

Simplifying Storage Management

Overview

With the explosive growth of data, increasingly complex storage infrastructures, and shrinking IT budgets, storage management is a major issue today for the IT community.

Complexity challenges include:

- Learning disparate storage management tools from multiple vendors with different interfaces to manage different classes of storage.
- Escalating capital and operating costs to manage storage.
- Coping with new issues when implementing a virtual storage infrastructure to complement server virtualization.
- Ability to provision storage across the enterprise in a heterogeneous storage environment.
- Managing a disaster recovery plan, whether local or remote data backup and replication, without draining IT and server resources.
- Application disruption, data migration time and expenses when adding storage or replacing technology.

Managing a heterogeneous storage environment does not have to be difficult or expensive.

SANRAD StoragePro Simplifies Storage Management

SANRAD StoragePro software, integrated with the V-Switch product line, provides a single, centralized tool to manage any storage across the enterprise.

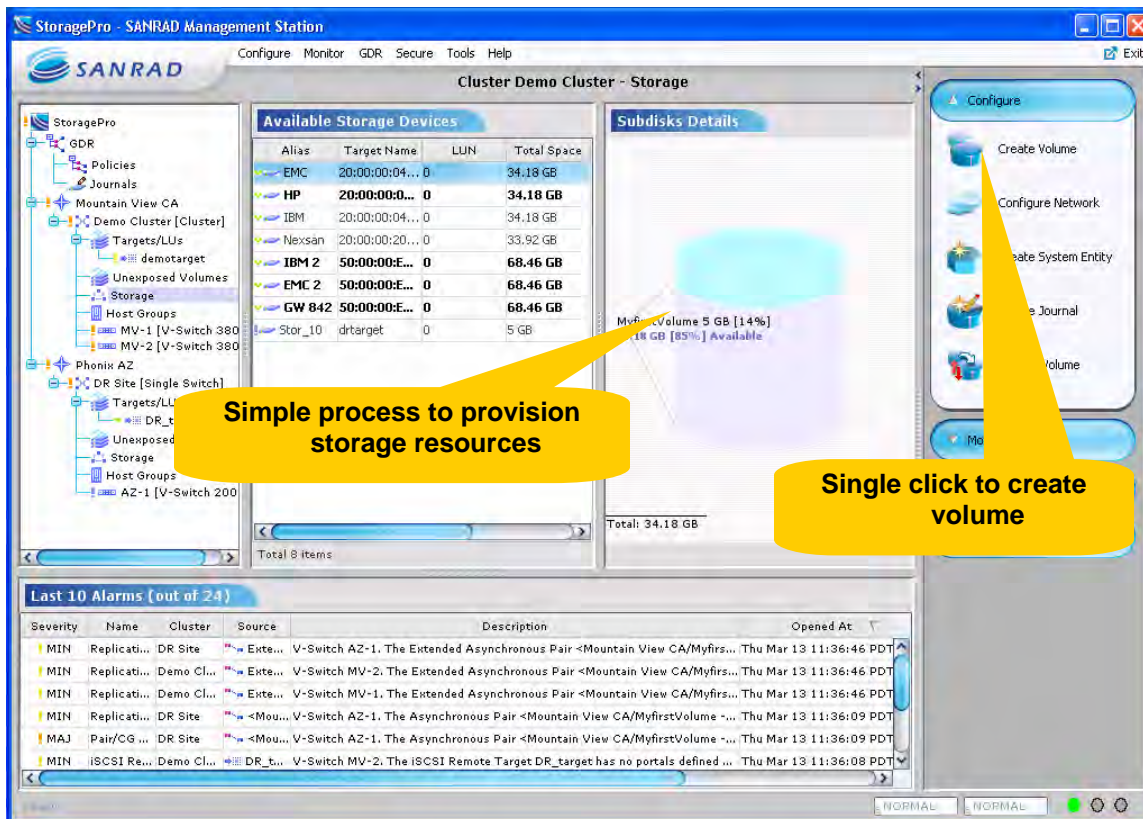
Its intuitive interface provides an easy top-down menu to perform key storage tasks such as volume creation, storage provisioning, data replication and data migration.

