CASE STUDY

Fujitsu

Fujitsu Reduces Alarm Noise by 70% with DX NetOps

Fujitsu

CLIENT PROFILE

Company: Fujitsu

Industry: Information Technology Services

Employees: 132,000

CHALLENGES

- Managing highly complex customer environments with thousands of devices, such as routers, switches, firewalls, load balancers, and more.

SOLUTION

- DX NetOps provides the team with high-scale operations monitoring, so they can more effectively ensure the availability of their infrastructure and customer services.

BENEFITS

- Realized a 70% alarm noise reduction
- Increased operational efficiencies
- Reduced total cost of ownership

Business

Fujitsu is a Japanese multinational information technology equipment and services company. Headquartered in Tokyo, Fujitsu has over 100 data centers worldwide. The company and its subsidiaries offer a diverse range of products and services in such areas as personal computing and enterprise computing, including x86, SPARC, and mainframe-compatible server products. In addition, the company offers storage products, telecommunications, advanced microelectronics, and air conditioning. Fujitsu has approximately 132,000 employees and its products and services are available in over 100 countries.

Challenges

Fujitsu in central Europe is a managed service provider that supports customers in a range of industries, including financial services, healthcare, manufacturing, automotive, and more. The team manages highly complex customer environments with thousands of devices, such as routers, switches, firewalls, load balancers, and more. In supporting these types of environments in their data centers in Germany, the team was confronting a number of challenges:

- They lacked a single-pane operational dashboard that customers and internal staff could use to monitor inventory, performance, and real-time network health.
- They didn't have a high-scale performance analysis solution that could store, analyze, and display the massive amounts of information they needed.

In order to ensure optimal service quality across large, complex, multi-technology, and multi-vendor network infrastructures, the team needed a new solution. Fujitsu staff sought to simplify and operationalize complex network environments—internet, customer access, internal access, and firewalls—both in customer facilities and Fujitsu data centers. They sought to provide network operations center (NOC) staff with more integrated and efficient tools, so engineers could access and triage incidents, without having to traverse through multiple consoles. They needed a reliable solution to manage customer and internal Fujitsu wireless LAN controllers and access points. In addition, the team sought to automate such business processes as customer onboarding.

Customer Environment

- 20 managed customers from financial, healthcare, manufacturing, and other industries
- Monitoring of more than 7,000 devices
- Support for more than 170,000 interfaces
- Analysis of 850,000 application flows

Solution

DX NetOps Spectrum for fault management provides Fujitsu in central Europe with enhanced stability for monitoring and alerting. With the solution, the team has been able to realize dramatic improvements in alarm noise reduction and root cause analysis, so it can speed mean time to resolution (MTTR).

DX NetOps Performance Management provides network performance analytics that offer advanced visibility into customer SLAs, so the team can intelligently track how Fujitsu is adhering to contractual agreements for network availability.

DX NetOps Network Flow Analysis equips Fujitsu in central Europe with enterprise-wide visibility into application traffic on every link and early detection of abnormal traffic patterns. With these capabilities, the team can quickly identify the source of performance problems, validate the impact of planned and unplanned changes within the network, and avoid unnecessary WAN costs.

DX NetOps Virtual Network Assurance reduced the challenges and risks associated with Fujitsu's software-defined networks (SDN) and network function virtualization (NFV) deployments. The monitoring solution delivers seamless visibility into Cisco (Viptela) SD-WAN environments. It also provides an automation solution for SD-WAN configurations and zero-touch provisioning.

The main components and roles of the DX NetOps solution in the Fujitsu central Europe environment are summarized below:

Component	Role
Fault/Availability Management	Health and availability monitoring via SNMP Event correlation and alerting Fault isolation and root cause analysis Integration with service desk Monitoring visibility into SDN environments
Capacity/Performance Analysis	Performance dashboards for SNMP devices Device availability Detecting interface errors Top talker interfaces (out) Top talker interfaces (in) Top talker CPU on network components Top talker memory on network components Abnormalities on interfaces Error counter versus utilization WAN interface report Jitter report Trend, interface, utilization, average On-demand/multi-metric trend report
Network Flow Analysis	Application traffic data flow collection Analysis and reporting
Management Interface/ Console	Central data lake to collect any unformatted data Analysis of log files Service views Capacity management
Service Management Connection to Service Desk/CMDB	Service desk system Connection to monitoring for automated ticket creation
Network Configuration Management (NCM)	Configuration monitoring and management Device configuration repository Configuration change tracking Compliance auditing

