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Success Stories

Burt's Bees Doubles Virtual Servers, Speeds VM Backups, Restores—Without Adding Storage



KEY HIGHLIGHTS

Industry

Natural personal care products

The challenge

Growing time to perform virtual server backups and restores threatened IT service levels critical to the business.

The solution

Perform fast, storage-centric backups and restores with NetApp® SnapManager® for Virtual Infrastructure (SMVI).

Benefits

- Doubled virtual machines from 25+ to 50+ while using the same amount of storage
- Reduced virtual machine backup/restore times from several hours to just seconds
- Reclaimed over 60% storage space for virtual machines with NetApp deduplication

CUSTOMER PROFILE

Customers familiar with Burt's Bees lip balms, lotions, and soaps can attest to the company's commitment to producing high-quality, natural personal care products. But many might be surprised to learn the headway being made by the natural personal care leader in fulfilling one of its own "Greater Good" missions: To be the greenest personal care company on earth by 2020. One by-product of the company's commitment to sustainability is the IT infrastructure's "zero-waste" focus, which strives to get the most from the company's investments in hardware and software. This emphasis has enabled the company to aggressively grow data and applications yet simultaneously reduce data center costs for servers, storage, power, and cooling.

THE CHALLENGE

Time to perform virtual server backups, restore threatened IT service levels critical to the business

After running VMware® with NetApp storage for the past year, Tres Vance is the first to point to the benefits Burt's Bees has since achieved with the combined platform. For starters, he's been able to more than double the number of virtual servers now in use—from more than 25 to over 50—using the same amount of storage to store the data.

Yet, Vance, manager of Technical Infrastructure for the North Carolina company, also admits such server growth didn't come without some pain. Like many virtual server environments, Burt's Bees had opted to protect its virtual machines with host-centric data protection. Using VMware Consolidated Backup (VCB), Symantec™ NetBackup™ for VMware, and some legacy ATA storage for disk staging to tape, Burt's Bees had managed backups adequately enough when it only had a handful of virtual machines (VMs). But, as the number of VMs grew, the company's host CPU and bandwidth resources also began to experience an increasingly heavy backup load. This soon led to backup windows approaching 8 to 10 hours or more, multi-hour restores for a given VM, and performance delays in the production environment.

"For any of the core systems people depend on, literally, on the production lines to make all of our products, we have an objective to get those back within half a business day," says Vance. "But, as those systems grew, it became less and less likely like we could do that in our host-centric backup environment." While conventional backup wisdom often holds that the more data you have, the longer your backups take, Vance decided to see if he could turn that rule

“A year ago, I estimated we’d need three times the storage with another system to do what we’re doing with NetApp. Now, I know it’s a lot more. I’d even say six or seven times more storage. It goes beyond words what you can do with NetApp technologies like deduplication and Snapshot. We keep adding virtual servers yet our storage numbers stay the same, which helps keep our electricity use constant with our growth—critical to our company reaching key sustainability goals. As businesses become tighter with the dollars they spend, you want to justify spending them the right way. We’ve proven time and again NetApp was the right choice.”

Tres Vance

Manager of Technical Infrastructure, Burt’s Bees, Inc.

upside down using SMVI to perform SAN-based snapshots instead. The results were nothing less than extraordinary.

THE SOLUTION

Perform fast, storage-centric backups and restores with NetApp SnapManager for Virtual Infrastructure

Before he could gain the results he wanted, however, Vance had to think about restructuring his original VMFS datastores configured as Fibre Channel LUNs in the company’s primary NetApp FAS3020C system. In the early days of the company’s server virtualization/NetApp platform, he admitted to using the “big bucket” approach to virtual machine storage on the NetApp system. The VMFS datastores reflected this approach, with VMDK files associated with three to four VMs all found on the same LUN.

Now, as he explored SMVI’s various restore options, Vance wondered whether or not a new approach was needed. He saw two SMVI backup/restore options—to use SMVI

to back up individual VMs or to back up an entire VMFS datastore—but wasn’t sure which would give him the fastest VM recovery. The first option worked closest with VMFS tools but seemed to require more steps and restore time to clone, mount, and copy the right snapshot contents to the correct VMware location. In contrast, the second VMFS datastore option could circumvent many VMFS steps by performing a “LUN clone and split” restore that offered more immediate access to the clone. Yet, with three to four VMs per LUN in his current configuration, it would still take work to restore the right VM.