Optimized to complement server virtualization, SANRAD StoragePro also provides easy heterogeneous storage mobility for virtual server environments.

Volume Creation and Provisioning

It is very easy to create a volume with the StoragePro graphical user interface (GUI). It only requires a few steps to provision the amount of storage required by any application. With SANRAD you can provision heterogeneous storage thereby eliminating the need for multiple vendor storage management tools and significantly reduce complexity and cost.

Create a Volume in Single Step



Simple process to provision storage resources

Single click to create volume

Alias	Target Name	LUN	Total Space
EMC	20:00:00:04...	0	34.18 GB
HP	20:00:00:0...	0	34.18 GB
IBM	20:00:00:04...	0	34.18 GB
Nexsan	20:00:00:20...	0	33.92 GB
IBM 2	50:00:00:E...	0	68.46 GB
EMC 2	50:00:00:E...	0	68.46 GB
GW 842	50:00:00:E...	0	68.46 GB
Stor_10	drtarget	0	5 GB

Severity	Name	Cluster	Source	Description	Opened At
MIN	Replicati...	DR Site	Exte...	V-Switch AZ-1. The Extended Asynchronous Pair <Mountain View CA/Myfirs...	Thu Mar 13 11:36:46 PDT
MIN	Replicati...	Demo Cl...	Exte...	V-Switch MV-2. The Extended Asynchronous Pair <Mountain View CA/Myfirs...	Thu Mar 13 11:36:46 PDT
MIN	Replicati...	Demo Cl...	Exte...	V-Switch MV-1. The Extended Asynchronous Pair <Mountain View CA/Myfirs...	Thu Mar 13 11:36:46 PDT
MIN	Replicati...	DR Site	<Mou...	V-Switch AZ-1. The Asynchronous Pair <Mountain View CA/MyfirstVolume ...	Thu Mar 13 11:36:09 PDT
MAJ	Pair/CG ...	DR Site	<Mou...	V-Switch AZ-1. The Asynchronous Pair <Mountain View CA/MyfirstVolume ...	Thu Mar 13 11:36:09 PDT
MIN	iSCSI Re...	Demo Cl...	DR_t...	V-Switch MV-2. The iSCSI Remote Target DR_target has no portals defined ...	Thu Mar 13 11:36:08 PDT

