Hewlett Packard Enterprise

Daihatsu adopts All-Flash storage to accelerate new growth strategy

HPE 3PAR StoreServ and HPE StoreOnce improve data protection

Objective
Update storage environment for the company-wide virtualization base. Deliver high performance and reliability to support growth strategy

Approach
Replace existing cluster storage in stages with All-Flash storage. Review data storage environment with an eye towards achieving a business continuity plan (BCP)

IT Matters
- Cuts power consumption by 75% and footprint by up to 87.5%
- Reduces nightly batch processing times by 80%
- Delivers 3PAR flash-integrated backups that directly tie together primary storage and backup appliances
- Cuts backup time by 50%

Business Matters
- Delivers high performance and reliability and provides support for a new growth strategy
- Delivers the simple-slim-compact concept through energy and space savings
- Contributes to faster development of new applications
- Eliminates backup servers and specialized software, with an expected 80% cut in related costs

Daihatsu and Daihatsu Business Support Center chose the HPE 3PAR StoreServ All-Flash array to create a virtualized infrastructure that provides both energy and space savings and to prepare for a new growth strategy centered on collaboration with Toyota Motor Corp.

Challenge

Need to revamp storage for virtualized infrastructure

In January 2016, Daihatsu announced a new strategy and collaborative relationship at a joint press conference with its parent group, Toyota Motor Corp. The plan is to strengthen the two companies' ties and take up the challenge of 'making a better small car'. The collaborative relationship includes Daihatsu's own growth strategy and plans to extend the evolution of the Daihatsu brand to a global level.

Case study
Daihatsu Motor
Co., Ltd.

Industry
Automotive

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>
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Chief of ICT Group
Accounting Office
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Masaya Yamazaki, chief of the ICT Group in the Daihatsu Management Center Accounting Office comments: "In August 2016 Daihatsu became a wholly-owned subsidiary of Toyota Motor Corp. This will further accelerate our collaboration in the small car and lightweight vehicle market. We are also working on setting up companies in developing countries to boost our presence in their small car markets. We will not only work towards bringing together people and systems – we will also have to put our sights on connecting and partnering ICT environments."

Daihatsu built its virtualization infrastructure in 2008, and currently around 80% of the company systems run on it, making its role in supporting the business very important.

"We have made large revisions to the infrastructure hardware every five years to grow and strengthen the virtualization infrastructure in stages," comments Yamazaki. "Our basic policy for infrastructure equipment is simple-slim-compact (SSC). This concept is synonymous across our cutting-edge manufacturing plants and throughout the company."

Daihatsu has also established strict energy-saving guidelines for the introduction of new production and ICT equipment. It had used Hewlett Packard Enterprise (HPE) servers, storage and backup products for the virtualization infrastructure.

The Daihatsu Business Support Center, which provides support for building and running Daihatsu's ICT environment, led the on-the-ground implementation of the project.

Koichi Nishiyama of the IT Business Division says: "Disk-based storage products use a lot of power and produce a lot of heat. They have to be more SSC, like Daihatsu's small cars. We decided on using an All-Flash system for storage to realize energy savings and cut down on heat."

Solution

All-Flash arrays for high performance
SSD capacity is increasing while the devices are getting less expensive all the time. They are becoming the option of choice for storage devices, thanks to their speed. Daihatsu selected the HPE 3PAR StoreServ All-Flash array after testing products from four different companies.

The HPE 3PAR StoreServ All-Flash array is positioned as a strategic product for delivering the All-Flash data center. The model chosen for Daihatsu's virtualization infrastructure actively runs four controllers and delivers the high performance and low latency expected of All-Flash products.
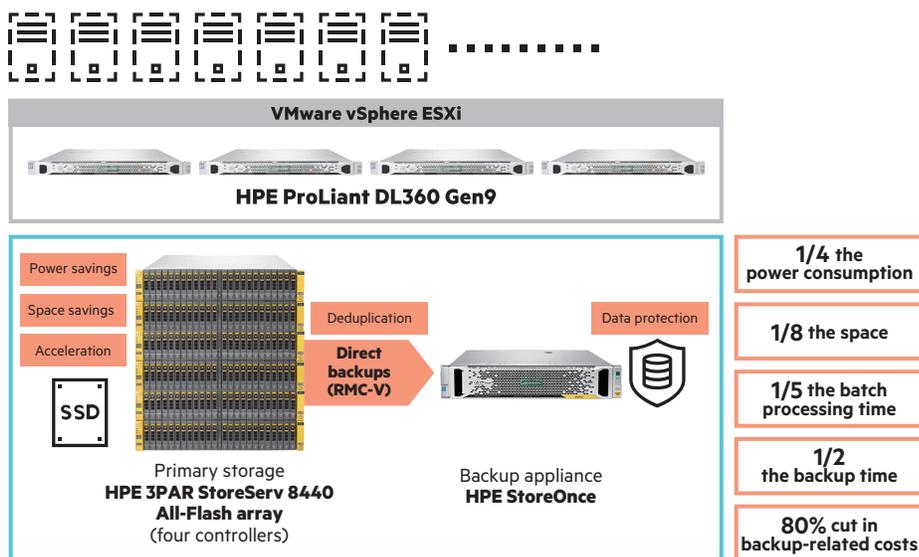
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VMware vSphere ESXi

