

Linn County Sheriff's Office Minimizes Planned and Unplanned Downtime with DH2i's DxEnterprise

A solution for lowering costs and downtime



The Organization

- Provides patrol, corrections, civil, and 9-1-1 services, detectives, and emergency management
- Staff of 184 full time employees
- IT staff of 3, supporting 200 internal and 300 external users

Success Highlights

- Minimized planned and unplanned downtime
- Avoided high SQL Server Enterprise Edition costs of an all Microsoft-based HA solution
- Improved application availability for users

Overview

The Linn County Sheriff's Office provides patrol services, detectives, corrections services, civil services, 9-1-1 emergency services, and emergency management for the citizens of Linn County, Oregon. The Sheriff's Office employs a staff of 184 full time employees who serve in six different operational divisions. The Linn County Sheriff's Office abides by a professional code of the highest ethics: service to humankind, safeguarding lives and property, and an exemplary private life in keeping with the public trust. The Linn County Sheriff's Office values integrity, professional excellence, the community, its employees, and respect for individuals.

Challenge

With a stated mission to serve and protect the persons and property throughout the county it serves, the Linn County Sheriff's Office is steadfast in its determination to

minimize the risk of system downtime. Their 24 x 7 environment leveraged a number of older "green screen" public-service applications based on IBM System i. The aging applications were time consuming and challenging to manage with a limited staff of just three people who support more than 200 internal users and as many as 300 external users.

"The cost and niche skills can be a real challenge to building out our systems," said Cary Jeffers, Computer Resource Specialist, Linn County Sheriff's Office. "It was taking as much as 30-40 hours of annual maintenance time to support our main applications. As such, downtime is a consistent concern. We needed to develop a more stable environment that could be maintained more easily so that we can limit downtime and assure more consistent availability of critical systems."

Long Downtime

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Linn County Sheriff's Office, Albany, OR

To support its datacenter requirements the Linn County Sheriff's Office has recently migrated to a Nutanix Hyperconverged solution for its primary computing platform using both VMware and Acropolis hypervisors. A high-performance HP Enterprise network switching system has also been deployed. One of the main systems this configuration supports is the Superior Public Safety Suite—deployed on Windows and SQL Server—that Linn County uses for dispatching, records management, jail management and mobile systems. The Sheriff's Office also delivers Windows 10 virtual desktops to its users via Citrix XenDesktop and XenApp.

With this new infrastructure to support its public operations, the Linn County Sheriff's Office next became focused on minimizing the risk of downtime so that it could maintain reliable accessibility for users without high management overhead.

Solution

Initially, the Sheriff's Office considered a couple of different solutions. One solution was an all-Microsoft option and the other was NeverFail software. However, after looking carefully at the SQL editions and what features would be required to achieve the high



Linn County Sheriff's Office, Albany, OR

availability they needed, it was clear that the Microsoft solution would be too costly and complex. NeverFail would have resulted in an excessive amount of writes since the underlying Nutanix solution already provided replication. That's when Linn County's trusted reseller partner, Sirius Computer Solutions, recommended an evaluation of DH2i's DxEnterprise. DH2i's software held the keys to the workload and data portability Linn County Sheriff's Office needed to assure high availability for their SQL Server instances, application services,

High Availability

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-Cary Jeffers

and the Superior Public Safety application itself.

DH2i's Smart Availability software creates a framework for orchestrating datacenter management, high availability/disaster tolerance and policy-based SLA management. In addition, intelligent automation ensures that workloads always run at their best execution venues for total optimization of the environment. DxEnterprise uses shared or replicated storage technology to coordinate access to a pool of disk resources in the cluster, for consistent disk presentation no matter which host the managed instance is active on. In addition, DxEnterprise can support any current version or edition of SQL Server and

Fast Setup

"We used the SmartStart services from DH2i and had our POC running in a day, right away, with DxEnterprise, we've seen our failover times improve. When DxEnterprise was first deployed into production, failover took about 5 minutes. With further application optimizations, scripting and other fine tuning, the most recent failover only involved 18 seconds of downtime to core applications.

-Cary Jeffers

Cost Savings

Linn County has already saved \$100,000 or more on SQL Server licensing requirements alone—compared to the spend that the all-Microsoft-based HA solution would have necessitated.

OS across any bare-metal, virtual or hybrid infrastructure—Windows or Linux platform. "With DxEnterprise we can manage the SQL Server instances and keep a single volume per instance that moves with the instance," said Jeffers. "This allows us to achieve peak availability for our SQL Server instances—while also maintaining HA for the file shares and services essential to full service delivery of the Public Service applications."

This value was clear following the success of Linn County's initial product evaluation.

"We used the SmartStart services from DH2i and had our POC running in a day," said Jeffers. "Right away, with DxEnterprise, we've seen our failover times improve. When DxEnterprise was first deployed into production, failover took about 5 minutes. With further application optimizations, scripting and other fine tuning, the most recent failover only involved 18 seconds of downtime to core applications. It still takes additional seconds to upgrade SQL Server,

but if we didn't have DxEnterprise, a single SQL Server upgrade could take as long as an hour of downtime to complete."

These results are easy to achieve as DxEnterprise is lightweight software that installs in just six clicks, and layers seamlessly onto bare-metal, virtual, cloud or hybrid deployments. Through an intuitive interface, users can go from standalone to clustered in minutes.

Linn County Sheriff's Office has also been very impressed with DH2i's support organization.

"We've found the DH2i support organization to be exceptionally responsive and willing to help with every facet of the product," added

Top-Tier Support

"We have worked with many, many support organizations and consider DH2i's support to be, comparatively, in the top tier."

-Cary Jeffers

Results

More quickly than expected, the Linn County Sheriff's Office has seen a dramatic improvement in system availability and can now dramatically minimize downtime due to planned and unplanned outages. In addition, Linn County has already saved \$100,000 or more on SQL Server licensing requirements alone—compared to the spend that the all-Microsoft-based HA solution would have necessitated.

"We have found great value in the DxEnterprise software and have even received features we didn't know we'd require," concluded Jeffers. "Now we truly can make our applications available as much as possible for our users, 24x7. We now expect the new system to result in less than an hour of total downtime a year—a huge improvement from the 30-40 hours of downtime required to keep the old system up and maintained."

Immediate Impact

"Right away, with DxEnterprise, we've seen our failover times improve. Now our key applications are up in under one minute on a standard database move for Windows updates. SQL Updates are only a few minutes, where before in a single SQL setup we could have been down as much as an hour to complete the same process."

-Cary Jeffers

DxEnterprise Benefits Summary

- Minimized failover time to 18 seconds of downtime—less than an hour a year
- Maintain HA for file share and services essential to full service delivery of the Public Service applications
- Saved \$100,000 or more on SQL Server licensing requirements
- Easy and quick setup using DH2i's SmartStart services
- Exceptional responsiveness and support from DH2i

