Hewlett Packard Enterprise

Ballarat Clarendon College triples storage performance

Fast, scalable HPE 3PAR Storage system improves classroom experience

Objective
Replace ageing storage with expandable new system

Approach
Reviewed various storage options available in the market

IT Matters
- Provided detailed reporting and analysis through an easy-to-use management console
- Enabled automatic moves of workloads between tiers with Optimization Suite software
- Increased resilience with dual redundant systems, with Remote Copy software automatically replicating data to the disaster recovery environment

Business Matters
- Tripled performance, increasing responsiveness and throughput for end-users and improving the classroom experience
- Minimised outage on implementation, with only two minutes of downtime
- Provided scalability for future growth and move to private cloud

Ballarat Clarendon College replaced its ageing existing storage with two new HPE 3PAR Storage systems, tripling the performance and improving user experience in the classroom. The new system is scalable for future expansion, and high availability is secured due to Remote Copy software replicating all data to a disaster recovery environment.

Challenge

Storage upgrade
Clarendon College is a school based in the town of Ballarat, about 100km from Melbourne, Australia. Children across a wide age range attend the school, from three-year-old kindergarten pupils through to Year 12 students at the age of 18.

As its main storage system, the school was previously using an HPE P6350 Enterprise Virtual Array (EVA). It also already had HPE servers, networking and wireless products.

When this storage array was reaching the end of its maintenance contract, the school decided it was time to upgrade or replace it. In addition, Clarendon needed to expand the storage capacity available to meet the needs of staff, students and parents.

Case study
Ballarat Clarendon
College

Industry
Education

Page 2

> "Overall, the performance and reporting capabilities of the HPE 3PAR Storage system are the biggest benefits for us, as well as the sense of security from the real-time backup with Remote Copy."
>
> – Adam Ryan, ICT and project manager, Ballarat Clarendon College

"I spoke to three different resellers, and they all recommended we look at the HPE 3PAR Storage system to replace our EVA," says Adam Ryan, ICT and project manager at Ballarat Clarendon College. "We saw that it wasn't worth investing further in EVA to add more disks, and that we would gain more by migrating to the HPE 3PAR Storage system – even though the upfront cost was higher.

"I reviewed different systems to see what was available in the market, but in the end I came back to the HPE 3PAR Storage system," says Ryan. "It was an easy decision once I saw the performance that the HPE 3PAR Storage system offered."

As well as performance, the school chose Hewlett Packard Enterprise because of its positive past experience, the reliability of the HPE equipment, HPE's support, and the features of the HPE 3PAR Storage system – including optimisation and replication software.

Solution

Redundant systems
The new solution consists of two HPE 3PAR StoreServ 7200 arrays, each with two tiers of storage. One array is used as the production environment, and one as a redundant system in the school's second server room that acts as a disaster recovery environment. The two sites are on the same campus, around 300 metres apart.

In each of the two systems, the college has 50TB of storage. Around 35TB to 40TB is currently used, giving it a buffer of around 10TB spare – and Ryan and his team can easily keep a check on this figure with the management tools provided by HPE.

Clarendon runs multiple applications, primarily Microsoft®-based, including making extensive use of Microsoft SharePoint. They also use VMware® software for server virtualisation. The storage holds the college's business administration database, student data, and student and staff emails, as well as work created by pupils.

All of the college's 200 staff and its 1,370 students use the system, as well as their parents accessing information on a web-based portal – giving a total of up to 5,000 people connected at any one time. In particular, SharePoint holds resources that the students can access during class, elsewhere in the school, or at home for revision. As well as its main campus, staff and students at the college's two other sites also access the system remotely through a Virtual Private Network (VPN).

Case study
Ballarat Clarendon
College

Industry
Education

Page 3

Benefit

Performance tripled

"Performance is a key requirement for the college, for example to minimise latency at busy times such as when the children log in at the start of the day. Most classes have an electronic whiteboard, and possibly use video and internet connections.

"When we did some testing, we could see that the HPE 3PAR Storage system performance is at least three times quicker than the EVA," says Ryan. "We've also seen a lot less latency in the time it takes to spin up and deliver files.

"We thought the EVA was great, but the HPE 3PAR Storage system has taken it to a new level," says Ryan. "We might have 100 or 200 children trying to simultaneously stream the same video off the storage, and that's where we used to struggle – but now the start-up time is almost non-existent. We've had good feedback from the staff, and we can deliver a better experience in the classroom."

