

SRv6
On-Path Delay
Measurement with
Anomaly Detection
OPSAWG WG

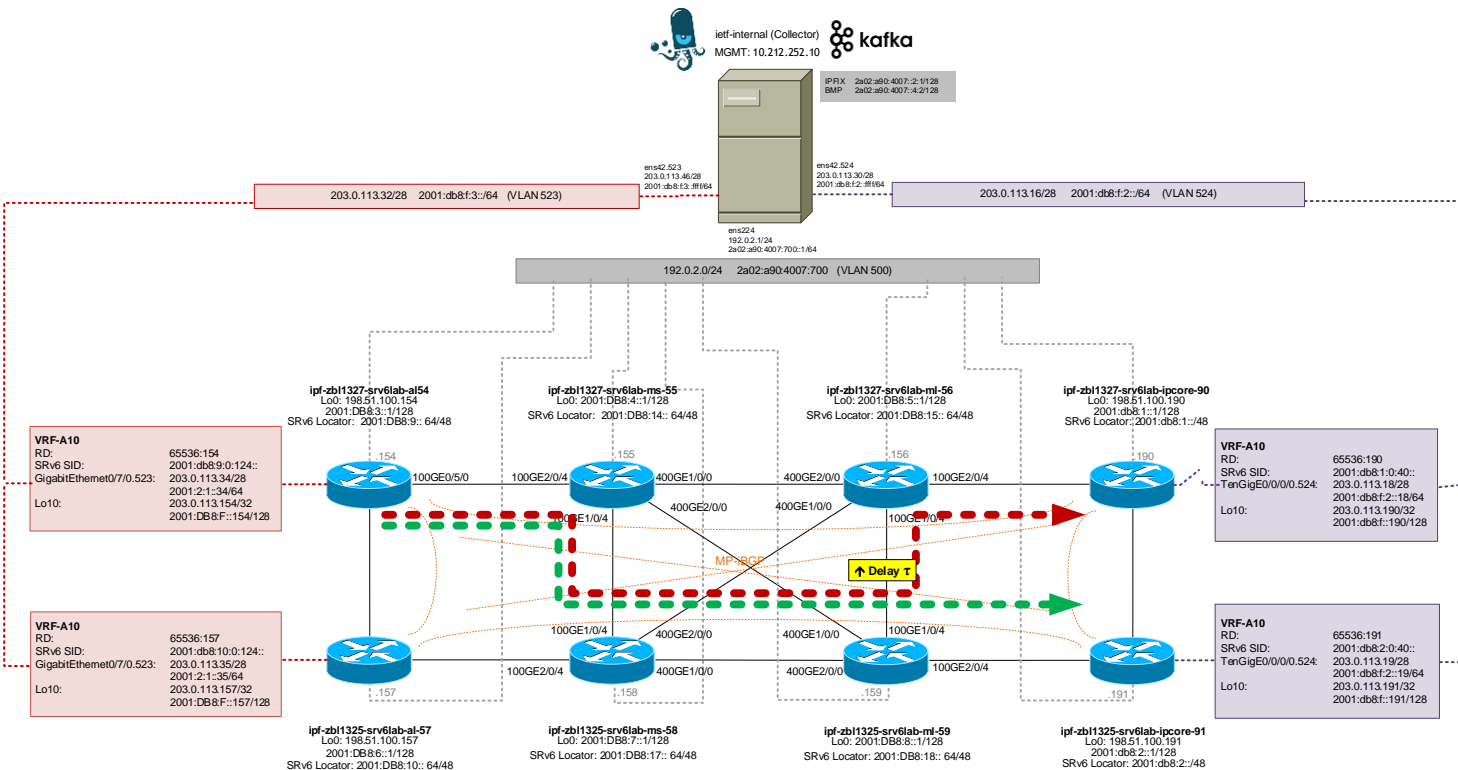
IETF 116
March 25-26th, 2023
Hackathon



Hackathon - Plan

- Establish multivendor SRv6 network topology with network telemetry data collection and data processing pipeline.
- Validate and visualize two IPFIX implementations of [draft-ietf-opsawg-ipfix-srv6-srh](#) (AD review) and [draft-ietf-opsawg-ipfix-on-path-telemetry](#) in [FD.io](#) VPP and on Huawei VRP.
- Extend Network Anomaly Detection to recognize on-path delay increase and include delay in Max Concern Score calculation.

