QSAN
Official Document

Virtualization Introduction

QSM White Paper

August 2020

ANNOUNCEMENT

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NOTICES

This document is applicable to QSM.

PREFACE

Audience

This document is applicable for QSAN customers and partners who are interested in learning Virtualization implementation. It assumes the reader is familiar with QSAN products and has general IT experience, including knowledge as a system or network administrator. If there is any question, please refer to the user manuals of products, or contact QSAN support for further assistance.

Technical Support

Do you have any questions or need help trouble-shooting a problem? Please contact QSAN Support, we will reply to you as soon as possible.

- Via the Web: https://www.qsan.com/technical_support
- Via Telephone: +886-2-77206355

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- Via Email: support@qsan.com

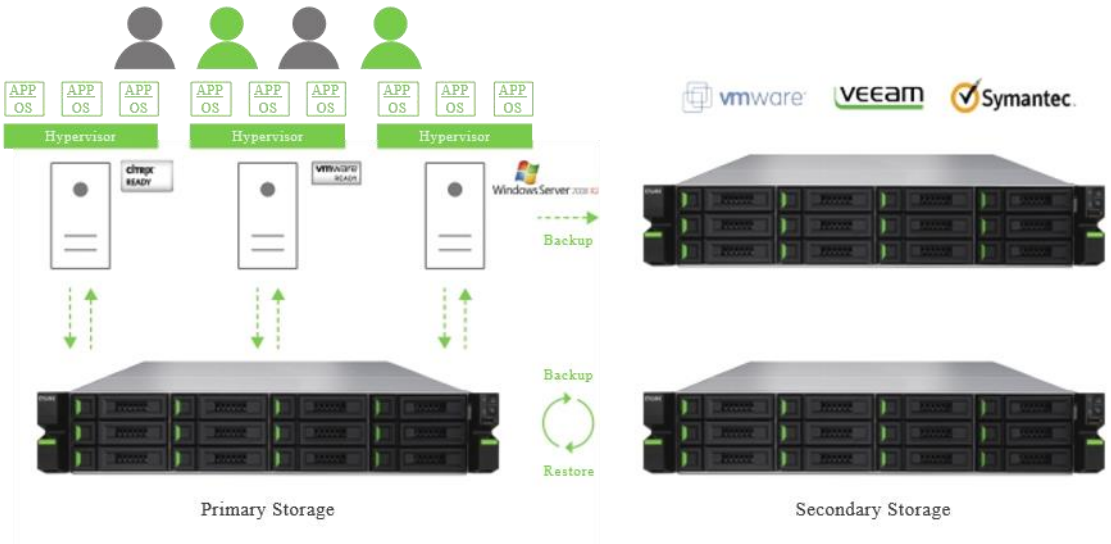
VIRTUALIZATION INTRODUCTION

QSM is an ideal and economical storage solution that can be used as a shared network storage or IP-SAN storage for virtualization environments. Officially certified with VMware® Ready™, Citrix® Ready™, and Microsoft® Hyper-V™, the QSM it is a stable and efficient data storage system. Virtualized data centers can perform faster and more efficiently with QSM's assistance on provisioning, migration and management of virtual machines.

The QSM provides virtualization solutions allowing you to maximize resource utilization to flexibly deliver application services. The built-in hypervisor manager provides a simple and quick way to deploy virtual resources into your infrastructure. This ability means that you can save on listening costs, by moving virtual resources onto the QSM and free up valuable resources on your hypervisor.

