



## **Use Case**

**NetOps Telemetry**

**Demo script**

**Version 1.0**

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# Use Case

## 1. Introduction

Network Congestion Triage Powered by Broadcom Silicon and Broadview Telemetry via Buffer Statistic Tracking (BST).

As a global infrastructure technology and software solutions leader, Broadcom provides next-generation [network monitoring software](#) that simplifies 5G, IoT, Cloud and SD-WAN deployments with rich granular data captured at the chip level to enable a uniquely automated solution that [remediates network congestion](#). Providing our customers with an in-depth view of hardware buffer utilisation from our silicon while at the same time providing best in-breed unified visibility across fault, performance, topology, and flow enables operations teams to have unparalleled insights into congestion and performance of the Data Center switch fabric.

Congestion events and microbursts are hard to detect using traditional monitoring techniques, which are mostly polling based. In this session, we will explain how Broadcom leverages gNMI (gRPC network management protocol), a highly efficient open-source technology, to stream telemetry data to the collector. We will demonstrate how, by using gNMI and Broadcom silicon, operators can easily identify network hotspots and correlate them with affected applications.

## 2. Goal(s)

This use case highlights the capabilities of DX NetOps to capture close to real-time data via Telemetry.

Additional information about Telemetry value and details can be found here:

<https://docs.google.com/presentation/d/1yX6cRiqCl6OqP59o9-ktwV74v18cZ7SI/edit?usp=sharing&ouid=100938309384553856193&rtpof=true&sd=true>

## 3. Demo Script

When discussing about Telemetry keep this comparison in mind

# SNMP vs Telemetry

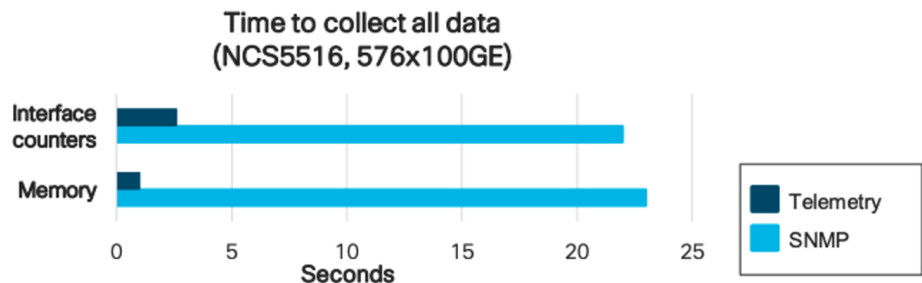
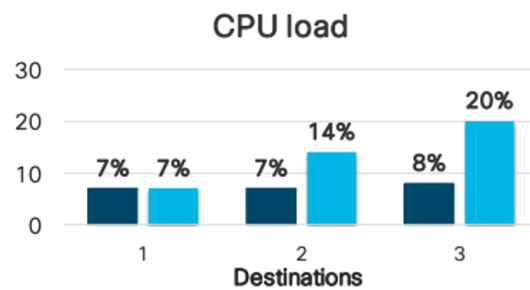
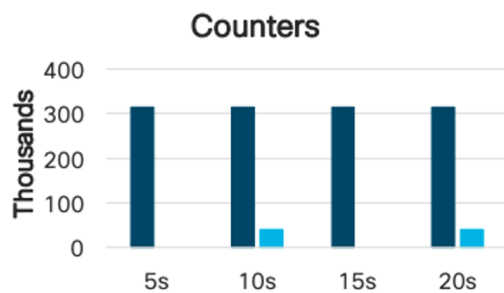


- **Telemetry** (in networking) refers to streaming data relating to underlying characteristics of the device - either operational state or configuration.
  - Model Driven Telemetry (MDT) uses YANG models to represent the networking entities


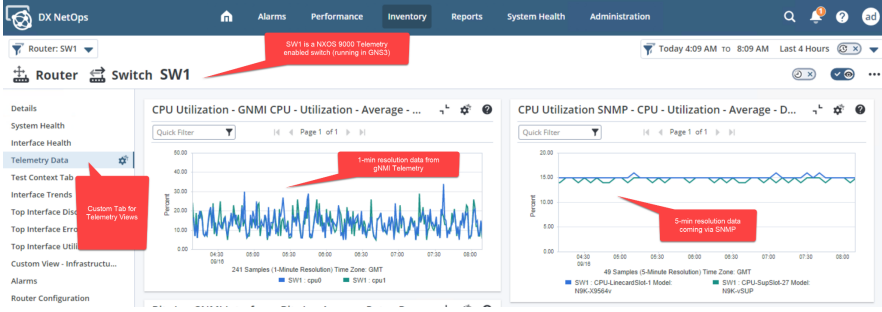
	SNMP	Telemetry (MDT)
How it works?	NMS pulls data from the device	Device pushes data to the NMS (subscription)
How is data modeled?	MIBs	YANG
How is data accessible?	OIDs	Paths
How secure is?	SNMPv2c / SNMPv3	TLS + AAA
How reliable is?	UDP	TCP (mostly) or UDP (rarely)
How common is?	All network-related vendors	Wide adoption
Benefits	Good for low data volumes; static data (inventory data)	Good for high data rates; lower overhead

Speed and Cost are critical for Modern Network Monitoring:

## Doing More (Data) With Less (Resources)



Source: [Advanced Topics in Cisco IOS Telemetry](#)

<p>Login to NetOps portal and access to Device view for SW1.</p> <p><a href="http://netops.forwardinc.biz:8181/pc/desktop/page?pg=r&amp;DeviceID=24366&amp;tnid=2000240">http://netops.forwardinc.biz:8181/pc/desktop/page?pg=r&amp;DeviceID=24366&amp;tnid=2000240</a></p>	
<p>Comment how valuable is the capability of streaming data when high resolution is needed.</p> <p><b>Features</b></p> <ul style="list-style-type: none"> <li>-Close to Real-time resolution</li> <li>-Live Trend View</li> <li>-Precision state measurement</li> <li>-Hybrid SNMP/telemetry</li> <li>-Multi-vendor normalization</li> </ul> <p>Oriented to complement SNMP polling of performance metrics when low granularity is required</p>	
<p><b>Use Cases:</b></p> <ul style="list-style-type: none"> <li>- Troubleshooting highly critical devices</li> <li>- Billing</li> <li>- Low latency trading</li> </ul>	

