

COLLEGE BUILDS SECURE MULTITENANT CLOUD

Claremont McKenna College Implemented Vblock™ Infrastructure
Platforms in new campus data center.

Executive Summary

Claremont McKenna College
Higher Education
Claremont, California
1200 Students

Challenge

- Increase IT efficiency
- Support computing needs in joint science lab
- Prepare for disaster recovery

Solution

- Vblock 0 system

Results

- Saved IT staff time through automated provisioning
- Increased security by reducing rogue websites
- Built foundation for cloud-based disaster recovery program

Challenge

A highly selective private liberal arts college, Claremont McKenna College (CMC) is part of a seven-college community in Southern California known as The Claremont Colleges, a system modeled after England's Oxford University. Founded in 1946, CMC enrolls approximately 1200 undergraduate students.

The college's Information Technology Services (ITS) department provides computing services for students, faculty, and staff. "Technology is embedded into research and learning, student residential life, business processes, and our outreach to potential students," says Dr. Cynthia Humes, chief technology officer for CMC and an associate professor. Some applications reside in the college data center. Others, such as Cisco WebEx™ for conferencing and Google App for student email accounts, are hosted in public clouds.

When CMC outgrew its old data center facility, ITS prepared to move into a new building to be shared with other departments. College leaders viewed the move as an opportunity to adopt cloud computing, with the goal of more quickly introducing new applications and services, with less staff effort.

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Jeremy Whaley
Director of Information Systems
and Network Services
Claremont McKenna College

ITS began looking for a private-cloud platform. A major requirement was support for virtual desktops in a lab setting. CMC had offered to provide compute services for the Joint Science Department, which serves students from CMC, Pitzer College, and Scripps College. Faculty scientists need to provide specialized scientific software on student workstations during classes or research sessions, then return the resources to the shared pool.

Another requirement was rapid provisioning of infrastructure as a service (IaaS) for faculty, staff, and students who host websites. A common problem on today's college campuses is that well-meaning people host websites on their own laptops, not realizing the unsecured laptop can allow intruders and infections into the network.

Solution

After evaluating two preintegrated data center platforms, CMC selected Vblock™ Infrastructure Platforms from VCE, which includes Cisco, EMC, and VMware. "VCE took a completely fresh look at data center infrastructure, with the result that the Vblock system is optimized for cloud computing," says Jeremy Whaley, director of information systems and network services. "As our computing needs grow, we can add storage and compute capacity in small increments. And we'll be able to control a practically unlimited number of Vblock systems from the same management interface."

ITS also liked the fact that Vblock Infrastructure Platforms use best-of-class technology already widely used in The Claremont Colleges. CMC has standardized on Cisco® networking gear. Several colleges in the consortium use EMC storage solutions, so the EMC storage in the Vblock system would simplify disaster recovery initiatives. And all colleges had standardized on VMware for virtualization.

CMC engaged Nexus IS, an advanced technology partner, for planning, design, and implementation services. Nexus IS installed a Vblock 0 system, which consists of the Cisco Unified Computing System™ (UCS), VMware software, and EMC Celerra Unified Storage. The college will take advantage of VCE Seamless Support for fast technical assistance. "Having a single point of contact for any issue, whether related to servers, storage, or virtualization, saves staff time and accelerates issue resolution," says Whaley.

Results

Rapid Provisioning for Dynamic Campus Needs

Orchestration capabilities and automated provisioning have made it practical for the college to offer IaaS for web hosting, so that fewer faculty members will host websites on their own unsecured PCs and laptops. "Faculty members who use IaaS on the Vblock system to host websites preserve their academic freedom while reducing security risks to the college," Humes says.

The Vblock 0 system also enabled ITS to provide an easy-to-use virtual desktop infrastructure for the Joint Sciences Department by deploying VMware View, a validated virtual desktop solution for Vblock Infrastructure Platforms. What's more, ITS can reserve network bandwidth for different college user groups, so that one group's usage does not affect the performance for other groups. "The other colleges have a comfort level in having CMC host the computing environment for the Joint Science Department, because we have an enterprise data center architecture that's robust, resilient, and versatile," says Humes.

"The Vblock system is a natural stepping stone between traditional IT infrastructure and future cloud environments, when physical resources might not reside on campus at all."

Dr. Cynthia Humes
Chief Technology Officer
Claremont McKenna College

Increased IT Efficiency

Automated provisioning and the ability to manage all servers, storage, and connectivity from a unified interface minimizes management overhead, an important consideration because, like most colleges and universities, CMC has a relatively small IT staff. "Reducing the time we spend on repetitive tasks like provisioning frees up time to focus on service-level agreements and innovation," says Whaley.

Support for Green Initiatives

In addition to supporting campus computing initiatives, the Vblock 0 system reduces energy consumption. Its small footprint supports CMC's pursuit of LEED Gold certification for the building that houses the new data center. The Cisco UCS included in Vblock Infrastructure Platforms has the high memory capacity to support a large number of virtual machines on each blade server, reducing the amount of physical equipment to power and cool.

Next Steps

Disaster recovery has become a priority at The Claremont Colleges, and campus leaders regard the Vblock 0 system as an important ingredient. The current plan is to consolidate storage from The Claremont Colleges on the Vblock 0 system, and then replicate virtual machines and data over the WAN to a private cloud service provider.

Hume concludes, "The Vblock system is a natural stepping stone between traditional IT infrastructure and future cloud environments, when physical resources might not reside on campus at all. Deploying the Vblock system demonstrated to campus leaders that we're moving to the cloud, while still being grounded in the reality that we need on-campus resources.

Product and Services List

- Vblock 0 System
 - Cisco Unified Computing System
 - Cisco Nexus® 1000v software switch
 - EMC Celerra Unified Storage
 - VMware vSphere

ABOUT VCE

VCE, the Virtual Computing Environment Company formed by Cisco and EMC with investments from VMware and Intel, accelerates the adoption of converged infrastructure and cloud-based computing models that dramatically reduce the cost of IT while improving time to market for our customers. VCE, through the Vblock platform, delivers the industry's first completely integrated IT offering with end-to-end vendor accountability. VCE's prepackaged solutions are available through an extensive partner network, and cover horizontal applications, vertical industry offerings, and application development environments, allowing customers to focus on business innovation instead of integrating, validating and managing IT infrastructure.

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