HPE ProLiant DL360 Gen9

Power savings

Space savings

Acceleration

SSD

Deduplication

Direct backups (RMC-V)

Data protection

Primary storage
**HPE 3PAR StoreServ 8440
All-Flash array**
(four controllers)

Backup appliance
HPE StoreOnce

1/4 the
power consumption

1/8 the space

1/5 the batch
processing time

1/2
the backup time

80% cut in
backup-related costs

Making the SSC (simple–slim–compact) concept a reality

Hiroto Nakagawa of Daihatsu Business Support Center's IT Business Division says: "Starting from the requirement to halve power and space consumption we made a comprehensive assessment of performance, ease-of-use, robustness, cost and other factors, and narrowed the field down to four products by major vendors and startups. The HPE 3PAR StoreServ All-Flash array was able to cut power consumption by 75% and space consumption by 87.5% compared to the existing cluster storage, and also demonstrated random access performance which was much larger."

The device verification involved repeated tests focusing on ease-of-use, reliability and robustness of primary storage.

"What made us rank the HPE 3PAR StoreServ highest of all was the fact that it continues running even if the SSDs or controllers experience problems," comments Yamazaki. "It was this ability to identify and resolve the issue and restore the system accurately and quickly. Basically, everyone already knows that All-Flash environments provide high performance. What was important to us was whether performance would deteriorate when the deduplication function was used, or whether service would continue to be provided stably even in a limited operational mode."

"The SSMC's refined ease-of-use was also appealing. The HPE 3PAR StoreServ has outstanding autonomous operation features that convinced us it can reduce the burden of operating the storage system," comments Nakagawa.

In response to the verification results, Daihatsu made a quick decision. "We went with the HPE 3PAR StoreServ All-Flash array which got top marks in the device verification test," comments Yamazaki. "The equipment configuration and operation are simple, the cost is low and the space is compact - the choice was a perfect fit for our SSC concept."

**Flash-integrated backup delivers
high-speed, low-cost backups**
Since 2015, Daihatsu has had a HPE StoreOnce backup appliance which utilizes a deduplication function, and the company has started revising its backup environment by introducing the HPE 3PAR StoreServ All-Flash array.

"The biggest problem was how much longer it was taking to do backups as the amount of data grew," comments Nishiyama. "With the conventional method using backup software, processes running through the hypervisor would get stuck in a logjam. To cut down on the time and cost involved, we decided to switch to a new backup method.

Customer at a glance

Hardware
- HPE 3PAR StoreServ 8440
- HPE StoreOnce

Software
- HPE Recovery Manager Central (RMC)

"We decided on a solution called flash-integrated backup, which directly ties together the HPE 3PAR StoreServ primary storage and HPE StoreOnce backup appliance. This was achieved using HPE Recovery Manager Central (RMC), without having to use specialist backup servers or backup software.

"HPE 3PAR StoreServ takes a snapshot and HPE StoreOnce protects it by using a deduplication copy," comments Nakagawa. "I sensed that this simple setup would contribute to greater speed and lower cost in backups. We have already started running it and its effect of halving the time needed for weekly backups has been amazing. Once the switchover is complete, we expect an 80% cost saving in maintaining the overall backup environment, including licensing fees, maintenance costs, etc. for backup software."

The unique 'flash-integrated backups' simplify the process of managing, using, protecting and restoring data, as well as significantly contributing to higher speed and lower costs. The advantages of overall optimization is an important indicator in assessing and selecting storage and backup products.

"We are planning on deploying VMware vSphere® Virtual Volumes (VVols) in the future," says Nishiyama. "Our goal is to achieve rapid restore of individual virtual machines by combining VVols with the HPE 3PAR StoreServ/HPE StoreOnce environment. We are also planning on implementing data protection at three locations; our main office, our Shiga location and our Kyushu location, to make sure business continuity is in place."

Benefit

Support for new growth strategy

"When looking five years down the road, it will have been quite an achievement to have built an infrastructure that provides the high performance required to meet new business needs, and it also provides stable support for a next-generation system," says Yamakazi. "The HPE 3PAR StoreServ All-Flash array, deployed on the basis of the SSC concept, also has the advantage of another S - speed."

Nishiyama comments: "People using the system have been amazed at how it cuts nightly batch processing time to a fifth of what it was before, without modifying applications. The effects of accelerating storage will undoubtedly be felt in many parts of the company in the future."

Yamazaki points out that it is likely to have a positive effect on launching the new system. This is because the HPE 3PAR StoreServ All-Flash array can significantly cut down the number of steps involved in the performance tuning of applications and databases.

Nakagawa comments: "Since deploying the HPE 3PAR StoreServ All-Flash array, we no longer have to worry about performance. Indeed, we've managed to cut batch processing times to half of what we initially expected in the supply part system that we recently launched."

Daihatsu's virtualization infrastructure, supported by the HPE 3PAR StoreServ All-Flash array, will undoubtedly become a business infrastructure that will accelerate its new growth strategy.

Learn more at
hpe.com/storage/rmc

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