



all-in-one storage solutions for medical organizations

simple, reliable storage enables better patient care

Medical organizations need continuous access to patient records, accounts and drug databases. In the US, the Health Information Technology Plan mandates that all patients have electronic medical records by 2014 and compliance with the Health Insurance Portability and Accountability Act (HIPAA) has added additional responsibilities to personnel responsible for data storage systems. The implementation of digital X-rays, digital scanning information and PACS (Picture Archiving and Communications System) are driving storage requirements just as they help medical professionals deliver better care faster.

key features

Backup and restore

The secure backup of patient records is critical. The StoreVault S500 can be specified with a SCSI card to enable direct backup to tape of the unit. NDMP compliance ensures that the unit can also be backed up over either iSCSI or Fibre Channel SAN.

The S500 can act as a target for centralized backup of medical staffs' desktop or laptop computers, reducing the likelihood of data loss from damage, theft or data corruption. It can also act as a backup target in a disk-to-disk-to-tape implementation. Backup to disk ensures rapid restoration; backup to tape enables easy offsite storage for disaster recovery or archival purposes.

Data protection

The StoreVault S500 provides multiple layers of protection for patient data. The disk array uses RAID protection to ensure data is kept safe in the event of a disk drive failure: a replacement drive is rebuilt from the surviving drives. RAID-DP is a NetApp technology that provides a significantly higher level of protection by ensuring that data is kept safe in the event of two disk drive failures occurring at the same time. Having a hot spare in the array provides the ability to recover faster from a disk failure: as soon as early warning of a failure is detected the hot spare is immediately brought online and the recovery operation starts. The data cache on the StoreVault S500 is non-volatile RAM: the memory is protected with a battery backup so that the data in cache is not lost in the event of a power outage.

Storage consolidation

As medical groups grow they typically add storage by adding servers or adding more storage to existing servers. This direct attached storage (DAS) model is inefficient as the storage can only be used by the server it is attached to. In a networked storage environment, multiple servers can share storage. The StoreVault S500 is an ideal platform for storage consolidation. In a single box, it combines file sharing (NAS); block-level application storage (SAN); and can even act as direct attached storage until you are ready to take the step into the networked storage world.

By centralizing storage into a central pool that is available to be shared by care providers and applications, the usage is much more efficient, and management is simplified. Typically in a direct attached storage environment a tape drive is attached to each server to perform backups. All need to be managed, typically at night or on weekends. A single tape drive attached to the S500 enables backup for off-site storage while simplifying the process.

Eliminating the backup window

With the exponential increase in volume and increasing dependence on digital medical records, there is no longer a good time to halt applications while a backup job runs. With NetApp Snapshot technology embedded in the StoreVault S500 the backup window becomes a thing of the past. A Snapshot is an image of the entire file system a point in time. No data is copied to make this image, just the pointers to those active data blocks. Therefore the image is captured almost instantly and without impacting performance. The image is stable and will not change and so can be used as a backup source at any time, freeing up nights and weekends for the person who today is responsible for changing all the tapes.

key features (continued)

Eliminating incremental backups

Snapshot technology can also be used to eliminate the nightly incremental backups that organizations typically perform with their valuable data. A Snapshot is a record of the entire volume at the point it is taken and up to 250 may be stored concurrently for each volume and they can be scheduled on a periodic basis or taken on demand. To restore lost data, the file, directory or entire volume can be reverted to the last Snapshot. Because no data needs to be moved or copied, the restoration is almost instantaneous, typically less than a second no matter how much data is being restored. Compare this to a restore from tape: locate the last full backup tape and all the incrementals since then; restore all the tapes. It is clear that the Snapshot not only makes incremental backups redundant, but each Snapshot is a full backup. Tape backup becomes the off-site storage for disaster recovery only; any restore should be done from a Snapshot.

Instant backup, instantaneous restore

We all wish we could travel back in time occasionally; every medical professional has at some time overwritten a file or accidentally deleted the wrong file. Using the Snapshot technology, going back in time could not be simpler. Most calls to IT personnel to restore data involve individual files or directories. Because all the security attributes of the original files are maintained with the Snapshot, users can be authorized to restore their own overwritten, deleted or corrupted files. Because Snapshots are read-only images, they also provide protection from accidental or malicious data corruption.

Growing storage capacity

With ever increasing scope and size of electronic medical records, it is critical that storage can be added quickly and easily to ensure that patient care is maintained.

One of the unique features of the NetApp RAID architecture is that additional disk drives can be added to the array at any time, without disrupting normal operations. Compare this to adding storage capacity to a server with direct attached storage!

Allocating Storage

The StoreVault S500 treats the physical storage as a central pool that can be logically divided up and shared out to different user groups or applications. This virtualization of the storage delivers the ability to easily allocate and reallocate on the fly with no disruption to the caregivers or applications. The technology also enables accurate billing of storage resources by healthcare organization.

summary

The StoreVault S500 is an all-in-one network storage appliance that simplifies management of data in a medical environment. With a simple management interface that does not require storage administration expertise, the Store Vault S500 can easily accommodate changing storage demands. Capacity can be easily added as required without the need to disrupt patient care and applications. With support for file sharing and centralized application storage, all your storage needs can be met with reliability, peace-of-mind data protection and for a surprisingly affordable cost. StoreVault is a division of storage industry leader NetApp, so the technology behind the StoreVault S500 has been proven in thousands of data intensive installations around the world for years. This technology can now bring flexibility, affordability and peace-of-mind data protection to your storage infrastructure, so that you can focus on patient care without providing intensive care to your storage infrastructure.



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About Network Appliance

Network Appliance is a world leader in network storage solutions for today's data-intensive world. Since its inception in 1992, Network Appliance has delivered technology, product, and partner firsts that simplify data management. Information about Network Appliance solutions and services is available at

For more information on StoreVault by NetApp, go to www.storevault.com

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