

VMware vCenter Site Recovery Manager 5 with vSphere Replication

AT A GLANCE

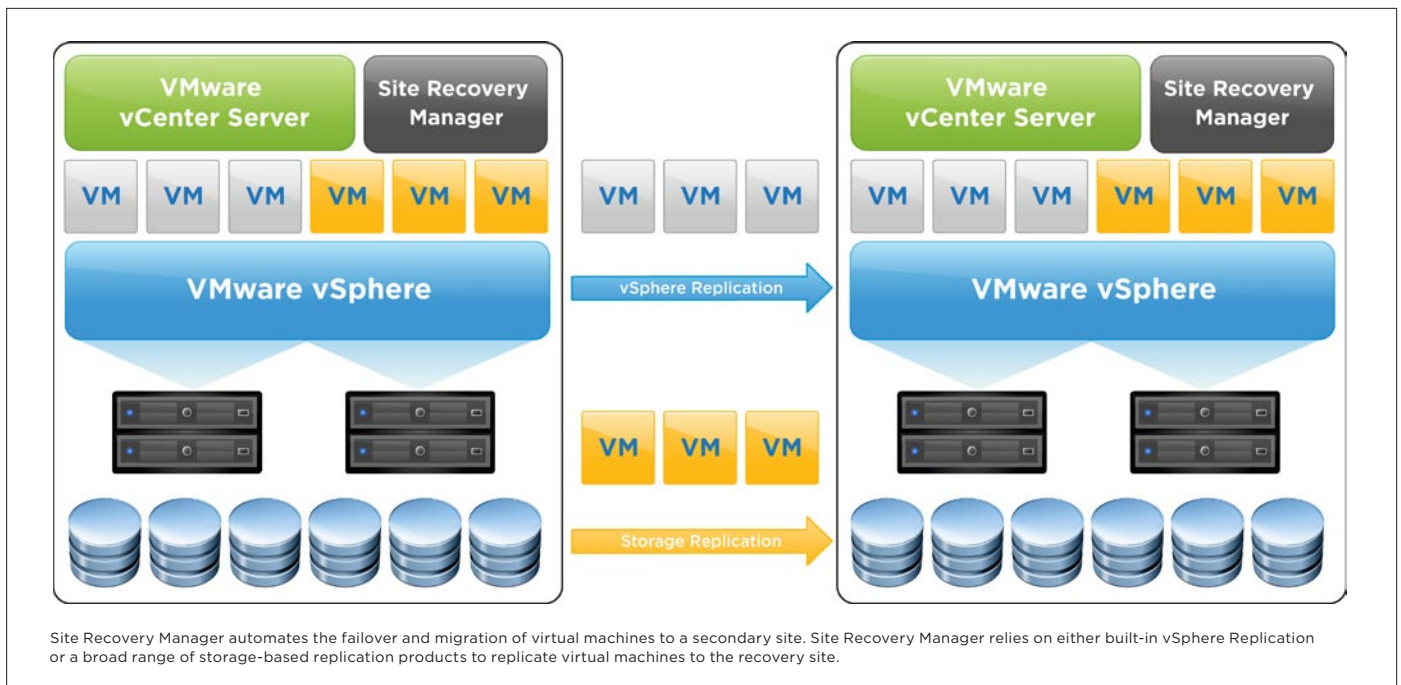
VMware® vCenter™ Site Recovery Manager is the market-leading disaster recovery product for virtualized environments. It ensures the simplest and most reliable disaster protection for all virtualized applications. Site Recovery Manager leverages cost-efficient VMware vSphere® Replication or third-party storage-based replication to provide centralized management of recovery plans, enable nondisruptive testing, and automate site recovery and migration processes.

KEY BENEFITS

- Provide built-in vSphere Replication for simple, cost-efficient replication.
- Support a broad range of storage-based replication products for large, business-critical environments.
- Replace traditional, error-prone manual runbooks with simple, automated recovery plans.
- Enable frequent nondisruptive testing of recovery plans to ensure that they meet business requirements.
- Automate site recovery and migration processes to ensure fast, reliable recovery.
- Streamline planned migrations and preventive failovers.

