VIAVI Solutions

Gigamon®

Application Note

System Monitoring and Observability Leveraging Gigamon and VIAVI NITRO AIOps

Introduction

Monitoring systems at service providers and large enterprises have grown to become more complex as networking systems evolve, virtualized and cloud instances become a reality, and sophisticated analytical tools are deployed. These systems have been deployed with multiple vendor solutions and perhaps without integration in terms of managing, operating, and configuring the tools together.

The heart of many of these monitoring systems is a network packet broker provided by partners such as Gigamon. The functionality of the network packet broker is to tap, replicate, aggregate, filter and distribute monitored traffic to multiple probes and data analysis tools. However, a disruption of the monitored traffic from the traffic generating network elements, within the packet broker fabric or to the analytical tools may be difficult to pinpoint.

To integrate, visualize and automate processes associated with monitoring system operations, VIAVI has developed a novel approach to monitoring system observability using NITRO® AIOps. The following describes a use case combining the capabilities of NITRO AIOps with a packet broker from Gigamon.

Gigamon with NITRO AIOps from VIAVI

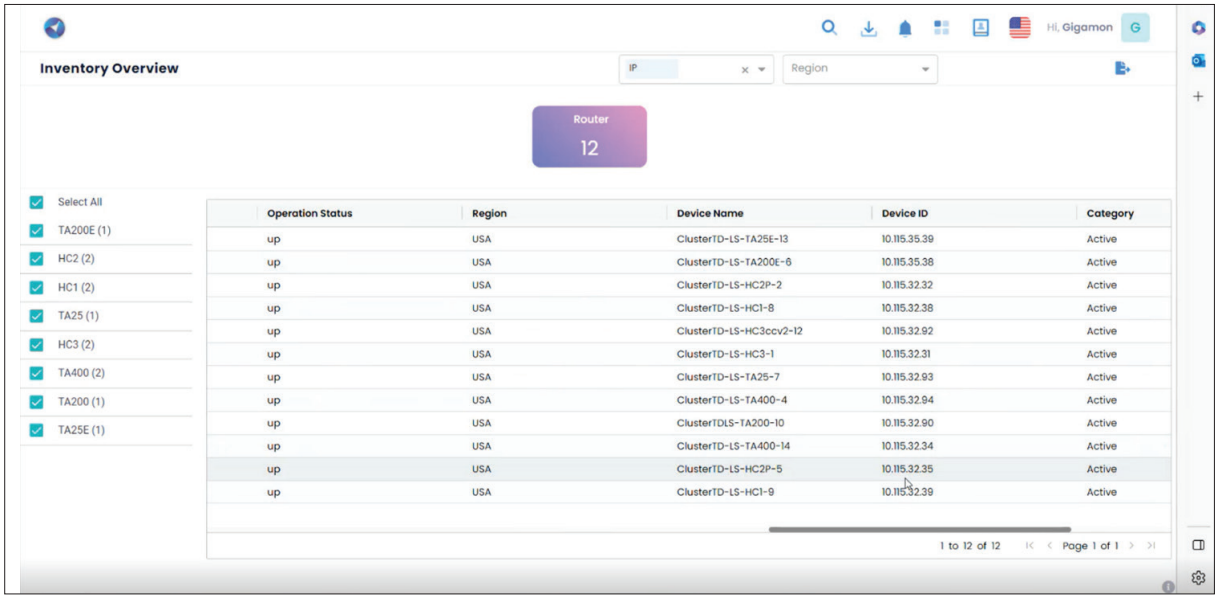
VIAVI plus Gigamon is a combination worth more than the sum of its parts. Gigamon, the leader in deep observability, provides comprehensive visibility across the entire hybrid cloud to amplify the power of performance and service assurance tools like NITRO AIOps. When combined, additional value is unlocked, providing extended visibility into the network and simplified operations.

In the following use case, Gigamon provides APIs to their Fabric Manager, which is a configuration software or element management system for packet brokering equipment. VIAVI created adaptors to the Fabric Manager APIs to show inventory, topology, and a light performance management for in/out traffic.

