

PRESCRIPTION FOR VIRTUALIZATION SUCCESS

German hospital improves speed and availability with rapidly deployed Dell EqualLogic™ virtualized storage solution



Zentrum für Soziale Psychiatrie Haina gGmbH in Hessen, Germany, is a psychiatric hospital including the largest forensic department in Europe. The centre has around 1,200 employees, across 52 wards and outpatient departments on seven sites. A wide range of professionals – from therapists to teachers – rely on the hospital's IT infrastructure to deliver patient care.

SOLUTIONS

- BACKUP, RECOVERY AND ARCHIVING
- DATA CONSOLIDATION AND MANAGEMENT
- VIRTUALIZATION

Zentrum für Soziale Psychiatrie Haina

CUSTOMER PROFILE

COMPANY: Zentrum für Soziale Psychiatrie Haina (ZSP-Haina gGmbH)

INDUSTRY: Healthcare

COUNTRY: Germany

FOUNDED: 1953

EMPLOYEES: 1,200

WEBSITE: www.psych-haina.de

CHALLENGE

German hospital Zentrum für Soziale Psychiatrie Haina gGmbH wanted to maximise the benefits of its virtualized server infrastructure to improve its data protection and recovery capabilities. The IT team decided to replace its direct attached storage with a centralised, virtualized Dell EqualLogic™ storage solution.

SOLUTION

ZSP-Haina gGmbH created a fully virtualized IT solution by installing a simplified Dell EqualLogic virtualized internet SCSI (iSCSI) storage area network (SAN).

BENEFITS

Get IT Faster

- SAN solution installed in just one hour by ZSP-Haina IT team

Run IT Better

- Dell EqualLogic storage improves speed and availability
- Innovative replication mechanism allows possibility for disaster recovery
- Simplified management saves time and costs

Grow IT Smarter

- Online expansion provides scalability without downtime
- Modular expansion ensures optimum utilisation



Constant availability and rapid access to information, such as patient records, is a prerequisite. Careful retention, security and protection of data is also vital, as many patients are criminal offenders who have been referred to the hospital for treatment by the courts.

ZSP-Haina gGmbH has about 650 regular IT users. They access standard software packages such as Microsoft® Office, as well as specialised healthcare applications



like the hospital's Electronic Patient Record (EPR) system. All of these tools are essential to the day-to-day running of the hospital, and much of the information they hold is sensitive.

The hospital's IT team, led by Jörg Riether, IT manager, works continually to ensure that the IT infrastructure is highly available, protected and secure. To this end, they turned to Dell in early 2007 to implement a virtualized server solution. Jörg Riether says: "We have worked with Dell since 2002. Our infrastructure is based on Dell technology, including servers, desktops and workstations. Dell always meets our support, performance and price criteria, which is why it's our preferred provider."

The virtualized infrastructure – based on Dell™ PowerEdge™ 2950 servers and VMware® Infrastructure 3 software – offers a range of benefits, including increased data protection, simplified management and faster provisioning of new servers. Rather than running 60 physical servers, the hospital now runs six physical servers hosting 60 virtual machines.

However, to maximise the potential of its investment in server virtualization, ZSP Haina needed to introduce a centralised, virtualized storage area network (SAN). This would replace the existing approach of server direct attached storage (DAS).

“WE FOUND THE SOLUTION EASY TO IMPLEMENT. WE INSTALLED EACH DELL EQUALLOGIC ARRAY IN LESS THAN AN HOUR, AND WE WERE ABLE TO START USING THEM IMMEDIATELY.”

Jörg Riether, IT manager, Haina Centre for Social Psychiatry (ZSP-Haina)

“We spent a lot of time on basic tasks just to protect our data because we performed backups for each physical server separately,” says Jörg Riether. “This backup strategy worked well initially, but the process became increasingly complex and error-prone as data volumes increased.”

The team conducted a thorough review of the available SANs. They used the VMware forum – an online resource for VMware users – and found the numerous recommendations of Dell EqualLogic SANs helpful. “Simplicity, scalability and protection were our main objectives,” Jörg Riether says. “The Dell EqualLogic line is a dynamic virtual storage solution with

a simple user interface that helps us add servers easily in just a few minutes and offers a straightforward purchasing model. What's more, the arrays automatically balance workloads to ensure optimised performance.” The team was also reassured by the long history of success other companies have had with Dell EqualLogic SANs and VMware, alongside the strong strategic alliance between VMware and Dell.

Jörg Riether and his team designed the solution architecture in-house, and deployed it in a single day using their existing skills. This was important to ZSP-Haina, because many other storage solutions required service engagements or specialised staff training for SAN management.

HOW IT WORKS

HARDWARE

- Dell™ PowerEdge™ 2950 Server
- Dell PowerConnect™ Switches
- Dell EqualLogic SAN with PS5000XV and PS5000E storage arrays

SOFTWARE

- VMware® ESX Server software
- Dell EqualLogic Auto-Replication
- Dell EqualLogic Auto-Snapshot Manager

SERVICES

- 4 hour Onsite Service*



“DELL EQUALLOGIC VIRTUALIZED STORAGE IS THE IDEAL COMPLEMENT TO OUR VIRTUALIZED ENVIRONMENT. WE NOW HAVE A STORAGE SYSTEM THAT IS COMPLETELY INTEGRATED WITH OUR VIRTUAL SERVERS, AND IS MUCH SIMPLER TO MANAGE.”

