

VMware vSphere Remote Office Branch Office Editions with StorMagic SvSAN

TYPICAL ROBO IT INFRASTRUCTURE PROFILES:

- Multiple remote sites
- Minimal equipment at site
- Small number of critical applications
- Small disk capacity requirements
- Limited IT budgets
- Limited network connectivity
- Limited space
- Lack of local IT staff

2-Node Server SAN Infrastructure for Remote and Branch Offices (ROBO)

Server Virtualization and Shared Storage for ROBO Environments

The combination of VMware vSphere® with StorMagic ROBO solution delivers a highly available two-server configuration providing powerful server virtualization and shared storage for remote office and branch office environments without the need of external storage.

Requirements for Large-Scale ROBO Deployments

Many organizations today have remote offices and branch Offices (ROBO) with local IT infrastructure, such as traditional bricks and mortar retailers, supermarkets, convenience stores, hotels, wind and solar farms, oil rigs, manufacturing plants etc. These sites often play an important role in the organizations' business.

These organizations are facing similar challenges and pain points, irrespective of vertical or market. The challenges include:

1. Ensuring service availability
2. Maximizing server and storage utilization
3. Reducing cost and complexity
4. Minimizing deployment time
5. Simplifying and centralizing management
6. Ensuring compliance

Problem

While server virtualization software along with external storage usually tackle these challenges in the traditional data center, the characteristics of a ROBO deployment create two barriers:

1. Low number of apps requires cost-effective virtualization solution
2. Cost and complexity of external storage – deploying external storage in every site increases the cost significantly, along with the complexity of setting it up and not having the proper IT staff to maintain it

Solution

To address the needs of the distributed enterprise and the IT requirements at the remote sites, VMware and StorMagic have partnered together to deliver a 2-node ROBO solution based on VMware vSphere Remote Office Branch Office™ editions and StorMagic SvSAN.

vSphere, the industry's most reliable server virtualization platform, enables organizations to extend virtualization beyond their data center to remote sites and branch offices. vSphere Remote Office Branch Office is designed specifically for IT infrastructure located in remote, distributed sites and delivers improved service-levels, standardization, availability and compliance. vSphere Remote Office Branch Office editions enable rapid provisioning of servers through virtualization, minimization of host configuration drift and enhanced visibility into regulatory compliance, across multiple sites. In addition, with vSphere's business continuity features, customers can be assured of highly available IT infrastructure in their remote sites. vSphere Remote Office Branch Office editions are licensed per virtual machine (VM) and sold in packs of VMs that can be distributed across sites, enabling customers to only deploy the number of VMs they require per site.

Delivering shared storage without SAN through software on server infrastructure – SvSAN, is a software-only storage solution that allows customers to leverage vSphere HA, among other built-in business continuity features. This enables customers to solve planned and unplanned downtime of remote business-critical applications, where this disruption directly equates to a loss in service and revenue. SvSAN ensures high availability through synchronously mirrored virtualized shared storage that leverages the direct attached or internal, cost-effective server storage including solid-state disk and presenting it as shared storage.

