VMware Case Study

ESC Lab Sciences Deploys VMware vCloud Air Disaster Recovery to Keep Its Business Operational Under Any Circumstances

As one of the largest and busiest environmental testing labs in the country, ESC Lab Sciences needed a reliable disaster recovery plan that would minimize the possibility of operations grinding to a halt due to natural or human disasters. VMware vCloud® Air™ Disaster Recovery serves as the basis of that plan, integrating seamlessly with the company's VMware vSphere® environment.

ESC Lab Sciences provides environmental testing, analysis, and data to public and private-sector customers nationwide. The Mt. Juliet, Tennessee–based organization was founded in 1970 and has grown to become the largest single-location environmental testing lab in the United States. It now has more than 250 employees extending operations to 50 round-the-clock client support centers located throughout the country, analyzing everything from drinking water and waste water to air quality, industrial hygiene, radiochemistry, and more.

The Challenge

Throughout its 10-acre campus, ESC uses advanced instrumentation to carry out extremely sophisticated testing. At the heart of it all is its data center—home not just to its networking infrastructure but also to the laboratory information management system (LIMS) that centralizes processing of all the lab's work plus the Citrix technology it uses for remote access and more. If disaster strikes and this data center goes down, it doesn't matter how much science is going on throughout the ESC campus—the resources it needs to serve its customers simply won't be available. What's more, the lab stands to lose tens of thousands of dollars for each hour its servers are down—another reason why it's absolutely essential for ESC to have an adequate disaster recovery plan in place.

Explains ESC Enterprise Infrastructure Director Tom White: "As we built up our data center, we wanted to protect that investment by replicating it and coming up with a backup plan. We're in a tornado-prone area, so there's always the threat of natural disaster. We had been dealing with that threat by replicating to another smaller data center; but with the advent of the cloud, we realized that we could do so more cost-effectively—and much less labor-intensively—by moving the task off-premises." He also realized that by replicating key applications in the cloud, ESC could test the waters for running additional applications there over the long term and leverage its virtualization.

The Solution

Having virtualized the lab's infrastructure with VMware vSphere software over the past decade—and having deployed a small private cloud a year before using VMware vCloud Air Virtual Private Cloud—vCloud Air Disaster Recovery was a natural choice to support the lab's disaster recovery strategy. Still, White evaluated solutions from a number of other vendors—including Rackspace and Windstream—to confirm his original thesis: that nothing could match the ease of migration, ease of use, and ease of management offered by vCloud Air Disaster Recovery.

INDUSTRY
Environmental testing

LOCATION
Mt. Juliet, Tennessee

KEY CHALLENGES
- Ensure that critical lab operations continue in the event of natural or human disaster.
- Reduce management chores and liability associated with location-based disaster recovery.
- Explore possibility of moving development and testing and other workloads to the cloud.

SOLUTION
ESC Lab Sciences relies on VMware vCloud Air Disaster Recovery, integrated with its existing VMware vSphere infrastructure, for rapid recovery from a natural or human disaster.

BUSINESS BENEFITS
- Minimize risk of data center downtime due to natural disasters.
- Free up IT staff to focus on strategic initiatives rather than data center maintenance.
- Lower operating expenses while reducing carbon footprint.

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Tom White
Enterprise Infrastructure Director,
ESC Lab Sciences

VMWARE FOOTPRINT
- VMware vCloud Air Disaster Recovery
- VMware vSphere
- VMware vCloud Air Virtual Private Cloud

APPLICATIONS VIRTUALIZED
- Oracle LIMS application
- Microsoft Windows infrastructure
- Citrix remote-access technology

PLATFORM
- Hewlett-Packard server
- EMC storage
- Oracle databases
- Red Hat Enterprise Linux

Thanks to the seamless integration of vCloud Air Disaster Recovery with ESC's existing vSphere-based infrastructure, implementing the disaster recovery solution was a swift and simple process. "It took just a few weeks to implement vCloud Air Disaster Recovery and replicate our mission-critical applications and servers. Within a month, I was able to turn on those services and start doing isolated tests—picking and choosing the pieces of our environment I wanted to examine and running the tests for as long, or as little, a time as I wanted."

Today, ESC is replicating 30 percent of its data center infrastructure in the cloud using vCloud Air Disaster Recovery; but it's a critical 30 percent, encompassing the lab's Microsoft Windows infrastructure, its all-important Oracle LIMS application (which runs on Red Hat Enterprise Linux), Citrix remote-access technology, Oracle databases, and more. Over time, White expects this number to grow to 100 percent.

Business Results & Benefits

For White, the greatest benefit of moving to cloud-based disaster recovery with the VMware solution is the peace of mind (not to mention reduction in labor) that comes with knowing that someone else is responsible for managing and maintaining the physical infrastructure of ESC's disaster recovery environment. Says White, "I'm a chemist by training, and while it's my job to manage IT infrastructure, there's more to that than just maintaining the data center. With vCloud Air Disaster Recovery, I know that the resources we need will be available 24 hours a day—regardless of what's going on in the rest of the world—and we can focus instead on the initiatives that further our business."

Eventually, White believes the lab will be able to shut down its second data center completely—a move that will not only save in power, cooling, and equipment costs but is also very much in keeping with ESC's commitment to reducing its carbon footprint and operating in the most environmentally sustainable manner possible.

Finally, and perhaps most importantly, by replicating its data center in the cloud with vCloud Air Disaster Recovery, ESC is able to maintain a competitive advantage by demonstrating to its customers that a strong disaster recovery plan is in place and that the essential work it does will continue no matter what may come. This is one way ESC maintains its position as not only the largest environmental testing lab in the country but also the most trusted—solidifying its status as the "lab of choice" for its clients.

Looking Ahead

"Since implementing VMware vCloud Air Disaster Recovery, we've come a long way in developing a workable disaster recovery strategy," says White. "It's still a work in progress, but with VMware vCloud Air Disaster Recovery, we finally have a toolset and resources that we can build on."

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