

DCIG Solution Profile

Small Enterprise VMware vSphere Backup Solutions

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SOLUTION Altaro VM Backup

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DISTINGUISHING VMWARE VSPHERE BACKUP FEATURES OF ALTARO VM BACKUP

- WAN-optimized replication with fast recoveries
- Connects to multiple cloud storage providers
- Centralized cloud backup management

DISTINGUISHING VMWARE VSPHERE BACKUP FEATURES OF SMALL ENTERPRISE SOLUTIONS

- Optimized for the backup and recovery of vSphere environments with up to 1,000 VMs
- Focus on protection of Microsoft Windows guest operating systems (OSes)
- Integrate with and create application-consistent backups for leading Microsoft applications
- Support for replication
- Provide multiple restore options for VM file data and images
- Same day and online support

BACKUP SOLUTION FEATURES EVALUATED

- Backup administration
- Backup capabilities
- Configuration, licensing, and pricing
- Recovery and restore
- Service and support

VMware vSphere Leads in Enterprise Server Virtualization

Analyst reports that track server virtualization software indicate this market will continue to grow for the foreseeable future. One recent report puts the total value of the overall server virtualization market at nearly \$10B by 2026.¹

The increasing value of the server virtualization market stems from the benefits small enterprises realize when adopting it. Server virtualization in general, and VMware vSphere specifically, transform how small enterprises may manage their physical infrastructure. Used to host multiple applications on one or more physical machines, vSphere simultaneously lowers costs while increasing operational efficiency.

Small enterprises have more server virtualization offerings than ever from which to choose. Even with all these choices, VMware vSphere maintains its lead as the server virtualization platform of choice.²

VMware also makes multiple software tools available to complement vSphere to assist small enterprises in deploying and managing it. Of VMware's available software tools, small enterprises may deploy vCenter Server to centralize management of their vSphere virtual machines (VMs).

vCenter Server and other software tools from VMware position small enterprises to create stable, high performing virtual infrastructures. However, they must still protect the applications, data, and workloads they host on their VMware vSphere VMs. This necessitates they acquire backup software tuned for this task.

Backing up and Recovering VMware vSphere VMs

VMware offers APIs that backup software may use to integrate with vCenter to centralize and administer data protection. Backup providers may also leverage separate VMware vSphere Storage APIs—Data Protection (VADP) and Storage vMotion features. These accelerate and simplify the backup software's deployment and the ongoing VM backup and recovery management.

However, backup solutions that target small enterprises (those with 50 – 1,000 VMs) vary significantly in their utilization of these APIs. Nearly 40 percent of these solutions solely rely upon agents that small enterprises must install on VMs they wish to backup.

Whether they utilize these native VMware vSphere APIs serves as a major differentiator between the solutions DCIG evaluated. Those that achieved a TOP 5 ranking largely supported these features. In cases where a solution did not, it offered other sufficiently differentiated features that justified its TOP 5 ranking.

Their use of native VMware APIs typically appears in the following three ways:

- **Backup and recovery management within VMware vCenter.** Only 44 percent of small enterprise VMware vSphere backup solutions directly integrate with VMware vCenter. Through this integration, administrators may manage backup within the vCenter console without separately logging into the backup software. Some solutions that support this feature make all their functionality available through vCenter. Others offer just a subset of their functionality through vCenter. These may include scheduling and viewing backup jobs or performing recoveries.
- **Agentless VM backups.** 61 percent of small enterprise backup solutions leverage the Change Block Tracking (CBT) feature within VMware VADP to perform agentless VM backups. This feature minimizes the need to put a backup agent on VMs. Using CBT, the backup software tracks changed blocks in each VM. It then only backs up the blocks that have changed since the last backup. This facilitates the ability to perform agentless backups and back up more frequently since backups incur less overhead.
- **Instant VM restores.** A VM or VMs may go down due to user error or perhaps a ransomware attack. In those circumstances, enterprises need to recover the VM quickly. To accelerate recoveries, 72 percent of these solutions offer an instant recovery feature.

While implementation nuances exist between backup solutions, most initiate the VM recovery while the data still resides on backup storage. This permits the VM to resume production operations, though probably with degraded performance. Once restarted, the backup solution uses Storage vMotion or another technique to copy the VM's data back onto production storage. This restoration may occur in the background even as the VM continues to run.

1. <https://www.idc.com/getdoc.jsp?containerId=prUS47921221>; <https://www.marketresearchfuture.com/reports/server-virtualization-market-3981>. Referenced 12/8/2021.
2. <https://www.smartprofile.io/analytics-papers/vmware-further-expands-market-share-server-virtualization/>. Referenced 12/8/2021.

