DATACORE™

Hanover Hospital
A Storage Efficiency Case Study

Drastically Reducing Time Spent on Routine Storage Tasks and Reducing Storage Costs.

Hanover Hospital is an independent, not-for-profit community hospital and part of Hanover HealthCare PLUS network of services. Hanover hospital is also a member of the UPMC Pinnacle. The hospital is located in Hanover, Pennsylvania and manages 6,000 patient visits, 190,000 outpatient visits, with 600,000 lab tests and 90,000 imaging scans.

Within healthcare, IT is under enormous pressure to increase storage capacity, improve resiliency and accelerate performance – all while managing costs. Hanover Hospital is one of more than 1,000 healthcare customers that have trusted DataCore Software to virtualize its storage infrastructure.

Supervisor of Technical Support Douglas Null is charged with providing technical leadership for the IT infrastructure, including servers, storage, networking, security, as well as technology and application conversion.

"If we had gone down the existing path we were on with our traditional SAN, it would have been a very lengthy process to acquire the storage and to deploy the storage to ESX servers in the environment," stated **Null.** *"We wanted something we could quickly scale, and is simple to manage – all while not impacting performance. Additionally, we did not necessarily want flash storage if we did not need it."*

ABOUT THE CUSTOMER

Hanover Hospital is a not-for-profit community hospital which is part of a larger system called Hanover HealthCare PLUS Network, dedicated to the promotion of wellness, preservation of health, and the provision of diagnostic and therapeutic services to the people of the Greater Hanover, PA area. Hanover's mission is to be the provider of choice for hospital-supported acute care, diagnostic, therapeutic, rehabilitative and wellness services required to support its network of care.

www.hanoverhospital.org

COST REDUCTIONS WITH DATACORE

CAPEX Savings

90% less

EMC   w/DataCore
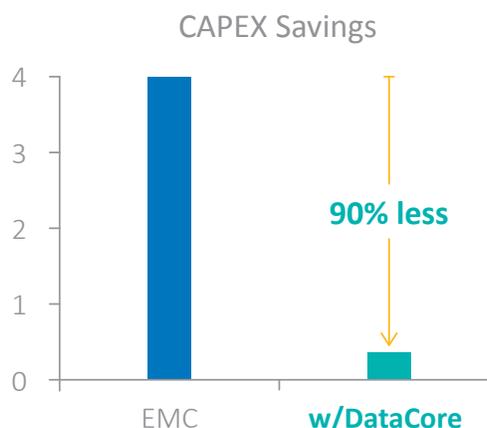
Null and the rest of the IT team at Hanover faced numerous challenges with the incumbent storage vendor. For one, new departmental applications needed to be deployed quickly. In addition, these applications required a significant amount of storage capacity, which was beyond what the current storage array could support. A storage upgrade using the incumbent vendor was considered. However, the high cost for-performance consideration quickly made this an unviable option. The performance concern was compounded by the fact that any new storage needed to have the ability to support even more applications in the future.

The IT team at Hanover needed a solution that helped them meet their application requirements. They needed the ability to quickly scale, keeping the applications available far more efficiently than they had been able to do so in the past. Hanover Hospital did not want to be tactical and go down the same old path of deploying new applications on a replicated, traditional two-array SAN configuration. Instead, the IT team began looking for a smarter, more strategic option.

BECOMING SOFTWARE-DEFINED WITH DATACORE: REDUCING TIME SPENT ON ROUTINE STORAGE TASKS AND REDUCING STORAGE COSTS

Hanover Hospital trusted DataCore to virtualize its storage infrastructure because the hospital did not have to upgrade its existing, underlying storage – thereby making a CapEX outlay much lower. Hanover started with a single DataCore installation and over a handful of years the hospital added synchronous mirroring that stretched storage availability between its two on-campus data centers.

Today, DataCore's adaptive, self-learning and healing technology is taking the pain out of manual processes and helps deliver on the promise of the software-defined data center through its hardware agnostic architecture. With DataCore, Hanover Hospital has drastically reduced the time spent on routine storage tasks and has reduced storage costs – all while increasing capacity utilization and the performance of its applications. What's more, high-availability storage at Hanover has significantly reduced the time it takes to provision storage and systems.

TOP THREE REASONS FOR SELECTING DATACORE

- **DataCore was 90% less than the total price of EMC**
- **Quickly scale performance for VMs and applications**
- **Active / active, zero touch failover and failback**

HANOVER'S JOURNEY WITH DATACORE:

Null reports that from a performance and applications perspective, he has seen a lot of improvement over the years as far as base features go with DataCore solutions. The results attained with DataCore are impressive, including:

COSTS
- 90% less in CAPEX
- 80-90% less in OPEX

OPERATIONAL SIMPLICITY
- Provisioning went from four hours to five minutes

CAPACITY
- 60% overprovisioned PERFORMANCE
- 1K IOPS from SATA drives with DataCore

AVAILABILITY
- No downtime for last four years despite storage failures and outages

THE SOFTWARE-DEFINED APPROACH DELIVERS BETTER OPERATIONAL SIMPLICITY AND BETTER CAPACITY MANAGEMENT

One of the other benefits of software-defined storage with DataCore that has significantly helped Hanover Hospital has been the overall operational simplicity of storage management. Provisioning a DataCore environment is truly straightforward and, according to **Null,** is *"essentially a two-step process."* This software-defined approach took provisioning from four hours down to five minutes. This is because DataCore SANsymphony™ excels in automating storage-related tasks – whereas the steps needed to provision storage in alternate ways are often daunting. With a traditional SAN set in an active-active configuration, Null and others at Hanover would be tasked with configuring an equipment storage solution on one side, then configuring the equipment storage solution on the other side. Then, they would have to configure the replication between the two sites. They would also have to configure journals and logs. Finally, they would need to configure Site Recovery Manager (SRM) from VMware that is used to failover the VMs from site to site.

