

Columns

The Resurgence of Near-Line Storage

by Jon William Toigo

In the world of the mainframe, where storage growth required careful planning and management of Direct Access Storage Devices (DASD), trying to migrate accessed data to optical jukeboxes less frequently made a lot of sense. Mainframe DASD devices were big and required lots of floor space and air conditioning, power. This compelled IT managers to seek ways to control storage growth, and to use hierarchical storage management (HSM) techniques to migrate data across less cumbersome and less expensive media. For a brief moment, both HSM and "near-line" storage enjoyed a mainstream play. But the opportunity seemed to wither on the vine when decentralized, networked computing took hold.

Today, with storage growth and budget cuts once again big issues, near-line storage is returning to vogue, especially for infrequently changed or infrequently accessed data. I recently talked with J. Richard Ellis and Robert Riland of DISC in Milpitas, CA—they're understandably excited by the possibility that their products will become sexy again.

Since the late 1980s, DISC has championed near-line data storage—hosting data on magneto-optical (MO) disc media and network- or server-attached jukeboxes—as a middle-ground alternative to more expensive on-line platforms (such as hard disk) or slower archival/off-line storage platforms (such as tape) for data hosting. However, like most optical storage players, the DISC mantra has fallen on deaf ears and the company has sustained itself through sales into niche markets such as electronic document imaging and storage. But DISC executives believe that its time for a reexamination of near-line's mainstream benefits. "For one thing," Riland says, "companies are concerned about the recoverability of large-scale databases in the wake of a disaster. They are troubling over the best way to ensure rapid restoration of multi-terabyte databases to a usable form—quickly and without breaking the bank." Recovering from tape is increasingly seen (rightly or wrongly) as too slow and unreliable for large-scale backup and restore. Database mirroring—keeping two copies of the data on disks at remote locations—is an expensive proposition.

Ellis argues that near-line optical storage solves this dilemma. "Given that as much as 70 to 80 percent of a database typically consists of infrequently accessed, infrequently updated information, why not migrate this data to magneto optical platters?" That, he observes, would leave only the 20 to 30 percent of active data to be backed up to tape or mirrored as a recovery guarantee.

Many tape vendors, including Quantum/ATL, IBM, and Boulder, CO-based Spectra Logic, have begun making a similar argument to advance the role of high speed/fast access tape platforms. And many disk array vendors are preparing to launch lines of less expensive IDE/ATA disk arrays for on-line data storage as part of data hosting schemes termed "content networking."

In addition to reducing storage costs and improving availability, vendors say that their solutions will reduce the power consumption levels of pure on-line storage, thus helping organizations cut electricity bills.

Bottom line with respect to the application of HSM concepts to data hosting: make it happen!

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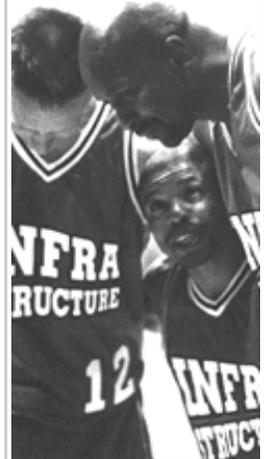
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