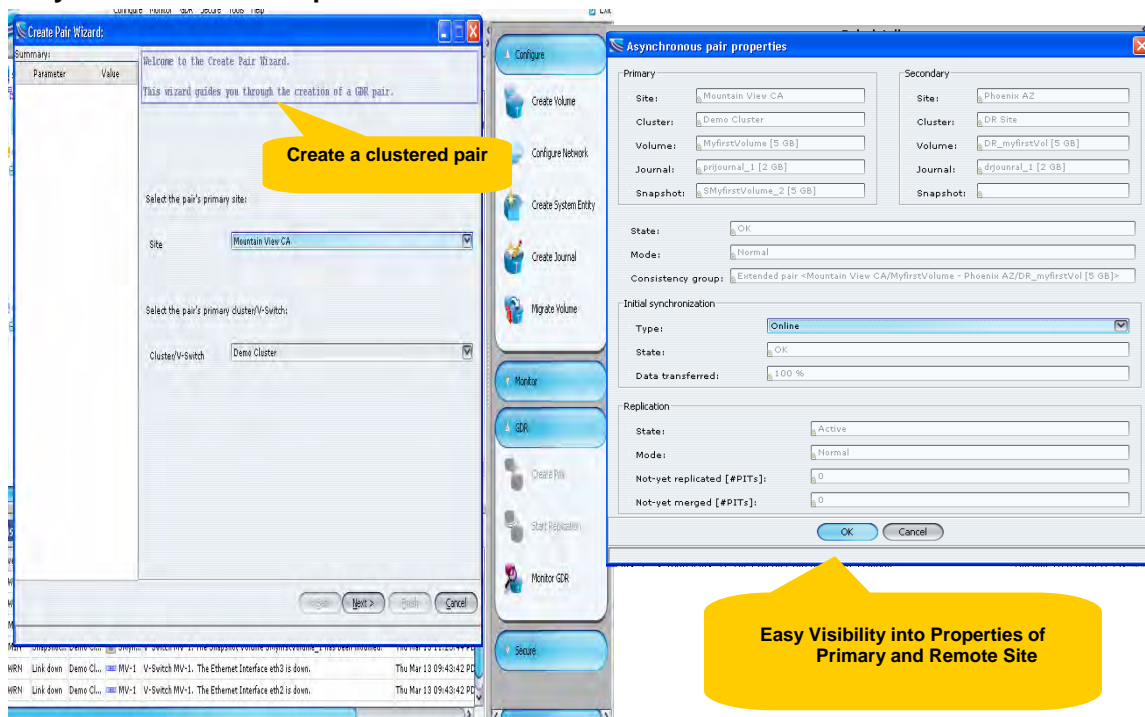
Data Replication

SANRAD provides a number of tools that provide customers to replicate data easily. These replication methods can be used for disaster recovery, local or remote backup. SANRAD offers three replication options to address customer's business requirements. Asynchronous replication (Global Data Replication) enables customers to replicate data over long distances. Synchronous replication is used in campus environments. Point-in time replication copies only the changes in data and reduces the impact of capacity requirements for replication. All of SANRAD's replication functions operate in a heterogeneous storage environment permitting users to choose the best storage product that fits their requirement and reduces total management costs.

Asynchronous Replication (Global Data Replication)

The below diagram illustrates how simple it is to establish asynchronous replication between two geographically dispersed storage systems.

Asynchronous Data Replication

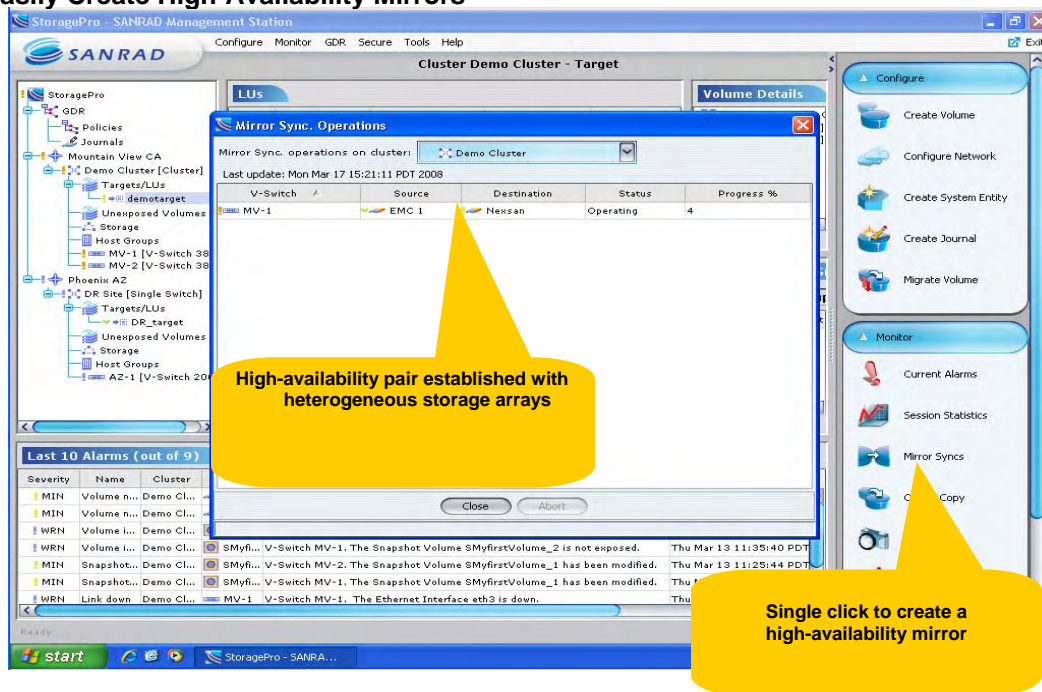


The screenshot displays two windows from the SANRAD management console. The left window is the 'Create Pair Wizard', which is a multi-step process for creating a replication pair. A yellow callout bubble points to the 'Create a clustered pair' step. The right window is the 'Asynchronous pair properties' dialog, which allows for detailed configuration of the replication pair. A second yellow callout bubble points to this dialog, indicating that it provides easy visibility into the properties of both the primary and remote sites.

