CASE STUDY

TRUENAS® AND FREENAS® POWER NDOC DATA STATEWIDE

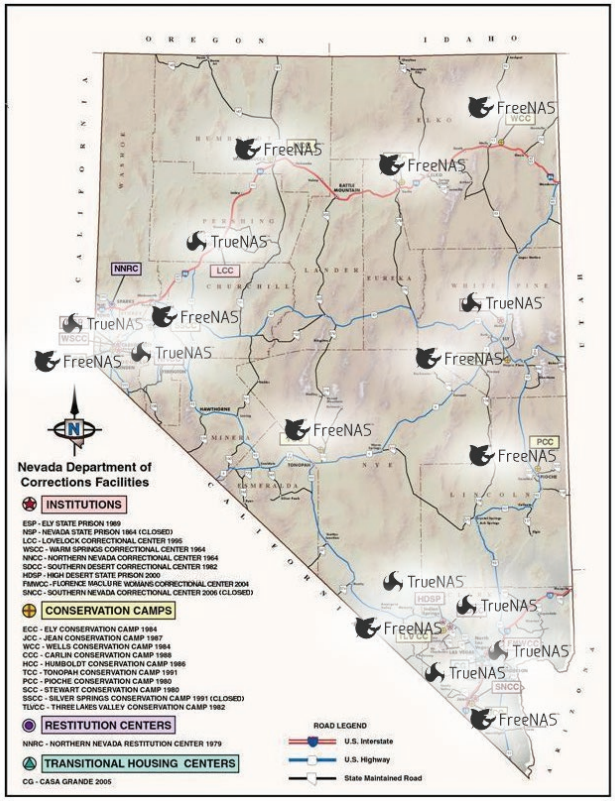
Carson City, Nevada
www.doc.nv.gov
Government / Public Service

Challenges

- Organization Requirements
- Legacy direct-attached storage hard to manage
- Surveillance data, videos straining existing infrastructure

Benefits

- Deployable, scalable, easy-to-use storage
- Radically improved performance and flexibility
- Data easily managed from a central location



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- Daniel Erlendson

THE STORAGE CHALLENGE

The Nevada Department of Corrections (NDOC) has been in existence for over 160 years, with over 20 facilities across the state. In recent years, the agency has used direct-attached storage (DAS) to store a multitude of records and surveillance videos and to host its per-site IT backend. With increasing amounts of surveillance equipment being employed by the agency, it needed a way to store and expand storage capacity more efficiently. As a FreeNAS user, Daniel Erlendson, IT Manager for the Department of Corrections, was impressed with its intuitive web interface, flexibility, and performance. When it was time to find a new solution, he reached out to iXsystems for more information about its TrueNAS and FreeNAS Certified offerings.

UPGRADING TO TRUENAS STORAGE

Already familiar with FreeNAS, Mr. Erlendson was eager to purchase pre-configured FreeNAS Certified systems from iXsystems to evaluate their performance and ease-of-use. FreeNAS Certified systems are built on qualified hardware that has been pre-tested and preloaded with FreeNAS. They are designed to streamline the process for users looking to deploy FreeNAS in a production environment.

Having achieved good results with the FreeNAS Certified platform, Mr. Erlendson became interested in deploying TrueNAS across the various correctional facilities. Some of this data was critical to day-to-day operations, and the direct support from iXsystems available with TrueNAS was a significant benefit. TrueNAS appliances offer support levels from 1-5 years with options for 24x7 availability for mission-critical deployments.

With controller failover support and certifications on leading hypervisors, operating systems, and backup

software, TrueNAS guarantees up to 99.999% availability for customer data.

The Nevada Department of Corrections runs a fully-virtualized XenServer environment, and having support for iSCSI and NFS protocols in a single, unified platform is ideal for their use case. The flexibility allows for a hypervisor's datastore with OS images to reside on one dataset, while files can be shared between the various file, print, email, and security services that run on separate VMs. The various TrueNAS and FreeNAS appliances can then be replicated using their native replication feature to another TrueNAS appliance hosted at a disaster recovery (DR) location. This functionality, coupled with the performance of 10 GbE networking and robust support, made TrueNAS a perfect solution for their environment.

RESULTS

To date, the Nevada Department of Corrections has deployed 18 TrueNAS and FreeNAS Certified devices, split roughly equally between the two types of systems. When asked about the purchasing process, Mr. Erlendson called it "Fantastic!" He added, "The sales team read our request, was able to understand our needs, and then came back to us with questions we didn't know to ask about our storage environment. They know the product well and were able to customize the solution exactly as needed for our environment."

With over 800 TB of raw capacity deployed across 20+ facilities, the agency considers TrueNAS "very hard to beat" in terms of data integrity. TrueNAS features unlimited snapshots, a copy-on-write file system, checksums, and fast, easy-to-use recoveries to protect against data loss.

The similarities between the TrueNAS and FreeNAS web interfaces ensure that remote replication and disaster recovery can be configured directly without the need to purchase additional software. The agency uses BackupPC to store client backups on their TrueNAS storage and minimize the downtime that could occur due to malware or user error.

The scalable performance of TrueNAS enables the agency to support anywhere from 5 to 500 users per site depending on the usage demand. The capacity of the appliances can be expanded at any time via expansion shelves and the platform's inherent flexibility to extend storage pools when needed.

The Nevada Department of Corrections was able to upgrade their legacy DAS storage and achieve future-proof, fully-supported storage for a fraction of the cost of traditional NAS or SAN solutions.

ABOUT NEVADA DEPARTMENT OF CORRECTIONS

The Nevada Department of Corrections improves public safety by ensuring a safe and humane environment that incorporates proven rehabilitation initiatives that prepare individuals for successful reintegration into our communities. Its vision is to reduce victimization and recidivism by providing offenders with incentive for self-improvement and the tools to effect change. The department is committed to pursuing its mission with integrity, acting in a professional and ethical manner, being responsible for its actions, and raising the department to the highest standards.

ABOUT IXSYSTEMS

Through decades of expertise in system design and development of Open Source software (FreeNAS, FreeBSD, OpenZFS, and TrueOS), iXsystems has become an innovative leader in a global marketplace that relies on Open Source solutions, high availability storage and servers, technology partnerships, and expert support.

Since its founding in 2002, thousands of companies, universities, and government organizations have come to rely on iXsystems for its enterprise servers, TrueNAS Unified Storage, and consultative approach to building IT infrastructure and private clouds with Open Source economics. Millions of tech-savvy users also download and deploy our Open Source software each year. More information can be found at www.iXsystems.com.

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