What Is VMware vCenter Site Recovery Manager?

vCenter Site Recovery Manager is the market-leading disaster recovery product for virtualized environments. It complements VMware vSphere to ensure the simplest and most reliable disaster protection for all virtualized applications. Site Recovery Manager provides cost-efficient built-in vSphere Replication and supports a broad set of high-performance storage-based replication products to replicate virtual machines to a secondary site. Site Recovery Manager integrates tightly with VMware vSphere, VMware vCenter Server and the underlying replication product to automate end-to-end recovery processes. Site Recovery Manager provides a simple interface for setting up recovery plans that are coordinated across all infrastructure layers, replacing traditional error-prone runbooks. Recovery plans can be tested nondisruptively as frequently as required to ensure that they meet business objectives. At the time of a site failover or migration, Site Recovery Manager automates both failover and failback processes, ensuring fast and highly predictable recovery point objectives (RPOs) and recovery time objectives (RTOs).



How Is VMware Site Recovery Manager Used?

Traditional disaster recovery solutions often fail to meet business requirements because they are too expensive, complex and unreliable. As a result, IT departments—uncertain if the quality of the protection is worth its cost—hesitate to expand disaster protection beyond their most critical applications. The best disaster recovery solution should provide great protection, with minimum hassle, at the lowest possible cost. IT organizations use VMware 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 Site Recovery Manager, organizations can expand disaster protection to all applications that they run on the vSphere platform, and to smaller sites.

Organizations use Site Recovery Manager to:

Provide cost-effective and powerful replication of virtual machines to a secondary site. Site Recovery Manager requires an underlying replication product to move virtual machine data from the production site to the failover site. Site Recovery Manager includes built-in vSphere Replication for simple and cost-efficient replication. It also supports a broad range of third-party storage-based replication products from VMware storage partners, enabling users to choose the best replication for their specific needs. Larger sites and business-critical applications can be protected using powerful storage-based replication. Smaller sites and Tier 2 applications benefit from the simplicity and cost-efficiency of vSphere Replication.

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 quickly fall out of sync with configuration changes. With Site Recovery Manager, setting up a recovery plan is simple and can be done in a matter of minutes, instead of the weeks required to set up traditional runbooks. Through an interface that is tightly integrated with vCenter Server, the user simply selects which virtual machines to protect, maps virtual machines to resources at the recovery site and specifies the virtual machine boot sequence. Site Recovery Manager automatically dramatically simplifies recovery plans by automatically coordinating most of the manual steps of traditional recovery plans.

Perform nondisruptive testing of recovery and migration plans. With Site Recovery Manager, recovery plans can be tested as frequently as required, without disrupting production systems. Site Recovery Manager provides a detailed report of the test outcomes, including the RTO achieved. With this information, organizations gain confidence that their disaster protection will meet their business objectives. Testing results can be saved and used to demonstrate compliance with disaster recovery requirements.

Automate site recovery and migration processes to ensure fast and reliable RTOs. Site Recovery Manager automates the entire site recovery and migration process. Upon initiation of a disaster failover, business services are automatically recovered with no manual intervention. Because automation eliminates the risk inherent in manual processes, disaster failover can be executed much faster and with highly predictable RTOs. Typical recovery times vary between 30 minutes and a couple of hours, depending on the configuration.

Streamline planned migrations and preventive failovers. In addition to disaster recovery, Site Recovery Manager is often used to simplify and automate planned site migrations and preventive failovers. Automated failback enables quick and easy migration of applications from the secondary site back to the production site, using the original recovery plan. In addition, planned migration can be used when an organization knows a few hours ahead of time that virtual machines will be migrated. In this case, the planned migration workflow ensures clean migrations of virtual machines in an application-consistent state and with no data loss.

How Does Site Recovery Manager Work?

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

Replication of virtual machines to a secondary site. Site Recovery Manager requires an underlying replication product to copy virtual machine data to a secondary site. Replication can be provided either by built-in vSphere Replication or by a third-party storage-based replication product. vSphere Replication provides cost-efficient and simple replication for smaller sites and Tier 2 applications. Storage-based replication is mostly used for business-critical environments.

Integration with replication product. Site Recovery Manager integrates with the underlying replication product through a Storage Replication Adapter (SRA). This piece of software—written by the replication vendor—enables Site Recovery Manager to see which virtual machines are being replicated and coordinate execution of recovery plans with the replication layer.

Integration with vCenter Server. Site Recovery Manager requires separate vCenter Server instances at both the production and failover sites. Site Recovery Manager instances are deployed at both sites and integrate directly with their local vCenter Server instances.

Setup of recovery plans. Site Recovery Manager provides an intuitive interface to help users create recovery plans for different failover scenarios. Users can map production resources to recovery resources, specify which virtual machines to protect and their relative boot sequences, and identify low-priority virtual machines to suspend at the failover site. Users can also include custom scripts and automatically reconfigure IP addresses for their virtual machines.

