## DCIG *Solution Profile*
# Small Enterprise VMware vSphere Backup Solutions

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**SMALL ENTERPRISE**
**2022–23**
# DCIG
**TOP 5**
**VMWARE vSPHERE BACKUP**

**SOLUTION**
### Arcserve ShadowXafe and OneXafe Solo

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**DISTINGUISHING VMWARE VSPHERE BACKUP FEATURES OF ARCSERVE SHADOWXAFE AND ONEXAFE SOLO**
- Secure access to backup software and data
- Fast, easily administered instant VM recoveries
- Integrated disaster recovery-as-a-service (DRaaS)

**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

### Arcserve ShadowXafe and OneXafe Solo

Upon DCIG's completion of reviewing multiple, available small enterprise VMware vSphere backup solutions, DCIG ranked Arcserve ShadowXafe and OneXafe Solo as a TOP 5 solution.

The Arcserve ShadowXafe and OneXafe Solo solutions provide backup designed explicitly for small enterprises looking to modernize their backup methodology. This combined solution meets the competing needs small enterprises often must address. Many are ready to adopt cloud backup and perform recoveries in the cloud. However, many also must continue to perform local backups and fast recoveries of their VMware vSphere environments. Arcserve ShadowXafe and OneXafe Solo provide options to meet both these requirements managed through a single cloud-based console.

Here are three features that the Arcserve ShadowXafe and OneXafe Solo solutions offer that differentiate them from other TOP 5 solutions.

- *Secure access to backup software and data.* Securing access to all data continues to grow as a priority for small enterprises. Securing backups now falls under this umbrella as some strains of ransomware initiate attacks by targeting backup software. These strains may attempt to access backup software and then compromise backup data, backup jobs, or both.

  Implementing backup software that offers two-factor authentication (2FA) provides a simple yet effective means to counter this ransomware attack tactic. Arcserve OneSystem, the cloud-based management platform for ShadowXafe and OneXafe Solo, natively supports 2FA. 2FA helps ensure only authorized administrators may access the backup data. OneSystem may also safeguard against administrators making any unauthorized or ill-advised changes to existing backup data or jobs.

- *Fast, easily administered instant VM recoveries.* Small enterprises may have production VMs go down for any number of reasons. These include user error, failed application or OS fixes, patches, or updates, or a ransomware attack. In these cases, they may want or need a fast, effective, and easy option to perform VM recoveries.

  Arcserve's VirtualBoot technology included with ShadowXafe gives small enterprises access to instant VM recoveries. VirtualBoot begins recoveries by using backup data residing on the backup storage media. While other competing solutions also do this, VirtualBoot differs significantly. It does not require administrators to perform a potentially disruptive Storage vMotion to re-host the VM on production storage. Instead, it relies on its own software that dynamically moves data from backup to production storage. It completes this task without additional intervention by administrators.

- *Integrated disaster recovery-as-a-service (DRaaS).* Small enterprises have more options to access integrated, turnkey DRaaS solutions for one simple reason. They tend to have simpler IT environments than either midsize or large enterprises.

  Arcserve ShadowXafe capitalizes on this common small enterprise trait to offer an integrated DRaaS solution. Using ShadowXafe, small enterprises may backup directly to the cloud and then configure and orchestrate one-click failovers to the cloud. They may administer these recoveries through Arcserve's self-service portal. ■