



# SANmelody™ Storage Virtualization Software

**Non-Stop, Lightning-Fast,  
Waste-Free SANs**

## USE CASES

- **Server & Desktop Virtualization Projects**

Virtualize existing storage into highly-available, shared disk pools where servers store, update and transfer system state to automatically migrate and fail over virtual workloads.

- **IT Consolidation Projects**

Eliminate storage-related downtime by mirroring virtual disks between physically separate devices that can be independently taken out of service or automatically failed over without disrupting workloads.

- **Offsite Disaster Recovery**

Centrally replicate critical data from multiple servers to a backup site located thousands of kilometers away.

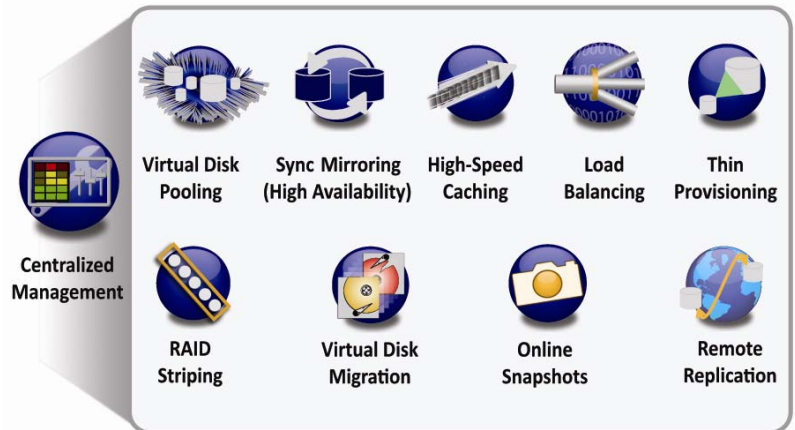
- **Storage Upgrades & Expansion**

Migrate disk contents to new, centralized equipment behind the scenes without downtime.

## BENEFITS

- **Cost Avoidance.** Reduce cost to implement non-stop, lightning-fast, waste-free SANs by repurposing existing storage and servers. Postpone or avoid new hardware purchases by fully utilizing IT assets already in place
- **Never Obsolete.** Unlike hardware-embedded features, DataCore's perpetual software licenses never become obsolete and are fully portable to more powerful and cost-effective x86 servers. The unique, SAN-wide approach yields the highest availability, fastest performance and fullest utilization from your storage resources.

## Manufacturer-Independent, SAN-Wide Features



## Highly-Available SANs

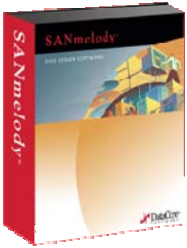
SANmelody™ software fulfills business continuity objectives by preventing storage-related maintenance, upgrades, reconfiguration, expansion and failures from disrupting IT operations. Setting up two DataCore universal storage controllers to mirror virtual disk changes in real time between their caches establishes a highly available, high performance storage pool. Workloads can then be evenly distributed across the two controllers. If one half of the pool is taken out of service or fails, multipath I/O drivers on the SAN clients transparently fail over to the other half, keeping applications running without downtime. When service is restored, the mirrors automatically resynchronize and the clients fail back to the original paths. Considerably higher availability is achieved by splitting the pool between different rooms, different floors or different buildings. Extending the separation reduces the chance that both halves of the pool could be affected simultaneously by a technician's error, a faulty water pipe or another factor.

## Offsite Disaster Recovery (DR)

SANmelody also safeguards against larger scale IT outages that could disrupt all storage access within a metro area. It does so by asynchronously transmitting virtual disk changes to a remote disaster recovery site hundreds or thousands of kilometers away using standard IP networks. As with HA, you choose which virtual disks merit the added protection and what data storage equipment you prefer at each location

## Centrally-Managed Storage Pool

SANmelody builds a virtual storage pool from all the space available on disks attached to the DataCore universal storage controllers. The pool may include internal drives and external arrays, even mixing different generations of devices from multiple manufacturers to create tiered storage choices. Despite their differences, all of the storage assets are centrally controlled using a common graphical interface. Thin provisioning dramatically reduces actual capacity consumption by allocating just enough space, just in time. It also notifies you when it's time to add more disks. You can expand the pool at anytime without disruption, and are free to select the suppliers that offer you the best alternatives at the time without



## Supported Environments

### Small to Midsize SAN:

<500 Gigabytes, up to 32 Terabytes of disk space\*

### Hypervisors & OS Virtualization:

VMware ESX, Microsoft Hyper-V, Citrix XenServer, Parallels, Virtual Iron

**Client Operating Systems:** Windows, Unix, MacOS, Solaris, AIX, Linux, NetWare

**Disks:** Any disk drive or disk array supported on the Windows server chosen to host SANmelody software. These include IDE, ATA, SCSI, SATA, SAS, iSCSI/Ethernet, FireWire, Fibre Channel (FC), and InfiniBand

**SAN Protocols:** iSCSI/Ethernet, Fibre Channel

\*Virtual capacity presented to computers may exceed physical disk space available in the storage pool when oversubscription is desirable. For requirements covering multiple SANs or pools exceeding 32 TBs, please refer to DataCore SANSymphony™ software.

## Well-Behaved Virtual Disks

You shape “virtual disks” according to the specific capacity, availability and performance needs of each application, much as you would define different virtual machines in a physical server for varied workloads. Their fluid, software-defined characteristics make them indispensable. Behind the scenes, SANmelody lines up the resources, replicates data and caches requests to satisfy the desired volume requirements, data protection and I/O characteristics. Hardware variables and their physical limitations are intentionally hidden from the SAN clients, who perceive only well-behaved LUNs. Virtual disks can be provisioned, shared, backed-up, and expanded without hardware changes or downtime.

## Prerequisites

- SANmelody software runs on 32 or 64-bit **Windows x86 servers** (physical or virtual machines). The servers become dedicated DataCore “universal storage controllers.”
- The physical storage pool (**up to 32 Terabytes**) is made up from internal disk drives and external disk arrays attached to DataCore storage controllers.
- For **High-Availability (HA)**, synchronously mirror between two DataCore storage controllers up to 35 kilometers apart using Fibre Channel or iSCSI.
- For **Disaster Recovery (DR)**, asynchronously replicate between two DataCore storage controllers over unlimited distances using a standard IP connection.
- SAN-wide I/O cache is carved out of memory on the DataCore storage controllers. A minimum of 1 GB RAM per controller, up to 1 TB may be configured.
- 65 MB of disk space is needed for installation
- Computers needing access to the virtual storage pool connect to the DataCore storage controllers using **iSCSI or Fibre Channel SAN** connections.
- Switches are recommended to simplify the SAN layout.

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