VERITAS™

Resiliency and Performance in a Highly Scalable Data Protection Solution

Veritas Technologies achieves significant benefits across the board by deploying NetBackup Flex Scale.

Challenge

When Veritas Technologies LLC needed to replace the aging data protection appliance in its nonproduction environment, the project team looked for a solution that would be easy to expand over time.

Solution

They selected the Veritas NetBackup™ Flex Scale, an automated, scale-out architecture that includes storage, compute resources, and the NetBackup Flex Scale operating system within a cluster of standard servers. The hyperconverged architecture enables NetBackup master servers and media servers to operate within their own containers, with each NetBackup Flex Scale server configured in a cluster with a minimum of four nodes.

Outcome

The containerized architecture greatly simplifies the addition of incremental storage capacity, so the team saved money by rolling out no more capacity than they need right away. The solution is also saving staff time and minimizing downtime whenever NetBackup requires an upgrade. And the clustered architecture provides 98% higher throughput than the legacy appliance.

VERITAS™

INDUSTRY

Technology

EMPLOYEES

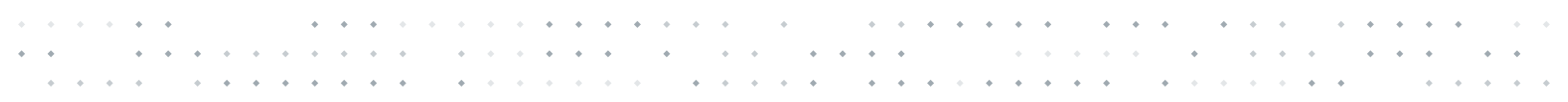Approx 6,100

HEADQUARTERS

Santa Clara, CA

WEBSITE

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"

With the hyperconverged infrastructure, we bought what we needed right away. When we need to, we can grow in very small increments. As a result, we no longer have a lot of excess hardware sitting around, costing us money."

Brad Frey, IT Architect, Infrastructure and Cloud Services, Veritas Technologies LLC

Looking for Data Protection That Is Easily Scalable

Like most software development teams, the engineers building and testing new features for Veritas Technologies LLC's data protection solutions work within their own technology environment. This infrastructure is separate from the organization's customer-facing systems. Still, the nonproduction environment must be highly stable, and its data must be readily available at all times, in order for Veritas engineers to continue producing solutions that meet customers' needs.

98%

Higher throughput with NetBackup Flex Scale

Last year, the previous generation Veritas NetBackup Appliance that managed backups and data recovery for the nonproduction environment was nearing end of life. The engineering group considered an assortment of options to replace it. Flexibility was a key decision criterion.

"Sometimes we need to quickly add capacity to our nonproduction environment," says Brad Frey, IT Architect for Infrastructure and Cloud Services at Veritas Technologies LLC. "It doesn't happen often, but occasionally the business will have very large data needs with a very short runway. We will have to immediately scale up our storage and data protection capabilities."

"In our legacy environment, that would have meant a major purchase," he continues. "We would have added both storage and compute resources. As we considered our options for data protection, we decided to try a solution with easier scalability: NetBackup Flex Scale."

The NetBackup Flex Scale

NetBackup Flex Scale consists of a cluster third-party servers that come preloaded with the Flex Scale operating system. Like the NetBackup Flex Appliance, the Flex Scale solution has a modular, hyperconverged architecture, in which NetBackup master servers and media servers are containerized.

"Think of a container as another level of virtualization," Frey explains. "A container is like a VM [virtual machine] running inside a VM. It doesn't need a separate operating system; it just runs the application inside the container, while all the other resources it requires are abstracted at the VM level. Two containers can run side-by-side, completely independently, while accessing the same resources inside the same operating system. The benefit of this approach is that all an administrator has to do to expand the backup environment is add another node, which comes with storage attached."

The NetBackup Flex Scale operating system has Veritas InfoScale™ under the covers. Within the physical NetBackup Flex Scale solution, NetBackup master servers run in a cluster with at least four nodes. The operating system automatically load-balances data protection jobs across the cluster.

