# CASE STUDY INSIGHTS: MICRO-SEGMENTATION TRANSFORMS SECURITY

## How Organizations Around the World Are Protecting Critical Data

vmware®

# The Growing Risk of Security Breaches

Data center breaches are nothing new—but they're happening more often, and doing more damage than ever before. As the toll rises, it's no wonder that IT professionals are investing in technology that allows them to move beyond perimeter protection to secure the data center from the inside out.

Many of them are choosing VMware NSX,® the market leading network virtualization platform that brings an inherently better security model to the data center.

***Let's find out why.***

# VMware NSX: Network Virtualization for the Software-Defined Data Center

VMware NSX delivers the operational model of a virtual machine for the data center network. It embeds networking and security services directly into the hypervisor, for unprecedented levels of flexibility and pervasiveness. Since everything is handled in software, security can be "attached" to individual virtual machines (VMs) in accordance with networking and security policies defined for each connected application.

When a VM is moved to another host, its networking and security services move with it. And when new VMs are created to scale an application, the necessary policies are dynamically applied to those VMs as well. The net result is a transformative approach to data center networking.

NSX accomplishes all of this through micro-segmentation, which is the use of fine-grained policies and network controls to enable security inside the data center, preventing the lateral spread of threats once they have overcome perimeter defenses. NSX makes micro-segmentation operationally feasible—overcoming the cost and resource limitations that made micro-segmentation impossible to implement with traditional hardware and software solutions.

# Micro-segmentation: The Key to Better Security

Once enabled by NSX, micro-segmentation provides flexible security policies all the way down to the individual workload by employing what Forrester calls a "Zero Trust" approach to security. And unlike physical or legacy virtual firewalls, it's agile, cost-effective, and easy to manage and maintain.

## How micro-segmentation benefits the business:

1. Minimizes the risk and impact of data center breaches
2. Automates IT service delivery and speeds up time to market
3. Simplifies network traffic flows
4. Enables advanced security service insertion, chaining, and traffic steering
5. Leverages existing infrastructure
6. Reduces capital expenditures
7. Lowers operating expenses
8. Securely enables business agility

# Micro-segmentation at Work

Micro-segmentation enabled by NSX is transforming security in data centers across industries and around the world. Browse these case study highlights to find out how these organizations are using it to achieve real results.

## Americas

- California Department of Water Resources
- A.T. Still University

## Europe, the Middle East, and Africa

- University of York

## Asia-Pacific Region

- Global Speech Networks

# California Department of Water Resources

The California Department of Water Resources supplies and manages water delivery systems for California, and provides flood protection, inspection, and management of water systems throughout the state. The department chose NSX to make their data center more agile to meet changing needs for these critical services.

| BEFORE | AFTER |
|---|---|
| Physical hardware imposed security limitations | Improved security with micro-segmentation |
| Service delivery was slow due to manual provisioning | Service delivery dropped from five days to 30 minutes |
| Day-to-day operations were complicated | Flexible, automated policies enabled simplified management and monitoring |
| Siloed infrastructure caused a lack of visibility | End-to-end data center visibility with single-pane management |

*"Micro-segmentation is key to our security posture, and now I can drop multiple applications in the same VLAN and disallow application services and servers to talk to each other."*

**TONY MORSHED**
CHIEF TECHNOLOGY OFFICER
CALIFORNIA DEPARTMENT OF WATER RESOURCES

# A.T. Still University

With locations in Missouri and Arizona, A.T. Still University (ATSU) provides education and learning facilities for future healthcare professionals. They serve over 3,000 students from 35 countries, and partner with 12 community health centers across the nation. They implemented NSX with the goal of creating a cost-effective security solution that enabled them to meet HIPAA compliance requirements and become more agile.

| BEFORE | AFTER |
|---|---|
| Expensive physical firewalls were nearing end-of-life | Capital and operating costs were significantly reduced |
| A distributed multi-data center environment created complexity | Automation enabled simplified management and greater productivity |
| Sluggish application performance | Application performance improved greatly |
| Different security requirements for university and healthcare facilities | Distributed firewall can dynamically contract or expand based on needs |

*"Not only do we save a significant amount of money in hardware costs, the micro-segmentation available through VMware NSX provides a dramatically more secure design than we could get with a physical firewall with separate DMZs."*

**IAIN LEITER**
NETWORK ENGINEER
A.T. STILL UNIVERSITY

# University of York

University of York is a world-leading, research-intensive university with over 18,000 full-time students; 3,500 staff members; and over 800 virtual machines that support many of the university's critical operations. It invested in NSX to meet the needs of technology-dependent users quickly—without compromising sensitive data.

| BEFORE | AFTER |
|---|---|
| Network and security bottlenecks slowed down performance | Self-service portal eliminates bottlenecks |
| Physical hardware provided insufficient security | Micro-segmentation enables security at the hypervisor level |
| Management was complex and time-consuming | Automation allows for easier, faster management |

*"With micro-segmentation, we have complete control over the individual workloads, and can automate specific security protocols at the hypervisor level—improving the traditional hard perimeter model of data centre security."*

**DR. ARTHUR CLUNES**
ASSISTANT DIRECTOR OF IT SERVICES
UNIVERSITY OF YORK

# Global Speech Networks

Global Speech Networks (GSN) is a contact center cloud provider based in Australia. Adopting virtualization is seen as a risky move for telecommunications-focused companies, which gave GSN an advantage when they moved to NSX. The company chose NSX in large part for its ability to enable micro-segmentation for better control and security.

| BEFORE | AFTER |
|---|---|
| Outdated perimeter-centric security didn't provide adequate protection | Micro-segmentation isolates multi-tenant networks, ensuring customer data is secure |
| Complex infrastructure led to high management costs | Ability to run NSX on top of existing technology stacks lowers costs |
| Outdated processes made application deployment slow | SDN architecture provides the ability to make changes quickly when needed |

*"In the past, those who wanted a data center solution went out and bought the hardware and software and were then tied to it. Now they can have platform-agnostic technology."*

**BLAKE DOUGLAS**
TECHNICAL OPERATIONS LEAD
GLOBAL SPEECH NETWORKS

# Conclusion

Micro-segmentation has always been an exciting concept, but it hasn't always been possible. Thanks to the NSX network virtualization platform, micro-segmentation is helping organizations around the world fight back against sophisticated, modern security threats. Better security isn't only a bonus for IT—it also benefits the entire business, helping improve customer satisfaction and delivering a competitive advantage.

VMware NSX is the network virtualization solution built for the Software-Defined Data Center (SDDC). It takes networking beyond traditional capabilities, supporting a wide range of use cases. With NSX, you don't have to compromise on cost, security, or agility—rather, you get the best tools for the best price, from the industry leader in virtualization technology.

**GET STARTED TODAY**

Learn more about VMware NSX >

Get expert training on network virtualization >

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