Jörg Riether, IT manager, Haina Centre for Social Psychiatry (ZSP-Haina)

“We found the solution easy to implement. We installed each Dell EqualLogic array in less than an hour, and we were able to start using them immediately,” says Jörg Riether.

Their virtual infrastructure consists of a Dell EqualLogic SAN comprised of two PS5000XV arrays attached to the existing virtualized PowerEdge 2950 servers. A second Dell EqualLogic SAN with a high capacity PS5000E array is located offsite for disaster recovery. The PS5000E array offers up to 16 terabytes of storage, providing an affordable consolidated remote disaster recovery system. Each PS5000XV array provides ZSP-Haina with 1.8 terabytes of raw storage and high performance RAID 10 configuration for mainstream databases and servers.

The arrays are networked using gigabit Dell PowerConnect™ switches. All the arrays at each site appear as a single SAN, simplifying management.

VIRTUALIZED STORAGE FOR VIRTUALIZED SERVERS

The solution has reinforced the benefits of the Dell/VMware environment with the benefits of centralised, virtualized storage. Virtual servers are best served by simple, flexible virtual storage that can load balance automatically and scale simply. The Dell EqualLogic solution is designed to meet these requirements with fast, easy integration, single-view management and seamless expansion.

“Dell EqualLogic virtualized storage is the ideal complement to our virtualized environment. We now have a storage system that is completely integrated with our virtual servers, and is much simpler to manage. Our Dell EqualLogic arrays provide backup and disaster recovery for 60 virtual machines, using standard Ethernet networks. Adding a virtual machine to the network is easier than adding a physical machine,

and we’ve minimised our total cost of ownership because we didn’t have to buy any special equipment to get the system up and running,” says Jörg Riether.

DELL EQUALLOGIC SAN IMPROVES DATA PROTECTION AND DISASTER RECOVERY

As anticipated, the new solution has significantly improved the availability and protection of data, while simplifying disaster recovery. It has also simplified the exchange of system components because they can be swapped while the system is running.

Jörg Riether and his team have taken advantage of the advanced software features included as standard with each PS Series array. “We use scheduled SAN-based snapshots to protect our onsite data, and scheduled Auto-Replication to copy data to the remote site.

Not only are we reducing the likelihood of human error during manual processes, we're saving time on routine tasks. We have a simple, affordable system for disaster recovery that we can use without impacting production, and our recovery times are faster," Jörg Riether says.

The SAN has hot swappable components. That is, the team can remove and replace key components while the system is operating, avoiding downtime.

SIMPLIFIED MANAGEMENT SAVES TIME AND COSTS

With an intuitive user interface and high levels of automation, the system has helped Jörg Riether and his team to cut maintenance time significantly. "Now, we can provision storage for many servers simultaneously, rather than one by one, so we spend less time duplicating work, and more on strategic tasks," says Jörg Riether.

The arrays also contain built-in software that continuously monitors resources and automatically load-balances storage across controllers, network connections and disk drives. That is, they ensure best performance – and provide in-depth reports – without human intervention. "We don't have to worry about under- or over-utilisation because the system manages workloads automatically," says Jörg Riether.

When manual input is required, the team uses the single, simple-to-use PS Group Manager interface that covers the entire SAN. "I really like the graphical user interface for the Dell EqualLogic SAN. It's self-explanatory – no need for training, no need for manuals," says Jörg Riether. "I learnt to use it in 20 minutes. It's a great resource, with best practice information and management hints and tips, as well as all the tools we need to keep the system running optimally."

TRANSPARENT PURCHASING AND PRICING REDUCE COSTS AND COMPLEXITY

The simple all-inclusive licensing model was a crucial requirement for ZSP-Haina. To meet his objective of simplified administration, Jörg

Riether wanted a straightforward purchasing structure that would keep paperwork to a minimum and avoid ongoing monitoring and analysis of software licensing requirements. "The all-inclusive software licensing model for the Dell EqualLogic line was a deciding factor," he says.

All management tools are included in the initial purchase, so Jörg Riether did not have to pay additional fees for feature licences. "Once we made our initial purchase, we had everything we needed. Obviously that's a benefit in terms of cost, but it's also an advantage because it simplifies our administration and saves us time. And the less time we spend on paperwork, the more time we have for value-added work that supports our staff in the delivery of high-quality patient care," explains Jörg Riether.

MODULAR ARCHITECTURE PROVIDES SEAMLESS EXPANSION

Jörg Riether and his team will be able to expand the capacity of the existing infrastructure online in real time, without disrupting applications. In addition to the obvious benefit of avoiding downtime, this feature gives the team a long-term foundation for growth that they can modify quickly and simply.

"We can incorporate up to 12 arrays and retain a single point of management for the whole SAN group. So we can expand the system without worrying about increasing complexity. We didn't have to buy more capacity than we needed because the system is so easy to scale on-demand. What's more, the performance of the SAN will increase in line with any increases in capacity," explains Jörg Riether.

For more information on this case study or to read additional case studies, go to www.dell.com/casestudies and www.dell.co.de

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**Zentrum für Soziale
Psychiatrie Haina**

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