



## Keck Medical Center of USC

### USC's Keck Medical Center Accelerates Virtual Machine Provisioning with VMware vRealize Automation

#### INDUSTRY

Healthcare

#### LOCATION

Los Angeles, California

#### KEY CHALLENGES

- Slow, manual provisioning of new virtual machines for medical research teams
- High administrative workloads for infrastructure engineers
- Limited agility to support the changing needs of critical research programs

#### SOLUTION

The Keck Medical Center of USC deployed an automated, self-serve provisioning solution built on VMware vRealize Automation.

#### BUSINESS BENEFITS

- Self-serve resource confirmation simplifies administration
- Accelerating service delivery from days to hours
- Setting the stage for new research partnerships

The IT team at USC's Keck Medical Center was struggling to promptly fulfill new virtual infrastructure requests from its fast-growing medical research organization while also supporting the daily operations of two busy hospitals. To improve service quality and reduce administrative workloads on its engineering team, the Keck Center implemented self-serve provisioning with the VMware vRealize™ Automation™ solution. The new system has reduced fulfillment intervals from more than two days to less than one hour while liberating IT staff for higher-value activities and facilitating new research partnerships worldwide.

The Keck Medical Center of USC is a world-class academic medical facility for translational medical research and compassionate patient care. As part of the University of Southern California's medical enterprise it operates two acute care hospitals: The 401-bed Keck Hospital of USC and a 60-bed hospital within the USC Norris Comprehensive Cancer Center. U.S. News & World Report has ranked Keck Medical among the top 10 U.S. hospitals in ophthalmology care, and among the top 25 in urology and cancer care.

#### The Challenge

In addition to two busy hospitals, the Keck Center's IT organization also supports a federated medical research enterprise that includes the USC Keck School of Medicine and a fast growing, nationwide network of clinical and academic partners. At the Norris Center alone, 200 cancer investigators hold research grants totaling \$134 million. When these researchers need new computing facilities to support a database or an analytical application, they can request one or more new virtual machines in the Keck Center's IT environment.

Responding promptly to such requests had become a challenge for the IT team, which was already managing some 1,200 VMs in a production environment that is 90 percent virtualized on the VMware vSphere® platform. Under the team's manual provisioning process, new facility request tickets would feed into the engineering work queue with a low priority relative to management tasks for existing facilities. Fulfillment was further slowed by a requirement that engineers confirm the availability of authorized funding for each request.

"All these things slowed down the approval process by days or even weeks," says Manu Mishra, a senior engineer responsible for virtualization and storage infrastructure. "Actually deploying the new virtual machines was the easiest part of the process by far." With only two virtualization engineers supporting all clinical and research infrastructure, the center's IT team urgently needed a way to automate virtual machine provisioning, expedite delivery of new compute facilities, and reduce bureaucratic drag on vital research activities.

***“I knew that vRealize Automation had the feature set we needed. I knew it would allow us to hand off resource authorization and get new virtual machines deployed with a minimum of human interaction in the process.”***

Manu Mishra  
Senior Infrastructure Engineer  
Keck Medical Center of USC

## VMWARE FOOTPRINT

- VMware vRealize Automation
- VMware vSphere

## The Solution

Fortunately, Mishra had prior experience using an early version of vRealize Automation to deliver infrastructure resources to application developers. vRealize Automation empowers IT to accelerate the delivery and ongoing management of infrastructure and application services while improving overall IT efficiency. Policy-based governance and logical application modeling assures that multi-vendor, multi-cloud services are delivered at the right size and service level for the task at hand. Full lifecycle management assures resources are maintained at peak operating efficiency, and release automation allows multiple application deployments to be kept in-sync through the development and deployment process. vRealize Automation turns IT into an agile, responsive business partner.

“I knew that vRealize Automation had the feature set we needed,” Mishra recalls. “I knew it would allow us to hand off resource authorization and get new virtual machines deployed with a minimum of human interaction in the process.”

## Business Benefits

By implementing a self-serve resource provisioning process with vRealize Automation, the Keck Center’s IT team has reduced administrative workloads and eliminated bureaucratic delays while ensuring robust financial oversight and strict policy compliance.

### Self-serve Resource Confirmation Simplifies Administration

Researchers can now see exactly what resources are allocated to them directly in the new provisioning system. “When someone wants a new VM they can see for themselves whether they can afford it,” Mishra says. “If not, they can decide for themselves whether to go get more funding or to reallocate the resources they have, maybe power down or reassign an existing machine. There was no way end users could do that themselves with our old manual process. It would have been an impossible task.”

### Accelerating Service Delivery from Days or Weeks to Hours

Automating its provisioning process has helped the center’s IT team reduce fulfillment intervals for new VM requests from days or even weeks to less than one hour. “Now we can give our research community the same sort of service they would expect from an organization like Amazon,” says Mishra. “They click and we deploy.”

### Setting the Stage for New Research Partnerships

Provisioning automation has arrived just in time to help the Keck Center accommodate new research partnerships with institutions across the country and around the world. “We are just now welcoming a group of researchers from Harvard University,” Mishra says. “They want to host some of their resources here on our systems, so we’re building out what we call the Keck Research Environment. It will be a complete IT-as-a-service solution, and it wouldn’t be possible without vRealize Automation.”

## Looking Forward

With the success of automated provisioning for medical research infrastructure, the Keck Center IT team is planning an entirely new research computing environment that will be wholly separate from its clinical operations. Based on the VCE converged infrastructure that integrates hardware and software technologies from VMware, Cisco and EMC, the new platform will deliver compute infrastructure as on-demand cloud services. The team is actively exploring the possibility of expanding its VMware license agreement to include the complete vRealize Suite for wider use in operations management and automation.

