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hosted by Mario Blandini @ Drobo

# **Expanding Your SMB Virtualization Strategy to Include DR and Site Recovery**

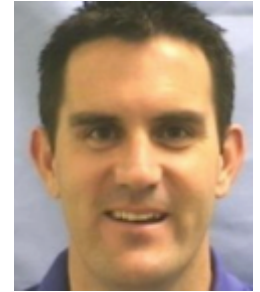
**Approaches and architectures for replication in  
smaller IT environments with virtualization**

**Special guest Lee Dilworth**  
Principal Systems Engineer, VMware

**October 25, 2011**



# Abstract & Background



## ■ Session Abstract

- **Server virtualization is now commonplace, even among small businesses. What is not common among SMB IT is disaster recovery (DR) as the cost and complexity of DR seems prohibitive, even though much of what is needed for DR may already be in place.**
- **This episode discusses approaches and architectures for disaster protection and site migration for virtualized applications, leveraging cost-efficient replication in smaller IT environments, and tips on reducing recovery time.**

## ■ Background on Expert Guest – Lee Dilworth

- **VMware is the global leader in virtualization and cloud infrastructure, and delivers customer-proven solutions that accelerate IT by reducing complexity and enabling more flexible, agile service delivery.**
- **Lee joined VMware in 2005, and focuses on VMware's datacenter platform specializing in business continuity with specific focus on the Site Recovery Manager solution. Other areas of expertise include networking and storage aspects of virtualization.**

# Disaster Recovery for SMBs



## ■ Before Virtualization

- Identical hardware required throughout
- Complex runbooks that get out of date after publishing
- Very difficult to test / simulate failure and recovery
- SMBs have historically relied only on backup

## ■ After Virtualization

- Abstraction from hardware, much more flexibility
- Management and orchestration from a central place
- Repeatable recovery plan that can be tested & demonstrated

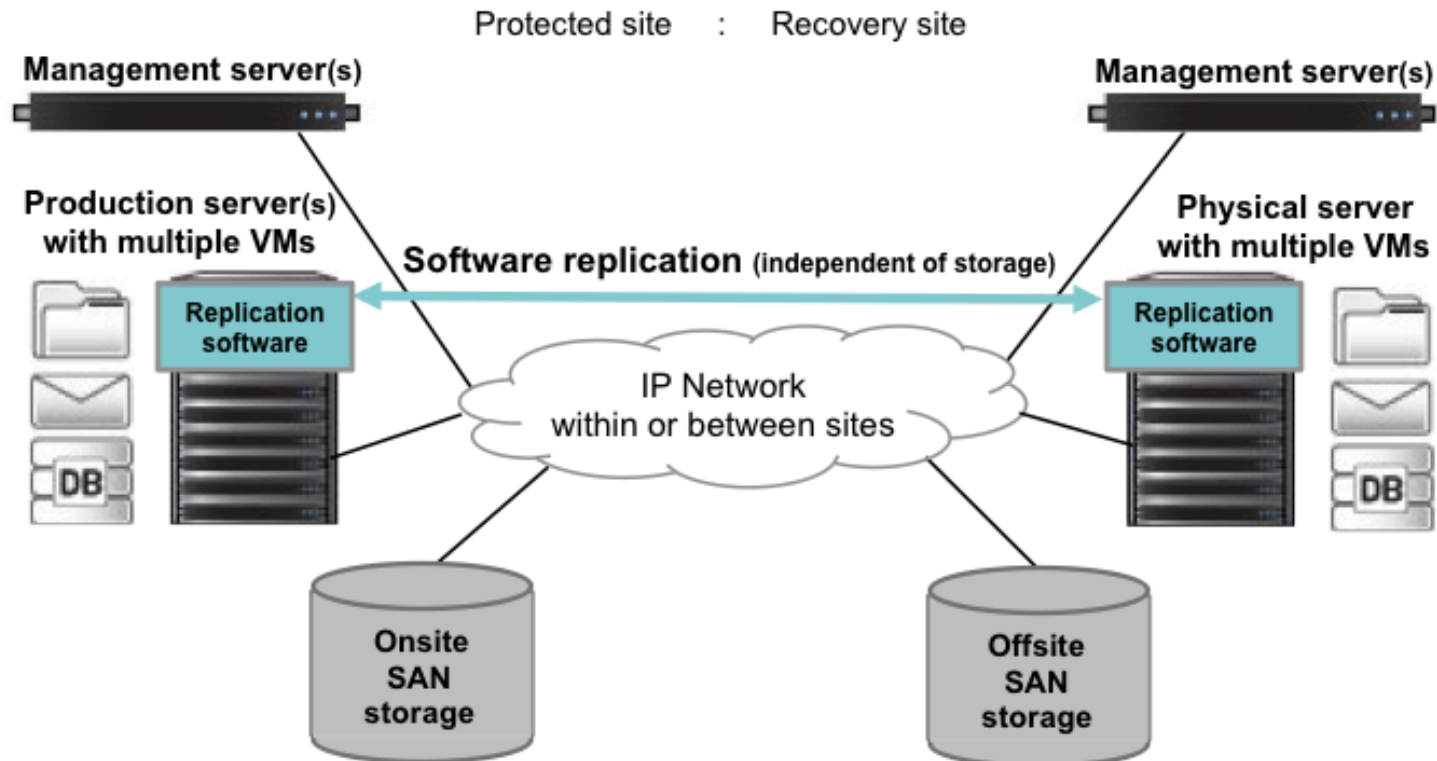
# Comparing Replication Approaches for DR

