Media & Entertainment

Densho Runs Qumulo's Modern Scale-Out Storage in Production to Capture History of Japanese Internment

Densho, an organization that documents the history of Japanese Americans incarcerated in WWII internment camps, was spending excessive time and money tending to its rapidly aging legacy storage system. The non-profit sought out Qumulo's modern scale-out storage to eliminate storage concerns and free up IT for more critical tasks.

Trusting History to Untrustworthy Storage

Densho: The Japanese American Legacy Project is a Seattle-based non-profit organization that collects, produces and preserves the historical accounts of Japanese Americans who were unjustly incarcerated in WWII internment camps. The formats range from digitized photos and documents to audio and video interviews, collectively requiring significant data storage space.

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> Deputy Director and Chief Technology Officer, Densho

The organization has a production staff of 10, most of whom interact with the storage cluster on a daily basis, as well as remotely located archivists to help grow the collection.

"We have 60,000 to 70,000 digitized photos and documents and approximately 900 oral history interviews each two hours long," says Geoff Froh, Deputy Director and Chief

Technology Officer at Densho. The organization also takes in materials from outside groups with collections that need to be digitized and/or stored long-term for posterity. Consequently, "As we ingest all that data, it's a huge digital repository challenge for us."

That challenge became even more daunting over the past several years as Densho's legacy storage technologies began showing their age. Densho was using a complex two-tier storage architecture comprised of expensive Nexenta-based SAN equipment that suffered from low capacity and difficult management, and much higher capacity network attached storage (NAS) appliances that were inexpensive but prone to failure.

"Having to constantly move things around and spend a lot of time thinking about where files have to go is not something that's a good use of time," notes Froh. Fundamentally, Densho was suffering from a capacity management problem caused not by a lack of storage, but by a lack of visibility into its data usage.

It was time to close the history books on these legacy systems and find a solution that was both easier to manage and easier to scale. "As our storage eventually became untrustworthy we knew it was time to find a modern scale-out storage solution that would meet our needs," comments Froh. "And when we found out that the former Isilon team was doing something even better at Qumulo, we knew we were totally onboard."

Solution Overview

- 4 Qumulo QC24 hybrid storage appliances
- 1 Arista 10GbE switch
- NFS, SMB and REST protocols
- Qumulo Care enterprise support

Key Benefits for Densho

- Provides instant visibility of file usage, capacity and performance in real-time
- Grows as the organization adds digital collections, increasing storage capacity and performance needs on a "pay as you grow" basis
- Decreases storage management to less than 5 minutes a week
- Eliminates downtime and concerns about storage infrastructure, freeing up IT to focus on higher value activities
- Incorporates needed changes rapidly via Qumulo's two-week Agile software development and release process
- Extends IT organization's project capacity with proactive Qumulo Care support

Qumulo Clears the Cobwebs from Legacy Scale-Out NAS

Qumulo offers a modern approach to scale-out storage, delivering fast, flexible and highly scalable storage together with the real-time analytics necessary for visibility into data usage and performance at petabyte scale. Densho has been using Qumulo's hybrid storage appliances in production for over a year now. The Qumulo QC24 appliance leverages both SSD and hard disk drives for the best of both performance and capacity.

Froh notes that Densho trusts the Qumulo system with all of its primary assets – employees work directly off of the Qumulo-based cluster via NFS to ingest, manage and catalogue digitized historic files. And Qumulo's support in getting there has been crucial.

"Overall the whole process has been smooth and the team is fantastic. We provide feedback on performance or management and thanks to Qumulo's 'two week sprint' software release process, our issues are often taken care of in the next release or two," says Froh.

And Froh has the experience to understand the value of Qumulo Care support. "I've bought a lot of very expensive support contracts over the years, but have never really gotten anything useful out of it. With Qumulo Care it's a different experience; they're never trying to sell me something and I almost feel like the software is growing right along with us," he explains. "For us it's really vital—we're a small organization so it's critical that I have people to rely on."

'Five Minutes a Week at Most'

The benefits of Qumulo's modern scale-out storage have been substantial for Densho. Froh says storage management now requires just "five minutes a week at most" of his time. Even the upgrades haven't required any downtime.

"With Qumulo, storage is just not on our radar anymore. I've got a queue of pending IT issues, and we're always scrambling to fix things just like anybody else, but storage is just completely off of that list now," Froh adds.

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That is due to Qumulo Core's real-time file-system analytics. Densho has been building out a new repository platform, and even with all those moving pieces, Froh can quickly check the integrated analytics to ensure that the storage is still performing, then quickly move on to managing other IT infrastructure issues.

Interestingly, Qumulo's real-time analytics weren't originally a major selling point for Densho. "I thought it was pretty cool and a 'nice to have' but now I find myself checking the analytics web UI all of the time. Traditional command-line requests to identify file system changes are slow and painful. With Qumulo, the analytics are built directly into the file-system

giving me visibility into my data and pared down to 99% of exactly what we need to do. Getting a sense of precisely what files are being worked on is really powerful."

Froh's intentions are to eventually leverage Qumulo's built-in interactive REST API capabilities to visualize key metrics directly onto Densho's own customized web dashboard. "Qumulo's real-time analytics are so much faster than native file level calls, and it's really cool to see all of the different ways to show and leverage that meta-data," he says.

Densho's dramatically improved storage infrastructure perfectly illustrates Qumulo's mantra of making data visible, while making storage invisible. "I'm checking the dashboard at least once a day on average, but I'm not there to monitor the storage system but rather our data and use of the storage," says Froh.

And those time-saving benefits are not lost on Froh, who has enough on his plate without having to worry about data storage. "I've got a lot of things in my IT infrastructure that keep me up at night," he says, "but Qumulo Core is not one of them."

Densho is an award-winning nonprofit organization located in Seattle. Established in 1996, Densho preserves the legacy of Japanese Americans who were incarcerated during World War II before their memories are extinguished. Using digital technology, Densho offers firsthand oral history accounts; an online collection of images, documents, newspapers, and video; and education resources and training to explore principles of democracy and promote equal justice for all. For more information about Densho, visit www.densho.org.

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