NETSCOUT

Accelerate Cloud Migration With NETSCOUT Visibility Across NSX-T and VMware Cloud on AWS

Troubleshoot and Triage Root-Cause of Service Issues in Highly Distributed Hybrid Cloud Infrastructure

OVERVIEW

The Challenge

- Migrating ninety percent of application workloads to VMC on AWS and native AWS VPCs without causing service disruptions

- Different services running across highly distributed hybrid infrastructure made troubleshooting and triaging difficult

- IT team unable to understand true root-cause of issues

The Solution

- vSTREAM™ software appliances integrated with NSX-T and interoperable with AWS VPC Traffic Mirroring

- Virtual nGeniusONE® providing a single-pane-of-glass for end-to-end visibility into service health

- InfiniStream® appliances for monitoring N/S traffic across the hybrid-cloud

- Arbor Edge Defense (AED) for DDoS and Cyberthreat protection at the network edge

The Results

- IT able to proactively monitor and troubleshoot application performance in hybrid cloud and VMware Cloud on AWS

- Reduced MTTR by more than 80%

- Lowered OPEX expenses

- Higher service quality


Customer Profile

This large Fortune 500 financial services corporation serves millions of consumers across the U.S. An iconic leader in its industry, the company has revenues in the billions of dollars.

The Challenge

As a major financial services organization, this company relies on its network and data center for vital customer services. Any disruptions within the infrastructure can have significant consequences to the business and the marketplace. The organization had originally deployed VMware's Software Defined Datacenter (SDDC) in their co-located datacenter where all infrastructure is virtualized and delivered as a service. To address the company's growing technology needs as part of its digital transformation initiative, the IT organization was tasked with migrating workloads to AWS. As a result of this initiative, ninety percent of the organization's applications were moved into VMware cloud (VMC) on AWS.

The company retained two main collocated private cloud facilities; the primary being in Virginia and the secondary in Ohio, used for redundancy purposes, while VMC on AWS is the company's public cloud. The VMC deployment involves 20 production SDDCs deployed in 10 VPCs and running thousands of VMs spread across two regions, US-East-1 and US-East-2. Beyond VMC on AWS, the company also has production running in the traditional infrastructure as a service VPC, as well as in Amazon Elastic Containers Service (ECS).

Because the company was running different services across a highly distributed hybrid infrastructure, IT was faced with challenges in troubleshooting and triaging the root-cause of service issues. While the IT team was able to see the packet loss and retransmission across the SDDCs in VMC on AWS using their native management tool, they did not have the ability to understand the true root cause of these issues.

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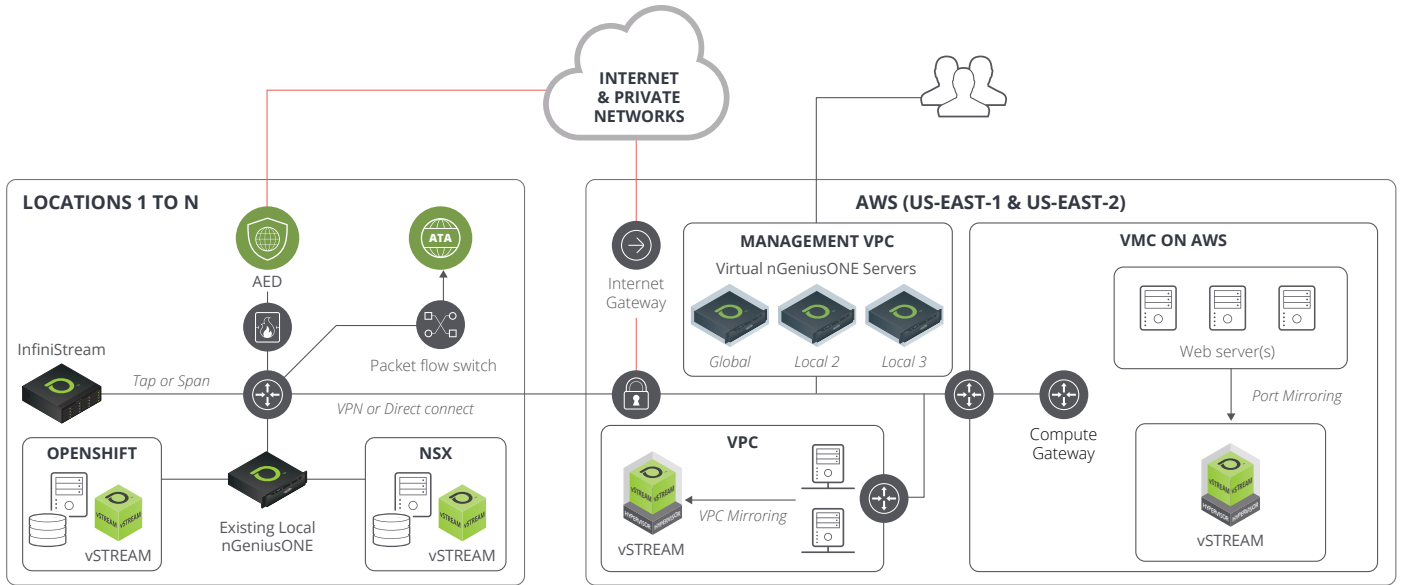
Since services are comprised of multiple elements, including application, network, databases, and service enablers (such as DNS, DHCP, AAA and more), even when the IT organization was able to identify that the packet loss was happening across a specific VPN between AWS and private cloud, it was impossible to pinpoint the actual root cause of this issue and identify the IT owner of the service element that was causing the problem. This caused tremendous delays in troubleshooting of service performance issues and slowed down the application migration to VMC on AWS.