High-Availability Synchronous Replication

SANRAD synchronous replication maintains a complete and up-to-date copy a volume(s) in a campus environment. The feature is exceptionally useful in a VMware deployment where Vmotion is utilized. SANRAD allows for the instantaneous fail-over of storage if one site becomes unavailable. This fail-over is accomplished with no operator intervention and is completely transparent. The figure below illustrates how simple it is to establish a pair of synchronous data mirrors.

Easily Create High-Availability Mirrors



Mirror Sync. Operations

Mirror Sync. operations on cluster: Demo Cluster
Last update: Mon Mar 17 15:21:11 PDT 2008

V-Switch	Source	Destination	Status	Progress %
MV-1	EMC 1	Nexsan	Operating	4

High-availability pair established with heterogeneous storage arrays

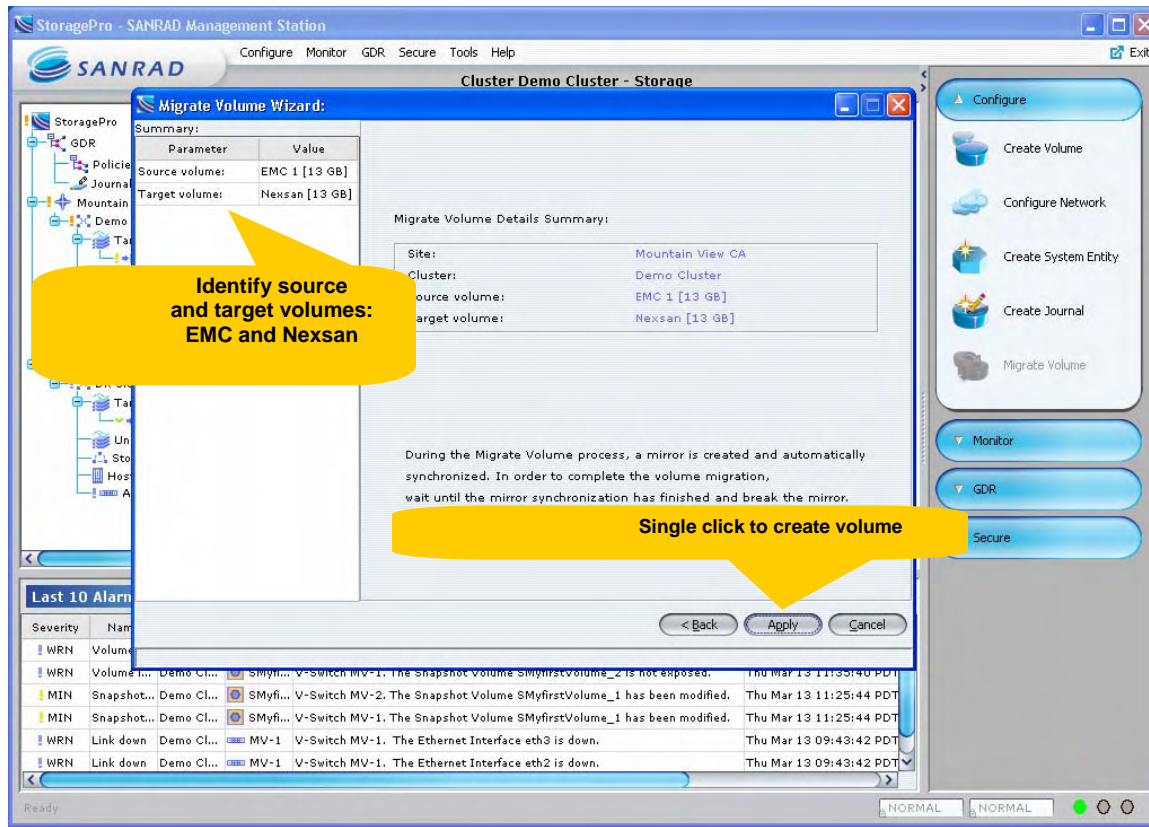
Single click to create a high-availability mirror

Data Migration

SANRAD provides real-time non-disruptive data migration. SANRAD allows data to be migrated between any types of storage system to any other type of storage. This is regardless of vendor or device type.