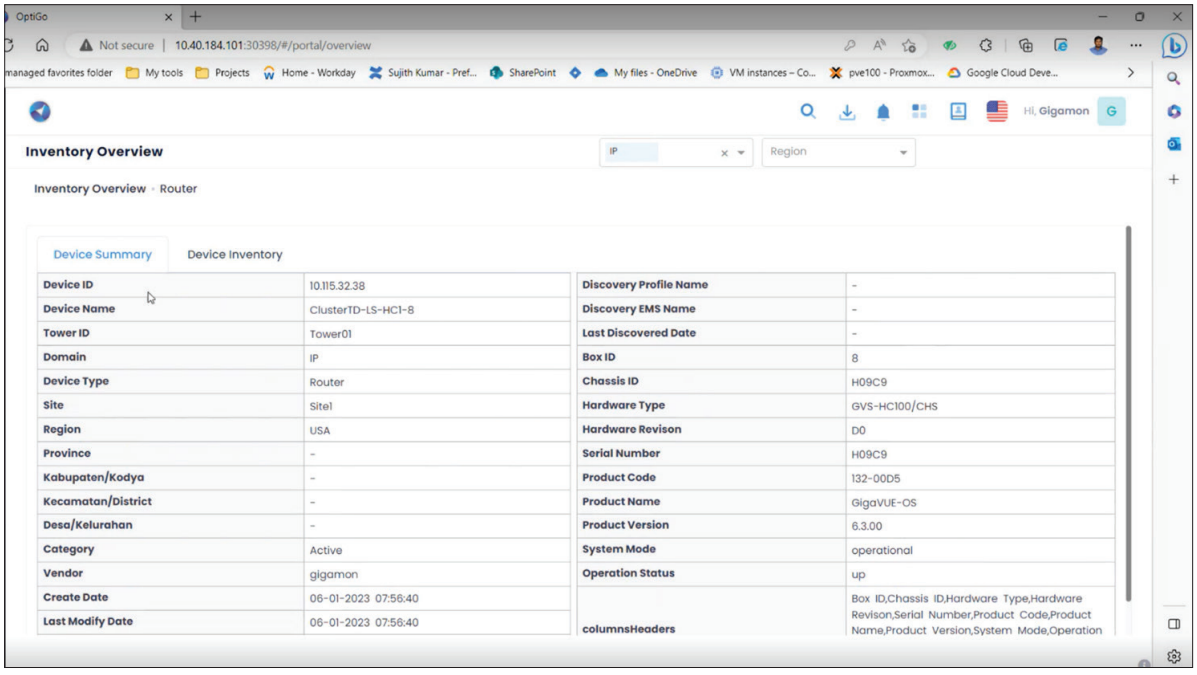
Additionally, VIAVI uses auto-discovery functions to build a unified inventory and data model from multiple sources (e.g. switches, routers, virtual nodes, cloud instances, firewalls, load balancers, probes, data lakes) which create even deeper end-to-end monitoring observability. The result is a holistic or single-pane-of-glass view of the monitoring fabric, from “tap to GUI.”

The following shows a step-by-step outline of the process.

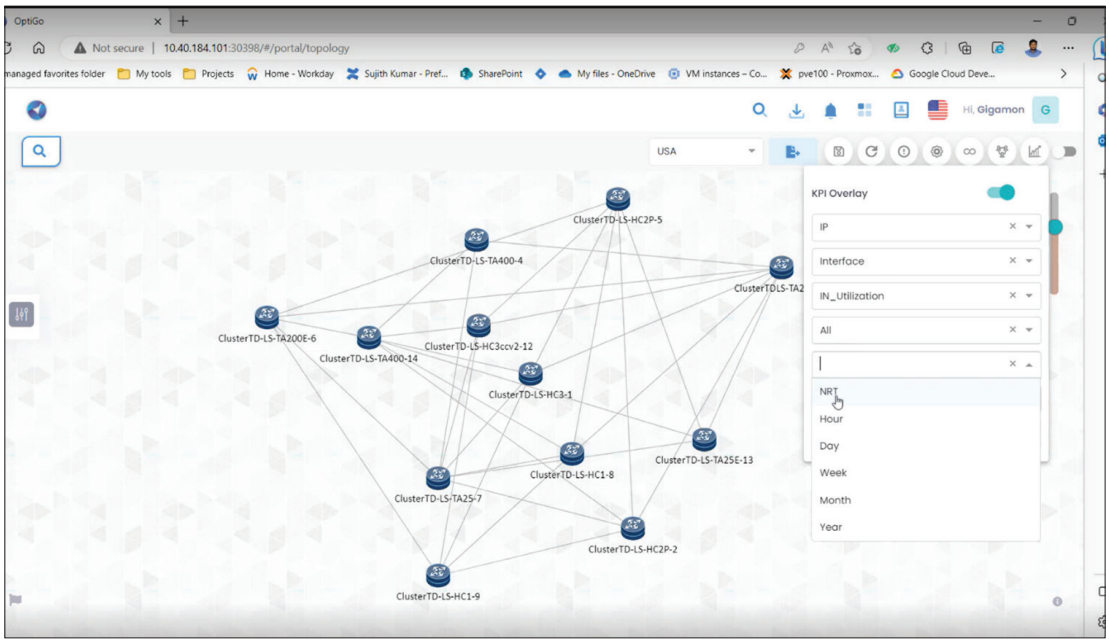
First, network inventory is required to identify all the devices within the network monitoring fabric. The premise is "if you don't see it, then you can't monitor it:"



