

University prevents data loss with robust data protection solution

The University of Miami backs up 213TB of data across an ever-growing VMware environment with VMware data protection software



“vRanger gave us the best solutions and great features.”

*Kathryn Cabrera
Network Engineer, University of Miami*

Customer profile

**UNIVERSITY
OF MIAMI**



Company	University of Miami
Industry	Higher Education
Country	United States
Employees	13,000
Website	www.miami.edu

Business need

In transitioning to a VMware®-centric environment, the University of Miami needed a single, scalable solution for protecting 213TB of sensitive data, including important medical research data, across an ever-growing number of VMware guests.

Solution

With Dell™ vRanger data protection software, the university transitioned to a VMware environment with no data loss. They are now also able to manage data backup and recovery more efficiently and with shorter wait times.

Benefits

- Transitioned to VMware environment without loss of data
- Increased data recovery speed, including for file-level restores
- Initiated automatic backup of new guests with Auto Discovery
- Performed minutes-fast file recovery on Windows® and Linux® servers
- Simplified data protection management with vRanger's agentless architecture

Located in Coral Gables and Miami, Florida, the University of Miami (UM) is a private research university with more than 15,000 students attending 12 schools and colleges. Its 13,000 employees make it the sixth-largest employer in Miami-Dade County with a total economic impact to the community of \$4.5 billion. As a major research university, UM engages in \$360 million in research and sponsored expenditures a year — mostly through the Miller School of Medicine.

“We [back up] the entire university now... with a staff of four people and a manager.”

*Freddie Robinson
IT Director
University of Miami*

IT consolidation requires a versatile data backup solution

To manage IT duties across UM’s 28,000 users, the 500-person technology staff was split amongst three or four separate and independent IT departments. This created redundancies and prevented the various teams from operating as a single, cohesive organization. To eliminate these redundancies and run more efficiently, the university decided to consolidate its disparate IT teams into a single department that would be better able to support the entire university. This gave the department “more opportunity for us to do better things for the university — for the academic, the medical and the research side of the house,” explains Freddie Robinson, director of IT for the university. “And that’s really what our business is.”

As part of UM’s IT consolidation, a small data protection team had to figure out how it could best manage the organization’s 100 physical servers and 1,000-plus virtual machines. Because UM’s virtual environment is VMware-centric and growing by the day, the data protection team began to test solutions that could handle backup for both VMware and physical servers.

Addressing implementation challenges

In adopting a new solution, however, the data protection team had a major concern: It wanted to ensure that there was no data loss during the conversion. Between its faculty, staff and student systems, the university houses 213TB of data — much of it valuable research data

— and it wanted assurance that there would be zero loss during the conversion.

Testing for the best fit

With so many users, and with such a large amount of sensitive data to protect, UM’s IT department tests every solution before implementation. As the data protection team began testing “every product for VMware backup that was on the market,” says Kathryn Cabrera, network engineer for the university, it looked for “the best fit” to meet its specific requirements.

First, it needed a single VMware data backup solution that would provide continuous data protection from day one, as data loss is a critical concern for UM. “We have a large number of investigators conducting dozens of studies,” explains Cabrera. “We also have millions of dollars in medical research. To lose any of this data would be detrimental not only for the university, but for the community as

Technology at work

Hardware

Dell PowerEdge Servers R515, R910

Dell DR4000

Software

Dell vRanger

VMware

Linux

Microsoft



well. The outcomes of some of these studies could help save lives.”

Second, the university wanted to keep costs down. “Cost is always a factor,” says Cabrera. “A very good way at keeping costs down is to make sure that we did an agentless backup, as not only did we not want to have to install agents on all of our guests, which is incredibly time consuming, but the cost of all of these agents can add up.”

Third, the team wanted a solution that could perform resource governing. “We wanted to be able to have control of how many backups run at a time per host,” Cabrera explains. “Some products didn’t have that feature. And having too many backups running per host takes up a lot of the resources of that host, and this could have potential issues, like bringing the host down.”

Fourth, the team needed a scalable solution that could accommodate the IT department’s near-constant rate of data expansion.

“The best solution and great features”

Once the UM IT staff finished testing, it came to this conclusion: “We wanted to remain with vRanger. We felt that it was the best solution and has great features,” says Cabrera.

Easy implementation without data loss

The university’s IT staff is already familiar with Dell’s end-to-end data protection solutions, as it uses Dell PowerEdge servers and is in the testing phase of launching the Dell DR4000 disk backup appliance. This assured familiarity and compatibility were immediate pluses, as was the assurance that the implementation would be seamless and without data loss.

A solution that saves time and money

The IT department was able to keep its TCO down by choosing a solution with

agentless backup and auto discovery capabilities. With vRanger, only a small team is needed for efficient setups and upgrades because the software does not require the installation of an agent on every guest, or even on every host. vRanger’s automatic auto discovery feature saves more time by detecting and backing up new guests as they are created, making setup extremely efficient, and its Active Block Mapping capability ensures that only the blocks that have changed in the active data are backed up, so resources are not exhausted by duplicating data unnecessarily.

Total control with resource governing

Resource governing has also proved invaluable to the university’s data protection team. The university needs resource governing to ensure that its VMware backup operations do not degrade production application performance. With vRanger, the staff can choose the number of guests per host backed up at a time, preventing hosts from becoming overtaxed. “vRanger provides great resource control, which helps to ensure that you are not running too many backups to one host,” explains Cabrera.

Robust cataloguing and search features

vRanger’s robust cataloguing and search features make it easier to locate individual files. After running a catalogue backup on its vRanger servers, the university’s IT team now performs file search in seconds and file-level restores in minutes. Notes Cabrera, “it’s just that quick.”

With vRanger’s wildcard search capability, the IT team can also locate files for users who have forgotten file names and file locations. Using keywords, they can quickly find files buried in thousands of backups — even if they don’t know the exact name of the file.

Reducing the risk of loss

UM has taken advantage of the speed and ease of Dell vRanger, as well as its

robust functionality, in order to establish and run a more efficient IT department.

“We [back up] the entire university now,” says Robinson, “every aspect of it, with a staff of four people and a manager.”

More than anything else, what the university has gained from its adoption of Dell vRanger is confidence. Confidence that its data is secure and confidence in its ability to retrieve and restore any lost information.

A major concern for a research institution like the University of Miami is always going to be the risk that “...we lose the guest completely. That can happen,” explains Cabrera. “And, you know, with vRanger’s automatic restore, we’re able to restore on the fly ... it’s great.”

She adds, “Dell vRanger has given us a solution that is easy to use and provides our customers with quick restores of not only their files but also their guests. It has also given us the peace of mind that our data is protected.”

“Bring it on”

With its Dell vRanger VMware data protection solution in place, the IT department is far from shrinking from the growing demands of the university’s ever-expanding network.

“Basically,” says Robinson, “we just tell them to ‘bring it on’.”

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