

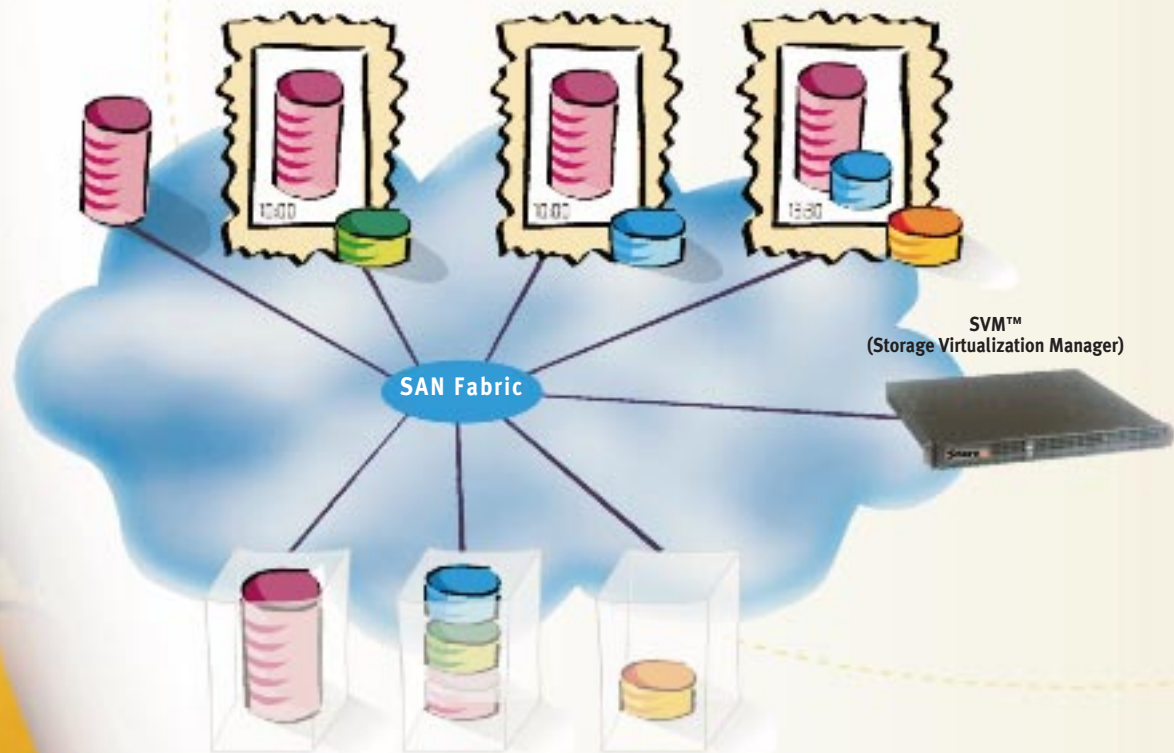
# multiView™

SVM™ Application

Increasing productivity while making possible the recovery of lost data in a more effective way is of supreme importance to any organization. This is one of several reasons to employ the idea of "snapshot copy" in a Storage Area Network. However, the ability to create many point-in-time images "on the fly", while NOT replicating the whole contents of a volume, is also essential.

StoreAge's *multiView* is an innovative snapshot copy facility that is implemented as part of StoreAge's SVM™ appliance (Storage Virtualization Manager).

*multiView* enables the creation of multiple Read/Write virtual point-in-time copies of volumes containing databases and file systems. Each copy has its own lifecycle independent from the original volume. *multiView* creates "views" that can be used to make data available to any server, for any purpose. With *multiView* and SVM™, StoreAge enables a variety of High Availability (HA) and high performance capabilities such as Server free and LAN free Backup, as well as the ability to test new software and operating system version on production data without risk.



**StoreAge**  
networking technologies

## Principles of Operation

**multiView** is capable of creating multiple views of multiple point-in-time images of a Volume, which we'll call the "Original Volume".

The Storage Administrator or policy based storage management software (via the GUI, SAN API and CLI) can perform two distinct tasks: (a) Create a virtual point-in-time "image" of a volume, and (b) create a View from each such point-in-time image. The two operations are independent and can be performed any number of times for any volume. In this manner, several Views can exist at any time from a single point-in-time image, and be assigned to different servers for applications such as backup, testing and decision support. Views are presented to applications as regular R/W Volumes. Multiple Views from a single Original Volume are totally independent and can be changed, expanded or deleted by their users regardless of other Views. Point-in-time images can only be deleted (at operator or program request) after all Views using this image have been deleted.

