

Network performance and automation essential for growing enterprise storage maker

Infinidat · Industry: Data storage · Size: 500+ employees globally · Location: Herzliya, Israel

Infinidat was founded in 2011 by a team of storage industry experts focused on returning business value to customers by eliminating the compromises between performance, availability, and cost for enterprise storage at multi-petabyte scale. Infinidat has become the industry leader in multi-petabyte storage by developing a better way to store and protect data, with a single goal in mind—enable customers to spend less on infrastructure and focus more on innovation, growth, and competitive advantage.

For more information, visit infinidat.com.

INFINIDAT

Challenges

- Deliver networks capable of driving every port at wirespeed
- Automate network operations to support a dynamic product testing environment
- Enable R&D and test teams to integrate networking capabilities

Solutions

- Cisco Nexus® 9000 Series switches
- Cisco Data Center Network Manager (DCNM)

Results

- Deployed complete fabric solution in under two months
- Enabled nondisruptive network maintenance
- Grew the network environment without growing the team

For more information

- [Cisco Nexus® 9000 Series Switches](#)
- [Cisco Data Center Network Manager](#)

Challenge: Support a dynamic test environment operating at wirespeed

In its mission to manufacture storage systems that satisfy enterprise performance and availability needs in an era of unprecedented data growth, Infinidat pushes the limits of networking technology. Each of the company's new software releases has to be extensively tested against all of Infinidat's current and past storage system models.

"To deliver products that meet the growing requirements of our customers, we need a network environment that allows us to push our storage systems to their limits," says Gregory Shulov, director of global IT at Infinidat. "Our test environments are dynamic, so every network port must be able to connect with every other port at wirespeed with full traffic visibility. Because changes are frequent, our team has to be able to manage everything programmatically. That's what Cisco gives us."

Delivering higher service levels

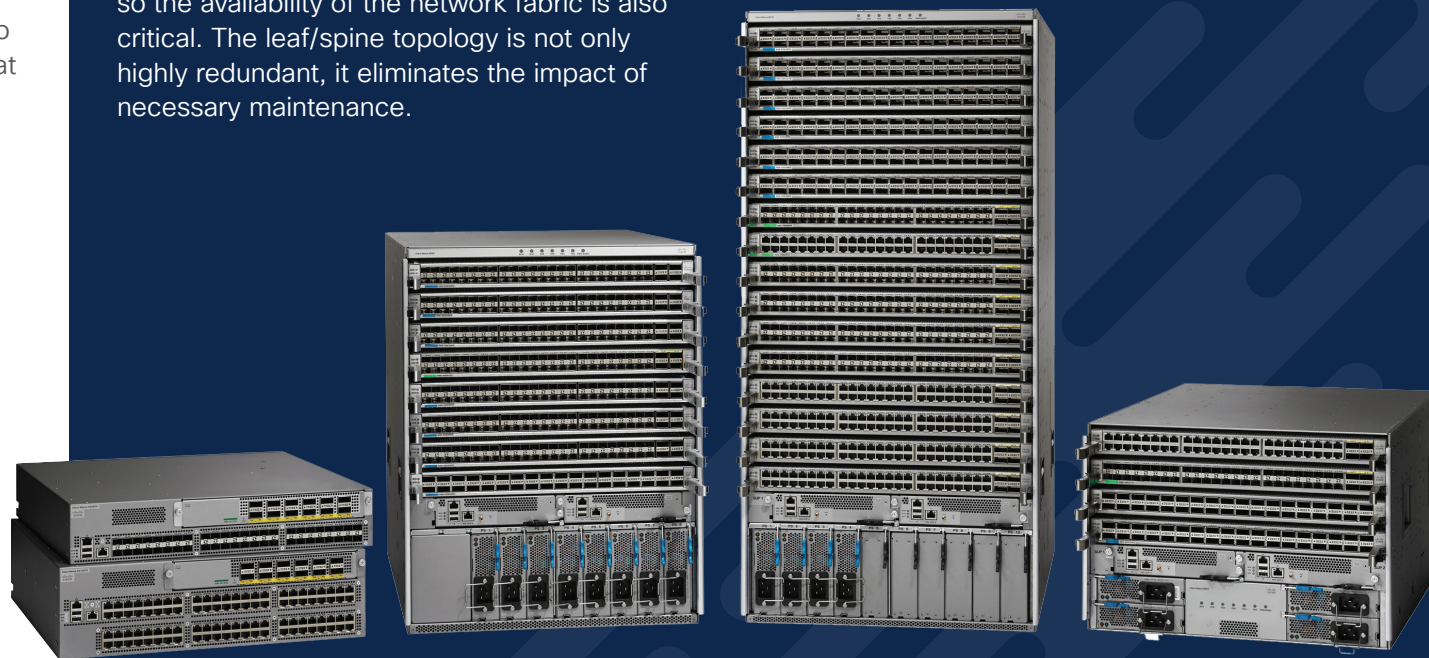
Because the latest Infinidat storage systems can saturate all twelve of their 25GbE interfaces simultaneously, fast networking is essential for successful system testing. To deliver the necessary network performance, Infinidat migrated its data center and lab networks to a leaf/spine topology using Cisco Nexus 9000 Series switches. The new topology delivers wirespeed port-to-port connectivity. Leaf switches currently use 25GbE links, with 100GbE spine interconnects to avoid blocking. The Cisco Nexus 9000 fabric is upgradable to support higher speeds when it becomes necessary.

