

Innovative USC Computing Lab embraces BYOD, SSO and saves thousands of dollars in the process



Founded in Los Angeles 1880, the University of Southern California is one of the world's leading private research universities and home to more than 38,000 students and 3,500 full-time faculty members.



The Challenge

USC needed to extend student access to their computing lab with anywhere/anytime access to Mac-based apps. A unified group security policy and centralized access management through Windows AD was essential.

The University of Southern California's engineering department was looking at ways to improve the learning potential of its 5,300 students. Providing access to Mac-based applications whenever and wherever they were needed was identified as a key objective. While the student body did have access to a state-of-the-art computing lab, business hours in the facility were restricted, and several instructional classes conducted during the day further limited availability. When open, the lab was often overcrowded with insufficient space to accommodate everyone. This limited availability forced some students to license their own software for their personal machines—a very expensive endeavor.

The obvious solution was for the school to extend the lab or build an entirely new one. But rather than spend hundreds of thousands of dollars, the university opted to explore innovative technologies that could virtually extend the lab without the purchase of even one new laptop. Such a solution would have many requirements including:

- The ability to handle a mixed hardware and mixed OS environment.
- Access to Mac servers from both inside and outside the university network, from any location.
- A BYOD system that would allow students to work from their own devices.
- Extensions allowing Mac devices to run Windows software products and vice-versa.
- A unified group security policy



The Solution

Centrify teamed with Aqua Connect to integrate Macs into the Windows domain, allow for remote and on-site SSO access to Mac applications for students, and deliver unified access management.

After significant research into prevailing technologies, the USC team found that the Centrify solution combined with Aqua Connect's Remote Desktop Services product and the University's own Windows PowerShell script could extend unified access management from Windows Active Directory across the university's heterogeneous computing environment. Each student would simply use their primary USC log-in to gain access to computing resources based on class

“By simply enabling students to use their own devices, we can transform our computing lab from endless rows of computers into a flexible classroom with more flexible and innovative teaching methodologies.”

Michael Goay
Executive Director of IT for
Viterbi Business Affairs, USC



“We estimated the cost of building out a new lab to be in the hundreds of thousands of dollars, and when we estimated the total cost of the Centrify and Aqua Connect solutions, there was no comparison.”

Michael Goay
Executive Director of IT for
Viterbi Business Affairs, USC

enrollments, without any need for password management. A sustainable platform to manage students’ electronic service entitlements was integral.

The solution met the university’s other key criteria as well:

- Integrate Macs into the Windows domain and provide Mac-specific group policies through AD.
- Provide remote and on-site access to both Mac- and Windows-based applications for students with incompatible hardware platforms.
- Simplify identity management with SSO authentication against USC’s centrally managed Windows AD.
- Leverage existing identity infrastructure for AD-based management of Mac operating systems.
- Anywhere, anytime access control based on Windows Security Groups.
- Roaming profiles with persistent storage so students can move from classroom to lab, and Windows device to Mac device, and still access files.
- Remote login through a virtual computing environment.
- Centralized Active Directory identity management, access control and permissions management.

After a year of testing and customizing, USC implemented the solution in the fall of 2013 and today, USC is using University Central Active Directory to create a trust environment for the entire department. A SSO solution automatically grants permissions and access to individuals based on course enrollment, without having to manage user accounts, log-in credentials or passwords.



The Results

Significant cost savings through reduced user fees, help-desk calls and internal development costs, combined with multi-device support, increased security, and the ability to incorporate new, productivity enhancing technologies.

“USC views the Centrify project as an investment in our students, but it’s offered significant savings as well. The value to enabling BYOD in one classroom alone is over \$60,000.”

Michael Goay
Executive Director of IT for
Viterbi Business Affairs, USC

USC had two options: Spend hundreds of thousands of dollars building out a new lab, or seek out the technology that could expand the lab virtually, without the need for additional space and workstations, resolving the same issues at a fraction of the cost. The university chose to go with technology and results have been compelling.

Today, the Centrify/Aqua Connect solution is helping to improve learning with anywhere, anytime access and enabling classes traditionally taught in Mac-based instructional computing labs to be taught in any classroom, with or without computers. USC students get to use their own laptops, save money on software licensing and enjoy a unified computing experience of single sign-on, persistent data storage and roaming across physical computing labs equipped with Macs and PCs, as well as virtual computing environments.

Student response to the program has been positive and adoption has been remarkable. And with easy access to essential resources, significantly more students are bringing their own devices rather than using university-supplied hardware. This allows USC to reconfigure classrooms for maximum flexibility and remove laptops entirely, saving additional tens of thousands of dollars each year.



Centrify provides [unified identity management](#) across data center, cloud and mobile environments that result in single sign-on (SSO) for users and a simplified identity infrastructure for IT. Centrify’s unified identity management software and cloud-based [Identity-as-a-Service \(IDaaS\)](#) solutions leverage an organization’s existing identity infrastructure to enable single [sign-on](#), multi-factor authentication, privileged identity management, auditing for compliance and mobile device management.

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