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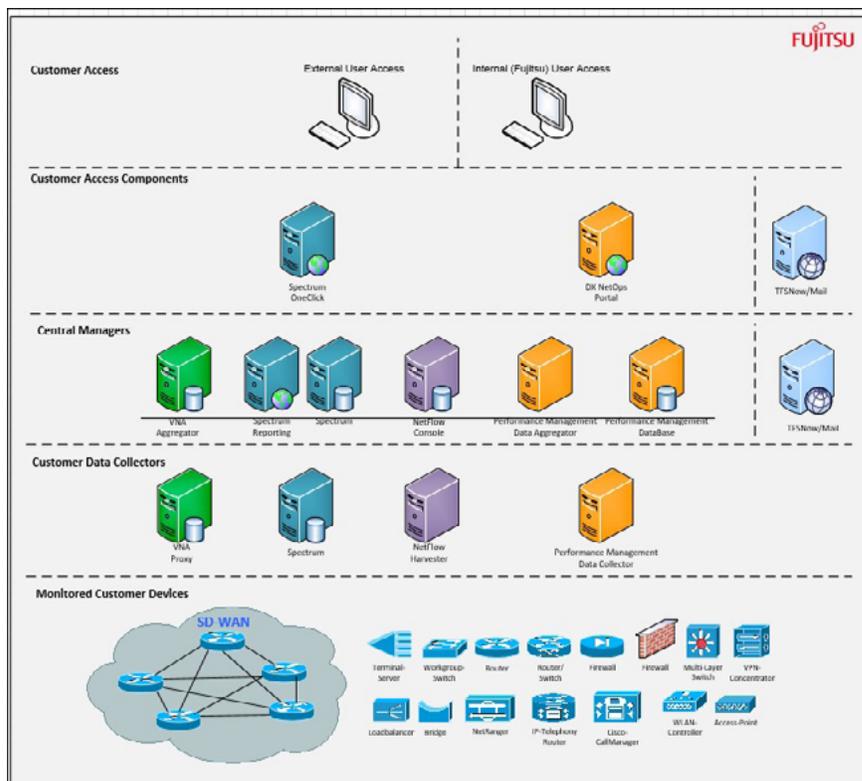
To support Fujitsu's success, Broadcom helped the organization realize the following monitoring enhancements:

• Realized a 70% alarm noise reduction, reducing hundreds of alarms per week to 5-10 alarms per week

• Enabled immediate topology visibility into hotspots of network degradation

• Offered optimal monitoring stability with zero downtime or platform issues

• Improved customer transparency of performance trending and capacity planning for network services offered

• Delivered flow monitoring for accurate identification of "outliers" and application-aware network impacts

• Provided advanced SLA monitoring to enable better adherence to customer contracts and improve customer confidence

• Enhanced network configuration management processes with a device confirmation repository, change tracking, and compliance auditing

Environment

Fujitsu in central Europe built a network operations center (NOC) for local customers. This NOC features a large DX NetOps deployment composed of the following elements:

• 24 DX NetOps Spectrum instances distributed throughout Fujitsu and customer data centers

• 24 DX NetOps Performance Management instances

- Four DX NetOps Virtual Network Assurance instances for SD-WAN monitoring
- Eight Network Flow Analysis instances

DX NetOps provides the team with high-scale operations monitoring, so they can more effectively ensure the availability of their entire infrastructure and their customer services. With their DX NetOps implementations, the team is able to support:

- 20 managed customers from financial, healthcare, manufacturing, and other industries
- Monitoring of more than 7,000 devices
- Support for more than 170,000 interfaces
- Analysis of 850,000 application flows

Results

Broadcom and Fujitsu in central Europe have been technology partners for more than 20 years. Through this partnership, Fujitsu has been able to realize increased operational efficiencies by improving monitoring processes, monitoring scale, and network configuration management practices. By delivering high-scale, single-pane network operations capabilities, DX NetOps helps Fujitsu lower their total cost of ownership and improve operational visibility. In addition, the solution has helped Fujitsu foster customer confidence by continually meeting SLAs and offering improved transparency by delivering reliable visibility into network performance, trending, and capacity planning.

Authors

Alexander Zäh is practice lead for ITOM/DCIM solutions and technical team lead for network monitoring at the Fujitsu network operations center for central Europe. In addition, he is a Fujitsu Distinguished Engineer. He has more than 25 years' experience in ITOM and DCIM projects around the full stack in these areas. For more than 20 years, Alexander has worked with the Broadcom product management team to successfully enhance the products based on real user experience and needs.

Nagesh Jaiswal is lead product manager for network operational intelligence in the AIOps solution, within the Enterprise Software Division at Broadcom. With more than 15 years of domain experience, he is very proud to have launched many successful solutions, helping to solve customer problems with new technology.

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