VIRTUALIZATION READY STORAGE

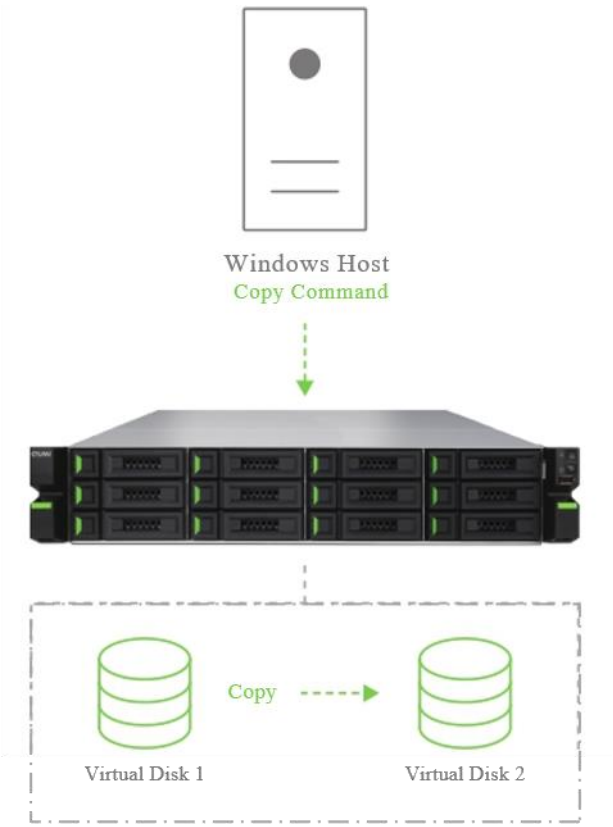
QSM is verified with VMware® Ready™, Citrix® Ready™, and Microsoft® Hyper-V™ certified. No matter which virtualization environment you've adopted, the QSM is a practical and efficient storage system for you to deploy in any virtualization platform. QSAN's QSM can be used for primary storage repositories and as a backup to existing primary storage. As a backup storage device, the QSM supports a comprehensive list of 3rd-party virtual machine backup software to ensures that your VMs and data are never at risk of loss.



Windows Offloaded Data Transfer (ODX)

With ODX support, users using Windows Server 2012 R2 are able to conduct data operations, such as moving large files and virtual machines, directly between iSCSI LUNs. Handled by QSM, the progress need not involve host servers, therefore can be finished rapidly and with fewer resources. This enables

the Windows servers to perform faster and handle more tasks while benefiting from reduced resource consumption.



FULL VMWARE SUPPORT

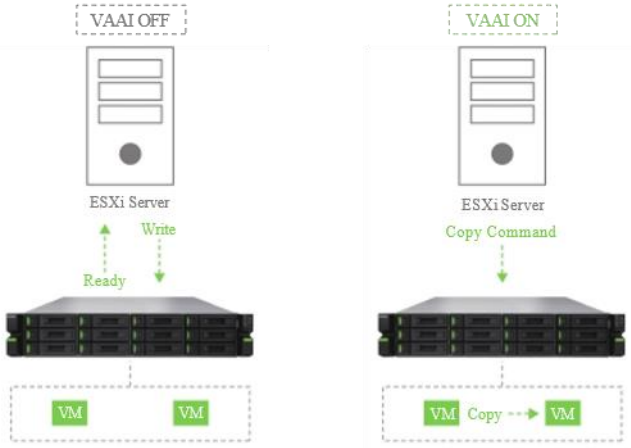
As a qualified VMware® TAP Elite partner, QSAN put innovative technologies into the QSM aiming to facilitate VMware®'s feature-rich virtualization environments. By supporting VMware® storage packages, QSM integrates with vSphere hosts solutions such as disaster recovery, offload capabilities and storage.

- VMware 6.7 Ready
- VMware® Site Recovery Manager (SRM)
- VMware® vStorage APIs for Array Integration (VAAI) certified
- VMware® Site Recovery Manager (SRM)
- VMware® vStorage APIs for Array Integration (VAAI) certified
- Support SPC-3
- Support MPIO, MC/S

VMware® vSphere Storage Array Integration (VAAI)

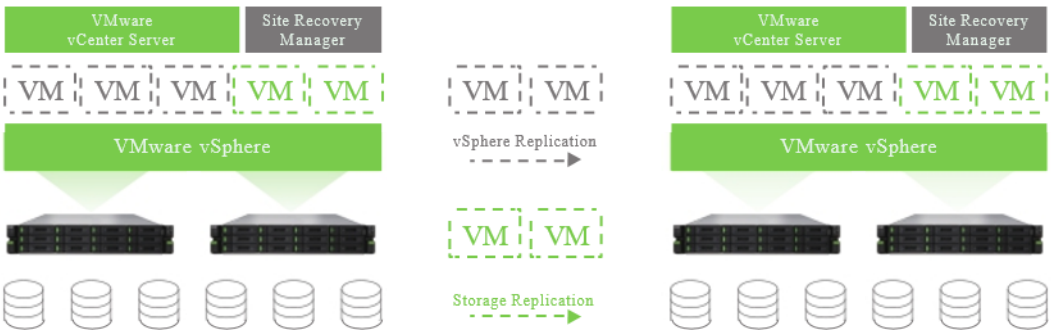
The QSM supports VAAI (iSCSI and NFS) which enables VMware® ESXi servers to offload specific storage operations onto the QSM. Commands such as data copy are delegated to the QSM without passing through the host every time, thus substantially reducing CPU, memory and bandwidth expenditure. The conserved resources can be further distributed to virtual machines, dramatically enhancing their performance.

