Whether school district, retail giant, hospital or bank, harnessing information is key to the success of your enterprise and to gaining value from your IT infrastructure. Storage - containing, protecting, restoring and managing information - is paramount. Managing storage does not have to be complex, nor manually monitored and controlled. The right information-management software can enable you to have effective storage management in a simple and automated fashion. It enables you to deploy storage systems quickly, to know where your data resides, to control access to that data, and to monitor the status of the underlying storage systems. With this knowledge, you can reallocate capacity as required, and monitor, analyze and tune the performance of your information flow.
Deployment and Migration

— Deployment: When you purchase hardware, the value of those systems to your business does not begin until they are deployed and operational. New storage devices sitting on docks instead of operational in data centers are a waste of your precious resources. Dell's goal is to help you bring new storage systems up and have them contributing to the bottom line as quickly as possible. Dell provides the tools and services to help with configuration and rapid deployment of new storage systems and storage area networks (SANs) efficiently and accurately. For basic storage deployment, our tools are simple and friendly, providing the level of guidance you choose. Additionally, for deploying more complex storage systems, our services teams work with you from the earliest planning and purchasing phases all the way through deployment and full operations, helping to ensure your storage systems are right, ready and running from the start.

— Migration: Eventually, the pressure of ever-expanding data or ever-improving technologies will lead to the need for additional storage. When migrating to new storage devices or platforms, your primary concerns may be the potential loss of data or user access, and system downtime. For a smooth, safe migration, you need to identify the users and the content, and the age and location of the data. SAN Copy™ software enables migration or distribution of data within arrays on the same fabric. It is also useful for consolidating data for backup and analysis. Dell provides the tools to accomplish this with the goal of minimizing the pains of migrating to new storage.

Configuration and System Health

To stay in control of your data, you need simple configuration tools that provide both the functions you need and the flexibility to fit your process. To protect your data, you need round-the-clock monitoring and alerting of system events that might disrupt access. The Dell tools for configuring and helping ensure the health of storage devices are designed to be used remotely and to fit into your domain – be it for attached storage, SANs or network attached storage (NAS).

— Central Management: Our OpenManage™, Navisphere®, and EMC® VisualSAN® solutions provide easy ways to configure and manage Dell storage throughout your enterprise. OpenManage array management enables you to configure and manage local and remote PowerVault™ devices attached to a server while the server is online and continuing to process requests. VisualSAN provides a powerful, yet easy to use management solution for Dell SANs so you can configure and manage your entire SAN from a single console. Topology maps clearly represent all the components of the SAN and make it easier to check status, monitor events and performance and take appropriate actions to improve utilization, and prevent or correct problems. Also, VisualSAN is fully integrated with OpenManage Server Administrator and Navisphere so you can manage the individual servers and arrays in the SAN.

— Event Monitoring: The OpenManage, VisualSAN and Navisphere solutions, also help ensure availability and minimize unscheduled outages by delivering automated diagnostics and troubleshooting, including early warning signals for potential problems. Automated notification can be configured to arrive through e-mail, fax, or page for selected personnel or service providers. We can also help with integrating the management of new Dell storage systems into your existing enterprise solutions with integrated support for CA® Unicenter® TNG, HP® OpenView®, Tivoli® NetView®, and other leading enterprise suites.
— **Performance and Load-Balancing:** Another storage system challenge is optimizing performance in moving, storing, and load-balancing information. Dell’s OpenManage™ portfolio for storage management includes tools for analyzing performance data from selected arrays, LUNs, or storage processors. These tools enable you to investigate performance patterns and trends and to make the appropriate tuning and load-balancing decisions. Also included are tools for capacity planning, consolidation of backup activities and data analysis. Even at the HBA level, Dell is able to intelligently load balance the data traffic to help maximize performance and minimize the potential for bottlenecks.

— **Automated Storage System Wellness:** A combination of software and service is available to provide another level of comfort by directly involving Dell in the automation of your storage system’s wellness. With a dedicated and secure console sending detailed error information to the Dell Technical Support Center, the issue can be rapidly entered into the appropriate support queue for review and action.

**Disaster Recovery**

What are the ramifications to your bottom line if you cannot access the information you need to keep your business running? Are you prepared to recover from a disaster? Dell can provide a number of disaster recovery options to fit the size of your environment and your budget, from tape solutions to remote mirroring to SAN management.

