VMware vCenter Site Recovery Manager 5.5
Automated Disaster Recovery Orchestration

What Is vCenter Site Recovery Manager?

vCenter Site Recovery Manager is the market-leading disaster-recovery management solution. It provides automated orchestration and nondisruptive testing of centralized recovery plans to simplify disaster-recovery management for all virtualized applications.

vCenter Site Recovery Manager integrates natively with vSphere Replication and supports a broad set of high-performance array-based replication products to reliably copy virtual machines across sites according to business requirements (see Figure 1).

By basing a deployment on vSphere and complementing it with vCenter Site Recovery Manager, you can dramatically lower the cost and complexity of disaster recovery through management and testing automation.

vCenter Site Recovery Manager ensures fast and highly predictable recovery point objectives (RPOs) and recovery time objectives (RTOs) by enabling automated, nondisruptive testing that can be performed as frequently as needed.
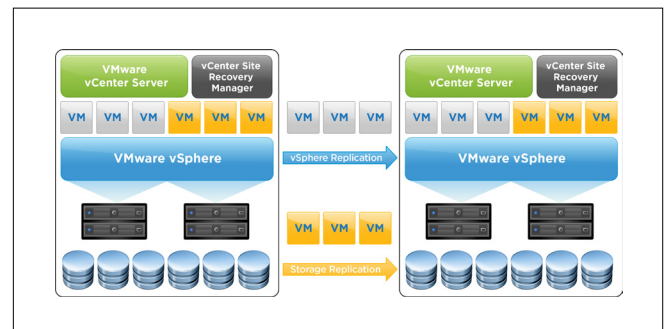
Figure 1. vCenter Site Recovery Manager automates the failover and migration of virtual machines to a secondary site. vCenter Site Recovery Manager relies on either vSphere Replication or a storage-based replication product to replicate virtual machines to the recovery site. It supports a broad range of third-party replication products.

How Does vCenter Site Recovery Manager Work?

vCenter Site Recovery Manager integrates with vSphere, vCenter Server and an underlying replication product to automate end-to-end recovery processes. vCenter Site Recovery Manager relies on the following components:

- **Integration with vCenter Server** – vCenter Site Recovery Manager requires vCenter Server instances at both the production and recovery sites. vCenter Site Recovery Manager instances are deployed at both sites, and each integrates directly with its local vCenter Server instance.

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- **Integration with a replication solution** – vCenter Site Recovery Manager requires an underlying replication product to copy virtual-machine data to a secondary site. Replication can be provided either by vSphere Replication or by a third-party array-based replication product:
  - vSphere Replication integrates natively with vCenter Site Recovery Manager through vCenter Server. As the only true hypervisor-based replication solution for vSphere, it enables replication at the individual virtual-machine level. It provides asynchronous replication with flexible RPOs ranging from 15 minutes to 24 hours. vSphere Replication is included with vSphere Essentials Plus or higher editions at no additional cost.
  - vCenter Site Recovery Manager integrates with third-party replication products through a storage replication adapter (SRA). This piece of software—written by the replication vendor—enables vCenter Site Recovery Manager to see which virtual machines are being replicated and coordinate execution of recovery plans with the replication layer.

vCenter Site Recovery Manager Lowers the Cost of Disaster Recovery

vCenter Site Recovery Manager reduces the operating costs of management and testing. vCenter Site Recovery Manager can significantly reduce the staff overhead required to set up and maintain recovery plans. It does this by replacing complicated manual runbooks with simple, centralized recovery plans that require significantly less time and coordination to update regularly. In traditional disaster-recovery implementations, IT departments typically conduct disaster-recovery testing outside of normal business hours. vCenter Site Recovery Manager eliminates the cost of such practices by enabling automated, nondisruptive disaster-recovery testing.

vSphere Replication enables you to reduce the cost of replication software. If the RPO is 15 minutes or more, you can leverage vSphere Replication, which vSphere includes at no additional cost. This eliminates the need to buy array-based replication software, which can cost as much as USD $10,000 per terabyte of covered data, plus the cost of ongoing maintenance.

