



St. Johns River Water Management District

Water agency conserves storage resources with cloud storage, turns to TwinStrata for file sharing, offsite data protection

As one of five water management districts in Florida, the St. Johns River Water Management District is focused on conserving and protecting water resources. The District also is focused on efficient and effective management practices. So it comes as no surprise that in 2013, the District turned to the cloud to enhance efficiencies.

A lack of options

Up until 2013, the District relied on tape backup. As the District began to rely more heavily on electronic information, the IT team observed that the tape backup technology had become time-intensive, unwieldy and unable to meet current disaster recovery goals. With 80 terabytes (TBs) of backup data sent to tape, the District was spending approximately \$150,000 every year on the staff time, resources and external service providers required to manage, store, retrieve and maintain its offsite tape library – nearly \$1,875 per TB.

Kevin Brown, director, Office of Information Technology, at the St. Johns River Water Management District, says, “About 30% of a system administrator’s time was spent on the management and execution of the organization’s tape backup strategy – time that could be spent supporting and advancing the agency’s strategic IT initiatives.”

In addition, while the tapes provide offsite data protection in the event of an emergency, retrieving the tapes and restoring their data is challenging. A single seven TB file-based document store, for example, requires 30+ hours to restore – even without hiccups such as a faulty tape or a tape drive failure. Another 10 TB CIFS file system takes almost a week to back up to tape.

Extensive research into hardware solutions that enable site replication required a large capital investment and were overall significantly more expensive than the existing practice.

Turning a mountain into a mole hill

In 2013, the IT team began to investigate cloud storage options. On the one hand, much of the technology seemed to fit the agency’s needs: lower maintenance requirements, pain-free offsite data protection, and immediate accessibility to backup files. On the other hand, the team had concerns about security, complexity and vendor viability.

“We spent 6-8 months investigating different options – we knew we needed to make a change, but it had to be the right change,” recalled Brown.

“As an agency of the state, it was important to find a solution that didn’t require a huge upfront investment and that would be less expensive than our existing tape environment over the long term.”

Unfortunately, other cloud gateways they researched included hefty upfront purchase costs or large cloud storage commitments that were priced on a per appliance basis. Since the District needed at least four appliances – one for each of its three major service centers, as well as a field station – the costs for such a hardware-based strategy was multiplied.

An easier solution

Ultimately, TwinStrata’s CloudArray cloud-integrated storage software was selected.

“TwinStrata’s cloud storage bundle made a lot of sense for us,” continued Brown. “It gives us the operational expense structure we were looking for, makes our storage costs predictable and affordable, and provides unlimited CloudArray virtual appliances so we can support all of our offices without paying extra.”

The District started by transitioning its three major service centers off of tape – and saw about a 29 percent savings using TwinStrata’s cloud storage

bundle. In addition, maintenance is minimal – a little extra attention around software updates rather than the daily attendance required by the previous tape-based system.

Says Brown, “One of the great things about CloudArray is the ability to just drop it right into our environment – no special hardware, no new APIs to learn. Since it’s software-based, we were able to run a proof of concept really easily, and install the software in each of our locations without difficulty.”

Since CloudArray can present using CIFS, NFS and iSCSI, the District hopes to eliminate its backup software entirely and use CloudArray to replace its network of file systems throughout the organization. All other types of data will be replicated to CloudArray for backup to the cloud.

The District has three major service centers, five field stations and the primary data center that share files across a single 10TB CIFS share. Unfortunately, it takes nearly a week to backup.

By using CloudArray, the District can retain a centrally-managed system that enables multi-site file access – complete with sophisticated and proven file-

locking capabilities – while also automatically backing up those files offsite to Google Cloud Storage.

“With CloudArray, we get everything we had previously in our multi-site file sharing system – the same level of access, control and security – plus the added benefit of offsite data protection,” explained Brown. “Later this year, we will migrate more than seven million documents across the organization – contracts, invoices, procedures, images – basically everything it takes to run our business – to cloud storage via CloudArray.”

With a CloudArray-backed CIFS or NFS share, the District gets the added benefit of geo-replicated copies of its files in Google Cloud Storage, as well as regularly scheduled snapshots kept in the cloud to guard against corruption or accidental deletion.

Even better – recovery using CloudArray is made that much easier – instead of having to formally restore a backup, the District can just bring up a new CloudArray and connect directly to the files, making them instantly available.

In fact, the District has already experienced that – a recent local

array had a maintenance issue (unrelated to CloudArray). In the past, the IT team would need to retrieve the tapes, take them on location and restore them (a process that would have taken a few days), they were able to reconnect CloudArray immediately after the maintenance was completed, and all the files were immediately accessible.

Concluded Brown: “The biggest concern for my team was losing control of our backups – not only trusting someone to hold them, but also trust that the information would remain secure. CloudArray gives us confidence that no matter what the disaster, we’ll be covered – it’s been a great investment.”

About TwinStrata

TwinStrata’s cloud-integrated storage makes data storage straightforward, affordable and maintenance-free by enabling organizations to scale their storage area networks (SAN) and network-attached storage (NAS) with on-demand cloud capacity. Customers use CloudArray to support primary, secondary, backup and archive storage needs. More information is available at twinstrata.com.

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-- Kevin Brown, Director of IT

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