BROADCOM SOFTWARE

CASE STUDY

# Global Software Company

## Realizes 85% Alarm Noise Reduction with DX NetOps

## Global Software Company

### CLIENT PROFILE

Organization: Global Software Company

Industry: Enterprise Software

Employees: 100,000

### CHALLENGES

- After deploying software-defined data center technologies, troubleshooting and fault isolation became more complex than ever before.

### SOLUTION

- With DX NetOps, they can have a centralized, high-scale operations monitoring portal that offers visibility across their entire network infrastructure.

### BENEFITS

- Improved network reliability metrics from 50% to 95%.
- Improved mean time to resolution (MTTR) by 65%.
- Reduced alarm noise by 80-85%.

## Challenges

A global software corporation makes enterprise applications that are used to manage business operations and customer relations. To better meet their organization's requirements, the IT operations team recently deployed software-defined data center (SDDC) technologies built on Cisco Application Centric Infrastructure (ACI). By leveraging Cisco ACI, the team sought to migrate all their worldwide data centers to a modern SDDC architecture and to use OpenStack as their infrastructure provider.

However, the introduction of software-defined networking (SDN) and SDDC completely changed the IT management landscape. While SDDC approaches offer great flexibility and agility, there is a trade-off in terms of operational visibility and supportability, due to the inherent complexity of this technology.

Cisco ACI can automate the deployment of network services and the establishment of access control lists (ACLs). As a result, the solution significantly reduced the time and manual effort associated with these efforts. However, by extracting the network set-up from an engineer's regular activities, troubleshooting and fault isolation became more complex than ever before.

The operations team at this global software company started using the embedded Cisco Application Policy Infrastructure Controller (APIC) to provision infrastructure and applications. However, lacking a robust, proven monitoring solution, the team encountered a number of challenges:

- **Alarm noise**. Cisco APIC controllers provide eight different fault types with six possible levels of severity. For this large software provider, this means more than 23,000 events had to be defined, with hundreds of unique messages originating from their 18 data centers. For example, when they first deployed ACI in one of their data centers, the network operations team was soon inundated with more than 200,000 tickets. However, only a few of these events actually needed staff's attention. Because teams couldn't intelligently filter alarms, they had to spend significant time and effort sifting through them all. Further, these alarm storms threatened to significantly delay triage times.
- **Constrained visibility and context**. Without a unified solution, teams couldn't establish topological views to show relations between the underlay and overlay or between the existing network and new SDN-

## Customer Environment

- 18 worldwide data centers, along with multi-pod deployments
- 24 Cisco APIC clusters across several locations
- 1,200+ leaf and spine architectures
- 350,000+ endpoints
- 10% annual growth

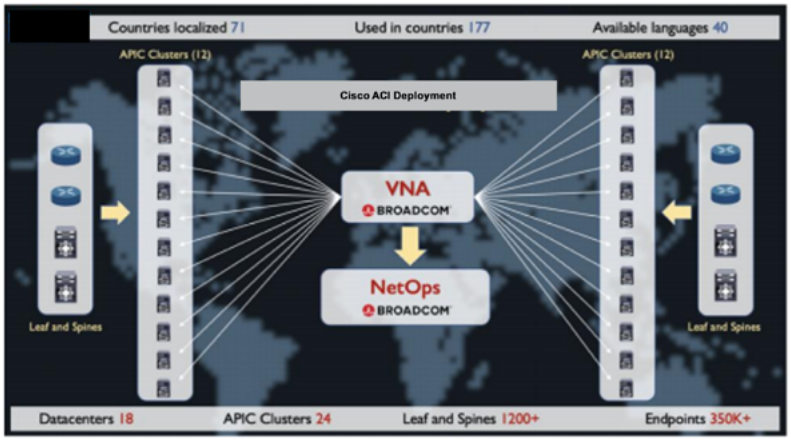


Figure A: The software company had a large, complex, and globally distributed network environment.

based data centers. They also couldn't track the impact of any event coming from either Cisco ACI's physical or virtual layer, nor could they effectively determine the root cause of issues.

- **Too many tools**. Technical teams lacked a centralized network operations solution that could effectively monitor the entire IT environment and full network stack. As result, they had to employ a number of disparate toolsets, which was costly and inefficient. Further, these disjointed tools made it difficult for various technical teams around the world to stay informed and collaborate on incident remediation.

Given all these challenges, the team couldn't scale their ACI monitoring capabilities to support the organization's growing networks and geographically distributed data centers. These challenges prompted the team to look for a solution that was scalable and reliable, and that could seamlessly integrate with third-party solutions.

