionary tail
Two Juniper Export Methods

- **OpenConfig**
  - Single TCP session
  - Juniper Telegraf modules with recent commits published via Github
    - Supports the MX10K’s we were using
  - Easy how-to can be found using Telegraf, InfluxDB & Grafana

- **gRPC**
  - Direct export of UDP
  - Juniper modules that don't work with current hardware on Github
Interfaces

- Hardware doesn't* know about virtual interfaces
  - No statistics on bond interfaces
  - Need backend tracking of component interfaces to combine into virtual view

* – Except for commodity single chip systems
Fidelity
Juniper Recommendations

- Opened up a JTAC case
- Confirmed in their documentation
  - Recommendation of averaging over 30 seconds
- So why not just request 30 second updates
  - Removes the back-end complexity
Really Better?

- SNMP
  - Much better implementations today
  - 30s is doable
    - Direct MIB polling
  - Functional load is equal
  - Don't loose Virtual Interfaces, nor need backend
UDP

- Don't do OpenConfig

- UDP
  - Open question on fidelity
  - Help the community?
Thank You

Questions?