



SUCCESS STORY
High Tech



TCDI | PROBLEM SOLVED

TCDI uses the FlexPod® data center solution from NetApp and Cisco to provide a highly scalable platform for ingesting, processing, and providing client access to billions of pages of legal documents.

Quickly Unearthing Value in 3 Billion Legal Documents

Storing 3 billion files takes a lot of storage. It takes vision to make those files instantly searchable, secure, and always available—the kind of vision TCDI has. TCDI was one of the first legal e-discovery providers to offer cloud-based, end-to-end processing of electronic documents to help legal teams quickly identify and flag responsive documents among millions—sometimes hundreds of millions—of pages of legal documents of any type.

Another NetApp
solution delivered by:



600%
data growth in 5+ years

Recovery time objectives
reduced from months to
72 hours

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Frank Bounds
Senior Storage Engineer, TCDI

RAPID SEARCHING, UNPRECEDENTED FLEXIBILITY

Over the last 30 years, TCDI has built its business on providing leading litigation technology and has developed a reputation for giving clients unprecedented visibility into their data. For a typical court case, TCDI might ingest 8TB to 12TB of data—or even as much as 24TB—in a very short time. Every page that TCDI ingests is saved as a TIFF image. The text on the page is then extracted and indexed in a database, allowing rapid searching. At any moment, TCDI’s clients expect to be able to search hundreds of millions of pages of documents to find precisely the information they need to make their case.

“Data turnarounds and ingesting data is one of our strengths,” explains Frank Bounds, senior storage engineer at TCDI. “Our clients choose us because we can turn data around faster than pretty much anyone else. In order to maintain the level of service our clients expect from us, we kept ourselves up at night growing file systems. That was before we brought in NetApp.”

MANAGING BILLIONS OF SMALL FILES

TCDI’s industry-leading software is built on the Linux operating system using NFS protocols. But TCDI’s previous block-only SAN storage limited the company’s agility in the face of often unpredictable data volumes. What started as a small 50GB job could quickly turn into 500GB—or even more.

Exporting the data to NFS was a complex and time-consuming process with no way to dynamically change the size of the file system. If Bounds and his team underestimated the size of the file system needed to house incoming data, the system could quickly hit its limit, halting the ingestion process and resulting in significant delays until a technician could manually grow the file system.

“Data is our business,” explains Bounds. “As a legal analytics company, our ability to help our clients quickly search and find patterns among huge numbers of small files is everything to us.”

To handle its multiprotocol requirements, TCDI began exploring NetApp storage systems, which could provide support for the company’s NFS, CIFS, and block protocols from a single interface.

With data growing more than 600% in just over 5 years, TCDI soon began looking for a way to simplify management for its billions of small files with a highly reliable and easily scalable solution.

Working with partner ePlus, TCDI standardized its infrastructure on FlexPod Datacenter with NetApp FAS8040 storage systems, Cisco UCS M4 blade servers, and Cisco Nexus switches. TCDI also supplemented an aging tape backup system with a second cluster deployed at a remote site for disaster recovery, lowering recovery time objectives from months to as little as 72 hours if needed.

“When we need new equipment, it means we have been handed a case that needs to be turned around very quickly. So when we say we need something fast, we really do,” says Bounds. “ePlus and NetApp have been extremely responsive to our needs.”

THE VERDICT: FLEXIBLE, EFFICIENT, SECURE

The FlexPod prevalidated design accelerates deployment of new resources, allowing TCDI to move quickly to capture new business opportunities. And the days (and nights) of sizing file systems are over. With FlexPod, TCDI can set up an NFS volume to grow automatically as more data is added.

“We no longer have to spend our nights babysitting the ingest process,” says Bounds. “Systems are provisioned exactly as needed, letting us respond to customers without delays.”

By bringing together industry-leading innovation from NetApp and Cisco in a converged infrastructure solution, FlexPod enables the small team to manage rapidly changing data needs. Rather than managing six separate vendors for switches, servers, and storage, TCDI can manage the entire stack from a single pane of glass with an easy-to-use interface and

simplified support from NetApp and Cisco.

“We have only had to use simplified support from NetApp and Cisco a time or two. I wish I could say more about it, but we really haven’t had to use it! Overall both systems have been reliable and we’ve had very few problems,” says Bounds.

With the relentless pace of data growth, TCDI is making the most of NetApp deduplication, compression, and thin provisioning to reduce costs and extend the time between storage acquisitions. NetApp deduplication offers up to 60% data reduction just by eliminating blank pages, reducing the company’s overall storage footprint and associated costs.

TCDI can also easily redeploy its older NetApp systems into the FlexPod solution at both the company’s primary and remote DR sites, saving the company 95% over buying new storage shelves.

“That’s a huge savings for us,” says Bounds. “With other vendors, I’ve had to throw away entry-level SANs that were still working fine just because they couldn’t be reused.”

Given the highly sensitive nature of data involved in litigation, data security and segregation is crucial. Accidentally blending data from different legal cases could have serious ramifications for the company and its clients. In the past, TCDI ensured the security of client data by building independent server and storage stacks, providing physical isolation—a process that was time-consuming, inefficient, and expensive.

Today, FlexPod secure multitenancy enables TCDI to maintain the security level its clients demand while taking advantage of shared storage economies of scale to enable rapid growth of its cloud platform.

“The secure multitenancy built into ONTAP is key to our cloud business model,” says Bounds. “With storage

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virtual machines, I can prove to a client that they have their own virtual controllers and authentication domains, which makes their security people happier.”

PROCEEDING WITH CONFIDENCE

TCDI is now starting to use NetApp NFS as a target for Veeam. They have 11 Veeam repositories; 3 of the 11 are SAN targets from the NetApp cluster (2 NFS and 1 CIFS). The other 8 standalone physical repositories will be converted into a consolidated repository target on a standalone FAS series SAN over the coming months. Paul Frediani, the backup administrator, is also a

NetApp storage admin and expects the transition to be easy. Frediani stated that “utilizing NetApp storage will give us a single, easy-to-manage target, while providing security (client data segregation) and speed (as a write target for Veeam and as a restore source when needed).”

“I hear a lot of vendors preach about partnerships, but very few of them really mean it,” adds Bounds. “NetApp does. I really appreciate the fact that they’ll take feedback from clients and customers to improve the product and make it do what we need it to for our business.”

SOLUTION COMPONENTS

FLEXPOD DATACENTER COMPONENTS

FAS2240 series systems

FAS8040 series systems

ONTAP software

FlexClone

SnapMirror

Cisco UCS blade servers

Cisco Nexus switches

PARTNER

ePlus

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