

Managing Data Intelligently

Higher ed campuses are overflowing with data. Dell has a strategy to manage it.

With the proliferation of digital information college and university campuses find themselves quite literally overwhelmed with data. Dell has an innovative strategy to manage it all. Termed Intelligent Data Management (IDM), the Dell strategy combines a set of innovative technologies with implementation best practices to make data management more efficient. *CT Senior Contributing Editor Matt Villano recently caught up with John Mullen, Dell's vice president and general manager for education, state and local government, to learn more about their approach.*

Campus Technology: What are some of the innovations and change-drivers that Dell has identified as having a big impact on approaches to data storage in higher education?

John Mullen: We've participated in providing storage to higher education for an awfully long time, and we've had the opportunity to observe and understand first-hand. We're seeing a number of big change-drivers that are impacting data storage and management. Researchers are generating data at unprecedented rates. Imaging technology is increasingly being used to eliminate paper and improve administrative processes. Electronic readers are gaining popularity as books, magazines and journals become increasingly available electronically.

Where traditionally, the storage environment grew in a decentralized fashion across campus, we're seeing that centralization of data storage and management is becoming increasingly important as institutions work to gain control over their data and to drive efficiency. And we are seeing an interest to exploit new IT delivery models such as cloud computing and "-as-a-service".

CT: Overall, what was Dell hearing from higher education customers that led you to build out your storage and management infrastructure, and how do these advancements represent changes to Dell's overall strategy?

Mullen: Every single CIO that I know in higher education is really struggling with solving the storage challenge, so we've heard they wanted more for years. We listened. For several years now Dell has been making investments to build a comprehensive strategy and portfolio of storage and data management solutions. Our Intelligent Data Management strategy is an on-going effort to take a much more definitive point of view on technologies and to incorporate intellectual property to provide best-of-class solutions. The Intelligent Data Management strategy is guided by three overarching principles: Our storage and data management solutions are open and non-proprietary, capable and affordable.

CT: We've noticed that Dell has tackled

a lot of this capability by acquiring companies that have either developed it or acquired it themselves. Why did you take this approach?

Mullen: We haven't relied solely on acquisition; but we do look for opportunities where we can purchase leadership technology that complements our



portfolio. We acquired Compellent, a company that really enables institutions to efficiently centralize their storage and management. They have patented technology for key capabilities like automated data tiering and data replication. We've developed solutions for faster more efficient backup and recovery; and archival solutions to retain and preserve records for the long-term. And to address the growing interest in alternative IT delivery models, our services team introduced Email and File Archive solutions that can

be delivered via cloud or on-premise, as well as storage-as-a-service solutions that can be used to augment the production environment or for off-premise backup and disaster recovery.

CT: Budget cuts today are grabbing headlines all over higher ed. What data management approaches allow academic technologists to actually lower IT costs while optimizing data management efficiency, and what do some of these strategies involve?

Mullen: A number of leadership technologies in the Dell portfolio hit this head on. One is the combination of deduplication and compression technologies. Deduplication enables you to reduce the data footprint by eliminating redundant data and storing only unique data. Here's an example. When a professor sends the class an email with an attachment, rather than save a copy of the attachment for each class member, data deduplication saves only one copy of the attachment along with a pointer back to the one saved copy. Deduplication also reduces backup needs as you only backup a single copy of the attachment. This is a simple example but you can imagine how these savings multiply. Compression is a complementary capability that enables you to further reduce file size for optimum capacity reduction and cost savings. We acquired Ocarina and we are embedding their industry leading deduplication and compression technology into our storage offerings.

Another technology is data tiering. Automated data tiering has emerged as a best practice and it improves applica-

tion performance and storage economy by moving data to less expensive storage based on business criticality—how often the data is accessed, workload characteristics, and so on. For example if a student record gets accessed every day, the auto-tiering system automatically will store that record on a faster disk for best performance. If a record is only accessed once a year, the system will automatically store the record on the least expensive storage tier. When you use automated data tiering you buy fewer and less expensive disks resulting in significant savings. Dell EqualLogic and Compellent both offer automated data tiering.

CT: What other cost-saving storage technologies is Dell investing in?
Mullen: Archiving is another important investment area for Dell. Archiving helps optimize data retention by storing the primary copy of the data on platforms that use policies to facilitate long-term retention and preservation. This is something we've been doing for a while with our PowerVault line. We also developed the Dell DX Object Storage Platform which can access, store, and distribute up to billions of files or other digital content, from local archiving all the way to the cloud. The DX is designed to store vast amounts of unstructured data while, at the same time, providing policy-based retention features so you can meet the governance and compliance requirements that are increasingly becoming an issue in industries like [higher education].

CT: And finally, John, what's next? How does Dell plan to extend and amplify the strides you've already made in data stor-

age and data management?

Mullen: The technologies we've discussed here all contribute to addressing the plethora of storage and data management challenges higher education is experiencing. The Dell Intelligent Data Management strategy is really about applying the technologies we've discussed to the customer's storage environment in an intelligent way. We try to go in and assess how our customers are using storage and what they're using it for. Then we make specific recommendations about which of these technologies are best applicable, based on the storage challenge or problem or optimization issue that particular customer may be facing. We're continuing to invest in our portfolio to give our customers leadership storage and data management solutions with the future built-in. We'll be introducing several exciting new offerings in CY 2011.



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