University Grows Capacity with New Data Center Platform

Cisco Services helps Elon University deploy Cisco UCS for greater scalability and manageability while saving energy.

EXECUTIVE SUMMARY

ELON UNIVERSITY

- Higher Education
- Elon, North Carolina USA
- 358 faculty; approx. 5700 students

CHALLENGE

- Replace aging server equipment and grow capacity
- Reduce energy and footprint of servers inat-capacity data center
- Improve manageability and control of virtualized environment

SOLUTION

- Cisco Unified Computing System delivers more scalable, energy-efficient platform
- Cisco Nexus 1000V Switches enhance networking capabilities within VMware environment
- Cisco Services provides in-depth UCS expertise and hands-on knowledge transfer

RESULTS

- Increased capacity significantly while reducing data center energy and cooling requirements
- Eliminated as many as 75 additional, disparate physical servers throughout campus
- Improved manageability of infrastructure and accelerated provisioning of new servers

Challenge

Founded in 1889, Elon University is an independent, private university renowned for its excellence in the liberal arts and sciences and professional studies. Guided by its strategic plan, The Elon Commitment, the university is moving closer to its goal of being a nationally-prominent university, expanding on its reputation as a leader in student engagement and strong academic programs.

To support the university in meeting its academic and operational goals, Elon's IT department moved its mission-critical services onto a fully virtualized infrastructure, using 12 physical servers in its data center. By 2010, however, the majority of these rack-mounted servers were scheduled to go out of warranty. At the same time, the decision was made to virtualize the remaining non-mission-critical servers located around campus. To Tony Rose, assistant director for IS & T for systems administration at Elon, the time seemed ripe to move to a more scalable, energy-efficient infrastructure, especially in light of the university wide commitment to sustainability.

Elon recognized the advantages of deploying Cisco Unified Computing System (UCS) for a unified networking, storage, computing, and virtualization platform. "Our considerable investment in Cisco networking technology and our mature VMware environment made Cisco UCS a natural fit for us," says Rose. Jerry Williams, a systems administrator at Elon, adds, "A major factor in our decision was the fact that we already had VMware for virtualization and EMC as our storage-area network (SAN) and these two vendors worked together with Cisco on the development of UCS."

Solution

For help in deploying the four Cisco UCS chassis it purchased and getting its IT team quickly up to speed on the new equipment, Elon turned to Cisco Services. A subject matter expert (SME) from Cisco Services worked onsite with the Elon IT staff to assist them in installing and configuring UCS chassis. The installation process went so smoothly that instead of the planned 10 days of onsite assistance, everything was completed in only seven days. "The Cisco SME was great. He gave us the guidance we needed to implement UCS correctly. And when he left, there wasn't a single unanswered question," says Greg Colby, also a systems administrator at Elon.

In addition to Cisco UCSB200 Blade Servers, Elon also installed Cisco Nexus 1000V Series Switches. “We chose the Nexus 1000V to put the network back into the hands of our networking experts. These switches provide the visibility and control they need to manage the network within our virtualized environment,” says Colby. Now Elon can take greater advantage of the capabilities within VMware for improved network scalability and manageability.

Today, Elon runs virtually all of its mission-critical systems on the UCS platform, including Microsoft Active Directory, web servers, Microsoft Exchange Server, SQL databases, Microsoft Windows clustering, file storage servers, and application servers hosting various applications.

> “Elon has truly become a 24x7 institution and we’ve created a state-of-the-art data center that supports that now and as we continue to grow.”
> **– Tony Rose, Assistant Director for IS & T for Systems Administration, Elon University**

Results

Rose and his team are so delighted with the benefits they are getting with the Cisco UCS environment that it is hard for them to pick the top benefit. However, increased manageability comes to mind first. “It really makes our lives so much easier,” says Colby. “We don’t have to spend time dealing with hardware anymore. We don’t have to worry about power, cabling, or adding any ports. Provisioning a new server is as simple as turning it on.”

The substantial increase in capacity and simultaneous reduction in energy and space requirements are also major benefits. “We were getting very close to our maximum allowed amperage and cooling power in our data center,” says Williams. “Now we only use about a quarter of the footprint we had before with almost triple the servers. At the same time, our energy use has gone down tremendously compared to the previous servers and we’ve increased our ability to grow while achieving these green benefits. We can easily double our capacity and still be well within our data center threshold.”

This increased capacity is enabling the Elon IT team to pull the plug on the remaining physical servers currently outside the data center. “By moving applications running on non-mission-critical servers in other departments, roughly 50–75 servers located around campus, we will save the significant expense of the energy costs and physical space currently used,” says Rose. “We will also be able to provide redundancy, which these servers never had.”

Next Steps

With the move to the UCS platform successfully under its belt, Elon is now piloting a virtual desktop infrastructure (VDI) solution that will enable centralized management of hundreds of desktops located in various labs throughout the campus. Cisco UCS will form the heart of the new VDI infrastructure as well as a new disaster recovery site on campus.

PRODUCTS AND SERVICES

Product List

- Cisco Nexus 1000V Switch
- Cisco Unified Computing System (UCS)
  - Cisco UCS B200 Series Blade Servers

Services List

- Cisco UCS Concepts and Configuration Service

With its progressive use of virtualization, Elon’s IT organization is delivering the always-on capabilities needed to support Elon’s core mission of providing engaged learning. “Elon has truly become a 24x7 institution and we’re creating a state-of-the-art data center that supports that now and as we continue to grow,” says Rose.

For More Information

To find out more about Cisco Services, visit: www.cisco.com/go/services.

To find out more about Cisco Data Center Solutions, visit: www.cisco.com/go/datacenter.

To learn more about Elon University, visit: www.elon.edu

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