Hewlett Packard Enterprise

Case Study

With HPE StoreOnce, HPE IT transforms its backup processes

Cost savings, improved backup windows, less rack space maximize IT backup

Objective
Leverage legacy backup hardware upgrade as an opportunity to achieve fresh gains in simplicity, cost reductions, and improved service levels

Approach
Switch to a hardware-agnostic solution for maximum flexibility and cost-effectiveness

IT Matters
- Deduplication ratios of about 8:1 reduce tape and fibre channel footprint; one location reduced backup footprint 75%
- Increased capacity: in one location, capacity boosted 42.3%
- Faster restorations and faster backup runtimes, including 50% reduction in runtimes for Oracle backups
- Increased flexibility: easier to send backup data over network to locations that have capacity

Business Matters
- Capital expenditure costs 90% lower than previous generation of backup technology
- Reduced risk of data loss protects critical corporate assets
- Improves quality of service: SAP HANA team can initiate backups and restores without requiring intermediary services from IT organization
- Better positioned to accommodate ongoing increase in number of clients, number of backups, and volume of backup data

Like all enterprise IT organizations, Hewlett Packard Enterprise IT strives constantly to simplify its environment, reduce overhead costs, and improve service levels—while also accommodating increased demands for services and resources. When it was time to replace its legacy backup hardware, HPE IT began transitioning its backup platform to the HPE StoreOnce solution, a decision that's delivering substantial benefits, from the tactical to the strategic.

Hewlett Packard Enterprise, while a global leader in enterprise IT solutions, faces the same data center issues and challenges that confront all businesses, regardless of industry or size.

What is the best way to manage IT resources? How can IT offer more value to the business? What new data center technologies are available—and could they deliver cost savings, drive efficiency, simplify the environment, and support improved service levels?

Recently, Hewlett Packard Enterprise began articulating a roadmap for refreshing its data backup platform. For many years, the company relied primarily on HPE 9200 Virtual Library System (VLS) hardware to support its backup processes. Today, that legacy backup hardware is reaching end-of-life and HPE realized the time was ripe to transition to a new generation of backup technology: HPE StoreOnce.

Hardware-agnostic backup solution

In selecting systems for its data centers, HPE IT naturally gives strong consideration to HPE's own products. However the department isn't required to go with HPE brand systems, explains Genaro Salinas, Data Protection Engineering manager, Global IT Infrastructure and Operations, HPE. "We're no different than any other IT organization. We have to do what's best for our customers. So we pay attention to the industry. The HPE StoreOnce solution met our hardware requirements for our go forward enterprise solution."

HPE StoreOnce is high-performance and scalable, and takes up less space than traditional backup solutions.

"As we've moved more to virtualization, cloud-based applications, and SAP HANA®, the number of clients in the environment is growing rapidly," Salinas notes. "Over the past four years, we've seen a 50% increase in the number of clients. The number of backups we perform has more than doubled and the volume of data we back up has nearly tripled. We needed a backup platform that would let us keep pace with this demand both now and into the future. At the same time, we wanted to reduce the size, cost and complexity of our backup architecture."

The HPE StoreOnce solution fit each of these requirements, and the backup team began deploying its new platform. It selected HPE StoreOnce 6000 series appliances for its main data centers, and deployed HPE StoreOnce 4000 series appliances in its smaller satellite facilities.

Implementation was straightforward and fast

Today, Hewlett Packard Enterprise is protecting over 10PB of data using HPE StoreOnce, with goals to replace all HPE VLS systems by the end of FY16.

Implementing the HPE StoreOnce systems proved to be a straightforward task that didn't require specialized technical expertise. "We used a non-technical peer to configure an HPE StoreOnce unit in a Bangalore facility," notes Kendall Ledet, Data Protection engineer, Global IT Infrastructure and Operations, HPE. "There are no tape drives or internal fiber connections to configure, so it took only four hours to set up, and we didn't have to acquire technical resources to help with the install."

"HPE StoreOnce setup is the same regardless of whether you're allocating storage for Linux®, UNIX®, SQL, or [Oracle] RMAN," adds Travis Bliss, Data Protection engineer, Global IT Infrastructure and Operations, HPE. "You point the appliance, click the mouse, and you're done."

HPE IT also implemented HPE StoreOnce Catalyst software to deliver federated deduplication and multi-site replication options. This adds even more flexibility to the solution: HPE IT can use traditional, target deduplication, perform deduplication at the source, or use an intermediary gateway server running server-side deduplication.