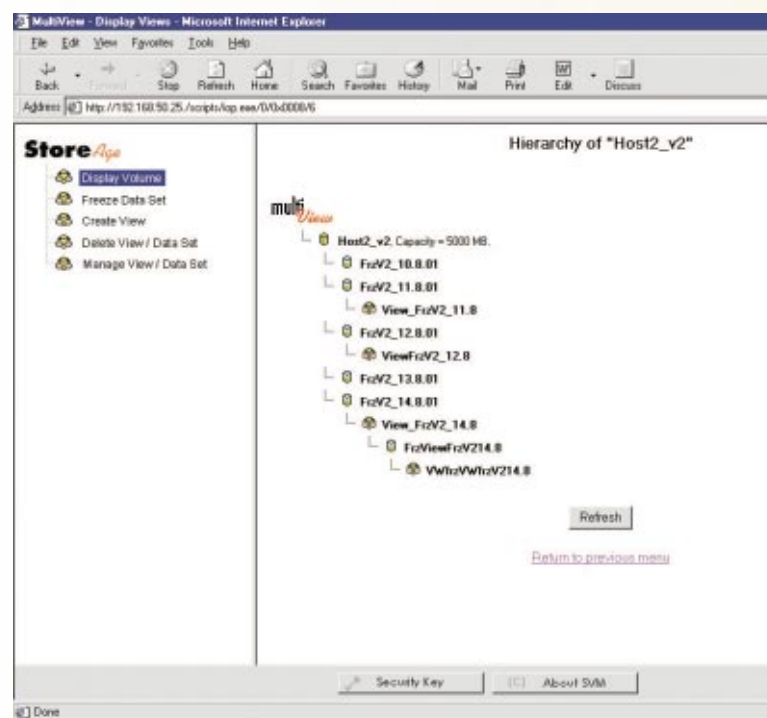
## Key Attributes

### SCALABILITY

The number of views that can be created from a given volume is unlimited, thus enabling the creation of views of the online data for other purposes such as testing environments, decision support, comparisons etc.

### REDUCED TCO

No need to replicate data for each view, thus saving a significant amount of storage.



## Features

### VIEWS FOR R/W ACTIONS

Each view may be used for both Read and Write operations. Applications using the views may change the view's data without affecting the content of the original volume or other views.

### ENABLING SERVER FREE & LAN FREE BACKUP

The rapid view creation capability with no need for LAN traffic enables the administrator to create a view, allocate it to a

backup server, and execute the organization's backup activities via that server. No LAN traffic is needed (LAN-Free Backup) and the original application server is not involved (Server-Free Backup). In this way, the backup window from the application standpoint is practically nil, assuring continuous availability of the enterprise's on-line data.

### INFRASTRUCTURE FOR BLI (BLOCK LEVEL INCREMENTAL) BACKUP

BLI Backup is an incremental backup method that only backs up changed data blocks, virtually eliminating the database backup

window. The ability to backup only the changed blocks is important. Unlike a traditional file level incremental backup in which an entire datafile, which could be several gigabytes, must be backed up if only a single 2K block is changed, BLI Backup enables just the modified 2K block to be backed-up.

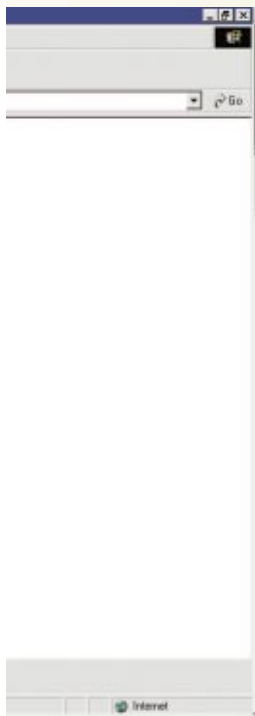
BLI Backup offers several key benefits: Since only changed blocks are backed-up, tremendous time and media savings are possible. Since the backup window is very short, both system and network overhead are greatly reduced, thereby enhancing performance. More frequent backups are possible, so each backup contains a more up-to-date image of data for improved recoverability. BLI Backup enables faster database recovery from hot backup than traditional techniques.

### CASCADING VERSIONS

It is possible to create Multiple Point-in-time images of the same volume, thus allowing cascading of many versions of the same data, each with its own lifecycle.

### RAPID AND RELIABLE APPLICATION OR OPERATING SYSTEM RELEASE TESTING

Using *multiView*, a variety of applications can be tested with real data, enabling rapid, reliable application or OS Release testing. There is no need to replicate the volume for such operations, potentially saving significant amounts of storage and copy time.



## P rerequisite

StoreAge SVM™ (Storage Virtualization Manager), a 1U, rack-mountable Virtualization Appliance, must be installed in the SAN.

## P latforms Supported

Microsoft Windows NT 4.0  
Microsoft Windows 2000  
Sun Solaris  
Linux  
HPUX  
AIX  
Other - Consult your StoreAge representative

## A bout SVM™

SVM™ (Storage Virtualization Manager) is a SAN appliance that provides virtual volume management in heterogeneous environments. The SVM features storage capacity and storage performance pooling across the entire SAN space. Uniquely designed to virtualize storage off the data path, the SVM does not impose any performance penalty and thus delivers highly scalable and highly available SANs at levels not found with traditional approaches.

The SVM provides centralized management for distributed enterprise storage, significantly reducing the Total Cost of Ownership. It is an ideal platform for SAN-aware Storage Applications such as Remote Mirroring, Snapshot and others and a key enabler for enterprise disaster recovery strategies.

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## T he life of a storage administrator using multiView

Here are some of the IT manager's problems and challenges that are solved using multiView technology:

- It is April 26 and a malicious virus spread via the internet attacked and destroyed all my data. I would like to be able to "roll back" all the data to the state it was on April 25 at 23:59...
- It is Wednesday; somebody changed some files in an improper way. I would like to create an instant view of the data as it was on Tuesday and reveal the changes in the files...
- It is September 30 and I would like to create an instant view of my data as it was in the previous quarter and perform comparisons between quarters...
- My backup window is shrinking. I need to perform the backup without taking the production system off-line and without degrading its performance...

**Solve all these problems with the multiView solution**

The Virtualization Architects