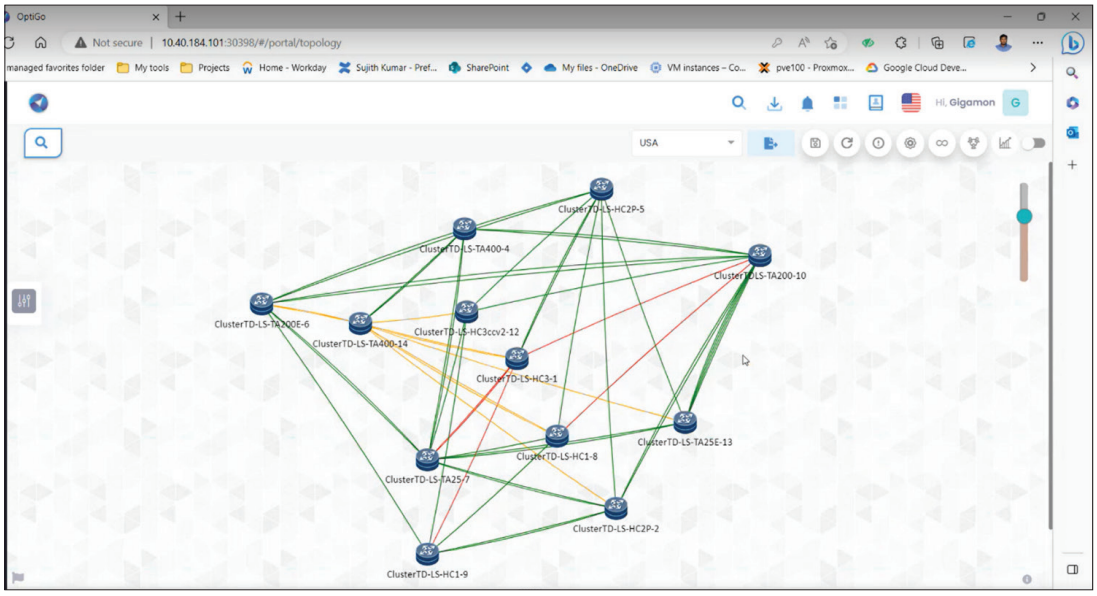
Inventory can then be analyzed and reported down to the device level, CPU, memory, and port usage:



In addition, users gain a topology view – where they can visually see the logical interfaces and connections between network devices:



Finally, fault management data can be implemented and displayed for devices to show network device system alarms. Correlation of fault management data from disparate devices can eliminate alarms and generate incidents to reduce the mean time to detect (MTTD) issues. Then, performance KPIs can be overlayed for interfaces in between network devices to show network performance health:



In sum, the procedures described above can create end-to-end, deep observability and help identify anomalous network behavior. This will trigger network orchestration and automation, and ultimately generate closed-loop procedures. Together, Gigamon and VIAVI are helping service providers and large enterprises improve system monitoring resiliency across their networks.

About Gigamon

Gigamon offers a deep observability pipeline that harnesses actionable network-level intelligence to amplify the power of observability, performance, security, and service assurance tools. This powerful combination enables IT organizations to assure security and compliance governance, speed root-cause analysis of performance bottlenecks, and lower operational overhead associated with managing hybrid and multi-cloud IT infrastructures. The result: modern enterprises and service providers realize the full transformational promise of the cloud. Gigamon serves more than 4,000 customers worldwide, including over 80 percent of Fortune 100 enterprises, nine of the 10 largest mobile network providers, and hundreds of governments and educational organizations worldwide. To learn more, please visit www.gigamon.com.

About NITRO AIOps

The NITRO cloud-native Artificial Intelligence for Network Operations (AIOps) portfolio helps CSPs, DSPs, ISPs, Utilities, and Enterprises accelerate their digital OSS transformation journey by evolving their legacy network operations center (NOC) to a dark NOC. The AIOps End-to-End Service Assurance solution enables the breaking down of silos across network domains to provide a vendor agnostic and holistic view of the entire network. With real-time monitoring, AIOps enables root cause identification of customer experience (CX) impacting issues enabling proactive problem resolution.

NITRO AIOps visualizes, automates, and optimizes digital experiences as well as service and network quality across hybrid telco and IT networks by integrating real-time assurance with closed-loop automation and analytics driven by artificial intelligence/machine learning.

Powered by topology, assurance and analytics suite of applications, NITRO AIOps governs the digital experience as well as service and network quality with intelligence that monitors, detects and heals by leveraging local orchestrators, driving digital transformation initiatives towards autonomic network management.

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