

Nutanix Simplifies IT Management, Speeds Performance, and Improves Disaster Recovery for Business and Back-End Systems

Maryland Lottery Bets on Nutanix—and Wins Big!



CHALLENGE

The Maryland Lottery's IT environment consisted of a broad mix of legacy server and storage systems, including several IBM BladeCenter servers with direct attached storage. The legacy infrastructure was being used to support all enterprise and business office applications, including the Lottery's Microsoft Dynamics accounting and general ledger systems, help desk application, websites, operational tools, Splunk applications, domain controllers, MS SQL databases, and backup infrastructure.

Due to the complexity of the traditional 3-tier environment, the Lottery's IT team was spending far too much time managing these disparate servers and storage infrastructures. When the time came to refresh the aging systems, they started looking for alternatives to the legacy environment that would be more cost-effective and easier to manage.

SOLUTION

The Maryland Lottery started its search by going down the 'traditional solution path,' upgrading its existing IBM BladeCenter servers and adding more NetApp storage systems. But since the Lottery always likes to stay ahead of the curve on new technologies, they decided to expand the search to include some of the more innovative hyperconverged systems. "After researching the options, we identified Nutanix as a leader in Enterprise Clouds and hyperconverged systems and added them to our list of solutions to evaluate," noted Jeff Patchen, CIO of the Maryland Lottery.

The Lottery solicited bids and evaluated options in terms of initial purchase costs, system performance, and ease of management. "The Nutanix Enterprise Cloud Platform offered a tight integration of servers, storage and networking components into one easy-to-manage solution, which is the principle behind hyperconverged architectures. That was a big factor in our decision to choose Nutanix."

The Maryland Lottery was able to purchase two Nutanix clusters—one for its primary data center and one for its backup site. "We were able to procure compute and storage for both datacenters—with real-time replication between sites," noted Patchen. "The decision to go with Nutanix was easy at that point."

"By moving to the Nutanix Enterprise Cloud platform, we gained the confidence to virtualize our internal control system (ICS). Nutanix is enabling us to break new ground in the U.S. lottery industry."

— Jeff Patchen, CIO, Maryland Lottery

RESULTS

Faster Implementation and Smaller Footprint

It used to take more than two weeks to deploy the legacy IBM BladeServers and NetApp storage systems. In contrast, the Lottery's IT team was able to bring up the Nutanix production system in less than four hours. Additionally, they were able to consolidate three server racks of legacy infrastructure down to just 6U with Nutanix, saving even more on datacenter footprint and power.

Cutting Management in Half

"You never realize how difficult an IT solution is until you replace it with something better," Patchen explained. "We were able to cut our server and storage management time in half—if not more."

The Maryland Lottery's IT team is now using Nutanix Prism Pro to manage the hyperconverged environment. "Prism Pro makes it possible to check both of our clusters from one centralized console," explained Brad Burgess, systems administrator at the Maryland Lottery. "We now have the capability to easily drill down into any issues we might be having, and capacity forecasting is also much easier."

"I like the fact that as a CIO, I can easily keep an eye on the entire environment," added Patchen. "With one click, I can look at all of our storage resources and memory utilization, and see a high-level dashboard of both clusters. It's nice to be able to go to one place and see all of the metrics I need without having to ask my staff to create and send me status reports."

Better Performance

Once they migrated to Nutanix, the Lottery's end users noticed major performance improvements across the entire environment. Access to file servers, response times for the Web servers, and even the backups are running much faster. "Everything is running twice as fast now," noted Burgess.

Improving Backup and Disaster Recovery

The Maryland Lottery also licensed Metro Availability, the Nutanix solution that enables customers to seamlessly keep applications online, even during full site disasters. They are using Metro Availability to replicate all production workloads over to the Lottery's DR site every hour. Metro Availability provides the ability to restore a VM in minutes without having to do a full restore from either backup tapes or some other type of backup. "With our previous system, the process took multiple hours or even days," said Burgess. "We now have a true, quick-response backup site which helps us get back on our feet after any disaster."

Great Support

"I have been extremely impressed with Nutanix Support," Patchen reported. "All of the service reps have been very responsive to our issues or questions. Even the director of support checks in with us in person on a regular basis to make sure we're receiving the level of care that we need." With other IT vendors, the Maryland Lottery typically selected 'four-hour response' contracts for hardware replacement. They are so confident in the architecture and setup of the Nutanix environment, they chose 'next business day' support, due to the high availability and redundancy of the clusters.

Using Nutanix Xpress for the ICS

The Multi-State Lottery Association (MUSL) is a non-profit, government-benefit association owned and operated by its member lotteries. For lotteries to participate in Powerball drawings, they need to be compliant with MUSL's rules. One of the MUSL requirements is to have a separate internal control system (ICS) to reconcile transactions against the gaming systems, to ensure integrity of the transactions and to prevent any sort of fraud or malicious activity related to the lottery games.

The Maryland Lottery recently purchased two Nutanix Xpress nodes to run its internal control system. Nutanix offers solutions for smaller deployments with the advantages of one-click infrastructure management, performance acceleration, capacity optimization, and converged local backups. "Our ICS needs to be segregated from our existing environment in a separate domain, with separate servers," explained Patchen. "We felt that the best way to accomplish that and also get high availability was to deploy it on Nutanix Xpress."

Migrating from VMware to AHV

The Maryland Lottery also made the decision to run AHV, Nutanix's native hypervisor, in the Xpress environment. AHV is pre-installed with Nutanix Xpress, but the solution also supports Microsoft Hyper-V and VMware ESXi if desired. "After evaluating how well AHV works for our ICS and Xpress deployment, we are strongly considering migrating our entire production environment to AHV to eliminate VMware licensing costs," Patchen said.

NEXT STEPS

Virtualizing the ICS on Nutanix

The Maryland Lottery is now planning to virtualize its ICS environment on Nutanix. "To my knowledge, no other lottery in the United States has virtualized its ICS environment yet, although some international organizations have accomplished that goal," Patchen reported. "By moving to the Nutanix Enterprise Cloud Platform, we have gained the confidence to virtualize our ICS system. Nutanix is enabling us to break new ground in the U.S. lottery industry."

COMPANY

The Maryland Lottery is an independent agency of the Maryland government. Its games include Mega Millions, Powerball, Multi-Match, Keno, Bonus Match 5, and numerous scratch tickets. The Lottery has generated more than \$15 billion in revenue for the State of Maryland since its inception in 1973.

INDUSTRY

Government agency

BUSINESS NEEDS

Aging IBM BladeServers and legacy storage systems were difficult to manage and running low on capacity.

SOLUTION

- › Nutanix Enterprise Cloud Platform
- › Nutanix Xpress
- › Nutanix AHV
- › Prism and Prism Pro management solution

BENEFITS

- › Reduced deployment time from 2 weeks to less than 4 hours
- › Cut ongoing management overhead in half
- › Reduced VM restore time from days to minutes
- › Consolidated 3 server racks of legacy infrastructure, to just 6U of Nutanix

Nutanix makes infrastructure invisible, elevating IT to focus on the applications and services that power their business. The Nutanix enterprise cloud platform leverages web-scale engineering and consumer-grade design to natively converge compute, virtualization and storage into a resilient, software-defined solution with rich machine intelligence. The result is predictable performance, cloud-like infrastructure consumption, robust security, and seamless application mobility for a broad range of enterprise applications. Learn more at www.nutanix.com or follow us on [Twitter@nutanix](https://twitter.com/nutanix).

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