Hackathon – Network (1/2)

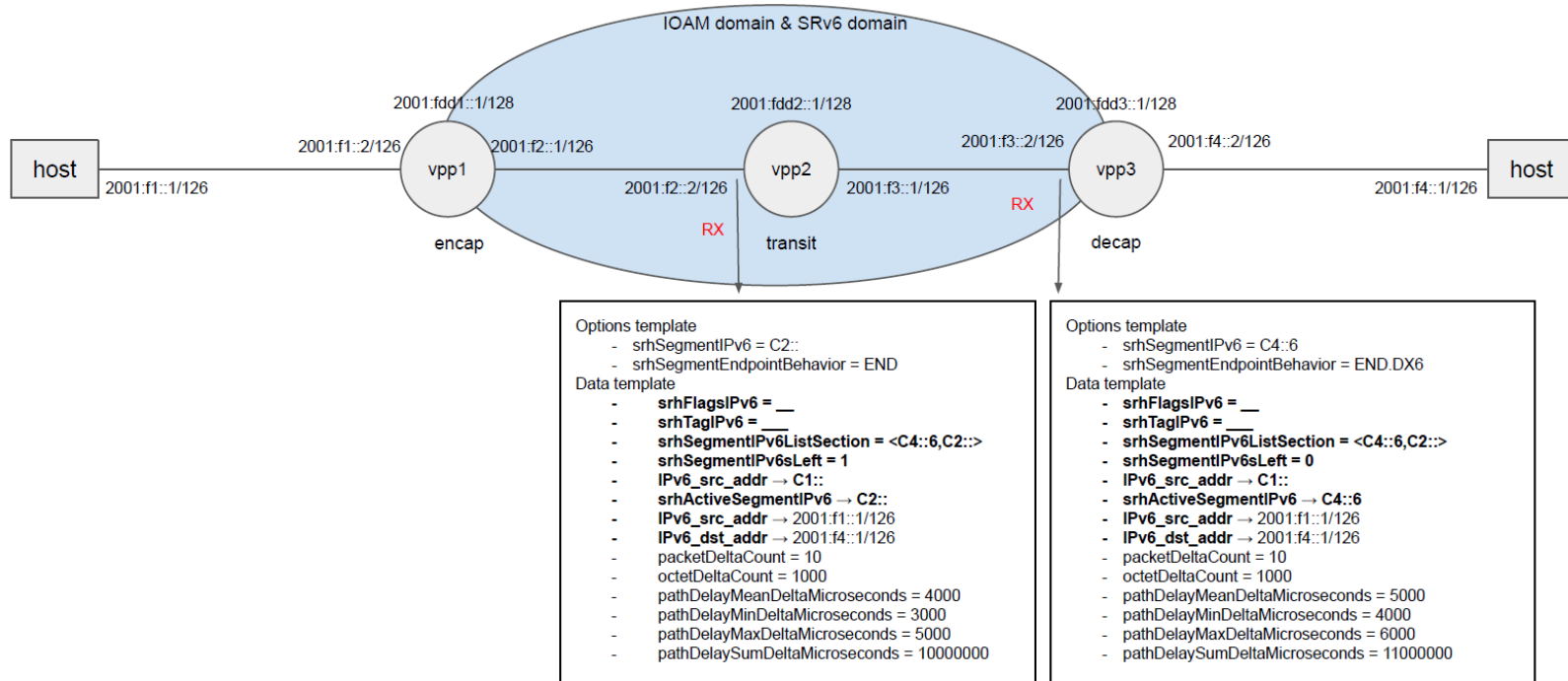


SRv6 network topology with two vendors and IPFIX data processing pipeline.