- VAAI Block (iSCSI) supports Full Copy, Block Zeroing, Hardware-assisted Locking and Thin Provisioning with Space Reclamation.
- VAAI NAS (NFS) supports Full File Clone, Extended Statistics and Reserve Space.



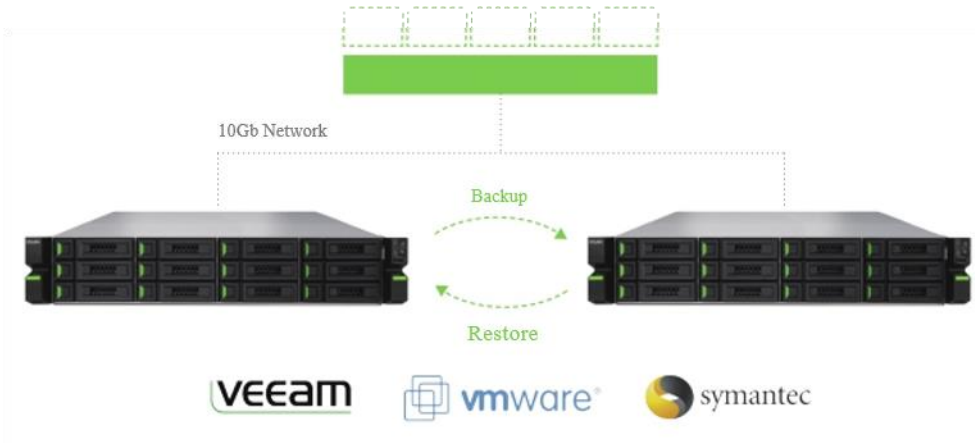
Site Recovery Manager (SRM)

Site Recovery Manager (SRM) is a disaster recovery mechanism designed to guarantee virtual machine configurations can be properly recovered whenever accidents happen. Dedicated data centers and storage arrays are assigned to store states of virtual machines and data. If the original data center fails, critical services on virtual machines can still be recovered to their original condition. The QSM ensures the recovery progress can be correctly and rapidly executed.



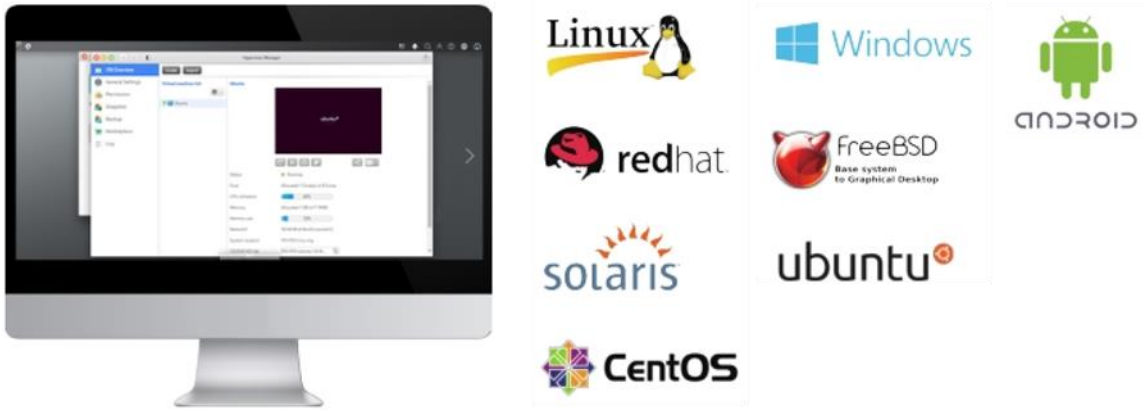
Professional Virtual Machine Backup Software

Professional virtual machine backup software such as Symantec, Veeam and official VMware Data Recovery (VDR) can all be used with the QSM for storing and managing virtual machine images.



Hypervisor Manager

Virtualization in nowadays becomes a primary solution for enterprises to run multiple applications on a single piece of hardware. In QSM, the built-in Hypervisor Manager is an easy-to-use application enabling you to create and manage virtual machines that run directly on the QSM. Being capable of hosting multiple virtualized environments ensures various customized services and applications are well presented at the same time without the additional hardware investment. Additionally, those virtual machines are isolated reducing the risk of potential data leaks or operation interference. These features make the QSM an ideal multi-tenant environment for deploying business applications.



For more detail, please check out our software manual.