His answer came over lunch with his local NetApp engineer. “We were just talking about SMVI and he said, ‘You know, if you did backup and recovery from the LUN [VMFS datastore] level, it would only take you 20 to 30 seconds to do your recovery,’” Vance recalls. “That off-hand comment really put the light bulb on for me. I said, ‘You know, you’re right. All I’d have to do is create

a 1:1 mapping of VMs to LUNs, then use Storage VMotion to transfer the live VMs to the new 1:1 structure without users even knowing the disks had moved.”

He was happy he had the storage space to lay out the new structure yet still maintain the old one. For that, he credits using NetApp deduplication. “We had created all this free space from what NetApp deduplication had already saved us. So, we didn’t have an issue where we filled our volume while we were trying to make these transitions. We were able to lay out exactly what we wanted and then put the virtual machines into it,” Vance says.

Burt’s Bees has since implemented the new layout on its primary NetApp FC-based system, while replicating it to the company’s remote NetApp FAS2020 iSCSI-based system. Notes Vance: “I was able to lay out everything I needed in advance. I could even test SnapMirror® and see all my LUNs come over. Everything worked like magic.” The

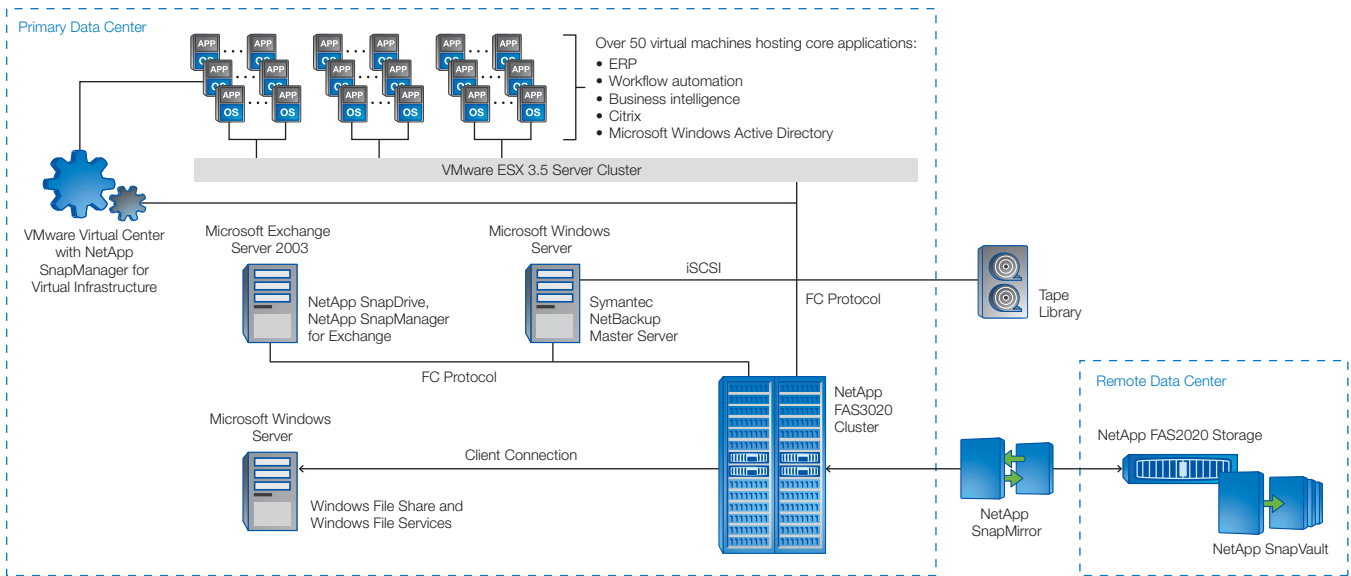


Figure 1) How Burt's Bees uses its NetApp storage.

A NetApp FAS3020 clustered storage system is in use at the company's primary data center to support many of Burt's Bees' core applications running under VMware. NetApp storage is also used to support three other Microsoft Windows servers running Microsoft Exchange, file services, and a Symantec NetBackup Master Server. Using NetApp data deduplication and flexible volumes functionality, Burt's Bees has been able to make its storage capacity go six to seven times farther than competing systems. The company has also used NetApp SnapManager for Virtual Infrastructure to cut VM-related backup and restore times from hours to seconds. A second NetApp system, a NetApp FAS3020 device, is installed at the company's remote site. NetApp SnapMirror maintains a constant, off-site copy of primary data sets. Other NetApp data protection technology is also in use, including NetApp SnapManager for Exchange and SnapVault.

company has since deployed SnapMirror and uses SMVI to trigger a SnapMirror update to an existing SnapMirror relationship after each scheduled SMVI snapshot.