Huawei with four P and two PE nodes exposing SRH provider data-plane [draft-ietf-opsawg-ipfix-srv6-srh](#) and on-path delay as described in [draft-ietf-opsawg-ipfix-on-path-telemetry](#).

Cisco with two PE nodes exposing customer data-plane.

Hackathon – Network (2/2)



- FD.io VPP Open Source Code published: <https://github.com/network-analytics/vpp-srh-onpath-telemetry>



Visualization & Conclusion



- (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.

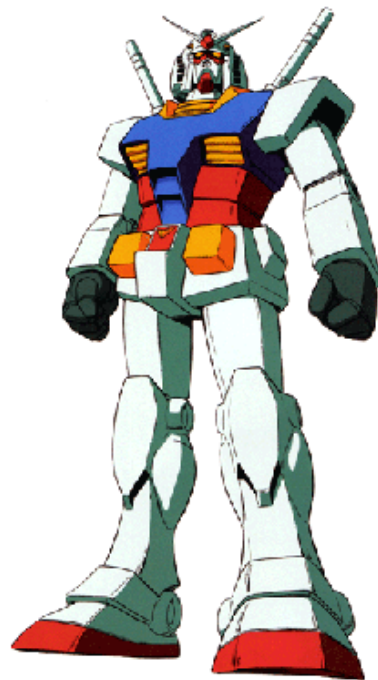
What we learned (again)

- Good

- Preparation and good team setup is gold.
- As always... the beers were most welcome!

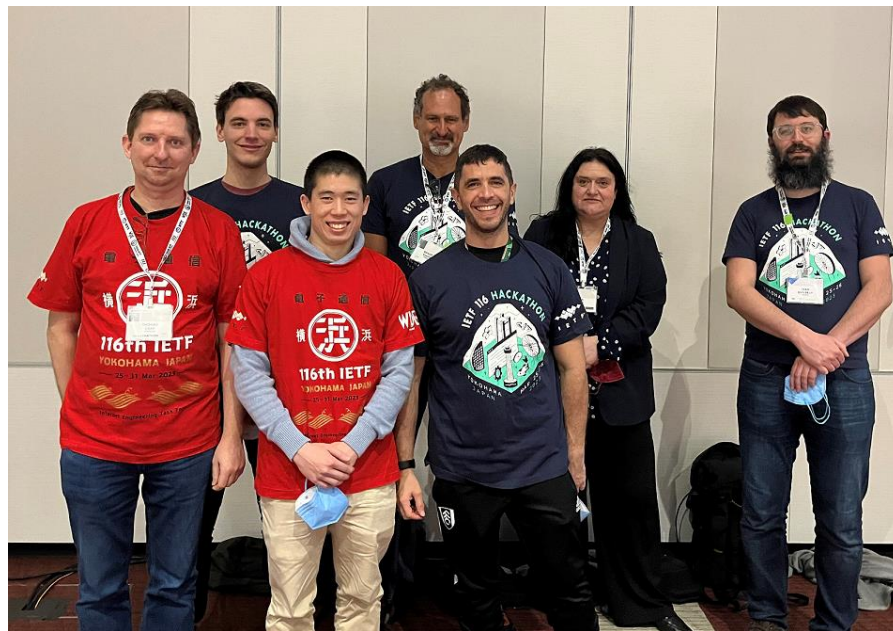
- Surprise

- Yuta and his colleagues joining our table and implementing draft-ietf-opsawg-ipfix-srv6-srh in XDP/DPDK.



Thanks to...

- Alex Huang Feng – INSA
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- Yannick Buchs – Swisscom (remote)
- Marco Tollini - Swisscom
- Thomas Graf - Swisscom



....and Huawei, INSA Lyon and [Pmacct](#) for the network environment, software and test cases.