University Majors in 24x7x365 Availability with Veeam and ExaGrid

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— Josh Peluso
Director of Systems Administration and Web Services
SUNY Cortland

INDUSTRY
Education

ORGANIZATION

The State University of New York (SUNY) is composed of 64 institutions. SUNY Cortland, located in the center of the state, serves 7,000 students. Established in 1868, SUNY Cortland offers the largest nationally accredited teacher education program on the East Coast and prides itself on a 99% pass rate for teaching assessment tests.

CHALLENGE
SUNY Cortland's ERP, campus portal and web servers must be available to users at all times, otherwise university business could come to a standstill. The traditional backup tool was slow to recover these critical systems, jeopardizing 24x7x365 availability and business continuity.

THE BUSINESS CHALLENGE

Technology has revolutionized the university experience. Students and faculty are perpetually connected to their peers, course work and school information. A crucial piece of that connection is the campus portal, which links SUNY Cortland students and faculty to email, announcements, eLearning, grades, course registration, financial aid, bill payment and other online services. Like universities everywhere, SUNY Cortland faces two ongoing challenges related to technology: providing access at all times to an increasingly demanding student population and accommodating rapid data growth.

Data increases by 25% every two years at SUNY Cortland for several reasons. Its 9,000 users are storing more files, files are growing larger (e.g., video) and data is archived from the enterprise resource planning system (ERP) for reporting purposes. The ERP, campus portal and web servers are SUNY Cortland's most critical applications and must be available 24x7x365.

"If our critical systems aren't available at all times, university business comes to a standstill," said Josh Peluso, Director of Systems Administration and Web Services at SUNY Cortland. "To avoid that situation, we needed a better way to ensure the availability of our massive amount of data at all times. Being 92% virtualized, our traditional backup tool wasn't fitting our needs anymore. It tied up production resources so we could only back up at night, but we couldn't back up all files within the backup window. Backups failed 25% of the time, resulting in a snowball effect— more failed backups led to more resource contention."

SUNY Cortland turned to SMP, its trusted IT advisor since 2004, for assistance. SMP has helped SUNY Cortland virtualize its IT infrastructure on VMware vSphere, deploy HP storage in its production environment and implement ExaGrid appliances as backup and replication targets. SMP recommended Veeam® Backup & Replication™.

"Our engineering team considers Veeam solutions to be the best on the market for delivering availability for virtualized IT environments, and that's why we recommend Veeam to our clients," said Dean Miller, Account Manager at SMP. "Our clients are confident their restores will be available when they need them, and they're grateful that Veeam solutions are easy to set up and use."

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SOLUTION
Veeam Backup & Replication

SUNY Cortland uses Veeam Backup & Replication to ensure all virtualized systems are always available. Veeam backs up 10TBs of data on 150 VMs in the primary data center to an ExaGrid appliance onsite. Recovery from ExaGrid's Landing Zone takes minutes, ensuring business as usual. ExaGrid replicates backups to a second ExaGrid appliance at a DR site for fast failover/failback in case of emergency.

RESULTS

- Availability helps secure business continuity and affords time for IT innovation

- Insight into backup environment instills confidence

- Ease of use simplifies onboarding of new system administrators

VEEAM PROPARTNER

SMP

SMP provides complete computing and collaboration solutions to meet the diverse goals of today's businesses. To help companies optimize their businesses, SMP provides consulting services, technology solutions and professional assistance. SMP is recognized as a New York State Certified Woman-Owned Business and as a Rochester Top Workplace. To learn more, visit www.smp-corp.com.

THE VEEAM SOLUTION

SUNY Cortland took SMP's advice and deployed Veeam Backup & Replication. In addition to ensuring virtualized systems are available to users at all times so university business can continue as usual, Veeam helps SUNY Cortland achieve a major goal.

