



# Large Sports Retailer

Employs DX NetOps During Pandemic to Ensure 100% Reliable Online Shopping Experiences

## CLIENT PROFILE

Organization: Large Sports Retailer  
Industry: Retail  
Employees: 30,000

The operational insights provided by DX NetOps enabled the company's network operations team to understand a network performance degradation at any level of the e-commerce platform.

Like many businesses around the world, the retailer had to make significant changes to adapt to the onset of the global pandemic. During that time, they had to temporarily close stores and rely heavily on their online shopping presence as the primary customer-facing, revenue-generating channel.

## Business

A leading omni-channel retailer offers an extensive assortment of authentic, high-quality sports equipment, apparel, footwear, and accessories. The retailer offers its products through a dynamic e-commerce platform that is tightly integrated with its store network infrastructure, providing customers with the convenience and expertise of a 24-hour storefront.

## Customer Environment

This large retailer has a national network of retail stores, regional offices, and distribution centers. The company also has a large e-commerce platform that is hosted in multiple physical and virtual data centers.

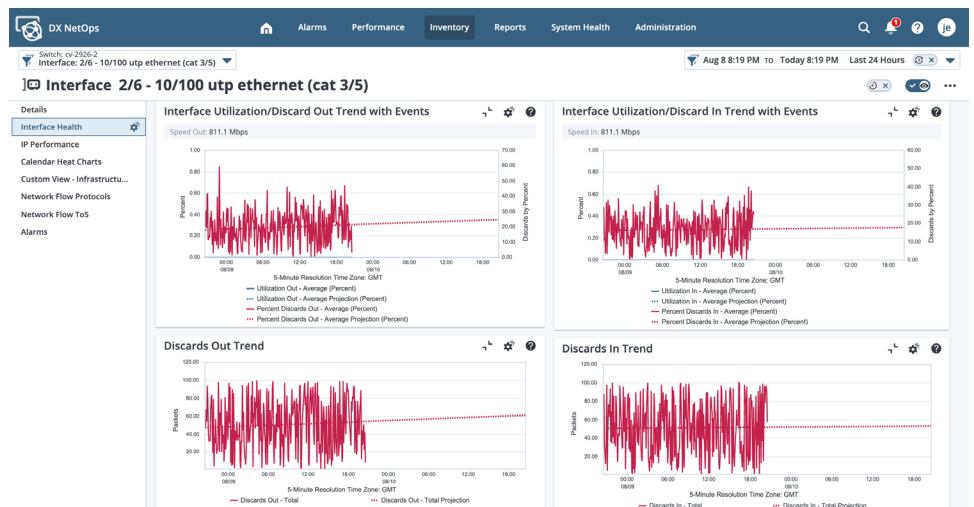
In order to provide customers with a consistent, high-quality digital experience, the company is highly reliant upon network connectivity. To deliver a range of critical services, the company's retail locations require constant access to multiple data centers. This connectivity includes both broadband as well as cellular backups. Additionally, each regional office and distribution center requires multi-path connectivity to numerous data centers.

Since the company's e-commerce service relies on data centers, it was vital for the team to monitor each level of their service offerings. This included monitoring external connectivity to the data centers, internet connectivity, the primary and secondary paths of their internal networks, e-commerce systems, and critical back-end order management systems.

## Challenges

Like many businesses around the world, the retailer had to make significant changes to adapt to the onset of the global pandemic. During that time, they had to temporarily close stores and rely heavily on their online shopping presence as the primary customer-facing, revenue-generating channel. Consequently, it was mandatory that they had highly available network services in order to deliver an exceptional on-line experience and maintain business continuity.

Figure A: DX NetOps enables real-time visibility into interface health, network congestion, and packet loss events that can affect the experiences of application users.



When stores reopened, network availability was even more crucial for in-store shopping experiences, inventory visibility, and data center connectivity, while supporting a continued online presence remained vital.

The sports retailer was challenged with maintaining high availability of the extremely complex technical environments that their revenue-generating e-commerce platform was built upon. This required an advanced, scalable monitoring solution to keep up with the continued growth and expanding usage of their multi-path, interconnected network infrastructures.

Monitoring a complex multi-path, redundant network architecture is challenging and demands manually intensive efforts like sifting through numerous logs to find the root cause of an issue. This increases troubleshooting times and prolongs network degradation or outages. The network operations team needed real-time visibility so they could find out immediately if a performance issue arose or if a site started using a secondary network connection, and to verify whether those secondary connections were performing at expected levels.

## Solution

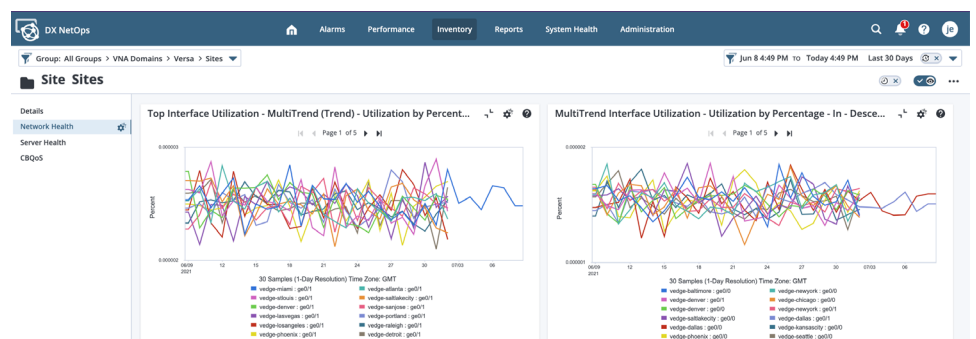
To maintain the resilience of the retailer's e-commerce network, the retailer sought to implement an industry-leading solution to monitor a variety of network characteristics, such as carrier availability, bandwidth performance and connectivity, and performance of every critical aspect of their network—from the edge to various security zones and ultimately to e-commerce systems.