As a result, the backup team doesn't have to deploy storage in every location it manages. It can deploy gateways that dedupe data, then send it over the network to locations that have available capacity. "The HPE StoreOnce Catalyst emulation lets us use cost-effective deduplication gateways, and we can re-use our HPE-UX device servers for deduplication," notes Steve Perkins, Data Protection engineer, Global IT Infrastructure and Operations, HPE. "We're able to multi-stream across all gateways to allow for effective load balancing and avoid saturating any one component."

In the past, HPE IT created and ran custom scripts to perform tasks like "format virtual media" to reclaim space, and to accurately report on capacity. "We don't need to do that for our HPE StoreOnce appliances," says Bliss, "because HPE StoreOnce Catalyst has built-in functionality to manage retention end-to-end."

Consolidated—and simplified—management

The HPE StoreOnce solution integrates seamlessly with HPE Data Protector, which HPE IT uses to manage its data backup processes. This integration, along with HPE Data Protector functionality, gives HPE IT a consolidated management console through which it can administer data backup processes across the enterprise. "We can

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manage all of our data protection and restoration needs without having to use multiple tools," Ledet notes.

Within that console, the HPE StoreOnce deployment has simplified the management tasks associated with HPE's backup environment. "You don't need to select gateways or media pools," says Perkins. "Device selection and device ordering from within Data Protector is much simpler."

Faster backups, smaller footprint—and capital costs reduced by 90%

Backup run times with the HPE StoreOnce solution are significantly faster. For Oracle backups, for example, where there has been a transition away from virtual tape the team has seen reduction in overall runtime.

The new platform also takes up less space. "On average, the deduplication for these backups has been around 8:1, which will allow us to reduce our tape and fibre channel footprint," says Perkins.

This translates to reduced power, cooling, and space requirements. "In Bangalore, a StoreOnce 4700 appliance we installed increased our capacity by 42.3%," Ledet notes. "But it occupies only 6 units of rack space, compared to the VLS system it replaced, which needed 24 units."

This 75% reduction in space requirements is complemented by a substantial reduction in complexity because the internal device connections are far simpler. The HPE StoreOnce 4700 solution is deployed with two HPE ProLiant DL380p Gen8 Servers (for redundancy and deduplication benefits), which take over 42% less room than the controller used by the legacy backup system.

Because HPE StoreOnce is a more efficient backup platform, deploying it cut HPE IT's capital expenditures. "Moving to HPE StoreOnce allowed us to reduce our spending by more than 90% when compared to the previous generation of technology it replaced," says Ledet.

Better quality of service improves SAP HANA processes

Reducing complexity and cost are welcome gains within the HPE IT organization. But equally important is that the HPE StoreOnce solutions allow HPE IT to deliver better quality of service to HPE users—HPE IT's customers.

Take the HPE SAP HANA infrastructure, for example, which encompasses over 30 databases (the largest of which has a 10 TB footprint).

When HPE IT transitioned the SAP HANA backup services to its HPE StoreOnce environment, the SAP team saw an immediate improvement in service levels. It now runs backups daily, with a constant time of five to six hours, and log backups are moved to

Case study
HPE StoreOnce

Industry
Technology

Customer at a glance

Hardware
- HPE StoreOnce 4000 and 6000 series appliances
- HPE ProLiant DL380p Gen8 Servers
- HPE StoreOnce Backup

Software
- HPE StoreOnce Catalyst
- HPE Data Protector software

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HPE StoreOnce every hour. This minimizes the risk of data loss from a catastrophic event, like the complete loss of primary storage.

The SAP HANA team is also pleased that the HPE StoreOnce lets it initiate restorations itself: it doesn't need to submit a restoration request to HPE IT and wait for the request to be fulfilled.

This self-service capability lets the HANA team respond more swiftly and fluidly to unexpected events—something that is particularly important in situations where time is of the essence. "Recently, after a HANA upgrade, we experienced some data corruption, and had to restore a production HANA database," explains Ulrich Denneler, SAP Basis Team, Global IT, HPE. "We had only one hour to copy the log backups to the HANA server in order to allow point-in-time recovery.

"We were able to start the database restore directly from the HANA Studio console. The restore completed in six hours, which was well inside our planned maintenance window."

The SAP HANA team is also very pleased with the effectiveness of the HPE StoreOnce data restores. "All of our HANA databases restores have been successful, with zero loss of data," notes Denneler. "HPE StoreOnce has proven to be a reliable solution for both storing and also receiving all backup data correctly."

Aligned with HPE IT strategic priorities

"Like all enterprise IT organizations, we're constantly asking ourselves how we can better serve our company's business needs," concludes Bliss. "The HPE StoreOnce platform aligns with our strategy towards continuous gains in simplification and cost savings, while also allowing us to meet our customers' needs more effectively. It's made a profound impact on our backup operations. We are very, very happy with this solution."

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4AA5-9558ENW, November 2015, Rev. 1