— **Tape Management:** The Dell tape backup software solutions meet the data protection needs of small businesses to large enterprises, and enable you to quickly and easily protect, recover, and restore data in a variety of networked environments. The backup suites are comprised of OpenManage tools and industry-recognized backup and restore software from leading storage software companies including Backup Exec™ by VERITAS™, ARCserve™ by Computer Associates (CA) and Yosemite TapeWare*. They are fully tested, qualified, and certified to work with all currently shipping Dell server and tape backup products.

— **Mirroring:** MirrorView™ provides an online, host-independent, mirrored data storage and protection solution that duplicates production site data to another site in a campus environment. It operates in the background, transparent to any hosts or applications, to provide the same information protection services to all server platforms and operating systems that connect to the Dell/EMC storage array. MirrorView is also fully integrated with SnapView™ software that creates consistent point-in-time snapshots. Both are managed from within the Navisphere management software, which helps to minimize learning curves and reduce training and certification costs.

— **Corruption Recovery:** In addition to many other uses, SnapView clones can be used to almost instantaneously recover from corruption of data due to virus, hardware failure, malicious intent, or mistakes.

— **SAN Management:** Using the terminology appropriate to the user, EMC Replication Manager simplifies, automates and integrates the use of SnapView Clones and disk based replicas with the applications or file systems running on the servers. This simple integration and automation can help dramatically improve the availability and rapid recovery of mission-critical data.”

*Yosemite TapeWare is tested, qualified and certified to work with IDE tape drives in SC branded servers only.
**Asset Management**
Organizing and simplifying data is critical to developing operational efficiencies within an organization. Keeping track of where the data resides and the location of the storage systems that contain the data can be a challenge. OpenManage™ provides basic asset information for internal storage and PowerVault storage. For Dell/EMC, VisualSAN and Navisphere generate customized views and comprehensive reports to help maximize operational efficiencies in asset management.

Custom views of your environment can include several options from grouping similar host operating systems to arranging storage groups by size. EMC VisualSAN and Navisphere also help you create detailed management reports on items such as storage processors, LUNs, storage groups, RAID groups, hosts, mirrors and snapshot activity. Any item or resource that contains a “properties” dialogue can be the source of a report to help you minimize your information management overhead.

**Remote Access**
IT administrators need to easily and effectively manage storage systems in locations that have no administrative IT staff, or that are locked away in a secure data center. The Dell remote access solutions help provide secure remote access to the storage and full control without having to go to the location of the storage devices.

**Services**
Dell Services can help you tie the pieces together by effectively planning, rapidly deploying, and efficiently managing your storage solution.

― **Professional Services:** Drawing from years of experience and our unique relationships with industry leaders such as EMC, Dell Professional Services provides services to assess your current storage requirements, then designs, deploys and integrates a SAN or NAS solution that will meet your current information needs, while providing a path for future growth. Additional services, such as SnapView and MirrorView implementation, Backup & Recovery Design & Deployment, and Data Migration, help ensure data availability and integrity - 24x7.

― **Deployment Services:** Dell’s Deployment Services team can help make you productive in less time, while allowing your IT resources to focus on other critical tasks. Services include Custom Factory Integration (CFI), Asset Management, Installation, Custom Delivery and Asset Recovery.

― **Support Services:** Dell’s Premier Enterprise Support Services (PESS) offers flexible, customizable support options designed to keep your storage solution running at optimal levels. PESS Gold offers rapid resolution for your storage hardware and software issues, account management for efficient escalation management reporting, and seamless support for coordinated problem resolution with select third party vendors. Optional features, including on-demand dispatch, on-site engineer and remote system monitoring, allow you to create the level of support you require to meet the unique demands of your business.

**Training and Certification**
Dell provides complete training and certification for customers in the implementation and configuration of storage. Dell provides a variety of training and certification courses including Dell server and storage products, backup and restore, SANs, clustering, and systems management software. Available on-site at your facility or within our Dell labs, Dell Technology Training and Certification is designed to equip system administrators with the skills needed to optimize your Dell investment from day one.

Services vary by region. For more information on the available services in your area, please visit www.dell.com.

Visit www.dell.com/openmanage for more information.