



# simple networked storage for design & manufacturing



## dependable data storage, lower costs for manufacturing

Reduced costs are important not just in manufacturing but also in the support organizations like IT. As CAD and manufacturing application data files become larger and used more widely used in the organization, easy file sharing becomes more important and the old ways of storing data on individual servers with direct attached storage simply does not support the business efficiently.

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### key features

#### Storage consolidation

Computer aided design and manufacturing files are becoming larger as more capability is added to those programs. The amount of storage required is also being pushed by the desire to have any file immediately available to designers and engineers across the company.

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 engineers and applications, the storage utilization is significantly improved, 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, all need to have tapes changed, identified and stored, typically at night or on the weekends. A single tape drive, either attached to the S500 or on the network, enables backup for off-site storage while simplifying the process.

#### Allocating storage

The StoreVault S500 treats the physical storage as a central pool that can be logically divided up and dished out to different client areas. Every StoreVault product contains the NetApp FlexVol technology; this virtualization of the storage delivers the ability to easily allocate and reallocate on the fly with no disruption to the engineers or applications. This simple provisioning has huge benefits in improved storage utilization and reduced storage management costs.

#### Eliminating the backup window

The backup window is shrinking as manufacturing companies work across the continent or around the world. 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.

#### Eliminating incremental backups

Snapshot technology can also be used to eliminate the nightly incremental backups that so many companies 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 incremental backups 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.

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## key features (continued)

### Instant Backup, Instantaneous Restore

We all wish we could travel back in time occasionally; every engineer 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 corruption.

### Advanced Protection Architecture

The StoreVault S500 provides multiple layers of protection for your 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 even in the event of two disk drive failures occurring at the same time. Having a global 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 recovery often completes in the background before the flagged drive actually fails, eliminating the disruption and performance hit normally associated with a rebuild.

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.

### Backup and Restore

Backup of design and build records and the ability to quickly recover are critical to manufacturers for whom the access to data can mean the difference between winning and losing business. 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 artists' desktops and laptops, reducing the likelihood of data loss from damage, theft or 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.

### Growing Storage Capacity

As data requirements grow, the ability to add storage quickly and easily can ensure a competitive edge. 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!

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## summary

The StoreVault S500 is an all-in-one network storage appliance that simplifies management of data in a design and manufacturing 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 artists and editors. With support for file sharing and centralized application storage, all your storage needs can be met with reliability, scalability 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 continue to grow the manufacturing capability without having to worry about your growing storage.



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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](http://www.storevault.com)

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