## Customer Environment

This global software company uses Cisco ACI to quickly deploy new infrastructure. By accelerating processes and automating resource provisioning, the team can now ensure that infrastructure can be deployed across the world—within a few hours. To manage their Cisco ACI deployment, the team needed a monitoring solution that could support the following:

- 18 worldwide data centers, along with multi-pod deployments
- 24 Cisco APIC clusters across several locations
- 1,200+ leaf and spine architectures
- 350,000+ endpoints
- 10% annual growth

## Solution

This global software company started using DX NetOps to do monitoring of their SDN environments. The network operations team can now extend monitoring beyond the physical layer, and gain a holistic understanding of the relationships between virtual and logical components as well as legacy network devices. With the solution, they can centralize their monitoring visibility, establishing one high-scale operations monitoring portal that offers visibility across their entire network infrastructure.

**“When they first deployed ACI in one of their data centers, the network operations team was soon inundated with more than 200,000 tickets. However, only a few of these events actually needed staff’s attention.”**

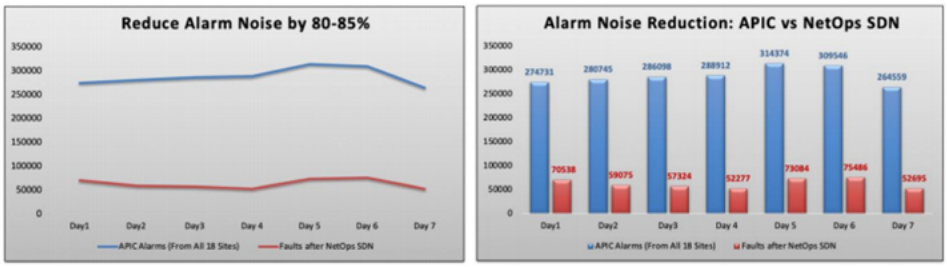


Figure B: With DX NetOps, the organization was able to reduce alarm noise by anywhere from 80-85%.

To full this company’s requirements, Broadcom made the following network monitoring enhancements to DX NetOps:

- **Full stack monitoring**. The solution delivers a unified view of Cisco ACI deployments, including overlay and underlay. Through the solution’s discovery processes, these views are connected to their legacy network. DX NetOps offers coverage of the entire ACI deployment, including inventory, alarms, status, and performance. By leveraging the solution’s network event correlation, technical teams can check, update, and track issues that have an impact on service delivery.
- **Support for all Cisco APIC controller faults**. DX NetOps can collect all the faults from Cisco APIC clusters. Additionally, technical teams can add, delete, and update patterns in DX NetOps to process the alarms of their choice when needed.
- **Enhanced filtering capabilities**. DX NetOps can filter out non-relevant events coming from Cisco APICs. With the solution, teams can use regular expressions to apply filters based on event codes, severities, and fault patterns. The solution also makes it easy to modify patterns if needed.
- **Historical events**. Now, the solution can be configured to process historical events by the number of days. User can choose an interval between 1 and 30 days.
- **Real-time discovery**. Through its improved Cisco ACI discovery, DX NetOps enables teams to filter out certain inventory types, such as endpoints, which helps reduce noise and unwanted items in topologies.
- **Increased scale**. DX NetOps offers the performance needed to monitor the organization’s large-scale Cisco ACI deployment. The solution can meet the current needs of network operations teams, and it can easily scale to support future network and business innovation.
- **Integrations**. DX NetOps integrates with third-party ticketing solutions, and makes it easy to share data and status updates with non-technical members.

## Results

DX NetOps offers this global software company a stable and reliable solution that reduces business risk. New and innovative functionality, together with scalability means that this company can also count on the solution for the long term. DX NetOps delivers these benefits:

- Complete visibility and control of data flows coming from their SDDC/SD-WAN deployments, as well as their traditional infrastructure.
- Faster and more efficient management of internal service tickets through enhanced event filtering.
- Improved network reliability metrics from 50% to 95%.
- Improved mean time to resolution (MTTR) by 65%.
- Reduced alarm noise by 80-85%.

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

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Broadcom Software is a world leader in business-critical software that modernizes, optimizes, and protects the world's most complex hybrid environments. With its engineering-centered culture, Broadcom Software has an extensive portfolio of industry-leading infrastructure and security software, including AIOps, Cybersecurity, Value Stream Management, DevOps, Mainframe, and Payment Security. Our software portfolio enables scalability, agility, and security for the largest global companies in the world.

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