The combined solution of vCenter Site Recovery Manager and vSphere Replication can deliver approximately USD $1,100 in annual savings for each protected virtual machine (see Figure 2).
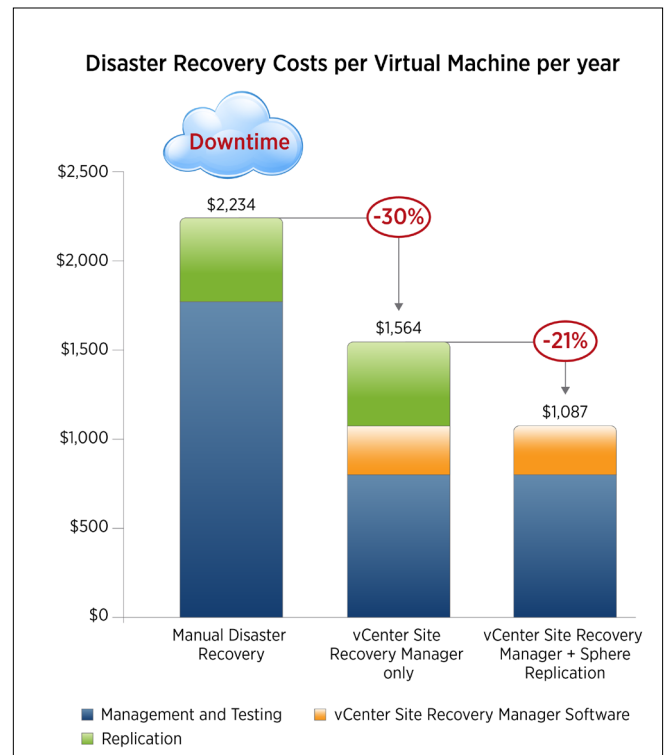

Figure 2. Disaster-Recovery Costs per Virtual Machine per Year

These calculations were validated by a third-party global research firm. Find the complete study here.

Benefits of vCenter Site Recovery Manager

Traditional disaster-recovery solutions often fail to meet business requirements because they are too expensive, complex and unreliable. As a result, IT departments—uncertain whether the quality of the protection is worth the cost—hesitate to expand disaster protection beyond their most critical applications. The best disaster-recovery solution provides reliable protection easily and at the lowest possible cost. IT organizations use vSphere and vCenter Site Recovery Manager to ensure highly reliable RTOs and RPOs at a much lower cost and level of complexity than traditional disaster recovery. With vCenter Site Recovery Manager, organizations can expand disaster protection to all applications that they run on the vSphere platform, and to smaller sites.

Simplify the setup of recovery and migration plans.
Traditional recovery plans are complex to set up. They are usually captured in manual runbooks, which are error-prone and quick to fall out of sync with configuration changes. With vCenter Site Recovery Manager, setting up a recovery plan is simple and can be done in minutes instead of weeks. Through an interface that is tightly integrated with vCenter Server, the user selects which virtual machines to protect, maps virtual

machines to resources at the recovery site and specifies the virtual-machine boot sequence. Users can also include custom scripts and automatically reconfigure IP addresses for their virtual machines.

Automate site failover and failback to ensure fast and reliable RTOs. vCenter Site Recovery Manager automates the entire site recovery and migration process. The user initiates failover with a single click, and vCenter Site Recovery Manager automatically recovers services without manual intervention. The disaster-recovery failover workflow stops replication and recovers protected virtual machines at the failover site with an emphasis on minimizing response times. Automation eliminates the risk inherent in manual processes, ensuring fast and reliable RTOs. Recovery times vary between 30 minutes and a few hours, depending on the configuration. Automated failback enables bidirectional migrations. Virtual machines are easily failed back to reverse the original recovery plan.

Streamline planned migrations and preventive failovers. vCenter Site Recovery Manager is often used to automate planned data center migrations and preventive failovers. Automated failback enables quick and easy migration of applications back to the production site. The planned-migration workflow shuts down the virtual machines gracefully at the original site, syncs the data by completing replication, and recovers the virtual machines at the failover site in an application-consistent state and without data loss.

Perform frequent, nondisruptive testing. With vCenter Site Recovery Manager, recovery plans can be tested as frequently as required without disrupting production systems. The testing workflow brings up protected virtual machines in a separate environment, ensuring that test virtual machines are completely isolated from production virtual machines. vCenter Site Recovery Manager provides a detailed report on the test outcomes, including the RTO achieved. With this information, your organization gains confidence that disaster protection will meet business objectives. Your can save testing results and use them to demonstrate compliance with disaster-recovery regulations.

