



Large US Telecom and Mass Media Company

Boosts Scale by 100% and Realizes Significant
TCO Reduction with DX NetOps

CLIENT PROFILE

Industry: Telecommunications
Employees: 95,000

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“Through its advanced communications network, the company serves more than 30 million customers in the U.S.”

Business

This North American telecommunications and mass media company is a leading broadband connectivity provider and cable operator. Through its advanced communications network, the company serves more than 30 million customers in the U.S. The company offers a full range of state-of-the-art consumer and business services, including internet, TV, mobile, and voice.

Challenges

Recent acquisitions resulted in the company having to contend with many network operations challenges, including the need to support over a half million miles of fiber, hundreds of thousands of fiber-lit buildings and Wi-Fi hot spots, high performance networks, and mobile / LTE networks, as well as field trials with LoRa (long range) technology, CBRS (Citizen’s Broadband Radio Services), and 5G.

Prior to the acquisitions, this telecommunications provider used DX NetOps Spectrum and DX NetOps Performance Management in limited parts of their network. Additionally, with the acquisitions, they now had redundant tools for Y.1731 monitoring. These tools were used to feed service level agreement (SLA) calculations and fault monitoring on older technologies, such as TL1 (Transaction Language 1).

Due to their recent acquisitions, this company encountered the following network operations challenges:

- Overlapping tools, which led to increased management and tool licensing costs and left administrators stretched across too many projects.
- Operations teams struggled to address the need to scale the monitoring environment to cover more items across a broader geographic area.
- Teams needed to validate BGP neighbor configurations on existing network infrastructure in order to ensure topological visibility and enable alarm noise reduction.
- In order to remain fully compliant with network policies, operations teams needed to establish advanced network configuration management.

Figure A: DX NetOps provides easy access to reporting on network health and performance, supporting environments with thousands of devices and millions of metrics.

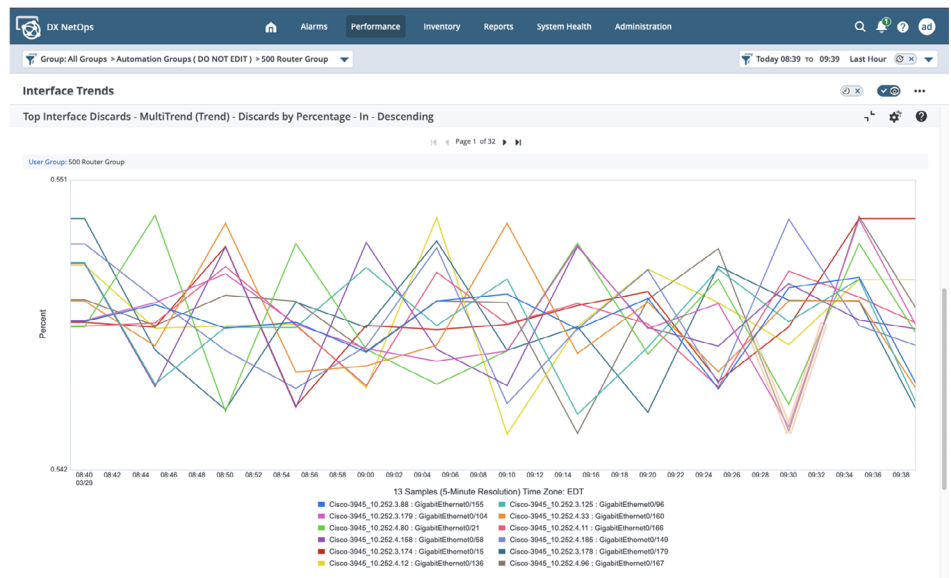
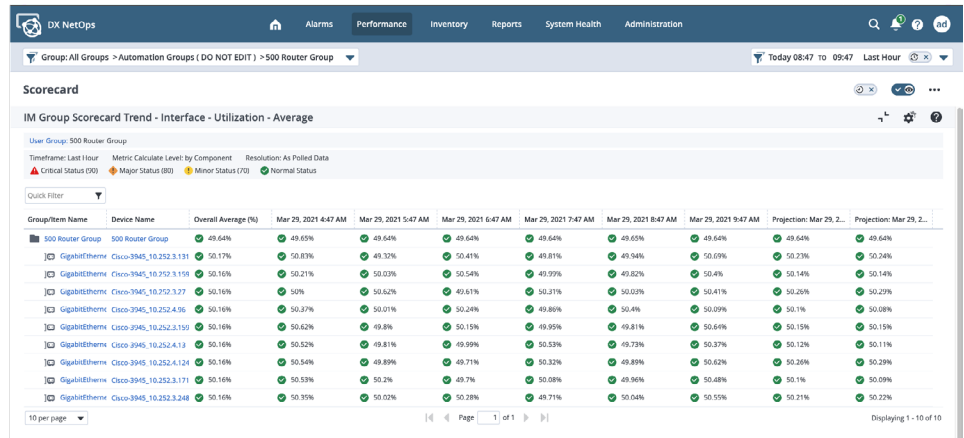


Figure B: Infrastructure scorecards offer intuitive insights into the health of large-scale network environments.



