Deduplication Means Efficiency

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EMC brought deduplication to the attention of the IT world with its $165 million acquisition of startup Avamar Technologies in November 2006. Officials with the Hopkinton, Mass., company said this technology was one of the last pieces of the storage puzzle it did not own.

Since then, most all storage vendors have been acquiring the technology - or adding their own homemade version - into their product lines.

Used correctly, deduplication - which replicates only the unique segments of data that need to be stored - can cut the amount of data by 50 to 90 percent, not only saving storage space but also increasing bandwidth, lowering power and cooling requirements due to "resting" or inactive servers, and saving companies money on the bottom line.

Data Domain, EMC/Avamar, Diligent Technologies and Quantum are among the market leaders in the burgeoning deduplication space. In TheInfoPro's Storage Network & Storage Management Wave 8 study in January, a survey of Fortune 1000 IT managers cited Data Domain as the leading vendor in their spending plans for deduplication technology. According to TheInfoPro's Technology Heat Index, a measure of users' spending and implementation plans, Data Domain was listed as the lead "in plan" deduplication vendor, generating twice as many responses as its nearest competitor.

In October 2006, Data Domain introduced the DDX array - what officials claimed was the industry's first data center-scale deduplicating protection storage array. Now, more than 700 customers are using the

product, and that number is growing, said Frank Slootman, president and CEO of Data Domain.

Quantum is using deduplication technology acquired via its August 2006 ADIC (Advanced Digital Information Corp.) acquisition (which previously had acquired Rocksoft) in both disk- and virtual-tape-based backup products. Diligent, an up-and-coming player in the space, deduplicates data using a proprietary algorithm while the data is on its way into the backup target, which, in Diligent's case, is a VTL (virtual tape library).

Avamar's founder and president, Jed Yueh, whose nearly 500 customers include half of the Fortune 50 companies, told eWEEK that "data deduplication technology can transform archaic - digital tape - procedures, enabling automated, encrypted disaster recovery across existing wide-area networks and accelerating the shift to disk as the de facto medium for data protection."

Although the market often lumps deduplication solutions together, differences in implementation lead to significant differences in customer benefits.

"For instance, in real-world customer deployments, Avamar has seen as high as 588-1 daily reduction in network traffic and data storage for backups, a rate of efficiency that dwarfs the competition," Yueh said. "Most of our competitors deduplicate at the target, after the backup server has requested resource-taxing full and incremental backups. Avamar, on the other hand, eliminates the avalanche before it happens, at the source."

This also provides a critical, differentiating benefit: the ability to network-mount point-in-time backups to use in conjunction with external applications such as search or document classification, Yueh

said.

"In the end, I believe data deduplication will become a foundation technology for tomorrow's information infrastructure," Yueh said.

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