Distinguishing Features of Small Enterprise VMware vSphere Backup Solutions

DCIG identified over 30 solutions suitable for protecting applications, data, and workloads on VMware vSphere. Of these, eighteen met DCIG's definition of a small enterprise VMware vSphere backup solution. Attributes that help distinguish small enterprise backup solutions from those that target midsize and large enterprises include:

- 1. Optimized for the backup and recovery of vSphere environments with up to 1,000 VMs.** Some of the solutions covered can back up vSphere environments with more than 1,000 VMs. However, DCIG finds these solutions and their feature sets most appropriate for vSphere environments with 50 to 1,000 VMs.
- 2. Focus on protection of Microsoft Windows guest operating systems (OSes).** Small enterprises largely host their applications, data, and workloads on Microsoft Windows platforms. All these backup solutions protect recent versions of Microsoft Windows Server (2012, 2016, & 2019) as well as Microsoft Windows 10.
- 3. Integrate with and create application-consistent backups for leading Microsoft applications.** Nearly 90 percent of these solutions integrate with and can create application consistent backups of the Microsoft Exchange and SQL Server.
- 4. Support for replication.** More small enterprises want to copy and store backup data to another on-premises location or off-site for disaster recovery (DR) purposes. Of these solutions, nearly 90 percent support replication of backup data.
- 5. Provide multiple restore options for VM file data and images.** Using almost any of these solutions, small enterprises may perform multiple types of restores. Nearly 90 percent support granular file and folder restores. About 80 percent support VM image restores to the same vSphere host, a different vSphere host, or restoring the VM with a different name.
- 6. Same day and online support.** About 80 percent of these solutions provide small enterprises with access to support the same day they initiate a call. The same percentage also provide an online knowledgebase they may use to freely research issues they may encounter.

Small Enterprise VMware vSphere Backup Solution Profile

Altaro VM Backup

Upon DCIG's completion of reviewing multiple, available small enterprise VMware vSphere backup solutions, DCIG ranked Altaro VM Backup as a TOP 5 solution.

Altaro demonstrates its small enterprise focus in its VM Backup and Replication solution. It employs multiple techniques to make its solution as easy as possible to deploy and use in small enterprises. It simultaneously recognizes the technical support challenges small enterprises face. To address them, Altaro offers guaranteed pick-up of any call to its support line within 30 seconds, while also providing 24x7 support via chat and email.

Altaro VM Backup and Replication complements this core functionality with the following three features that help differentiate it from other TOP 5 offerings.

- **WAN-optimized replication with fast VM recoveries.** The need for uninterrupted application availability has made fast VM recoveries a necessity in small enterprises. To deliver on this requirement, Altaro offers WAN-optimized replication. This service replicates VM data changes up to every five minutes to an Altaro Offsite Server (AOS) which hosts the replica VM on an ESXi server. An administrator may then initiate a VM's instant recovery from within the AOS should a production VM go offline.

In performing a VM recovery on an ESXi host, small enterprises may choose from up to 10 prior VM replica versions. This gives administrators the flexibility to address situations where ransomware may have infected a production VM that was replicated. They may then choose from older VM versions when performing an instant recovery.³

- **Connects to multiple cloud storage providers.** Various strains of ransomware target backup data stores during an attack to encrypt or delete it to prevent recoveries. Storing backup copies offsite with a general-purpose or purpose-built cloud storage provider helps protect data from these attacks. It also secures against data loss that may occur at the primary site due to issues such as outages, fires, floods, or human errors.

Altaro VM Backup supports multiple cloud storage offerings to address concerns about cost and location. It directly interfaces and supports cloud storage offerings from Amazon (AWS S3), Microsoft (Azure Blob) and Wasabi.⁴ These give small enterprises multiple options to host their backups offsite. Using these options, they can better control costs, store data in specific geographic regions, or both.

- **Centralized cloud backup management.** Small enterprises may install the Altaro VM Backup and Replication software on multiple ESXi servers in local and remote sites. This creates a requirement to centrally track and administer all these software deployments. Altaro meets this challenge with its multi-tenant Cloud Management Console (CMC). Using its CMC, small enterprises may manage and monitor all Altaro VM Backup installations. These may reside in a single site or in multiple sites across any geographical locations. ■

3. <https://help.altaro.com/support/solutions/articles/43000467345-technical-explanation-of-replication>. Referenced 11/30/2021.

4. <https://help.altaro.com/support/solutions/articles/43000485668-how-can-i-calculate-my-costs-for-using-azure-amazon-s3-wasabi-as-my-offsite-backup-location->. Referenced 11/30/2021.

About DCIG

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