Key Features of vCenter Site Recovery Manager

Centralized Recovery Plans
• Create and manage recovery plans directly from vCenter Server.
• Automatically discover and display virtual machines that are protected by vSphere Replication or array-based replication.
• Map virtual machines to appropriate resources on the failover site (resource pools, virtual switches and virtual-machine folders).
• Specify the boot sequence of virtual machines.
• Customize virtual-machine IP addresses.
• Customize the shutdown of low-priority virtual machines at the failover site.

• Extend recovery plans with custom scripts.
• Control access to recovery plans with role-based access controls.
• Recover multiple sites into a single shared recovery site.

Automated Failover
• Receive automatic alerts about possible site failure.
• Initiate recovery-plan execution from vCenter Server with a single click.
• Automatically stop replication and promotion of replicated datastores for recovery.
• Shut down low-priority virtual machines at the failover site.
• Automate the bootup of protected virtual machines with a prespecified boot sequence.
• Execute user-defined scripts and pauses during recovery.
• Automate reconfiguration of virtual-machine IP addresses at the failover site.
• Manage and monitor the execution of recovery plans from vCenter Server.

Automated Failback
• Fail back automatically to the original production site.
• Reprotect virtual machines by automatically reversing replication to the original site.
• Execute the original recovery plan in the reverse direction.
• Take advantage of automated failback in vSphere Replication.

Planned Migration
• Use a planned-migration workflow to ensure zero data loss and application-consistent migrations.
• Execute the graceful shutdown of protected virtual machines at the original site.
• Perform data sync to force complete replication of powered-off virtual machines to the failover site.
• Execute a recovery plan that leverages application-consistent virtual machines.

Nondisruptive Testing
• Automate execution of recovery tests.
• Leverage storage snapshot capabilities to perform recovery tests without interrupting replication.
• Recover virtual machines in an isolated network to avoid any impact on production applications.
• Customize execution of recovery plans for testing scenarios.
• Automate the cleanup of testing environments after completing tests.
• Store, view and export results of test and failover execution from vCenter Server.

Support for vSphere Replication

• Leverage the only true hypervisor-based replication, purpose-built for vSphere and vCenter Site Recovery Manager.

• Manage replication directly through vCenter, at a granular and flexible virtual-machine level.

• Use storage-agnostic replication that supports use of low-end storage, including direct-attached storage.

• Perform asynchronous replication with flexible RPOs ranging between 15 minutes and 24 hours.

• Replicate only changed blocks to increase network efficiency.

• Scale to hundreds of virtual machines.

• Leverage support for file and application consistency.

• Revert to earlier known states using multiple point-in-time (MPIT) recovery.

Support for Third-Party Array-Based Replication

• Choose among a broad range of compatible storage arrays and replication products from major vendors.

• Use array-based replication solutions based on iSCSI, Fibre Channel or NFS storage.

• Ensure tight integration with vCenter Site Recovery Manager through SRAs.

• Automate replication and data-sync operations for coordinated disaster-recovery failovers and planned migrations.

How to Buy vCenter Site Recovery Manager

vCenter Site Recovery Manager is available à la carte in two editions to help you protect your virtual environment according to business requirements:

• **Enterprise edition** – Protects an unlimited number of virtual machines per site or per vCenter Site Recovery Manager instance.

• **Standard edition** – Designed for small environments, protects up to 75 virtual machines per site or per vCenter Site Recovery Manager instance.

Licensing

Both à la carte editions of vCenter Site Recovery Manager are licensed per protected virtual machine.

vCenter Site Recovery Manager Enterprise can also be licensed on a per-CPU basis as part of VMware vCloud® Suite Enterprise. Find more information about vCloud Suite at http://www.vmware.com/products/datacenter-virtualization/vcloud-suite/overview.html.

Learn More

For more information or to purchase vCenter Site Recovery Manager, visit http://www.vmware.com/products/site-recovery-manager/overview.html.

For information or to purchase VMware products, call 1-877-4VMWARE (outside of North America, +1-650-427-5000), or visit http://www.vmware.com/products.