The problem was further exacerbated by the complexity of the geographically distributed and highly complex hybrid multi-cloud infrastructure comprised of NSX, OpenShift, VMC on AWS with multiple SDDCs, multiple native VPCs in AWS with a mixture of AMIs, Amazon ECS, and more.

Solution in Action

The financial services organization turned to NETSCOUT® to provide the visibility needed to accelerate the company's migration to the cloud and ensure the success of its digital transformation.

The solution, which requires service monitoring before, during and after workload migration, relies on effectively acquiring both North/South (N/S) and East/West (E/W) traffic across each and every domain in the company's complex hybrid multi-cloud environment. NETSCOUT is integrated with NSX-T and our service assurance solution for NSX is certified as VMware Ready for Networking and Security. Furthermore, the NETSCOUT solution is interoperable with AWS VPC Traffic Mirroring and VPC Ingress Routing technologies, which facilitates effective acquisition of N/S and E/W traffic in VMC on AWS and AWS native VPCs. This traffic is converted into Smart Data, which is leveraged for actionable intelligence to proactively detect service degradations and troubleshoot them effectively, reducing the MTTR by more than 80 percent. NETSCOUT provides pervasive software-centric instrumentation that continuously processes traffic flows at the source in real-time to deliver complete insight across the entire service stack, including applications, infrastructure and their respective interdependencies – before, during and after workload migration.

The implementation was comprised of:

In the private clouds/co-los, NETSCOUT deployed:

- **InfiniStream appliances** to monitor N/S traffic
- **vSTREAM** to monitor E/W traffic in NSX and OpenShift providing the most relevant indicators for consistent real-time application-centric visibility and troubleshooting into all services

- **Local nGeniusONE** for private cloud monitoring, providing rapid, clear insights into service performance across the entire IT environment from the network, application, and user community perspective, allowing IT to rapidly triage issues and assure service quality from a single platform
- **Arbor Edge Defense (AED)**, which is uniquely positioned on the network edge, lying outside the company's firewall, serving as the first and last line of defense against multiple types of inbound and outbound cyber threats and Distributed Denial of Service (DDos) attacks

In the public AWS cloud, NETSCOUT deployed:

- **vSTREAM** to monitor E/W traffic in SDDCs deployed in VMC on AWS, delivering application visibility, troubleshooting, and assurance directly from the hypervisor
- **Virtual nGeniusONE**, both as local and global monitoring, providing a single-pane-of-glass for end-to-end visibility into service health across the company's entire infrastructure
- **vSTREAMs** to monitor E/W traffic in VPCs using AWS native VPC Traffic Mirroring
- **vSTREAMs** to monitor E/W traffic in ECS environments

The Results

NETSCOUT's solution has allowed the financial services organization's IT team to gain much needed visibility into applications running on its complex hybrid cloud infrastructure, including being able to proactively monitor and troubleshoot application performance in VMware Cloud on AWS. NETSCOUT simplifies the complexity associated with service monitoring in the cloud environment. This advanced solution is highly efficient at acquiring both E/W and N/S traffic data.

The IT team is now able to migrate workloads to the cloud, as required by business needs, with confidence from a single platform instead of using multiple point tools that require extensive manual correlation of data, which is both time consuming and prone to errors. With NETSCOUT, this customer was able to measure user experience across their hybrid multi-cloud infrastructure through a single pane of glass – nGeniusONE.

By using the NETSCOUT solution, the organization has achieved important benefits, including:

- Reduced MTTR by more than 80 percent
- Lowered OPEX expenses
- Higher service quality

The NETSCOUT / VMware Partnership

NETSCOUT Systems, Inc. is an Elite tier member of the VMware Technology Alliance Partner (TAP) Program. Learn more about the partnership and how NETSCOUT delivers and deploys end-to-end application-centric visibility with service assurance.

vmware® READY — NETWORKING AND SECURITY

PARTNER READY — VMWARE CLOUD ON AWS

The NETSCOUT / Amazon Web Services (AWS) Partnership

NETSCOUT is an Advanced Amazon Web Services (AWS) partner with Networking competency. Learn more about the partnership and how enterprise organizations find, buy, and immediately start using the application performance management solutions for AWS from NETSCOUT.

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NETSCOUT®

Corporate Headquarters
NETSCOUT Systems, Inc.
Westford, MA 01886-4105
Phone: +1 978-614-4000
www.netscout.com

Sales Information
Toll Free US: 800-309-4804
(International numbers below)

Product Support
Toll Free US: 888-357-7667
(International numbers below)

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