SANRAD's data migration is simple to deploy and requires just a few easy steps. The figure below shows how easy it is to get started with SANRAD data migration.

Data Migration: Easy Set Up



Migrate Volume Wizard:

Parameter	Value
Source volume:	EMC 1 [13 GB]
Target volume:	Nexsan [13 GB]

Migrate Volume Details Summary:

Site: Mountain View CA
 Cluster: Demo Cluster
 Source volume: EMC 1 [13 GB]
 Target volume: Nexsan [13 GB]

During the Migrate Volume process, a mirror is created and automatically synchronized. In order to complete the volume migration, wait until the mirror synchronization has finished and break the mirror.

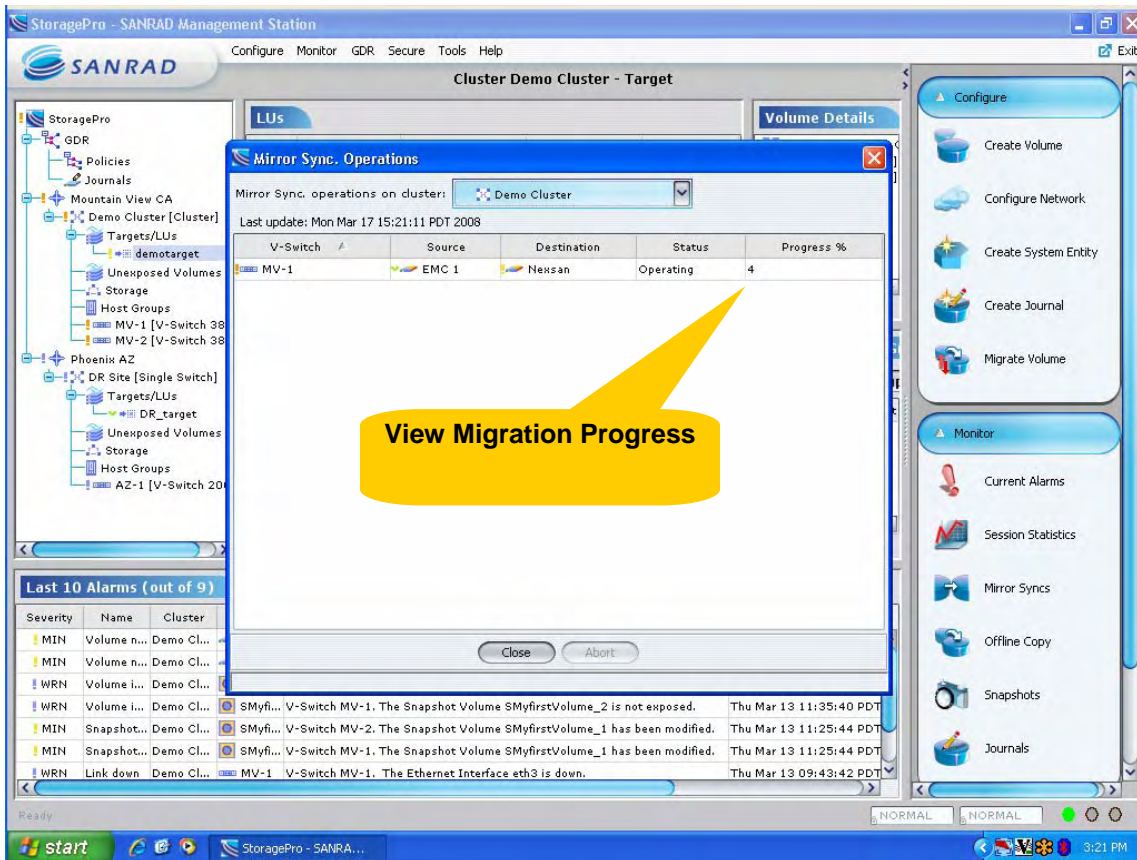
< Back Apply Cancel

Identify source and target volumes: EMC and Nexsan

Single click to create volume

With the StoragePro GUI, users can view the progress of the migration.

