Duke Cancer Institute Relies on Acronis® for Smooth Migration to Red Hat® Enterprise® Virtualization Environment

Acronis®

> "The Acronis software addressed all of the issues we had previously identified as serious road blocks in our path to Red Hat Enterprise Virtualization. We couldn't have done it without Acronis."
>
> **Jeffrey Allred**, Manager of Network Resources, Duke Cancer Institute

The Duke Cancer Institute

Duke Cancer Institute (DCI) is an internationally recognized medical organization that combines cancer care and research under one comprehensive system. With a network of more than 300 researchers and physicians as well as 500 clinical staff, DCI serves nearly 6,000 new cancer patients from around the world each year.

The Cancer Center Information Systems (CCIS) group is a shared resource within DCI that delivers integrated information systems in support of clinical and basic science biomedical research. The group provides a state-of-the-art computing infrastructure, personnel, technical support, assistance, and consultation in four areas: data management design, database application development, network and server management (including high-performance computing), and web application programming.

Moving to a Virtualized Environment

DCI moved its IT operations to a virtualization infrastructure in 2006 to help manage growth. The Institute's CCIS group rolled out the new virtualized infrastructure in two deployments — one using VMware, and another on to Virtual Iron's VI-Center. But due to disappointing experiences with both environments, the CCIS team started looking for a better virtualization option.

After evaluating the alternatives, CCIS chose Red Hat's virtualization portfolio based on the Kernel-based Virtual Machine (KVM) hypervisor and management tools. Red Hat Enterprise Virtualization for Servers offered all the powerful features that Allred and his team were looking for, and at a cost-competitive price. With the Red Hat Enterprise platform, CCIS was able to buy both the hardware and virtualization solution for the same amount of money that VMware was charging for its software alone.

Organization:
Duke Cancer Institute (DCI)
www.cancer.duke.edu

Sector:
Healthcare

Environment:
Duke Cancer Institute's datacenter houses 85 servers running both Red Hat® Enterprise® Linux and Microsoft® Windows®

Key Challenges:
- Performance issues with existing VMware® and Virtual Iron infrastructure led the organization to look for alternative virtualization offerings
- Existing migration paths for VMware and Virtual Iron were no longer supported by the vendors
- The DCI IT team wanted to minimize downtime for the production servers and reduce risks during the migration

Solution:
Using Acronis Backup & Recovery® Virtual Edition, CCIS has successfully migrated the first of 45 virtual servers into the Red Hat environment. The migration process went quickly and efficiently, and the migrated VMs started working properly immediately after migration to the new Red Hat Enterprise Virtualization platform

Benefits:
By using the Acronis® software, DCI's CCIS team was able to accomplish a fast and efficient migration from its VMware and Virtual Iron® VI-Center virtualization platforms to Red Hat Enterprise Virtualization

Today, DCI's datacenter houses 85 servers running both Red Hat Enterprise Linux and Microsoft Windows. This new infrastructure supports approximately 1,000 users, ranging from research staff to family support groups, who rely upon it daily for research, clinical work, and the support of application and database workloads.

Starting the Migration

Once the decision was made to switch to Red Hat, Allred focused his efforts on ensuring a smooth migration. "*When we decided to switch to Red Hat Enterprise Virtualization, we knew there was going to be a fair amount of work involved, migrating 45 virtual servers from the two separate virtualization platforms,*" explained Allred. "*But as we progressed, we realized it was would be ideal to have a partner to help us with this strategic migration.*"

Red Hat had fully supported migration paths for its current VMware and Virtual Iron environments, but its version of VMware was outdated. "*After some investigation into the process, we felt that the migration would probably work, but Virtual Infrastructure 3.1 wasn't officially supported by VMware anymore,*" noted Allred. "*And with any production environment, 'probably' is an unacceptable option.*"

Virtual Iron, CCIS's second virtualization environment. "*We originally thought Virtual Iron would also have a supported migration path,*" Allred stated. "*But after a couple of failed migrations, we discovered that even though the solution is Xen-based, Virtual Iron is different in at least one significant detail – the way its virtual disks are laid out. This proved to be a huge problem for us, in that we would have to use a third-party tool to change the disk layout in order to successfully migrate those virtual servers into Red Hat Enterprise Virtualization.*"

At this point, David Huff, Red Hat Virtual Solutions Architect, informed CCIS of the recent partnering between Red Hat and Acronis. "*This was fantastic news for us on a couple of different fronts,*" explained Allred. "*One, I'd heard very good things about Acronis from a colleague. And two, since the solution was supported by Acronis as a P2V, V2V, or V2P migration solution – and was platform-independent – it eliminated all of the platform-specific issues we had previously encountered.*"

The Results

After receiving a trial copy of Acronis Backup & Recovery Advanced Server Virtual Edition to prove that the solution would work as expected, CCIS successfully migrated the first of 45 virtual servers into the new Red Hat environment. The migration process went quickly, and the migrated VMs started working immediately once they were on the Red Hat Enterprise Virtualization platform.

Acronis Backup & Recovery provides the flexibility to create the image of the virtual server via an agent, or by using a boot disk. This capability enabled CCIS to create the image without taking the server off-line, minimizing downtime. Acronis also offers the ability to use the boot disk option during off-hours for servers that can be taken down for a short period of time. "*Using the agent method required the additional step of taking an incremental backup of the server to account for any changes incurred during the imaging process, and then restoring those changes once the migrated server was up in the new environment,*" explained Allred. "*But it made it possible to migrate production servers with almost zero down time. It was well worth the extra effort.*"

Allred and his team have been extremely impressed with the Acronis solution. "*The Acronis software helped us successfully migrate to Red Hat Enterprise Virtualization with ease. We couldn't have done it without Acronis. We are now evaluating Acronis Backup & Recovery 11 Virtual Edition as a backup solution for our Red Hat Enterprise Virtualization VMs.*"