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Customer Environment

Today, this telecommunications company has the largest deployment of DX NetOps in the world. DX NetOps provides the organization high-scale operations monitoring and service assurance for their entire infrastructure. The solution supports:

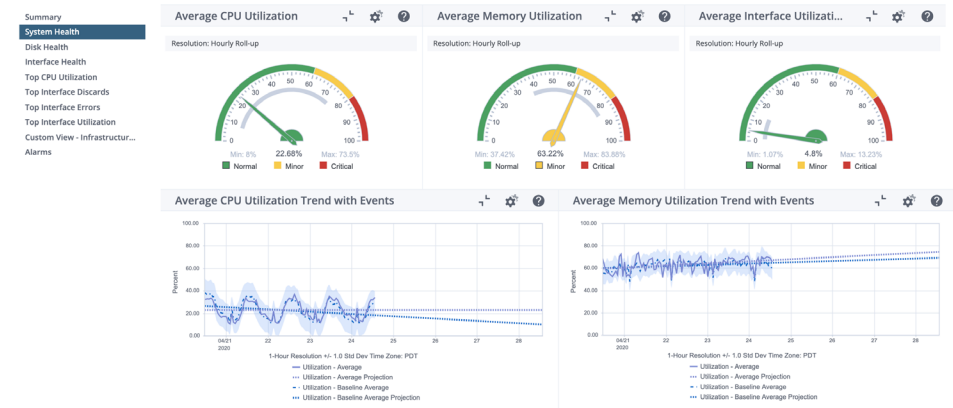
- **300,000** devices monitored
- **6M** polled items
- **4M** interfaces monitored
- **1,049,227** metrics per second
- **160,000** active tests
- **180** concurrent users

Solution

With access to the broader DX NetOps portfolio from Broadcom, the company's network engineering team will be able to dramatically increase network monitoring adoption across the organization. Over the next year, the team estimates their deployment will grow significantly, with one network operations center team bringing 30,000 devices under management. In addition, two new groups will be leveraging DX NetOps and the AIOps solution from Broadcom for their advanced wireless solution division. This would bring an additional 400,000-600,000 devices under DX NetOps management.

This team is responsible for managing properties, including apartments, hotels, and more. They are evaluating the replacement of their current monitoring solution, which lacks the correlation needed to isolate root cause for the residential side of the business. Ultimately, they would like to expand their capacity to support approximately 60 million cable modems under management.

Figure C: With DX NetOps, operators can move from alarm to diagnosis and triage with one click, making troubleshooting fast and easy.



“DX NetOps helped the company prove they were meeting their SLAs, enabling the business to avoid more than \$800,000 in penalties.”

By leveraging Broadcom network monitoring, this company has been able to realize a number of enhancements:

- Partnered with Broadcom to identify gaps in their network monitoring approach and develop a best-practice approach to monitor BGP-enabled devices for fault isolation.
- Optimized network configuration management:
 - Realized a 5X increase for concurrent configuration tasks.
 - Enabled visibility into policy violations to provide details to partner teams.
 - Developed violation details for script-based configuration policies.
- Increased monitoring scale by 100%, expanding from 150,000 to 300,000 devices.
- Extended technology support to replace overlapping toolsets for Y.1731.
- Reduced redundant toolsets by consolidating monitoring solutions and establishing one full-stack operational dashboard.

Results

In March 2020, DX NetOps helped the company prove they were meeting their SLAs, enabling the business to avoid more than \$800,000 in penalties. This company will continue to work with Broadcom to build out customer service hierarchies to realize even more savings through SLA penalty avoidance. Customer network paths will be modeled as services to help the company make sure its networks provide exceptional service levels, while delivering the empirical data needed to adhere to their SLAs.

Figure D: High-scale availability metrics from DX NetOps enable the world’s largest network operators to provide resilient services to their customers.

Group/Device Name	Availability - Average	Availability - Maximum	Availability - Minimum
500 Router Group	100%	100%	100%
Cisco 3945_10.252.4.41	100%	100%	100%
Cisco 3945_10.252.4.73	100%	100%	100%
Cisco 3945_10.252.4.194	100%	100%	100%
Cisco 3945_10.252.3.242	100%	100%	100%
Cisco 3945_10.252.3.142	100%	100%	100%
Cisco 3945_10.252.3.18	100%	100%	100%
Cisco 3945_10.252.3.7	100%	100%	100%
Cisco 3945_10.252.3.89	100%	100%	100%
Cisco 3945_10.252.4.100	100%	100%	100%

DX NetOps helped this company increase operational efficiencies by improving monitoring processes, monitoring scale, and network configuration management practices. The solution also significantly reduced their total cost of ownership (TCO). Further, by consolidating disparate network monitoring tools sets and establishing a high-scale, single-pane network operations solution, the company improved operational visibility following their acquisitions of two other well-known telecommunications and mass media companies.

In the future, this telecom company plans to adopt high-scale, multi-vendor, SD-WAN, and cloud-based wireless monitoring solutions from Broadcom for discovery and reconciliation of their networks and services. The DX NetOps solution offers the latest capabilities for monitoring modern networks and it provides an optimal multi-tenant, multi-vendor solution for service providers. With DX NetOps, this company will be able to confidently and efficiently assure the reliability of new managed network service offerings and meet service guarantees.

For more product information, please visit broadcom.com/netops.



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