Acropolis Systems Improve Performance and Reduce Management Overhead, in a Much Smaller Footprint

Regina Catholic School Division Chooses Nutanix Hyperconverged Infrastructure

CHALLENGE

The Regina Catholic School Division was relying on a VMware vSphere solution with seven VMware ESXi servers located in one datacenter, connected using Fibre Channel to an IBM DS4700 SAN disk array. The IBM storage systems were used for Microsoft SQL Server databases and related application servers. All student information records were stored centrally at the Division's main office, as well as its print servers, domain controllers, and Web servers.

Kurtis Thick is the infrastructure specialist architect for the Regina Catholic School Division. He is responsible for technical direction of the IT department and data center set up, as well as backups, disaster recovery, and business continuity. "We were pushing five years on most of our systems," said Thick. "As the systems aged, we were starting to experience a few disk failures. We were also reaching serious space and compute constraints—system memory was definitely one of the 'pinch points' in our existing environment."

In addition to needing more storage capacity and compute resources, Thick wanted to move away from the existing tape backup environment. The Division had been relying on an IBM tape library and IBM Tivoli Storage Manager (TSM) to store backups on-site as well as off-site. "Restoring files from tape backups took a very long time, much longer than disk would," Thick explained. "Tape is a good solution for long-term storage, but our backup strategy doesn't require that long of retention. We knew that a disk backup solution would be a better fit for our needs."

"With our 3-tier solution, it was less likely we would be able to afford all of the hardware needed to have off-site disk storage and compute at a second data center. We can now do that with the Nutanix hyperconverged systems. We just popped in a 2U server, plugged it into the network connections, and we were good to go."

– Kurtis Thick, Infrastructure Specialist Architect, Regina Catholic School Division

LOOKING AT THE OPTIONS

The Regina Catholic School Division's IT team evaluated solutions from several server and storage vendors including Cisco UCS, NetApp, IBM, HP, and EMC. "Our IT supervisor told us that he didn't want to invest in the same technology that we implemented five years ago," explained Thick. "All of the others vendors' solutions sounded like the same platform that we had before—some had added a little bit of built-in flash and a few other newer features, but they were still using the same infrastructure on the backend. We made the decision to look as some of the hyper-converged platforms instead of just purchasing another 3-tier solution with all of the typical SAN, storage, and Fibre Channel backbone."

NUTANIX™

CHOOSING THE HYPERCONVERGED APPROACH

Once the IT team decided to move to a hyperconverged solution, they compared Nutanix to offerings from Scale Computing and Simplivity. "One of the things that steered us to Nutanix was that we were planning to move from VMware to Hyper-V," noted Thick. "The Ministry of Education in Saskatchewan enables us to use Hyper-V with less licensing fees compared to VMware. So we looked at the features we were using on VMware and compared that list to what Hyper-V had to offer. We weren't taking advantage of any of the unique features of VMware, we were just running a simple virtualized environment. We did use snapshots, but we didn't need any of the other extra features in VMware. Since Nutanix was the only hyperconverged system that included Hyper-V support, our decision was easy to make."

The other reason Thick chose Nutanix was the range of systems that were offered. "Nutanix offers six different platforms—from the NX-1000 series to the NX-9000 series—so we can pick the right sized solution from several options for a little more customization. If we need a system with a lot of disk, we can get the NX-6000 series, as opposed to one of the NX-3000 or NX-1000-series systems. Nutanix provides the flexibility to choose the right systems for our environment."

RUNNING A PROOF OF CONCEPT

"Our Nutanix reps gave us a thorough overview of the systems," noted Thick. "They also provided demo access to a Nutanix cluster via the web so we were able to play around with the interface. We built up some VMs on Hyper-V and conducted performance tests on our existing datacenter hardware. We then ran the same tests on the Nutanix platform and compared the results. Nutanix was significantly faster than our previous environment. We are now running 15 applications, our Microsoft SQL Server databases, and our helpdesk software on our Nutanix cluster."

SIMPLER MANAGEMENT AND TROUBLESHOOTING

"During our infrastructure refresh, we wanted to find something that was simple to manage and easy to integrate," noted Thick. "The Nutanix Prism interface makes it extremely easy to manage the environment. We can easily see what's happening in our datacenter and identify trends in usage over time."

