

Mac IaaS Leader Automates and Simplifies Day 2 Ops with Cisco Software-Defined Infrastructure and Unified Tooling

MacStadium Inc. · Industry: IT services · Size: 100+ employees · Location: Atlanta, Georgia

MacStadium Inc. provides private cloud solutions built on Apple infrastructure to organizations around the world. Powered by MacStadium, Orchestration with Kubernetes on Apple (Orka) is the only virtualization layer for Mac infrastructure that is based on Docker and Kubernetes technology. For more information, visit www.macstadium.com.



Challenges

- Align infrastructure across multiple data centers
- Boost operational efficiency and speed
- Increase data center automation and insights

Results

- Established multi-site connectivity and orchestration
- Accelerated data center deployments and troubleshooting
- Improved infrastructure management, visibility, and assurance

Solutions

- Cisco Nexus® 9000 Series switches
- Cisco® Data Center Network Manager (DCNM)
- Cisco Nexus Dashboard
- Cisco Nexus Insights
- Cisco Network Assurance Engine (NAE)
- Cisco UCS® servers
- Cisco Intersight™ Infrastructure Service

For more information

- [Cisco Nexus 9000](#)
- [Cisco DCNM](#)
- [Cisco Nexus Dashboard](#)
- [Cisco Nexus Insights](#)
- [Cisco NAE](#)
- [Cisco UCS servers](#)
- [Cisco Intersight](#)

Challenge: Simplify data center Day 2 operations

With heavy demand for enterprise-grade Apple Mac infrastructure, MacStadium's rocket-like ascent in the IaaS industry has been swift and dramatic. What started with a single data center in 2012 has expanded across the United States and even overseas to Ireland and Germany.

"We keep outgrowing physical spaces," says Khoa Tran, network architect at MacStadium, noting the company's eight colocation facilities in three countries. "So, we need to be efficient in how we connect and manage all of our gear."

To do so, MacStadium established a Virtual Extensible LAN (VXLAN) Ethernet Virtual Private Network (EVPN) using Cisco Nexus 9000 Series switches. Leveraging a multi-site design, the VXLAN EVPN links the company's infrastructure within each colocation facility and across multiple facilities in Atlanta and Silicon Valley.

"We have about 650 Cisco Nexus 9000s total," Tran says. "They're extremely reliable, and they allow us to stretch L2 and L3 between data centers for multi-site connectivity and configuration."

MacStadium also deployed 68 Cisco UCS blade servers to boost data center performance and increase the alignment and manageability of its compute and network resources.

With its VXLAN EVPN and new server environment up and running, the company is now working to simplify and streamline its data center Day 2 operations.

"We're introducing more software-defined automation to reduce manual tasks, minimize human errors, and accelerate provisioning," says Preston Lasebikan, systems architect at MacStadium.

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Systems Architect, MacStadium





Increasing data center automation and insights

MacStadium is using Cisco DCNM to centrally manage its facility-spanning infrastructure resources. A comprehensive management platform, Cisco DCNM provides fabric-oriented configuration, automation, and control for NX-OS network deployments.

“We use Cisco DCNM to automate and orchestrate our top of rack switches” says Tran. “And we’re looking forward to using Cisco Nexus Dashboard, which unifies key operational tools across all of our network fabrics and data centers.”

Those tools include Cisco Network Insights Advisor (NIA) and Cisco Network Insights for Resources (NIR), which are already unified as part of Cisco Nexus Insights 5.0. MacStadium also plans to use Cisco Network Assurance Engine (NAE), which will be added to the Cisco Nexus Insights platform in 2021.

“Cisco Nexus Insights gives us a deep view of hardware telemetry and network health, and it helps with security compliance,” Tran notes. “NAE provides alerts when problems or misconfigurations are detected in the network, with a historical view of what happened, where and when it happened, and how to resolve the issue.”

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Khoa Tran
Network Architect,
MacStadium

Because MacStadium’s “infrastructure-as-code” is automated with Ansible and Terraform scripts, those resolutions are faster and easier than ever before.

“It’s wildly simpler,” Lasebikan says, noting the use of Cisco Intersight to manage MacStadium’s server environment. “In the past, we had to involve multiple teams and physically go down to the hardware to do all of the configurations and troubleshooting. Now I can reconnect a host from anywhere using my iPad, and I don’t have to reconfigure anything because we’re using profiles and scripts. It takes minutes instead of hours or days.”

“Speed and reliability are the keys to winning business,” Tran notes. “Since we implemented these Cisco technologies, we’ve been able to deploy new client environments faster than the identified delivery date, and we haven’t had a single outage.”

Learn more about Cisco data center [computing](#) and [networking](#) customer deployments.



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