Some stress tests run for months at a time, so the availability of the network fabric is also critical. The leaf/spine topology is not only highly redundant, it eliminates the impact of necessary maintenance.

"Prior to the architectural change, it was difficult to schedule any type of network maintenance," explains Shulov. "Now we can do maintenance and upgrade network software with minimal impact, and we can control all updates programmatically rather than having to do them manually."

Another reason that Infinidat chose the Cisco solution is that a large percentage of its customers use Cisco networking in their own data centers.

"Our network infrastructure for testing has to be as close to our customers' environments as possible," explains Shulov. "We use Cisco because it is the de facto standard."



Accelerating deployment

The prospect of migrating a large data center to a new network topology is always daunting, but the Infinidat team was able to come up to speed and complete the migration quickly.

“We deployed the entire solution without the help of an integrator in less than three weeks from the time we received the equipment with no formal training,” comments Shulov. “We learned enough from the Cisco team during our lab evaluation to understand how to build the fabric. The full network environment was in production in less than two months.”

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Director of Global IT, Infinidat



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Automating network operations

In conjunction with its Cisco Nexus 9000 Series switches, Infinidat deployed Cisco Data Center Network Manager. Cisco DCNM combines automation and management capabilities with in-depth visibility and monitoring, giving the network team the tools to manage a dynamic environment.

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With DCNM, the team can now automate the deployment of new switches as they are added and make configuration changes programmatically.

“Prior to DCNM we had to manage all switches manually, following written procedures to make VLAN changes or configure port channels,” says Shulov. “Now Python scripts communicate with DCNM to accomplish these tasks almost instantly. It’s very straightforward and reduces the chance of human error. Even untrained personnel can do basic operations on the fabric. As a result, we haven’t had to grow the networking team to keep up.”

The company has an interoperability team that ensures that Infinidat storage works as expected with products from other vendors such as Oracle and SAP. The team uses Python scripting and DCNM to automate interoperability testing.

Preparing for the future

The next step for Infinidat is to enable its QA and R&D teams to use DCNM automation to integrate networking functions into their processes. The goal is to allow the teams to make necessary configuration changes automatically as part of the test setup. They will also be able to simulate failure modes by taking ports offline and introducing configuration errors.

“Our networks must enable us to test the limits of Infinidat storage systems as they continue to grow in capacity, connectivity, and performance,” says Shulov. “The Cisco solution not only gives us the tools we need today, it can grow along with our needs. Cisco is a highly valued partner.”



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