Testing, disaster recovery failover and planned migration workflows. Once a recovery plan has been set up, administrators can execute that plan with a testing, disaster recovery failover or planned migration workflow. The testing workflow brings up protected virtual machines in an isolated environment, ensuring that test virtual machines are completely isolated from production virtual machines. The disaster recovery failover workflow stops replication and recovers protected virtual machines in the failover site with an emphasis on minimizing response times. 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. With both the disaster recovery failover and planned migration workflows, users can automatically fail back to the production site by leveraging the initial recovery plan, simplifying routine migrations.

Key Features of Site Recovery Manager

vSphere Replication - *NEW*

- Leverage the industry's first hypervisor-based replication, purpose-built for vSphere and Site Recovery Manager.
- Eliminate third-party replication costs by using built-in vSphere Replication, bundled with all editions of Site Recovery Manager at no additional cost.
- Eliminate requirement for identical storage arrays across sites.
- Support use of low-end storage, including direct-attached storage.
- Manage replication directly in vCenter Server at the level of the individual virtual machine.
- Provide flexible RPOs of 15 minutes to 24 hours.
- Ensure efficient network utilization by tracking changed disk areas and replicating only the latest deltas.
- Scale to hundreds of virtual machines per cluster.

Support for Third-Party Storage-Based Replication

- Provide broad choice of replication through compatibility with storage arrays and replication products from all major vendors. The full list of compatible arrays is available at http://www.vmware.com/pdf/srm_storage_partners.pdf.
- Use storage-based replication solutions based on iSCSI, Fibre Channel or NFS storage.
- Ensure tight integration with Site Recovery Manager through Storage Replication Adapters (SRA).
- Discover and display virtual machines protected by storage-based replication.
- Automate replication and data-sync operations for coordinated disaster recovery failovers and planned migrations.

Centralized Recovery Plans

- Create and manage recovery plans directly from vCenter Server.
- Discover and display virtual machines protected by vSphere Replication or storage-based replication.
- Map virtual machines to appropriate resources on the failover site (resource pools, virtual switches and virtual machine folders).
- Specify boot sequence of virtual machines.
- Customize virtual machine IP addresses.
- Customize shutdown of low-priority virtual machines at the failover site.
- Extend recovery plans with custom scripts.
- Control access to recovery plans with granular role-based access controls.
- Recover multiple sites into a single shared recovery site.

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.
- Store, view and export results of test and failover execution from vCenter Server.
- Customize execution of recovery plans for testing scenarios.
- Automate cleanup of testing environments after completing tests.

Automated Disaster Recovery Failover

- Monitor site availability and alert users about possible site failures.
- Initiate recovery plan execution from vCenter Server with a single button.
- Stop replication and automate promotion of replicated datastores for recovery.
- Shut down low-priority virtual machines at failover site.
- Boot protected virtual machines with prespecified boot sequence.
- Execute user-defined scripts and pauses during recovery.
- Reconfigure virtual machine IP addresses to match network configuration at failover site.
- Manage and monitor execution of recovery plans within vCenter Server.

Automated Failback - *NEW*

- Automate failback to original production site.
- Reprotect virtual machines by automatically reversing replication to original site.
- Execute original recovery plan in reverse direction.

Planned Migration - *NEW*

- Use planned migration workflow to ensure zero data loss and application-consistent migrations.
- Execute 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 recovery plan leveraging application-consistent virtual machines.

Site Recovery Manager Editions

VMware vCenter Site Recovery Manager 5 is available in two editions to help you protect your virtual environment. Site Recovery Manager 5 Enterprise provides enterprise-level protection to all applications on the vSphere platform. Site Recovery Manager 5 Standard, designed for smaller environments, can be used to protect up to 75 virtual machines per site and per Site Recovery Manager instance.

Site Recovery Manager 5 Editions		
	Standard	Enterprise
Scalability limits • Maximum protected VMs	75 virtual machines ¹	Unlimited ²
Features • vSphere Replication* • Support for storage-based replication • Non-disruptive testing • Automated DR failover • Automated failback* • Planned migration*	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓ ✓
<small>1. Maximum of 75 VMs per site and per SRM instance 2. Subject to the product's technical scalability limits * New in SRM 5</small>		

Find Out More

For information or to purchase VMware products, call 1-877-4VMWARE (outside of North America, +1-650-427-5000), visit <http://www.vmware.com/products> or search online for an authorized reseller. For detailed product specifications and system requirements, refer to the Site Recovery Manager installation and configuration guide.

