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# NetApp NearStore® VTL

## OVERALL RATINGS

<b>Installation</b>		Smooth installation presented no problems.
<b>Manageability/Configuration</b>		The product operates similarly to a tape library and will be easily understood by administrators
<b>Operation/Functionality</b>		Includes useful functionality such as a data-encryption option.
<b>Recoverability</b>		Offers the best of both worlds: VTL and tape-restore operations.
<b>Problem Resolution and Support</b>		The installation and technical support we received was excellent.
<b>Interoperability</b>		A total bundled NetApp offering but no longer supported on non-NetApp hardware.
<b>User Level</b>		Suitable for entry-level storage administrators.
<b>List Price as Tested</b>	\$115,000	

Scale: 1 flame = poor; 2 flames = fair; 3 flames = satisfactory; 4 flames = very good; 5 flames = excellent

User level: ● = novice; ■ = intermediate; ◆ = advanced; ◆◆ = experts only

## PRODUCT SUMMARY

Network Appliance was one of the earliest disk-to-disk backup product vendors. Since Network Appliance acquired its NearStore VTL product in 2005 (previously Alacritus Securitus), the company has concentrated its development effort on integrating NearStore VTL with its own product line. NearStore VTL is now tightly integrated with NetApp hardware, resulting in a total package with pre-installed software. In addition, NetApp has leveraged its acquisition of Decru to provide an extra cost encryption option for its NearStore VTL product. The GUI look-and-feel, our main complaint in the original product, has been substantially improved from the original. We like its graphical representation of virtual media and the ability to “drag and drop” the tape cartridges as needed. The only negative we noted is NearStore VTL is not available on a variety of disk-array platforms as Alacritus Securitus was. Instead, NetApp offers the NearStore VTL as an end-to-end appliance solution using the same hardware platform as the NetApp FAS3000.

Three characteristics of this product are worth noting:

First, NearStore VTL does not operate a commercial operating system as most other D2D devices do. Instead, software runs on a standard filer platform but uses its own operating system (which the company refers to as a firmware system) and file system called JOS (journaled object store). NetApp claims that this special-purpose implementation can significantly outperform general-purpose operating systems and file systems, with up to 500 MB/second (100 MB/second for a single stream) throughput for a single processor “head.”

Second, NearStore VTL’s management of tape media is very efficient. Whereas other D2D products do not account for tape-drive compression, NearStore VTL dynamically sizes virtual tapes based on statistical sampling to optimize physical media utilization. For many organizations, tape media is the highest non-personnel cost. Improving media efficiency by just 10% to 20% can save organizations up to hundreds of thousands of dollars. NetApp calls this capability “Tape Smart Sizing.”

### **About the Review**

*Diogenes Analytical Laboratories and SearchStorage.com teamed together to create disk-to-disk buyer’s guidelines that help IT buyers differentiate between products and select the best candidates for their own situation. For this report, we took 13 different products into the lab and ran them through their paces. We compared products based on ease-of-use, manageability, features/functions and technical support systems. Our opinions are based on the experience of more than a decade of implementing and managing data protection systems.*

Third is NearStore VTL’s load-balancing scheme, which NetApp calls “self-tuning.” The function attempts to determine the “fastest” disk for the backup based on which spindles are busy at a given time. No other D2D product includes this logic, as most such products depend upon the randomness of virtual-media selection to avoid disk contention, which can result in performance degradation, should the random assignments of backup streams end up imbalanced across a VTL’s RAID groups.

The backup and recovery (B/R) software application controls physical-tape creation with NearStore VTL. Although the tape library is attached to the back end of the NearStore VTL, tapes are created in native format and can thus be restored with or without a NearStore product in place. A tape is created when the B/R software

issues an “eject” command of a virtual tape or via predetermined policy. However, we note that if a problem occurs with physical tape during the process, NearStore VTL requires manual intervention to either cancel or retry the job.

Based on these differentiators, NearStore VTL may sound as though it is complicated. NetApp, though, has taken a simple approach to system management. Storage administrators will find that it is operationally similar to a tape library and that there are few opportunities to get into trouble with operational or set-up mistakes.

## DIFFERENTIATING FEATURES AND FUNCTIONS

FEATURE/FUNCTION	DESCRIPTION
<i>“Tape Smart Sizing” compression estimation</i>	<i>NearStore VTL samples the incoming data stream to determine the compressibility of the data. This tape-compression estimation determines how much data will fit onto a single piece of media in order to optimize tape-media utilization.</i>
<i>Disk load balancing</i>	<i>NearStore VTL will identify and use the fastest disk available when writing a new piece of virtual media, a feature NetApp calls “self-tuning.”</i>
<i>“Quick Load” feature</i>	<i>The tape header can be reloaded only to the VTL and will allow the B/R software to scratch or recycle the tape. This saves the time that unnecessary reloading of the entire tape would take.</i>

## BUYER GUIDANCE

### ***Kudos:***

NearStore VTL is a complete VTL package that includes some useful additional features including optional data encryption (extra cost). The system is very resource-efficient, from disk space consumption to media management.

### ***Caveat:***

NearStore VTL is no longer a storage-agnostic product as Securitus was. However, it is now a bundled package with NetApp storage arrays.

### ***Who should consider this product:***

NearStore VTL is an obvious choice for NetApp users. It will also appeal to medium- to large-scale non-NetApp users looking for a resource-efficient, integrated solution.

## ABOUT DIOGENES ANALYTICAL LABORATORIES, INC

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