Disability Rights Texas

Legal Advocacy Organization Attains the Full Benefits of Going Software-Defined with DataCore's Virtual SANs and Microsoft Hyper-V

ABOUT THE CUSTOMER

Disability Rights Texas

(previously named Advocacy Inc.) is the federally designated legal protection and advocacy agency for people with disabilities in Texas. Its mission is to help people with disabilities understand and exercise their rights under the law, ensuring their full and equal participation in society.

drtx.org

Disability Rights Texas (DRTx) is a non-profit legal and protection advocacy agency based out of Austin with eight additional locations throughout the state of Texas. DRTx began using DataCore's software back in 2009, and in 2011, the company upgraded to the current DataCore SANsymphony™ flagship product. Prior to SANsymphony, DataCore served as a straightforward "iSCSI storage solution," which the company could leverage to store and share documents. It was very much a standalone repository for both documents and videos.

Now the company has put in place a redundant pair of DataCore SANsymphony software-defined storage nodes (SAN 1 and SAN 2) in Austin that are synchronously mirrored. In addition, a DataCore Hyperconverged Virtual SAN third node in El Paso (SAN 3) is replicated asynchronously and serves as a disaster recovery (DR) site. Once the DataCore infrastructure was in place, the IT team at DRTx used Microsoft Hyper-V in order to virtualize the physical server environment, with ten servers currently virtualized. DataCore and Hyper-V now work in tandem to virtualize the physical server and storage environment and they simplify and speed up recovery in the event of a disaster.

DRTx embraced Hyper-V for pure agility and the ability for IT to be nimbler than they could be with physical servers. Hyper-V significantly improved server agility; likewise, DataCore did the same for storage.

"Server virtualization made it much easier to come back up after a disaster than you could with physical machines," said Carlton Whitmore, IT manager, Disability Rights Texas. *"But we would not have been able to achieve the overall agility, cost savings and productivity benefits without storage virtualization software from DataCore. The DataCore Virtual SAN and SANsymphony storage virtualization platform have combined*

to enable DRTx to fully use existing investments and significantly increase our flexibility, portability and cost savings to meet future needs."

A SOFTWARE-DEFINED STORAGE ARCHITECTURE DELIVERS FLEXIBILITY, PORTABILITY AND COST SAVINGS

The main SAN at DRTx (SAN 1) consists of SANsymphony running on top of a state-of-the-art Dell server. But on the mirrored side (SAN 2), Whitmore is extremely pleased with the fact that as a Dell user he can use an older server that admittedly has slower drives. It is the same scenario for the asynchronously replicated Virtual SAN (SAN 3) in El Paso. *"We can build the other SANs on lesser systems that don't cost nearly as much as the main SAN that we are using,"* Whitmore stated.

The flexibility and the portability inherent to DataCore SANsymphony enables DRTx to save money by bringing the price point down on the overall IT infrastructure. This empowerment in terms of cost containment goes a long way for a non-profit organization. In particular, it helps avoid the recurring costs associated with having to "rip and replace" a traditional hardware SAN – such as NetApp – every five years.

Virtualization provides a multiplier effect. This is what Whitmore sought for DRTx by going virtual on both the server and storage sides. With Dell PowerEdge servers, for instance, DRTx was fairly limited as to the number of disk drives they could add to each.

BETTER CAPACITY MANAGEMENT, IMPROVED PERFORMANCE MANAGEMENT AND PROVEN COST CONTAINMENT

By virtualizing their IT environment DRTx was able to stop wasting free disk space on the physical servers the company had. With DataCore, DRTx can use all the disk space available by overcommitting the SAN and thereby use one-third less physical space for the company's needs.

Whitmore explained the real value of DataCore lies in the ability to overcommit your storage. *"With SANsymphony, you might allocate a 100 Gigabyte (GB) virtual drive – for instance the 'C-drive' on a virtual machine. Even though you slated it to be 100 GBs, your backend view from the DataCore console is going to show only the actual space you have used on the C-drive. It is not going to reflect that the 100 GBs are gone. That is the real power of thin provisioning."*

A STORAGE VIRTUALIZATION SOFTWARE LAYER MAKES EVERYTHING FASTER

Moreover, Whitmore was surprised a storage virtualization software layer in the overall IT infrastructure made everything much faster. He was also impressed with just how efficiently DataCore software-defined storage mirrors data between the two SANs in the Austin data center. *"The SAN connectivity is not via a switch, but two cross-over cables connecting the two SANs. I am shocked that when we take one down, and the other comes back up, just how fast they re-mirror between the two machines while also serving data to all of the hosts."*

