

INFRASTRUCTURE-AS-A-SERVICE COMPANY SIMPLIFIES ITS DATA CENTER



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Cisco ACI will accelerate productivity at NetApp's new global research and development lab.

When computer storage and data management vendor NetApp built its second Global Dynamic Lab (GDL 2.0) at its Research Triangle Park, North Carolina-based, 155,000 square foot research and development facility, the company was looking for a solution that simplified data center operations. The Cisco® Application Centric Infrastructure (Cisco ACI™) does just that.

Al Lawlis, NetApp's senior director of engineering services, said the company assessed various solutions, but its strategy was to build on the next-generation Cisco Nexus® 9300 and 9500 switches—a key component of Cisco ACI, a solution that also features the Cisco Application Policy Infrastructure Controller (APIC).

GDL 2.0 is a 25 million watt facility that features almost 2300 racks of equipment and is powered by the Intel® Xeon® processor-based Cisco Unified Computing System™, so getting the right solution for a facility of this scope was imperative.

Cisco ACI fit the team's needs, Lawlis says. "Our engineering services organization acts as a service provider for NetApp's engineering teams worldwide and we intend to use Cisco ACI along with OpenStack to implement profile-based automation for our infrastructure," he says. The advantage here is that teams will be able to select resources and services from a catalog, then click and deploy infrastructure-as-a-service in minutes or hours, he says.

The NetApp Engineering Services Team—one of the first adopters of the solution—will experience improvements in the density of throughput and cost per port thanks to hardware upgrades enabled by Cisco ACI. The result: increased productivity of the infrastructure.

The architecture adds an extra layer of capabilities for the engineering team, which started deploying the solution in the spring of 2014. Cisco ACI brings stability to its testing environment, improved analysis of its operations, enhanced self-service, and converged network management.

The NetApp lab has always been set up as an entirely routable entity, Lawlis explains.

"With ACI policy management and service permissions, we will have integrated visibility and intelligence into what is happening in the network," he says. "When we have application or tenant issues, we want to know the exact traffic information per tenant in the fabric."

Lawlis also anticipates improved visibility and telemetry for services running within its data center. Cisco ACI's approach aligns with NetApp's vision to make data centers more agile, secure, and responsive. "One of the basic tenets of NetApp's storage operating system, clustered Data ONTAP, is that data is not bound to any single storage controller and is free to move around without disruption to the data access," Lawlis explains.

"This approach is very consistent with the agility enablement of the entire application infrastructure stack provided by ACI."

RUNNING A TIGHTER SHOP

Cisco ACI should save Lawlis's team plenty of time. For instance, the architecture will help NetApp's recent initiative to free up the services team by adding user self-service tools. "ACI, with its clean interface and its policy-based orchestration, will enable the development of many more self-service capabilities," he says.

Everything will be deployed faster, “as it removes my central services team from the critical path of thousands of development and quality assurance engineers worldwide,” Lawlis notes.

“We expect there will be significant increases in speed and productivity. ACI’s policy and ACLs [access control lists] will create the environment for us to run a tighter shop.”

Lawlis expects that application policy-based central services will make the triage and forensic investigation his team does much easier to understand while dramatically speeding up the change management process, because everything can be logically viewed from an application perspective.

MANAGE APPLICATIONS, NOT INFRASTRUCTURE

“By going above the infrastructure level right up to the application level, ACI is the ideal impetus to a converged network,” Lawlis says. He believes that managing a data center as a means for providing an environment for an application makes more sense than managing the network, storage, virtualization, and compute resources separately.

“People and organizations need to embrace the concept of managing applications through converged, multidisciplinary teams of engineers and admins,” he advises. “This will challenge many organizations that are organized along silos aligned to various infrastructure types, such as storage, virtualization, compute, network, and network services,” he adds.

Lawlis has already consolidated his team, and advises potential Cisco ACI customers to consider following suit. Until those silos are broken down, he says, “organizations are not going to be able to really scale the way that ACI enables.”

For more on Cisco ACI ecosystem partners and to qualify for a [starter kit](#), visit the [Cisco ACI resource page at UnleashingIT.com](#).

I SCALE MODEL

One of the unique aspects of the Cisco ACI deployment being undertaken by Wayne, Pennsylvania-based managed IT, cloud, and recovery services provider Sungard® Availability Services™ (Sungard AS) is that its very business model relies on the provisioning of applications.

The company’s cloud engineering team, which provides infrastructure-as-a-service to its customers, is currently undergoing a platform refresh, and it was Cisco ACI’s ability to scale that really caught the attention of Nik Weidenbacher, senior director, cloud engineering, Sungard AS.

“Having a 40-gig leap in spine architecture is huge for us. When our sales team brings a new customer to us, we don’t know in advance what those workloads are going to be. So the ability to scale and grow as our customers’ workloads grow and we get new customers is a big advantage,” he says.

“ACI supports concurrency in a multitenant environment so our customers can deploy apps anytime and ACI handles them simultaneously. I haven’t seen that in other architectures,” Weidenbacher adds.

The agility and speed Cisco ACI helps drive were also big selling features, says Simon Withers, vice president, infrastructure-as-a-service management, Sungard AS. “We’re better able to facilitate rapid systems integration and customization for network services, monitoring, management, and orchestration, delivering flexibility and availability to our customers,” he explains.

Sungard AS was seeking a more agile solution with automation features to help facilitate improved self-service functionality, Weidenbacher says.

“We have a self-service provisioning feature on our platform, so customers using the web portal can create their environments on the fly at any time. So we need to be able to support that seamlessly.”

Open to openness

Weidenbacher lauds the openness of the architecture, which seamlessly integrates into the company’s orchestration system (CloudStack) and delivers automation functionality between the Cisco APIC and the network infrastructure.

Beyond CloudStack, Withers says Cisco ACI will also integrate into other open orchestration systems like OpenStack. “This gives our customers flexibility in choice, features, and functions,” he says. “It’s a solid foundation to develop holistic architecture capabilities,” Withers adds.

WATCH THE VIDEO

To learn more about Sungard AS’s use of Cisco ACI, see the Q&A video available on the [Cisco ACI resource page at UnleashingIT.com](#).

This article first appeared in *Unleashing IT* Volume 3, Issue 4, and online at www.unleashingit.com, available after subscribing at www.unleashingit.com/LogIn.aspx.

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