Data Migration: View Progress



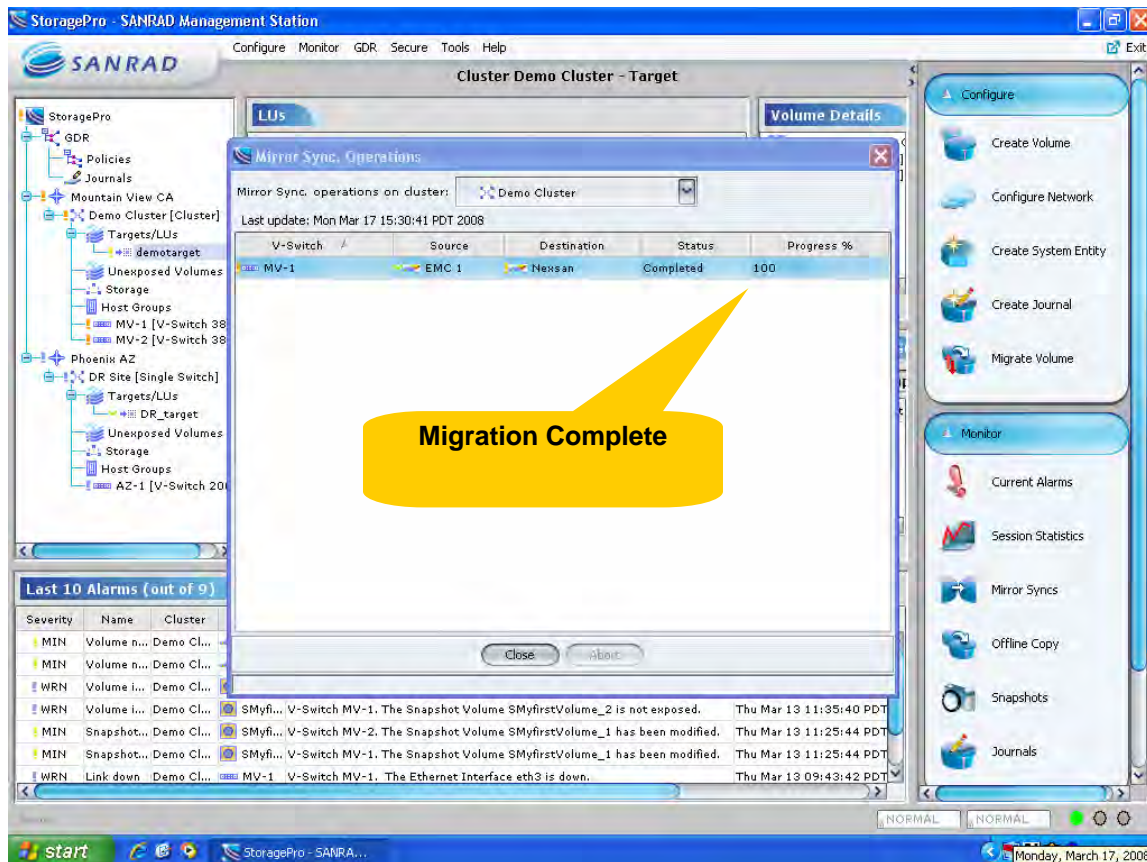
The screenshot shows the SANRAD Management Station interface. A 'Mirror Sync. Operations' dialog box is open, displaying the following table:

V-Switch	Source	Destination	Status	Progress %
MV-1	EMC 1	Nexsan	Operating	4

A yellow callout bubble with the text "View Migration Progress" points to the table. The background shows a tree view of storage configurations and a 'Last 10 Alarms' section at the bottom.

StoragePro provides ongoing feedback to users, including completion of data migration task.

Data Migration: Migration Complete



Summary

SANRAD StoragePro simplifies storage and data management. StoragePro offers a number of key benefits that offer real business value:

- Heterogeneous storage management
- Storage virtualization of any storage
- Replication management of any storage
- Provisioning of any storage
- Single management interface for all storage

StoragePro reduces complexity, simplifies storage management and reduces management costs.