As far as data protection, Whitmore noted DataCore could accommodate any server-level hardware. The two mirrored SANs in Austin and the asynchronous system in El Paso are testaments to this. *"Without DataCore powering our SANs, we could not have configured what we have so affordably. DataCore has been extremely practical for our needs."*

> "The thing that really surprised me was just how efficiently DataCore storage virtualization software mirrors data between the two SANs in our Austin data center. My hat is off to DataCore for making a software-based storage virtualization solution so efficient."
>
> **– Carlton Whitmore, IT manager, Disability Rights Texas**

RISK REDUCTION THROUGH ROCK-SOLID DATA PROTECTION MANAGEMENT

Two Hyper-V hosts are clustered – if one goes down it automatically switches the VMs to the other host. DRTx relies exclusively on Dell for their laptops, desktops and servers –everything except switches, for which DRTx is using ProCurve. The servers that the storage runs on are all Dell PowerEdge servers.

DataCore SANsymphony runs on a Dell PowerEdge 710 and this serves as SAN 1. There is direct-attached storage running off of this as well. The backend storage is a Dell MD 1220, which provides added capacity. SAS drives are running exclusively in this device. SAN 2 consists of DataCore SANsymphony running on a four-year-old Dell PowerEdge 2950. This too has direct-attached storage – a Dell MD 1000. While this has larger disk drives and draws a little more power than SAN 1, it is notably less expensive. Whitmore explained that DRTx utilizes mainly SAS drives running at speeds of 10-15K rpm.

Lastly, DataCore Virtual SAN runs on a Dell PowerEdge 2950 in El Paso (SAN 3). This has a Dell MD 1220 attached, which provides backend storage. A private VPN connection between the Austin and the El Paso sites provided by TW Telecom, Inc. is complemented with a second dedicated 100-megabyte connection used exclusively for replication between the two sites. Yet another PowerEdge 710 server is located in El Paso as well, which serves as a backup Hyper-V server. And for added DR, DRTx still has a couple of physical domain controllers – just in case Hyper-V goes down.

Notably, the virtualized infrastructure supports 110 employees statewide. According to Whitmore, *"If the systems in Austin completely went down, we could just make 'live' the virtual disks on SAN 3 in El Paso and spin up the virtual machines on that remote PowerEdge device."*

SUMMARY: DATACORE + MICROSOFT HYPER-V SUPPORT MISSION-CRITICAL APPLICATIONS & DELIVER TANGIBLE ROI

With DataCore and Hyper-V, Whitmore said that DRTx has virtualized everything including e-mail and SharePoint. The company has a whole cadre of custom applications that run on Microsoft SQL Server which (including the underlying SQL databases) are now virtualized.

As a legal and protection advocacy agency, DRTx depends heavily on the case management system, Legal Files, as its virtualized case management system. This application and the case information are mission-critical to the firm and therefore it needs a reliable server and storage infrastructure. DataCore's software has seamlessly increased the speed and response times of these key systems and processes – making them more efficient and productive.

Prior to DataCore, DRTx was running eight or nine physical servers and there was always an issue with one at any given point in time – meaning either one was up for maintenance or one was facing "end of life" from Dell.

IT ENVIRONMENT AT-A-GLANCE :

- **Number of Users:** >110 users
- **Primary Server Vendor:** Dell
- **Storage Vendor:** Dell
- **Server Virtualization Platform:** Microsoft Hyper-V
- **Software-defined Storage and Storage Virtualization Platform** DataCore Hyperconverged Virtual SAN and SANsymphony

"Before implementing DataCore, we got hit pretty hard with maintenance costs – or we would need to buy new equipment to replace what was constantly being phased out," said Whitmore. *"As far as tangible costs saved with DataCore, we are probably saving at least $7,000 - $8,000 a year, every year, as far as maintenance fees and hardware costs that we no longer have to pay now that we have virtualized both servers and storage."*

Virtualization has served as a multiplier in terms of doing more with less at Disability Rights Texas. The flexibility and the portability inherent to DataCore has enabled DRTx to cut expenses by allowing the agency to continue utilizing low-cost hardware and bringing the price point down on the overall IT infrastructure. This empowerment in terms of cost containment goes a long way for a non-profit organization. Instead of paying maintenance on eight or nine servers, DRTx now pays maintenance on four physical devices – the two hosts and the two SAN servers. Those are numbers that Whitmore and the rest of the team at DRTx can live with.

ABOUT DATACORE

DataCore is a leader in software-defined storage. The company's storage virtualization software empowers organizations to seamlessly manage and scale their data storage architectures, delivering massive performance gains at a fraction of the cost of solutions offered by legacy storage hardware vendors. Backed by 10,000 customer sites around the world, DataCore's adaptive and self-learning and healing technology takes the pain out of manual processes and helps deliver on the promise of the new software defined data center through its hardware agnostic architecture.

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