
Network Streaming Telemetry

November, 2017

Network Flow Export protocols

NetFlow

- IPFIX
- CFlow
- JFlow

sFlow

AWS - VPC flow logs

High precision metrics

We wanted real time metrics on transit traffic to/
from our network

Found SNMP collection non-deterministic

Created network telemetry pipeline

SNMP Collection

Collection is slow

- Need to make multiple GetBulk requests for ifTable
- SNMP data model different from Router data model
- The more pollers, the slower the response (need at least 2 for redundancy)

Port Counters only update every 1s

Data Models

ifIndex	ifDescr	ifType	ifMTU	ifSpeed
3	GigabitEthernet0	6	1514	1000000000
4	GigabitEthernet1	6	1514	1000000000
5	Loopback0	24	1500	0

Telemetry

- Cisco Model-driven Telemetry
 - Juniper Telemetry Interface
 - Arista Telemetry Framework
 - ... more vendor specific solutions?
 - sFlow Counters
 - Openconfig
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Our Solution