	Software-Based Replication	SAN Appliance	Disk-to-disk Replication
Recovery Point	Near real-time (e.g. 15min)	Near real-time - real time	Near real-time - real time
Recovery Time	<1hr - ~30min	<1hr – instantly	<30min - instantly
Scalability	Good	Very Good	Very Good
Management	Per server or Centralized	Centralized	Per array
Entry Cost	\$	\$\$ - \$\$\$	\$\$\$ - \$\$\$\$

- **Disk-based replication has historically been too costly for SMBs or departments within larger companies**
- **Software-based replication is a better fit for SMBs**

# Basic Architecture - What You Need for Replication

- Servers and Virtualization likely in place at primary / protected site
- One or more servers at recovery site with virtualization
- Networking between sites, mgmt Servers for recovery coordination
- SAN storage at both sites, replication capabilities on servers or storage



# Requirements For SMB DR

- **Simplicity is key**
  - No complex “runbooks” for recovery
  - Manage recovery in a familiar environment
  - Facilities for testing recovery and planned migrations
  - 15min RPO is adequate : Much better than backup and restore
- **SRM vSphere Replication designed for these needs**
  - Virtual machines can be replicated regardless of the underlying storage
  - Enables replication between heterogeneous datastores
  - Replication is managed as a property of a virtual machine
  - Efficient replication minimizes impact on VM workloads

