



LaScala Volume Configuration Best Practices
version 1.9
www.sanbolic.com

Virtual Disk or LUN Management

Because LaScala is a clustered volume manager designed to manage shared volumes, the storage controller can be set up to present a single LUN assigned to all servers on the SAN. There is no need to present a separate LUN to each server.

LaScala can be used to configure the volume structure and assign server access from a central management screen. For non-clustered file systems such as NTFS, LaScala internally manages the volume access so that only a single server has access to the volume. The other servers see that volume from the LaScala user interface, but do not have access to it. Once the primary cluster node fails e.g. due to power outage, connection failure, or other hardware issues, the next node on the road takes over the *access to the volume.

*(Check with Sanbolic [support](#) for more details)

With a shared file system such as Melio FS, multiple systems can be assigned access to a common volume. Multiple LUNs would be presented if there is a need for different software RAID levels on LUNs.

Volume Expansion

Volumes can be initially sized for current needs. If additional storage capacity is subsequently required, the volume can be dynamically expanded using either unassigned disk space or with capacity from an additional array.

Simple Guidelines for Configuring Volumes on a SAN

- With LaScala, LUNs from heterogeneous storage hardware can be aggregated into stripe sets or volume sets. LaScala Volume manager enables logical drives to be created and assigned among servers from these storage pools.
- When stripe sets span two different types of storage array, performance of the stripe set will be constrained by the slowest controller in the stripe set.

Therefore, it is recommended that stripe sets be created from partitions consisting of identical configurations (same type of storage controller, disk drives, and RAID level and stripe size on the underlying LUNs).

- Volume sets can span heterogeneous hardware without impacting performance, however, the performance for each file will depend on where it is placed on the volume (i.e. which hardware array it physically resides on).

Therefore, it is recommended that volume sets are created using LUNs presented by storage controllers with similar performance, so that performance in accessing files is predictable.

- There is no volume size limitation with LaScala 1.9. Note that due to limitations in Windows OS, the maximum size of a single LUN (disk) mapped to a server is 2 TB. If a larger volume is desired, it can be obtained by joining multiple LUNs into a single volume/stripe set. For example; a server with 10 LUNs of 2TB each, can end up with a 20 TB volume, arranged in RAID 0 through LaScala.



Disk (LUN) Expansion

- In case of available storage outage on the server (front-end), the disk (LUN) could be expanded on some arrays (back-end), provided that free storage exists.
- In LaScala user interface, the newly added capacity to the LUN will appear at the end of the disk as free space. Additional volume expansion is needed in order to include the new free space in any of the used LaScala volumes.



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