O’Reilly School of Technology’s Lead System Administrator, Trent Johnson, noticed that his backups were taking an entire weekend to complete, so he turned to Dell NetVault Backup. By taking advantage of its native NDMP feature, he reduced his backup times down to a couple of hours with minimal effort and expense.

O’Reilly School of Technology Proves that an Education in NetVault Backup Pays Off

By Jerome M Wendt, DCIG Lead Analyst

Overview

O’Reilly School of Technology’s Lead System Administrator, Trent Johnson, noticed that his backups were taking an entire weekend to complete, so he turned to Dell NetVault Backup. By taking advantage of its native NDMP feature and integration with NetApp, he reduced his backup times down to a couple of hours with minimal effort and expense.

O’Reilly School of Technology Profile

O’Reilly has been spreading the knowledge of innovators for close to 30 years by gathering and distributing the information that is needed to help drive the development of the Internet as we see it today. The O’Reilly School of Technology provides aspiring programmers and administrators a path into the Information Technology and Systems industry. Its online, hands-on courses lead to Certificates of Professional Development and provide individuals a portfolio of completed projects to show for their efforts.

Weekly Backups Need a Tune-up

O’Reilly School of Technology does what many organizations now do when daily backing up their production data: it uses array-based snapshots on its NAS filer. However, its internal policies call for it to copy each set of weekly or monthly array-based snapshots to another storage media (disk or tape) for long-term data retention and offsite protection.

It was this phase in the backup process that needed a tune-up. While copying the snapshots to an external disk device and then to tape worked well when it was initially implemented, the amount of data O’Reilly had to backup had grown significantly over time.

Case in point: on one particular volume, the number of files had grown from just a few million to over 13 million in the space of a few years. O’Reilly’s School of Technology’s Lead System Administrator, Trent Johnson, says, “As the amount of files on this file system grew, backups of just this single file system were taking over a day.”

The data growth on this file system coupled with O’Reilly’s overall data growth had resulted in O’Reilly needing an entire weekend to copy each week’s snapshots to the backup target. Backup times had to be shortened to prevent them from impacting the work week while requiring as little investment in time and money as possible to achieve.

O’Reilly Cracks Open the Book on Backup

O’Reilly does more than just publish books and offer online technology courses. It encourages its own employees to crack open books on the technologies it uses and study them carefully to derive the most value from its investments. Johnson had taken this encouragement to heart as he regularly studies books and manuals to optimize his backup operations. By familiarizing himself with the technology and then applying best practices, he had already improved O’Reilly’s backup environment on a number of occasions while also lowering backup costs. For instance, when disk-based backup initially came into vogue, he took advantage of NetVault Backup’s native ability to backup to disk. Implementing disk-to-disk backup shortened O’Reilly’s backup windows and improved its backup success rates.

A few years later, when the optional NetVault SmartDisk deduplication feature was released, he quickly took advantage of its data reduction capabilities. While other companies were spending extra money to acquire purpose-built deduplicating backup appliances, he used SmartDisk to deduplicate data on O’Reilly’s existing storage to store data more efficiently. Further, since O’Reilly had an enterprise NetVault Backup license, he was able to deploy SmartDisk immediately.

Now as he looked to address this new challenge, Johnson again relied on NetVault Backup, this time to copy array-based snapshots to tape for long-term data retention and offsite protection. He recalled that NetVault Backup...
supported NDMP (Network Data Management Protocol), a protocol that has been around for nearly two decades and which is well suited for protecting data residing on NAS filers. By switching to NDMP he significantly shortened the time it took to copy data from the NAS filer to the backup target.

**Backup Gets an NDMP Bypass**

O’Reilly hosts its Windows and Linux virtual machines (VMs) on NetApp NAS filers using CIFS and NFS storage networking protocols, respectively, to connect the VMs to the NetApp filer. To do its backups, the NetApp storage system takes snapshots of these VMs and presents them to the NetVault Backup Server. It then uses NFS to mount the file system that contains the snapshots to back them up.

By switching to NDMP, he could bypass the need to route all backup traffic through the NetVault Backup Server. Instead, he configured the NetVault Backup Server to direct the NetApp NAS filer to directly send the backup traffic over the network using the NDMP protocol to the backup storage target.

To test this he obtained a free 30-day evaluation license for the NetVault Backup NDMP plug-in and installed it on the NetVault Backup Server. He configured the setup pretty simple to complete. NetVault Backup automatically discovers and configures network attached storage (NAS) filers.

At that point, all he had to do was create a backup job that would send the backup directly from the NetApp filer to the backup device using NDMP. He found this setup pretty simple to complete. NetVault Backup worked extremely well as the time it took for O’Reilly to complete its backups went from an entire weekend to two (2) hours.

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O’Reilly as a company advocates ongoing education so people become more productive and innovative in their jobs and remain that way over time. However O’Reilly also practices what it preaches. By encouraging its staff to educate themselves on the technologies that they already have in-house, the staff is equipped to effectively utilize them.

This approach has certainly proven to be true with NetVault Backup. Having used NetVault Backup for nearly a decade as its enterprise backup software, Johnson was able to continually optimize his backup operations and quickly solve challenges as they appeared.

Starting with backup to disk many years ago, deduplication a couple of years ago or, most recently, using NDMP to quickly backup his NetApp filer, NetVault Backup provides the full set of features that the O’Reilly School of Technology needs to cost-effectively protect its environment.

Johnson says, “NetVault Backup’s ease of deployment and ongoing management are the main reasons we continue to turn to it year after to protect our environment as it works across all of our platforms—Linux, Windows and even NetApp’s Data ONTAP. This keeps our management costs down even as our data remains well protected and easy to recover.”

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