Troubleshooting problems in the previous 3-tier environment was also very difficult. "If there ever was an issue, we had to dive down deep into multiple consoles," Thick explained. "We would start by focusing on the vSphere console. If nothing showed up there, we'd look at the Fibre Channel switch interface, and see if there were any errors popping up on that console. Then, we'd look into the SAN array interface to try to locate the source of the bottlenecks. It definitely took a lot more time to identify and fix problems. With Nutanix and Prism, everything is in one interface. We can see all of our hosts and VMs, and it alerts us if there's anything we need to address. It helps us quickly identify the source of any issues and proactively manage compute and capacity."

FASTER BACKUPS AND RESTORES

"Restoring servers and files is definitely quicker and easier on Nutanix," Thick reported. "With Nutanix, we can now restore a server and have it up and running within 5 to 10 minutes. Previously, it took two days before any failed server was restored and functional. That's a huge timesaver in our environment and improves our disaster recovery capabilities. Our storage admin used to spend one full day per week managing the old storage and server systems, the backups, and the tape environment. He now spends less than an hour per week on Nutanix, and the backups run on their own."

REDUCING DATA CENTER FOOTPRINT AND POWER

"Our previous 3-tier setup filled approximately 60U, or 1.5 racks for all of the servers, SAN disk enclosures, Fibre Channel switches, and the tape library," said Thick. "We now have two blocks of the Nutanix NX-3000 series, and everything fits in just 4U in our data center. That's more than a 15x reduction in footprint. Our IT team found it hard to believe that such a small footprint could provide more resources than our old system could provide with seven large servers."

GREAT TECHNICAL SUPPORT

"Everything we need, including all of the product documentation, is available in the Nutanix portal," said Thick. "The Nutanix support technicians are always willing to go above and beyond the call of duty. The support team will continue to work on any issue—even if it isn't related to Nutanix. They'll even help us diagnose other vendors' problems and answer our questions. It's nice to have a support team that you can rely on when you have a critical question or an outage."

ADDING NUTANIX TO A SECOND SITE

The Regina Catholic School Division just purchased an additional Nutanix NX-1000 series cluster for its secondary site. "With our 3-tier solution, it was less likely we would be able to afford all of the hardware needed to have off-site disk storage and compute at a second data center," Thick explained. "We can now do that with the Nutanix hyperconverged systems. We just popped in a 2U server, plugged it into the network connections, and we were good to go. If we had to buy all of the Fibre Channel switches, servers, and disk arrays needed for our 3-tier solution, and then pay for support for that secondary site, it never would have happened. With Nutanix, we have also been able to move from our inefficient tape backups to a disk-based solution. None of this would have been possible if we hadn't migrated to Nutanix."

CHECKING OUT ACROPOLIS VIRTUALIZATION

Although the Regina Catholic School Division just moved from VMware to Hyper-V a few months ago, they are very interested in the Nutanix Acropolis Hypervisor (AHV). "We like the direct integration of the Acropolis Hypervisor with our Nutanix systems and Prism," Thick admitted. "With Hyper-V, we have to manage the environment from several different interfaces. Nutanix AHV is included in the Acropolis solution, and everything can be managed from one console within Prism. That's a very compelling scenario and we are planning to research the move to AHV in the very near future."

NUTANIX™

T. 855.NUTANIX (855.688.2649) | F. 408.916.4039
info@Nutanix.com | www.nutanix.com | @nutanix

Company

The Regina Catholic School Division is located in Saskatchewan, Canada. Founded in 1899, the Divison's 29 schools are now providing more than 11,100 K-12 students with a wide range of academic, practical and applied arts programs, support services, and extra-curricular activities.

Industry

K-12 Education

Business Needs

Aging storage and server infrastructure was starting to experience disk failures. Wanted to move from tape to disk-based backups.

Solution

Nutanix Xtreme Computing Platform:

- Nutanix Acropolis NX-3000 series systems for production, NX-1000 series systems for disaster recovery
- Nutanix Prism management solution

Benefits

- Obtained more storage capacity for existing applications and new projects
- Simplified troubleshooting with one intuitive interface
- Reduced system management from one full day per week to less than an hour per week
- Cut time for restoring servers from two days to 1 hour
- Achieved 15x reduction datacenter footprint and power
- Enabled the move to disk-based backups

Nutanix delivers invisible infrastructure for next-generation enterprise computing, elevating IT to focus on the applications and services that power their business. The company's software-driven Xtreme Computing Platform natively converges compute, virtualization and storage into a single solution to drive simplicity in the datacenter. Using Nutanix, customers benefit from predictable performance, linear scalability and cloud-like infrastructure consumption. Learn more at www.nutanix.com or follow us on Twitter@nutanix.