Smooth migration

HPE Technology Services (TS) undertook initial installation and configuration of the new storage, while Neptune Professional Services – the services arm of HPE reseller Trident – completed the integration.

Neptune also undertook commissioning of new blade server hardware, moving existing blade servers from production to the disaster recovery site, and further configuration work on the infrastructure.

"We tried to minimise downtime, so we kept the existing EVA storage, installed the HPE 3PAR Storage system by its side, and migrated our environment across," says Ryan. "The outage window was no more than two minutes for the whole project – which was due to having to reboot a switch port, so not even down to the HPE 3PAR Storage system.

"Trident were fantastic throughout the process, and having HPE there made us feel confident and comfortable with the system," says Ryan. "The Trident and HPE people sat down and listened to us, and helped us meet our objective of minimising the outage."

The move was carried out during a holiday period, which is a busy time for the storage with parents and teachers accessing the system. Ryan comments, "We didn't see a performance decrease at all during the migration."

Replication and optimisation

The HPE 3PAR Optimization Suite software enables the school to automatically move workloads from tier to tier, for example to move workloads around when particular tasks are heavily using the databases on the storage – such as running a month-end payroll job. Optimization Suite includes HPE 3PAR Adaptive Optimization, Dynamic Optimization, and System Tuner Software, all in a single suite.

Similarly, the HPE 3PAR Replication Software Suite provides tools to enable Clarendon to control how its data is moved between the production and disaster recovery environments, including Remote Copy, and hence ensures it is protected at all times.

Customer at a glance

Application
Microsoft® SharePoint

Hardware
• HPE 3PAR StoreServ 7200
  Storage system

Software
• HPE 3PAR Optimization Suite

• HPE 3PAR Replication Software Suite

• HPE App Suite for VMware

• VMware® vCenter™ Server 5.5

HPE services
• HPE Technology Services installation
  and configuration

"Remote Copy was one of the main features for which we purchased the HPE 3PAR Storage system; when something is written to the disk in the production environment it's also automatically written to the disk, via the Remote Copy feature, in the second server room," explains Ryan. "If we had a problem such as a power outage, a fire or a water leak in our server room, we could get back up and running extremely quickly by relying on the second site."

In the event of an outage, the school's systems could be back in business within two to four hours, including all critical services such as the file servers, the main central database, and email capabilities. Ryan comments, "We would get functions restored to the point where users don't see much difference from normal operation, then we would try and resolve the problem with the production system."

Detailed monitoring

According to Ryan, the HPE 3PAR Storage system interface is simple, and he can find his way easily around the management console. The school has a small IT team of six people, so manageability is important to make the best use of their time.

"What I like about the console is the detailed monitoring, analysis and management reports," says Ryan. "We can actually see the CPU performance and what the disks are doing, we can see if we are using the system above and beyond where it should be, and we can identify any performance issues as well as proactively spotting potential faults.

"Support was another big factor for me in choosing the HPE 3PAR Storage system," says Ryan. "Occasionally the HPE 3PAR Storage systems will throw out some errors and the people at HPE will be on the phone to assist literally within seconds or minutes of receiving an alert – I don't believe the support from other vendors would have been anywhere near as good."

Future in the cloud

For the future, the school is considering moving its two HPE 3PAR Storage systems into a data centre in nearby Melbourne, and adopting a cloud-based structure.

Ryan comments, "We're looking at getting a 1Gbps fibre internet connection in the next 12 to 18 months, so we could put the storage offsite and remove the responsibility of managing power, security and cooling.

"The HPE 3PAR Storage system, especially with Remote Copy, will give us the flexibility to move to a private cloud solution in the future," says Ryan. "We're also planning to upgrade the storage – we could double the storage from 50TB to 100TB, and put some faster disks in.

"The cost of upgrading the system by adding additional disks is low – we planned from the start to be scalable," says Ryan. "The HPE 3PAR Storage system meets that need, with many different upgrade options – so when we go to another refresh, we'll just be adding to the system, not having to replace it.

"Overall, the performance and reporting capabilities of the HPE 3PAR Storage system are the biggest benefits for us, as well as the sense of security from the real-time backup with Remote Copy," concludes Ryan.

Learn more at
hpe.com/3par

f 🐦 in ✉

Sign up for updates

Hewlett Packard
Enterprise