"As you can see, we save a lot of time in even the most simple configuration by provisioning storage in both of our data centers with DataCore," **Null** emphasized.

What's more, Hanover now has the ability to better manage capacity through thin-provisioning. According to Null, the IT environment at Hanover is about 60% overprovisioned. This benefits the organization by allowing it to not have to add new storage when new systems come online. Existing storage can be allocated to new systems immediately and overall storage can be expanded down the road. When new systems are introduced, the IT team simply thin-provisions virtual volumes of storage and presents them to the ESX hosts as well as to the VMs. By doing so, Hanover saves both time and money.

OPERATIONAL SIMPLICITY WITH DATACORE

Time to Provision Capacity

Went from 4 hours to 5 minutes

98% less TIME

Previously   w/DataCore
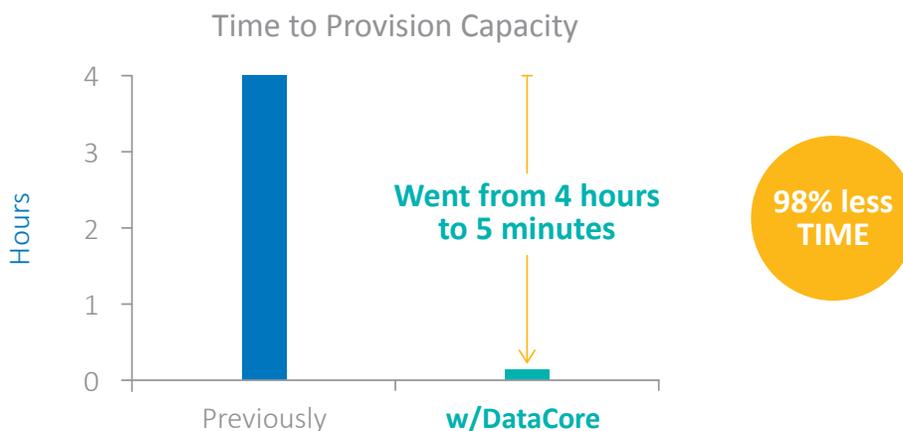
"*[With DataCore] we get very impressive performance and bandwidth throughput for the amount of VM servers and applications we are hosting on our environment. Plus, we have improved storage utilization since we are able to over-provision storage by about 60%, meaning we are more efficient in our ability to meet the growth and cost demands for more capacity.*

– Douglas Null, Supervisor of Technical Support.

A VIRTUALIZED, AGILE INFRASTRUCTURE THAT SUPER-CHARGES PERFORMANCE, SCALES TO MANAGE DATA GROWTH AND ELIMINATES DOWNTIME

Hanover has seen very good performance with DataCore SANsymphony. In fact in one instance where a RAID 5 virtual volume was mirrored between the two sites, the IT team was particularly impressed. This was when the team used a tool from Veeam to monitor the VM disk metrics of a VMware ESX 5 VM; they realized that the particular application was taking well over 1,000 IOPS/second on the DataCore powered storage, however, the latency on the data stored was "nil" and the reads were never even hitting the backend physical disk because of the DRAM caching that is part and parcel of the DataCore SANsymphony.

Significantly, when the IT team at Hanover breaks down the technology that is running on the EMC storage versus the technology running the VM's that are powered by DataCore virtualized storage platform back-ended by HP MSA, of the 266 total VMs, 140 are now running on the DataCore software-defined storage platform.

The two data centers are connected by dark fiber. Roughly 90% of the infrastructure is on VMware vSphere. The majority of the "compute" is done on 34 HP DL380 servers. On these servers, the hospital has approximately 266 virtual machines (VMs) in operation. Hanover is using EMC and HP MSA arrays as its current storage platforms, with the HP MSA's used specifically to support the DataCore deployment.

DataCore SANsymphony now serves as a unified storage services platform across the entire multi-site infrastructure. In particular, it is relied upon extensively for various mission-critical, clinical and enterprise applications. Examples of these include the components of the hospital's MEDITECH EMR, clinical middleware, medical dictation and transcription services, components of an Ambulatory HIS, a Medisolv BI reporting platform, Citrix XenApp, Infrastructure Management and Monitoring Applications, multiple Microsoft product offerings such as Microsoft SQL and MySQL, as well as other applications.

Hanover Hospital reports that with DataCore SANsymphony deployed in a synchronous mirror configuration, it has realized continuous uptime through high-availability storage and has significantly reduced the time it takes to provision storage and systems.

Today, Hanover Hospital is, according to **Null** – *"A happy DataCore customer with well over half of our environment running on DataCore-powered storage."*

ABOUT DATACORE

DataCore is a leader in software-defined storage. The company's storage virtualization and Virtual SAN solutions empower 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.

www.datacore.com

For additional information, please visit **datacore.com** or email **info@datacore.com**

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