Case Study

A leading provider of enterprise data storage services, Tennessee Data Systems partnered with Integris and NTT to build an infrastructure that would scale seamlessly and enable them to grow from a regional provider of cloud and archival storage to a national player for IAAS, leveraging NTT’s existing facilities to eliminate painful compliance audits.

Objective
Enable the provision of highly scalable but affordable object storage solution to stay relevant and increase marketshare.

Approach
Private-label NTT Infrastructure-as-a-Services, including Scality RING running on HPE Apollo servers, packaged with colocation, network, and managed services in a single operationalized lease with a 48-month term for delivering storage services across the USA.

IT Matters
• Optimized state-of-the-art, scale-out Scality RING software-defined storage
• Deployed latest HPE technology without worrying about capital or refresh cycles
• Optimized performance and availability for petabyte scale storage
• Ensured data protection with redundant telephony fail safes and replication

Business Matters
• Freed up CAPEX for future investments to grow the business
• Boosted agility and scalability to compete more effectively and aggressively
• Grew from Tier 1 regional to domestic Tier 3 and 4 data centers with full compliance

Tennessee Data Systems transforms to stay relevant and competitive
Integris, NTT, and HPE deliver scalable, affordable object storage across the USA

Partnering to provide affordable storage services
“Our customers are looking for new and more cost-effective ways to manage their exploding data storage requirements,” says Fabrizio Bortolon, Chief Operating Officer of TNDSYS. “They’re looking for ways to take advantage of Big Data and the Internet of Things (IoT) to create differentiation and be competitive, but at the same time need new ways to store and analyze the massive volumes of data generated.”

Established in 2013, Tennessee Data Systems, LLC manages numerous data center facilities on behalf of its parent company, TNDSYS. A leading provider of enterprise data storage services, TNDSYS manages over 101 Petabytes of available, secure, and compliant data storage capacity in five Tier 1 to Tier...
“The combination of the Scality RING software running on the ultra-dense HPE Apollo 4510—along with advisory, design, implementation, change management, and cloud services from HPE, Integris, and NTT—without a doubt provides the best object solution on the market today. The solution gives us the flexibility, availability, and performance required to drive down the cost of storage at petabyte-scale for our customers, meeting both their needs and our own as we seek to grow our business.”

— Fabrizio Bortolon, Chief Operating Officer of TNDSYS

4 data centers in California, North Carolina, Tennessee, and Virginia. To complement their own capabilities, TNDSYS develops strategic partnerships to ensure the delivery of agile, cost-effective, scalable, and secure data management solutions across multi-tier facilities to a rapidly expanding market.

“It is important for us to position ourselves so that we have the ability to meet the varying and dynamic needs of our clients,” explains Bortolon. “As several small companies working inside the data storage space, it can be extremely challenging to attract larger clients and provide the necessary services to sustain them. By partnering, we enhance our ability to provide affordable storage services designed specifically to meet the needs of those clients, including those that have huge storage requirements. Whether the client needs one server or 200 racks of storage space, we have the ability to offer a large amount of storage space within just a few days and without a large amount of red tape.”

**Transforming to meet the needs of clients**

“In recent years, the amount of storage required has increased dramatically,” explains Bortolon. “with the cost per TB and ease of unstructured data retrieval critical factors when choosing a solution that can expand quickly and economically at petabyte scale. Some organizations have tried to keep up with data growth using traditional file and block storage solutions, but find they don’t meet these attributes. Others have moved their object storage to a hosted cloud environment but encountered cost or data control issues.”

“So when we needed to expand our storage capabilities to meet the growing needs of our existing clients while attracting new ones,” continues Bortolon, “these were some of the issues we took into consideration. We needed to transform our business to stay relevant and competitive, but the cost of upgrading our data center facilities would run into the tens of millions of dollars, which we couldn’t afford. We needed to find a better way.”

“At the same time, we needed to build an infrastructure that would scale seamlessly to enable us to grow our business and reach larger customers to maximize revenue per user,” adds Bortolon. “That meant investing in more server and storage capacity to meet the needs of yet unrealized business, with no idea as to how to quantify it. We needed help in working out how to do it without carrying too large a capital expenditure load and still maintain a viable business.”
Choosing the right partner

“HPE has an initiative that leverages all of the available resources in-state—including partners—to meet the needs of their customers,” adds Bortolon. “They introduced us to Integris Solutions Group, LLC and NTT America with the objective of finding the right solution leveraging HPE’s hybrid infrastructure in the best way possible to meet both our current and future needs.”

