Disk Bridge or Virtual disks

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StarWind Documents

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About StarWind

StarWind is a pioneer in virtualization and a company that participated in the development of this technology from its earliest days. Now the company is among the leading vendors of software and hardware hyper-converged solutions. The company's core product is the years-proven StarWind Virtual SAN, which allows SMB and ROBO to benefit from cost-efficient hyperconverged IT infrastructure. Having earned a reputation of reliability, StarWind created a hardware product line and is actively tapping into hyperconverged and storage appliances market. In 2016, Gartner named StarWind "Cool Vendor for Compute Platforms" following the success and popularity of StarWind HyperConverged Appliance. StarWind partners with world-known companies: Microsoft, VMware, Veeam, Intel, Dell, Mellanox, Citrix, Western Digital, etc.

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Background

StarWind Virtual SAN™ offers two options to create the shared storage: **Disk Bridge**. The Disk Bridge module provides complete emulation of the SCSI layer that enables remote initiator clients to use any type of a hard drive (PATA/SATA/RAID). Using the SPTI (SCSI Pass Through Interface) module (similar to RDM physical compatibility mode) you can export any other physical storage device, including optical devices that are attached to the computer (CD, DVD, Blu-ray, and HD-DVD, including burners), magneto-optical devices (ATAPI, USB, or FireWire are supported), physical tape drives, changers, etc. Users connected to exported devices are able to store data, burn to remote burners, create remote backups and so on. **Virtual Disks.** There are two Virtual Disk types that StarWind allows to create: The **Image File** technology allows for the creation of virtual iSCSI hard drives within a regular disk file. The file is a RAW set of sectors of the virtual hard drive. Clients connect to the image file device as if it were a local physical drive. They can format it in the usual way and store data on it. StarWind's **Log-Structured File System (LSFS)** delivers high performance for random write access patterns and therefore successfully eliminates the I/O blender effect in virtualized environments. It distributes VM workloads effectively and reduces latency within the infrastructure. StarWind LSFS device includes thin provisioning, snapshots and deduplication modules with space reclaim technology.

Main Guidelines

When choosing between the mentioned above one must consider those differences: · Virtual Disk allows creation of multiple LUNs on top of single hard drive. Meanwhile, Disk Bridge works only on 1 LUN per 1 Hard Drive basis. · if the SCSI path will be changed for any reason on the RAID controller, that will make the Disk Bridge based LUN to become not active. That will never happen with Virtual Disk based LUN. · Disk Bridge doesn`t include Deduplication functionality · Disk Bridge doesn`t include LSFS functionality · Disk Bridge doesn`t support StarWind side Snapshotos · Disk Bridge doesn`t support automated Snapshots tiering

Conclusion

The main purpose of the Disk Bridge is exporting the hard drive, that already has the file system with the data, that some client OS or application requires. For all other cases, StarWind officially recommends using Virtual Disks.

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