

INTEGRATING vRANGER PRO™ WITH VCB GIVES RYERSON UNIVERSITY A HIGHER DEGREE OF SUCCESS

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THE SITUATION

Ryerson University in Toronto experienced low success rates from the VMware Consolidated Backup (VCB) for its VMware Virtual Infrastructure. IT staff spent several hours every day reviewing logs and analyzing why backups failed, and also spent considerable time writing scripts so new virtual machines could be included in the backup program. The university wanted a solution that would protect more of its VMs while requiring less support time.

THE SOLUTION

Ryerson University integrated Vizioncore's vRanger Pro backup and recovery solution with its legacy VCB system. Each night more than 100 VMs are successfully backed up in full. A few development VMs are backed up in full, a few development VMs are backed up on a weekly basis and there are also daily backups of transfers from a proxy server to a tape library.

THE RESULTS

"Backup used to be a very manual job that took us two to three hours every morning. Now we come in and check the e-mail to see how the backup did the night before. We're only spending 10 to 15 minutes a day on backup, and the backups are more successful!"

Raheel Akhtar
Senior System Programmer
Ryerson University

THE SITUATION

Ryerson University wasn't getting the degree of protection it wanted from its VCB backup and recovery solution. The 25,000 student university based in Toronto, Canada, backs up 50 to 55 virtual machines at each of two data centers nightly. IT staff often returned to work in the morning to learn that many of their scheduled backups hadn't occurred because of a problem with the system.

"We never had 100 percent success with our backups," said Raheel Akhtar, senior system programmer at Ryerson University. "If there was any small mistake in entering the name of the VM to back up, the backup would fail. And if one failed, the whole process would stop."

Ryerson has virtualized many of its university-wide computer systems with VMware ESX Server 3.02 with Virtual Center 2.01 running on a Dell blade servers at each data center. Each data center has five or six blades, which typically host eight or nine VMs, which are mostly Windows 2003 servers plus some Linux and Novell machines. The school is adding about five new VMs to its data centers each month. Domain controllers, DHCP, Web servers, SQL and Oracle databases and other applications have been virtualized.

On any given night Ryerson backs up 100 to 110 VMs, about 900 gigabytes total. Virtual machines at each data center are backed up to an associated proxy server. Each associated proxy server has enough local storage space to hold backups for seven days. Each day, backups are transferred from proxy server to tape library where they are stored for longer periods of time.

Ryerson University used a combination of VMware Consolidated Backup (VCB) and Tivoli agent-based software to back up its virtual machines. Each day Akhtar or one of his colleagues would set the daily backup to run at midnight and hope for the best, knowing that any mistake would likely scuttle the process. Each morning someone logged into the proxy server, reviewed the backup records and decided which of the failed backups should be executed immediately.

"Backup used to be a very manual job that took us two to three hours every morning," said Akhtar. "We found the backup system hard to configure. If you did one little thing wrong, the whole backup would fail."

The backup program became even more time consuming and expensive to use as Ryerson University's virtual infrastructure grew. Each new VM required Ryerson to write a script so the VM could be added to the backup plan.

"When we were using Tivoli to back up to the tape library if we had 100 servers that meant we needed 100 Tivoli agents, which involves some cost," said Akhtar. "Now with vRanger this cost has been eliminated."

THE SOLUTION

Ryerson University installed Vizioncore's vRanger Pro to work with its legacy VMware VCB application to back up its virtual infrastructure. It's goals were to find a stable solution that would automate the time-consuming manual backup process and provide an easy-to-use interface.

To execute a backup, VCB sends a snapshot request to the ESX Server hosting the virtual machine and creates a VMDK file. vRanger Pro creates the full copy of the data and the virtual machine settings. This comprehensive approach enables users to fully restore a VM very quickly -- the restoration includes VM configurations, not just the data. All backup scheduling is done through vRanger Pro.

"We've started to back up some machines weekly instead of daily. The scheduling flexibility is feature we didn't find in other solutions," said Akhtar.

vRanger Pro automatically compresses the complete VM and transfers it to the proxy server. Akhtar said the compression rates have been impressive - they average between 80 and 85 percent. The small image sizes enable Ryerson University to easily store a week's worth of full backups on its proxy server.

If a VM backup does fail for any reason, the process continues for the next virtual machine, so problems are contained. When each nightly backup is completed vRanger Pro automatically sends the IT staff an e-mail that highlights any failed backups. Akhtar reports backup success rates have improved significantly.

THE RESULTS

"We don't have to log into the proxy server anymore to check the backups," said Akhtar. "Now we come in and check the e-mail to see how the backup did the night before. We're only spending 10 to 15 minutes a day on backup, and the backups are more successful."

IT staff now complete in 10 or 15 minutes what used to take two to three hours. They also save significant time whenever a new VM needs to be backed up.

"We don't have to write all those VCB scripts anymore," said Akhtar. "vRanger's GUI is a big advantage. It is very easy for us to configure, and as a result we're getting better success rates. We've also had very good experiences when we've used it to restore, especially for Linux servers."

The IT staff uses the vRanger Pro user interface to set daily and weekly backup schedules, add new VMs and review backup activity. Akhtar plans to start doing differential backups and using vRanger Pro's VSS feature to automatically quiesce Windows servers prior to backup.

"We chose vRanger because it was the most stable solution," Akhtar said. "It has some very good features, and we're looking forward to using many new features."



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