Headquartered in Richmond, VA, Integris Solutions Group consults with businesses to help transform their IT organization, processes, and infrastructure to meet ever-increasing demands. Focused on ensuring robustness and scalability, Integris leverages their expertise around storage, converged, hyper-converged, and resilient infrastructures to enable transformative enterprise solutions that are agile and cost-effective.

Founded in 1987 as a subsidiary of NTT Communications Group, NTT America is an HPE Partner Ready Service Provider (PRSP) with over 700 experts providing the convenience of one-stop-shopping of private cloud hosted solutions. Their approach to maximizing agility and affordability enables clients to bring new services online within minutes to hours—rather than weeks to months—and align infrastructure costs to an operational model with the flexibility to expand and contract resources as needs change.

Choosing the right platform

“We provide agile, flexible, and cost-effective private hybrid cloud solutions built on HPE infrastructure,” states Indranil Sengupta, Vice President, Product Management of Cloud Services at NTT America. “Delivered on customer premises or from NTT Com or third party data centers, our solution architecture allows customers to leverage their current investments and augment them with additional services that they need to run their business efficiently. All of our cloud solutions focus on enabling and ensuring the five key considerations of security, compliance, migration, legacy integration, and change management.”

To meet the affordability, flexibility, performance, and scalability that Tennessee Data Systems was looking for, NTT designed a hybrid, software-defined cloud storage solution. Distributed in multiple sites across the US, each installation consists of a single rack incorporating seven to nine HPE Apollo 4510 Gen9 servers each containing 512TB of storage, one HPE HSR6602 router, one HPE FlexFabric 5820X switch, and Scality RING software.

“The NTT solution is deployed at three of our own sites in Tennessee and Virginia,” outlines Bortolon, “along with installations at NTT Raging Wire data centers in California and Virginia. This allows us to reach a far greater market with highly scalable object storage that is both affordable and compliant, while leaving the management of the solution to NTT experts for our own peace of mind.”

Building the object storage capabilities that customers are looking for

“The solution that Integris and NTT came up with gives us a state-of-the-art, end-to-end cloud storage capability that offers a distinct competitive advantage,” enthuses Bortolon.

Designed as a distributed, fully parallel, scale-out system, Scality RING running on HPE Apollo servers offers petabyte-scale, software-defined storage for the modern, software defined data center (SDDC). The RING software is designed to create scale-out storage deployed as a distributed system across a minimum cluster of six storage servers. The system can seamlessly expand to include thousands of physical storage servers as the need for capacity grows, and includes a comprehensive management platform.

To match performance to deployed capacity, the RING can independently scale out the access nodes—or connector servers—to meet Tennessee Data Systems’ input/output (I/O) throughput requirements as they increase. The RING software also supports new generations of hardware as they are released, and requires no kernel modifications to ensure hardware compatibility.
In addition, the RING provides data durability through a set of flexible data protection mechanisms optimized for distributed systems including replication, erasure coding, and geo-replication capabilities that allows Tennessee Data Systems to select the best data protection strategies for their customer’s data. The RING optimizes the storage strategy for each object, with small objects stored more efficiently—and at a lower cost—using replication, while large objects are stored using erasure coding which avoids the cost of replicating very large datasets.

Delivering the right capabilities

“Utilizing HPE Apollo servers to run the Scality RING software offers significant advantages that reduce OPEX spending,” explains Sengupta, “something that customers aren’t always aware of. Not only are HPE’s server components and form factors optimized for enterprise use cases, but their platform management tools scale across data centers which was key for Tennessee Data Systems’ implementation. Moreover, HPE and Scality have done a tremendous amount of work in integrating their engineering strategies and deepening their go-to-market collaboration to provide a robust platform where everything works together. And not to be forgotten, HPE Datacenter Care—HPE’s proven, proactive global hardware support infrastructure—is something we can rely on, even in remote parts of the country where some of our data centers are located.”

Sengupta sums up the overall experience from NTT’s perspective: “Our ability to deliver the state-of-the-art solution that Tennessee Data Systems was looking for embodies the value of the HPE’s in-state initiative, as well as the PRSP program to help us accelerate business while solving customer challenges.”

Realizing the vision and driving business growth

By partnering with Integris and NTT to deploy Scality RING running on HPE Apollo servers in five data centers across the US, Tennessee Data Systems has been able to transform their business and increase their differentiation in the highly-competitive storage provider space.

“The combination of the Scality RING software running on the ultra-dense HPE Apollo 4510—along with advisory, design, implementation, change management, and cloud services from HPE, Integris, and NTT—without a doubt provides the best object solution on the market today,” states Bortolon categorically. “The solution gives us the flexibility, availability, and performance required to drive down the cost of storage at petabyte-scale for our customers, meeting both their needs and our own as we seek to grow our business.”

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