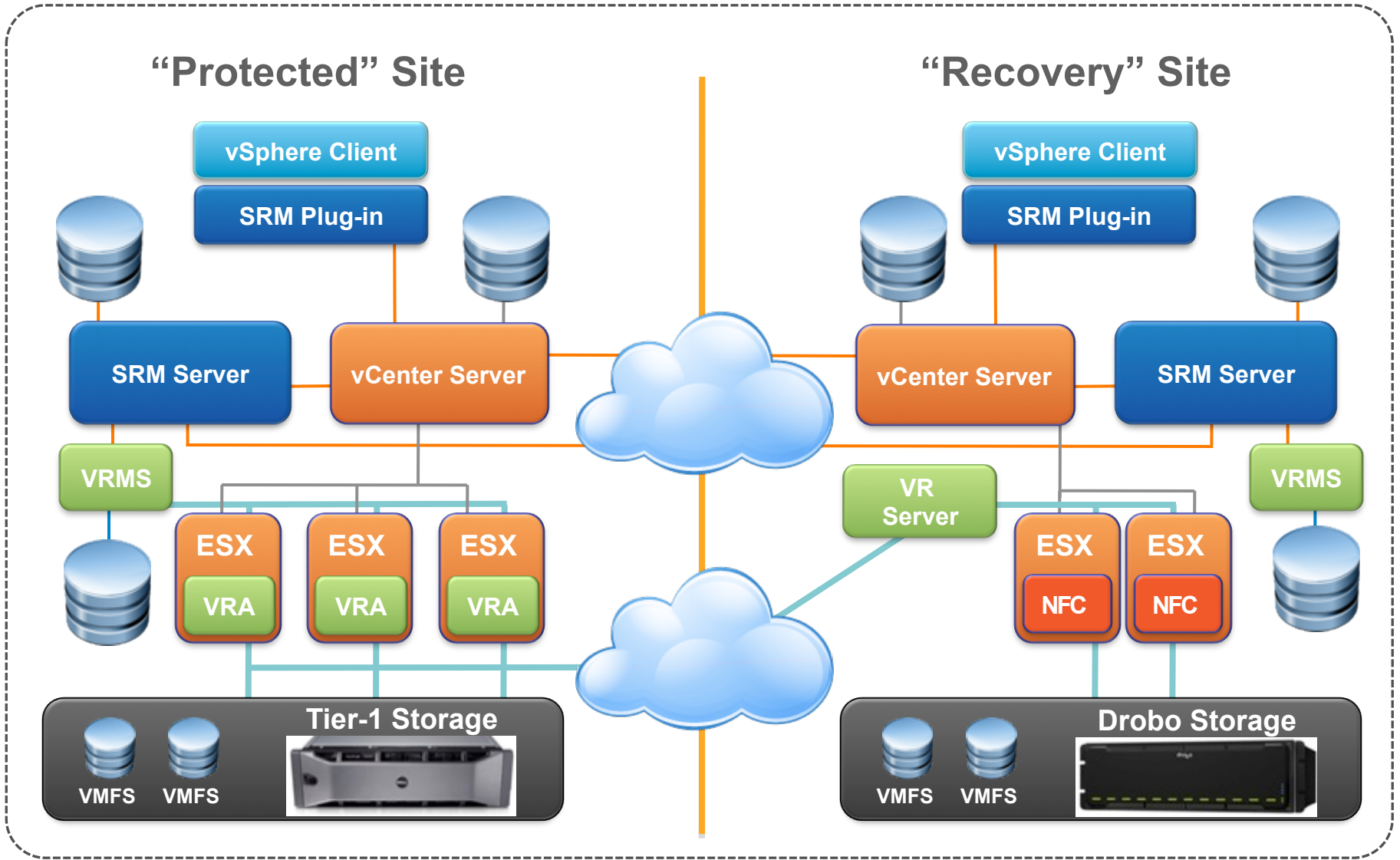


# vSphere Replication Details



- **Replication granularity per Virtual Machine**
  - Can opt to replicate all or a subset of the VM's disks
  - Initial copy of the VM can be seeded in any fashion
  - Optional placement of replicated disks anywhere @ recovery site
- **Simplified replication management**
  - User selects destination location for target disks
  - User selects Recovery Point Objective (RPO)
  - User can supply initial copy to save on bandwidth
- **Replication specifics**
  - Changes on the source disks are tracked by ESX
  - Deltas are sent to the remote site
  - Does not use VMware snapshots

# SRM Architecture with vSphere Replication (VR)



# Leveraging vSphere Replication



## ■ Concerns?

- Cost
- Hardware-dependent failover
- Bandwidth & Latency of WAN

## ■ Addressing concerns

- New licensing for SMBs, \$195 per VM
- Support for lower-cost storage
- Initial copy seeding
- Choice in RPO based on resources
- Only deltas are sent to remote site across WAN

24 hr

0 hr 15 min

several minutes and may affect RPO times. Use only for configured for supported quiescing methods.