Frey's data protection team also liked that the NetBackup Flex Scale is cloud-aware, with deduplication and seamless connectivity to Amazon Web Services (AWS), Microsoft Azure, or Google Cloud Platform (GCP). Eventually, if Veritas wants to save secondary backups to the cloud, this feature will simplify that process, Frey says. Finally, the NetBackup Flex Scale met the team's key compliance need—its encryption capabilities comply with the Federal Information Processing Standard (FIPS) 140-2.

Lower Up-front CapEx

For all these reasons, Veritas rolled out a NetBackup Flex Scale a few months ago to handle data protection for the nonproduction environment in the company's primary data center. The transition was seamless.

"The interface is identical to our traditional NetBackup environment," Frey says. "Our staff had to come up to speed on the Flex Scale architecture and how the backend works, but other than that, they didn't need any training. We migrated all our backups off the previous system within a matter of days, and the team was ready to manage data protection on day one."

Although the group hasn't yet added capacity to the Flex Scale, they have tested the process of adding a node to the cluster. "Expanding your data protection capacity is literally this simple: You purchase the node, you install it, you give it the proper network addressing, and then you manage it into the cluster with a handful of clicks," Frey says. "It's kind of auto magic."

The ease of expanding the storage and compute power within the NetBackup Flex Scale meant the team could purchase only the capacity they needed for the immediate term. "With a traditional infrastructure, we would size the data protection infrastructure to support our expected needs for the next three to five years, and we would grow into it over time," Frey reports. "That was a lot of capital expenditure up front for resources that would just sit idle, possibly for years.

"With the hyperconverged infrastructure, we bought what we needed right away, with just a little runway for the next 12 months or so," he continues. "Then, when we need to, we can grow in very small increments. As a result, we no longer have a lot of excess hardware sitting around, costing us money."

Upgrade Efficiency Through Automation

The NetBackup Flex Scale operating system also saves staff time and minimizes downtime—both when the backup environment needs to scale up and anytime NetBackup needs an update. "You can actually do a NetBackup Flex Scale software upgrade from the NetBackup web UI [user interface]," Frey explains. "You don't have to pull down a bunch of files and manually copy them. Like adding a node, a software upgrade takes just a few clicks."

Upgrades happen in two automated steps. "In the first step, NetBackup Flex Scale updates cluster nodes one at a time," Frey says. "Service to the data protection environment is not impacted; all our jobs keep running. Once this is complete, the second step stops the NetBackup services and upgrades the NetBackup packages on all the nodes. Then, NetBackup Flex Scale automatically restarts all our jobs. This approach saves our operations team a lot of time and effort during upgrades."

100% Availability with Significantly Faster Performance

Meanwhile, the NetBackup Flex Scale architecture improves data protection performance and resiliency. Frey reports that the team's previous generation NetBackup Appliance was reliable through the years. "Still, it was a single appliance," he says. "If our master server went down, our backup processes would have been dead in the water until it came back online. Now, we have a four-node clustered backup infrastructure that can withstand multiple simultaneous server failures and keep running." Thus far, the team has achieved 100% availability for the NetBackup Flex Scale environment.

State-of-the-art storage, combined with the operating system's automated load balancing, has significantly accelerated backups and data recovery. "In a traditional backup environment, you may have one appliance that is overloaded and getting hammered, while another is barely doing anything," Frey says. "NetBackup Flex Scale provides better performance because it automatically determines which media servers have capacity and spreads the load evenly. That leads to a better RTO."

"The average throughput of the NetBackup Flex Scale is 98% higher—so nearly double—the average throughput of our legacy environment," he adds. "This cuts our backup times dramatically. In addition, our deduplication rates grew from 93% to 99%, allowing us greater storage efficiency."

Next, Veritas will consider NetBackup Flex Scale for its production data centers. "We take a cautious approach to deploying new solutions," Frey says. "Even if they're Veritas products, we spin them up in our nonproduction environment first. Because the NetBackup Flex Scale has proven so successful in this environment, we will look at it when the data protection solutions in our production infrastructure begin to age out."

For More Information

Please contact your local Veritas Sales Representative or Business Partner, or visit Veritas NetBackup Flex Scale

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