Having seen firsthand the benefits of not just SMVI but SnapManager for Exchange and SnapDrive®, Vance is now sold on the idea of moving most data protection fully to NetApp SAN-centric Snapshot™ copies. Still using SnapManager products with NetApp SnapMirror, he will also be incorporating NetApp SnapVault® to help further offload snapshot storage and snap restores from primary storage to the secondary NetApp system. Such a move, he says, will allow him to take more snapshots for shorter recovery points while extending retention times. Future plans also include automating DR testing with VMware Site Recovery Manager and NetApp FlexClone®.

Today, he couldn't be happier with how fast the NetApp system works for VM backups and restores. "I've demonstrated SMVI by recovering tier 3 and production support

systems to a certain point in time. It's unbelievably fast," notes Vance, who continues to marvel at the amount of storage space he now saves with NetApp features like deduplication and NetApp Snapshot.

BUSINESS BENEFITS

Reduced backups/restores from several hours to just seconds

Burt's Bees' virtual machine backup and restore times have since shrunk to a point that even Vance has trouble believing sometimes. "We've taken our backup window from 8 to 10 hours or more down to 30 to 35 seconds. For restores, it used to take three to four hours to get one virtual machine back up and start working on it. With SMVI, it takes minutes or seconds. It's just a world of difference," he says. "We had to decide whether to keep doing host-centric backups or start doing things with smart storage in mind. We chose smart storage. I wanted SMVI to reduce the time it took to do virtual machine backup and recovery. It's certainly done that."

Dramatically reduced the storage footprint needed for virtual machines and backup data

Building on early savings with NetApp deduplication, Vance has since seen an average storage savings of over 60% for his VMware environment, while noting his ability to reclaim as much as 78% on some VMs. Similarly, the ability of NetApp Snapshot to track and record just the changes (deltas) since the last backup have allowed the company to shrink from 11TB—what Vance estimates would otherwise have been required to back up the production data—to roughly 800GB of delta changes now stored and replicated to the secondary system.

An efficient solution that does the job of storage systems six to seven times larger

Vance is pleased with the significant savings he's found with NetApp. "A year ago, I estimated we'd need three times the storage with another vendor to do what we're doing with NetApp. Now, I know it's a lot more. I'd even say six or seven times more storage. It goes beyond words what

“We had to decide whether to keep doing host-centric backups or start doing things with smart storage in mind. We chose smart storage. I wanted SnapManager for Virtual Infrastructure to reduce the time it took to do virtual machine backup and recovery. It’s certainly done that. We’ve taken our backup window from 8 to 10 or more hours down to 30 to 35 seconds. For restores, it used to take three to four hours to get one virtual machine back up and start working on it. With SMVI, it takes minutes or seconds. The end result is a net reduction in our data center’s energy usage in our data center, which allows us to make business gains with less environmental impact.”

Tres Vance
 Manager of Technical Infrastructure, Burt’s Bees, Inc.

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SOLUTION COMPONENTS	
<p>NetApp products</p> <ul style="list-style-type: none"> NetApp FAS3020C clustered storage system NetApp FAS2020 storage system NetApp deduplication NetApp flexible volumes NetApp Snapshot and SnapRestore® software NetApp SnapManager for Exchange NetApp SnapManager for Virtual Infrastructure NetApp SnapMirror NetApp SnapDrive NetApp SnapVault 	<p>Protocol</p> <ul style="list-style-type: none"> IP SAN (for backups, off-site replication, and Microsoft® Exchange) FC SAN (for core production database applications) NAS (via CIFS) (for file services and file shares) <p>Environment</p> <p>Applications: Microsoft Office–based applications, Microsoft Exchange, Microsoft SQL Server®, and other database applications, including ERP, financials, warehouse management applications, and business intelligence applications</p> <p>Operating System: Microsoft Windows® servers, Citrix for virtual workstations, VMware for server virtualization</p>

NetApp creates innovative storage and data management solutions that accelerate business breakthroughs and deliver outstanding cost efficiency. Discover our passion for helping companies around the world go further, faster at www.netapp.com.



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