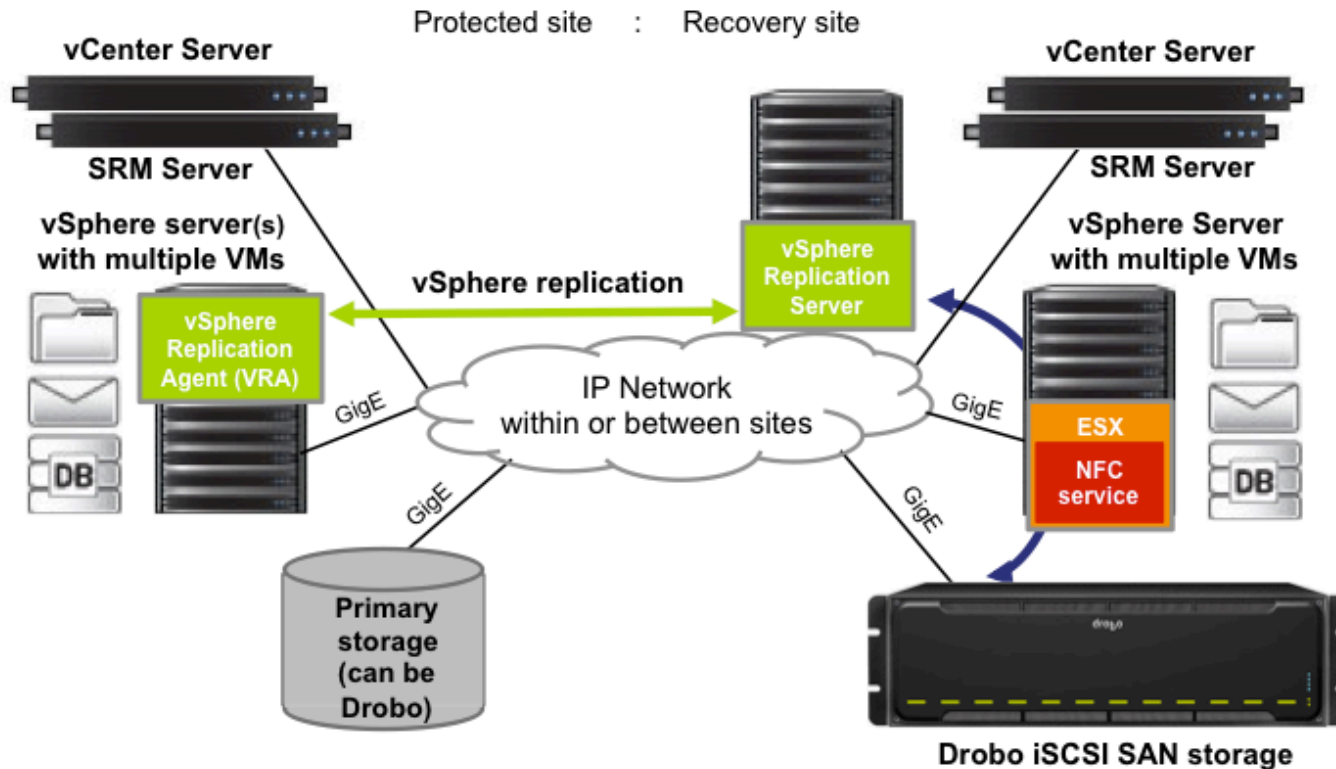
MS Volume Shadow Copy Service (VSS)

Required)

[srmrobo] Prod-W2k8/Prod-W2k8.vmx

# Putting It Together - Replication for VMware

- VMware vSphere v5 Standard Edition licenses or greater
  - SRM w/ vSphere Replication not currently available for Essentials or Essentials Plus kits
- VMware SRM Standard Edition licenses (up to 75 VMs) \$195 per VM
  - Minimum quantity is 25 @ \$195 ea, or \$4,875 per site
- Drobo 12-bay SAN Storage for Business, B1200i MSRP \$11,999 with 12TB
  - Recovery site complementing existing SAN at protected site, or for both sites



# Top Questions & Key Takeaways



## ■ Top questions

- For small environment (5 VMs & <100 users), how much bandwidth?
- Is DR to Cloud an option when there is no 2<sup>nd</sup> site for recovery?

## ■ Key takeaways

- Protecting data is important, but cost and complexity prevent small companies and departments from doing it.
- Backup alone cannot provide for a rapid failover or recovery from a disaster; replication provides superior RTOs & RPOs
- DR for VMs can now be done affordably across Drobo storage or from other storage to Drobo using vSphere replication and SRM



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# Thank You for Participating!

Additional information + 30-day Risk-Free Trial offer @  
<http://www.drobo.com/solutions/how-to-guides.php>

**A special THANK YOU to our listeners  
and to expert guest Lee Dilworth**

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<http://www.vmware.com/files/pdf/products/SRM/VMware-vCenter-Site-Recovery-Manager-Evaluation-Guide.pdf>

<http://www.lulu.com/content/4343147>



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