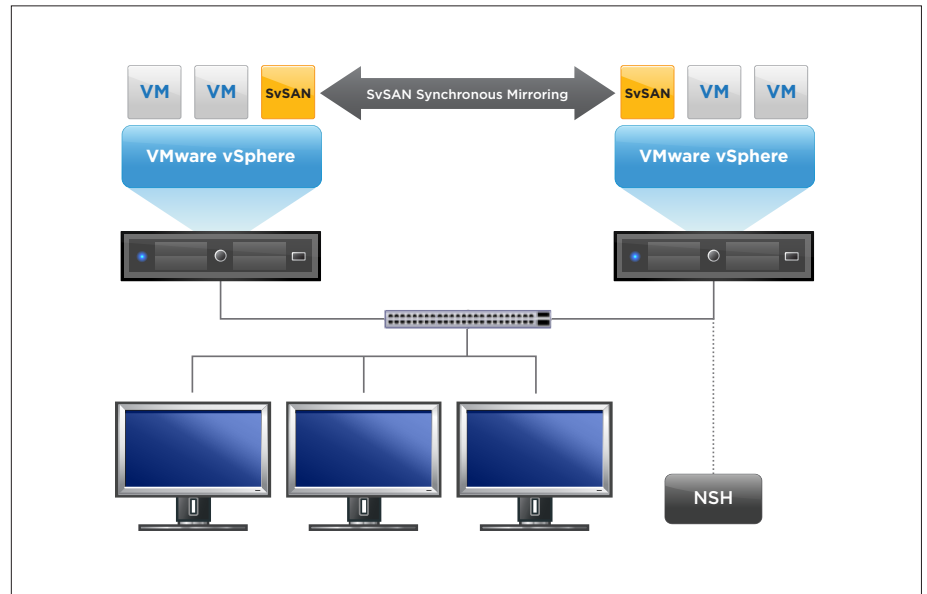


Figure 1. SvSAN synchronous mirroring

Addressing the Infrastructure Requirements for ROBO

Challenge #1 – Ensure Service Availability

IT equipment failures lead to loss in service, resulting in loss of revenue, staff productivity or credibility, affecting share prices and future revenue.

Powerful virtualization features from vSphere such as High Availability, vSphere Data Protection™, vSphere Replication™, Fault Tolerance and vMotion® combined with synchronously mirrored shared storage from SvSAN deliver a highly available and resilient environment with no single points of failure, ensuring continuity of service for ROBO.

Challenge #2 – Maximize Server and Storage Utilization

With IT budgets being squeezed, organizations are looking to achieve more with less infrastructure and ensure that their IT infrastructure is being utilized effectively to achieve the best return on investment (ROI).

This is especially important in ROBO where a minimal amount of IT infrastructure needs to support multiple disparate workloads.

VMware vSphere Hypervisor (ESXi™) architecture provides a robust, production-proven, high-performance virtualization layer allowing multiple virtual machines to share hardware resources enabling higher server resource utilization to be achieved. The hypervisor's storage requirements can be met by a 2-node SvSAN, tailored to the immediate demands of the business.

Challenge #3 – Reduce Cost and Complexity

Enterprise organizations that have multiple remote locations, are concerned with keeping the IT infrastructure footprint to a minimum.

The remote IT solution should be simple, ideally consisting of two servers requiring minimal server resources while providing shared storage needed for service availability. VMware vSphere Remote Office Branch Office editions provide a simplified, cost-effective per VM licensing model specifically developed for ROBO while SvSAN eliminates the need for a costly external SAN, which is excessive and overly complex for ROBO storage requirements.

Challenge #4 – Minimize Deployment Time

Reducing the time to deploy an IT solution is an important factor for ROBO environments. Implementation time is directly related to a number of factors, such as:

- Number of sites – more sites equates to longer deployment times
- Solution complexity – complex solutions take more time to configure and troubleshoot, especially with a lack of onsite IT staff
- Site locality – remote sites or ones with difficult access will increase deployment time of a physical solution

Provisioning applications as virtual machines accelerates deployment. Further, usage of advanced virtualization features such as vSphere Host Profiles ensures that configuration settings are consistent, minimizing configuration drift. The installation of SvSAN and the configuration of storage can be automated through scripts and an extensive command line interface resulting in rapid, repeatable and error-free deployments across thousands of sites.

Challenge #5 – Simplify and centralize management

ROBOs lack local IT staff, with organizations preferring to centralize this function at head office. Monitoring and management becomes more difficult when the number of sites is in the hundreds or thousands.

VMware vCenter Server™ provides a centralized platform for managing vSphere environments. SvSAN's management plug-in is integrated into vCenter allowing complete management and visibility of the virtual infrastructure including storage, from a single console, for all ROBO sites.

Challenge #6 – Ensuring compliance

ROBO sites often have regulatory compliance requirements (e.g., PCI, HIPAA, FDA etc.). Advanced virtualization capabilities such as vSphere Distributed Switch™ enable proactive management of regulatory compliance requirements by providing the ability to segregate in and out of scope workloads on the same physical box in the remote site. In addition, it also allows for enhanced networking monitoring through third-party tools.

Conclusion

For ROBO environments there is often a compelling architectural need to keep certain key applications running remotely yet with centralized management capability. This brings its challenges, but as demonstrated throughout this solution brief, using a 2-node deployment with VMware vSphere ROBO Edition and StorMagic SvSAN, it is possible to build a robust and highly available solution that address all the requirements of the ROBO.

Both products deliver best-in-class features that complement and enhance one another, providing a solution to address the challenges and pain points associated with running business critical applications at remote sites.