"Our number one priority is to support teaching and learning by utilizing technology as a tool and as a platform for advancing knowledge," Peluso said. "Because of Veeam we don't spend 15 to 30 hours each week troubleshooting failed backups and building VMs from scratch like we did with the traditional backup tool. Instead, we work on initiatives that improve university life, such as our cloud-based print management solution and BYOD, so students and faculty can bring their own devices for computing purposes. Veeam also affords us time to support our colleagues who've been awarded NASA and NSF grants. These grants include specific requirements about backing up and recovering research data. Meeting those requirements with Veeam is very easy."

SUNY Cortland uses Veeam Backup & Replication to back up its entire virtual environment daily, which wasn't possible with the traditional backup tool because backup failed 25% of the time. Plus, backup was so slow that all data couldn't be backed up within the backup window. Because Veeam creates and removes snapshots during backups, it doesn't tie up production resources like the traditional tool did.

Peluso said recovery with Veeam is much faster and easier because restoring a whole VM with the traditional backup tool required rebuilding the VM from scratch, which could take up to one day. With Veeam's Instant VM Recovery™, SUNY Cortland restores a failed VM from a regular backup on ExaGrid's landing zone—a high-speed cache on the ExaGrid appliance that retains the most recent backups in complete form. Instant VM Recovery was used when a system administrator made a configuration error on the VM responsible for the campus email gateway. Peluso said using Veeam to recover the VM was faster than backtracking and fixing the error, which could have taken hours.

"With Veeam, we're always up and running within minutes," he continued. "If the email gateway problem had happened before we deployed Veeam, there might have been a huge disruption to business operations. We love that Veeam and ExaGrid integrate so efficiently."

Another example of efficient integration between Veeam and ExaGrid occurs before backups are stored. After Veeam deduplicates backup data, ExaGrid deduplicates it again, which conserves backup storage. Compared to the traditional backup tool, SUNY Cortland's backups with Veeam require much less space. Rapidly growing data is no problem for Veeam and ExaGrid.

"The confidence we have in Veeam is extraordinary," Peluso said. "It's because of Veeam that we've been able to restore critical systems in minutes, like Active Directory, which plays a major role in our identity management program. Our users access the campus portal with an ID that provides appropriate levels of access to online services. Those levels require intricate programming in Active Directory. Before Veeam, we worried about being able to reinstate access privileges. With Veeam we just roll back to the previous backup and restore in minutes."

Learn more
www.veeam.com

Download free trial
veeam.com/backup

Peluso is referring to Veeam Explorer™ for Microsoft Active Directory, which provides visibility into backups for fast, granular recovery.

"VMs are meant to be backed up and recovered the way Veeam does it," Peluso continued. "I've been using VMware since 2006—when we did all kinds of interesting things to get backups to work as we wanted them to. Today, if you want perfect backup and recovery, choose Veeam."

SUNY Cortland has had such great success with Veeam Backup & Replication that it upgraded to Veeam Availability Suite™, which combines backup, restore and replication with advanced monitoring, reporting and capacity planning. Veeam Availability Suite will give SUNY Cortland complete visibility of its backup and virtual environments, enabling proactive issue resolution and resource optimization—yet another way to simplify and ensure 24x7x365 availability with Veeam.

THE RESULTS

- **Availability helps secure business continuity and affords time for IT innovation**
  "With an availability solution like Veeam, we don't waste time rerunning failed backups and worrying about resource contention," Peluso said." Veeam backs up and recovers VMs the way virtualization intended, allowing us to work on innovative ways that support teaching and learning by utilizing technology as a tool and as a platform for advancing knowledge."

- **Insight into backup environment instills confidence**
  When SUNY Cortland's traditional backup tool failed to back up a single file during a backup job, the entire job was reported as unsuccessful. The university's only choice was to rerun the entire backup job, which impacted the production environment. "Veeam gives us insight into our backups, and with that comes the assurance and confidence that our backups are progressing appropriately," Peluso said**.**

- **Ease of use simplifies onboarding of new system administrators**
  "Between Veeam's ease of use and knowledge base articles, onboarding new system administrators to the backup process is pretty effortless," Peluso said. "They don't know how painfully slow recovery used to be with the traditional backup tool. Recovery for them is fast and easy. That's their normal. That's how it should be in 2015."

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