

Maryland Lottery Wins Agility and Workplace Flexibility with Nutanix

Nutanix Simplifies IT Management and Supports Secure, Scalable Teleworking

BUSINESS BENEFITS

An independent agency of the State of Maryland, the Maryland Lottery has contributed more than \$16.7 billion in revenue to the State since its inception in 1973. However, its IBM BladeServers and legacy storage systems were difficult and expensive to manage and running low on capacity. Nutanix Enterprise Cloud lets the Lottery integrate all of its servers, storage and networking components into one private cloud solution to speed deployment times, reduce management burdens by 50 percent and improve compliance and security. The Maryland Lottery has been using its Nutanix solution for years, and is building on its solution to improve regulatory compliance and streamline communication with new voice over IP (VoIP) applications. Most recently, Nutanix proved its value by enabling the Lottery to rapidly roll out teleworking capability using Xi Frame during COVID-19 related closures.

“By moving to the Nutanix Enterprise Cloud, we gained the confidence to virtualize our internal control system (ICS),” said Maryland Lottery CIO Jeff Patchen. “Nutanix is enabling us to break new ground in the U.S. lottery industry.”

CHALLENGE

The Maryland Lottery’s IT environment is the cornerstone of its most critical operations. Its infrastructure supports enterprise and business office applications, including Microsoft Dynamics accounting and general ledger systems, help desk application, websites, operational tools, Splunk applications, domain controllers, MS SQL databases and backup infrastructure.

INDUSTRY

Public Sector

BENEFITS

- Enabled deployment of teleworking for hundreds of employees in days
- 95 percent reduction in deployment time, from two weeks to less than four hours
- Cut ongoing operational management overhead in half
- Reduced VM restore time from days to minutes

SOLUTION

- Nutanix Enterprise Cloud
- Nutanix AHV hypervisor
- Nutanix Prism Pro management solution
- Xi Frame

APPLICATIONS

- Internal Control System (ICS)
- Microsoft SQL databases
- Microsoft Dynamics accounting and general ledger systems
- Help desk application
- Splunk applications
- Microsoft Active Directory Domain controllers
- Backup and disaster recovery (DR) infrastructure

Regulatory compliance and security are top-of-mind for lottery agencies, and the system also supports the ICS application that ensures the integrity of multi-state games.

“You can’t operate multi-state games without having an ICS in place,” Patchen said. “It’s basically an auditing system that logs transactions at lottery terminals and point-of-sale locations and reconciles them to maintain the integrity of the games and systems.”

The Lottery’s legacy infrastructure was disparate and complex. When the time came to refresh these aging systems, the Lottery decided to bring together and tightly integrate its servers, storage and networking components into one innovative private cloud solution, based on hyperconverged infrastructure technology.

SOLUTION

After considering several options, the Lottery chose the Nutanix Enterprise Cloud. The 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 data centers with real-time replication between sites,” said Patchen. “The decision to go with Nutanix was easy.”

Deployment and installation went smoothly and quickly, and the Lottery can now take advantage of a more nimble, manageable infrastructure to meet changing needs. In the past, it took 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 space and power in the data center.

“You never truly understand the shortcomings of an existing IT solution 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.”

RESULTS

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 the Lottery’s Systems Administrator Brad Burgess.

One of the biggest benefits has been the migration of the Lottery’s ICS to the hyperconverged Nutanix platform. Lotteries that participate in Powerball drawings must comply with Multi-State Lottery Association (MUSL) rules. One of MUSL’s requirements is to have a separate ICS to reconcile transactions against the gaming systems, which ensures the integrity of the transactions and prevents fraud or malicious activity.

The Lottery purchased Nutanix 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. To my knowledge, no other lottery in the United States has virtualized its ICS environment.”

Built-in data at rest encryption also helps the organization better meet security and compliance requirements.

The Lottery also made the decision to use AHV, Nutanix's native hypervisor, to power ICS workloads. Since then, the organization also migrated its entire production environment to AHV to eliminate VMware licensing costs. The Lottery uses Nutanix Prism Pro to manage the hyperconverged environment.

"Prism Pro makes it possible to check both of our clusters from one centralized console," Burgess said. "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."

The Maryland Lottery also licensed Metro Availability, the Nutanix data protection 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."

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The Lottery faced an unexpected challenge recently due to the COVID-19 virus, and contacted Nutanix to explore Xi Frame, Nutanix's Desktop-as-a-Service (DaaS) product. The Nutanix account team agreed that Xi Frame can provide application access on any device, from any location. Xi Frame was easy to implement, and the Lottery was able to respond to the fast-moving crisis and procure and deploy this solution in just a few days. After putting the solution into production, the Lottery was able to create virtual workspaces for its employees and teams in less than an hour.

"Nutanix gives us the ability to spin up an environment quickly and enables users to access their virtual desktops from anywhere without requiring us to provision and image individual laptops," said Patchen. "They can VPN in and connect via Microsoft RDP back to their desktop and work just as if they were on a PC in the office. The solution is subscription-based, so we're not locked into a specific solution over the long term. We can use it for as long as it's needed."

As workplace conditions continue to evolve and change, the Lottery appreciates the flexibility and scalability of its Xi Frame solution.

"Frame provides visibility, control, and security," said Patchen. "We are supporting about 100 accounts, but I can easily expand the solution to support our entire agency if needed."

NEXT STEPS

With its simple-to-manage, dependable solution in place, the Lottery is making plans to expand its solution to take on new applications, including a VoIP phone system.

“We are about to implement a new phone system,” said Burgess. “The system basically is running 100 percent virtual, and we will stand up about six VMs to do it. The new workload will reside on our original clusters, and will handle not only voice, but call recording and other features.”

As its requirements and applications continue to evolve and grow, the Maryland Lottery is confident that its flexible, scalable Nutanix solution will continue to support its changing needs well into the future.



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