The team deployed DX NetOps from Broadcom to monitor and ensure highly available and quality network performance between their retail locations and data centers. The solution monitors which network interface (cellular or broadband) is currently providing connectivity and it makes it easy to identify any network failover event by immediately generating an alarm when a connection switches from broadband to cellular. The solution alerts the network operations team to the event and also clears the alarm when the interface reverts back to broadband.

DX NetOps also monitors network performance after a failover event occurs and immediately identifies any degradation that could affect the customer experience. The solution provides performance testing of network connectivity and offers visibility into the health of all the network devices, interfaces, and circuits throughout this retailer's environment.

Working with a partner, the team defined service level agreements (SLAs) of 99.9%. These SLAs include network testing (IPSLA) and detailed performance and availability metrics for every level of the primary and secondary e-commerce

Figure B: DX NetOps enables "one-click" access to network intelligence like utilization, discards, and errors—enabling fast triage of any customer experience issue.



With DX NetOps, the sports retailer was able to improve its monitoring processes so it could deliver always-on network availability and optimize e-commerce network performance.

service. Each of these services have 10 sub-services: DMZ, e-commerce, firewall, external network, internal network, internet IPSLA, management interfaces, public firewalls, spine backbone, and WAN.

## Results

With DX NetOps, the team was able to improve its monitoring processes so it could deliver always-on network availability and optimize e-commerce network performance.

The operational insights provided by DX NetOps enabled the company's network operations team to understand a network performance degradation at any level of the e-commerce platform. With these insights, the team can proactively switch over to a redundant network link or backup data center with minimal effect on the customer's shopping experience.

DX NetOps provides the retailer with complete visibility into network fault, performance, and flow analytics. The solution supports their entire network environment, offering a mature, highly scalable solution for monitoring these domains:

- Traditional network technologies, including those from such vendors as Broadcom, Cisco, Juniper, HPE, and more.
- Multiple protocols, including SNMP, Multicast, BGP, QoS, IPSLA, and more.
- Modern network technologies, such as software-defined networks (SDN), SD-WAN, network function virtualization (NFV), and software-defined data centers (SDDC).

By improving visibility into the performance of its critical networks, the team has been able to realize these benefits:

- **100% network availability.** DX NetOps helps the retailer maintain 100% network availability. With the solution, the team can adhere to their SLAs while also enabling resilient connectivity between their data centers and e-commerce platform and their retail stores, customer-facing websites, distribution centers, and remote offices. As a result, the company is able to consistently deliver an exceptional customer experience, maintain business continuity, and meet revenue targets—even after the pandemic forced temporary closures of retail stores.
- **Proactive triage.** Powered by patented root cause analysis and event correlation, the solution sends notifications when any layer of the network may have a performance issue. This enables the team to take preventative measures before any customer experience issues arise.
- **Operational cost savings.** DX NetOps enables proactive monitoring that speeds the team's triage efforts and ensures they meet their SLAs. The solution helps boost staff efficiency, enabling the team to support a growing network, while keeping consistent staffing levels.
- **Network monitoring scale.** DX NetOps offers industry-leading monitoring scalability, which helps the retailer maintain quality network performance and ensure reliable online shopping experiences. With the solution, the team was able to deliver consistent service levels, even as the emergence of the pandemic introduced significant increases in e-commerce transactions and network traffic.



#### About Broadcom

Broadcom Inc. (NASDAQ: AVGO) is a global technology leader that designs, develops and supplies a broad range of semiconductor and infrastructure software solutions. Broadcom's category-leading product portfolio serves critical markets including data center, networking, enterprise software, broadband, wireless, storage and industrial. Our solutions include data center networking and storage, enterprise, mainframe and cyber security software focused on automation, monitoring and security, smartphone components, telecoms and factory automation. For more information, go to [www.broadcom.com](http://www.broadcom.com).

Broadcom, the pulse logo, Connecting everything, CA Technologies, the CA technologies logo, and Automic are among the trademarks of Broadcom and/or its affiliates in the United States, certain other countries, and/or the EU.

Copyright © 2021 Broadcom. All Rights Reserved.

The term "Broadcom" refers to Broadcom Inc. and/or its subsidiaries. For more information, please visit [www.broadcom.com](http://www.broadcom.com). Broadcom reserves the right to make changes without further notice to any products or data herein to improve reliability, function, or design. Information furnished by Broadcom is believed to be accurate and reliable. However, Broadcom does not assume any liability arising out of the application or use of this information, nor the application or use of any product or circuit described herein, neither does it convey any license under its patent rights nor the rights of others.