VMware vSphere Data Protection

VMware vSphere Data Protection Advanced Overview

1. What is VMware vSphere Data Protection Advanced?

VMware vSphere Data Protection Advanced is a backup and recovery solution from VMware for **midsized vSphere environments** of several hundred virtual machines.

It provides the most proven, efficient and simple backup for VMware vSphere.

vSphere Data Protection Advanced is powered by EMC Avamar, a market leader in deduplication backup-and-recovery solutions.

vSphere Data Protection Advanced can be purchased à la carte or bundled with some VMware vSphere® with Operations Management™ acceleration kits.

2. What are the key features in vSphere Data Protection Advanced?

Proven
a. vSphere Data Protection Advanced is the ideal backup solution for VMware vSphere, the market-leading virtualization platform. It is powered by EMC Avamar, the market-leading backup-and-recovery solution.

Efficient
b. vSphere Data Protection Advanced leverages EMC Avamar's unique variable-length deduplication, which ensures storage-efficient and faster backup and recovery. EMC Avamar achieves the highest rates of deduplication in the industry—an average of 99 percent for file systems and 96 percent for databases.

c. vSphere Data Protection Advanced reduces the load on hosts by integrating with vSphere APIs - Data Protection and reduces network bandwidth requirements by leveraging Changed Block Tracking. Unlike an average backup solution, vSphere Data Protection Advanced leverages Changed Block Tracking for both backup and restore, enabling much faster recovery.

Simple
d. vSphere Data Protection Advanced is fully integrated with VMware vCenter Server™ and is managed through vSphere Web Client. vSphere administrators can manage their entire virtual infrastructure, including backup, from a single pane of glass.

e. The intuitive Web-based user interface of vSphere Data Protection Advanced enables simple backup jobs, policy creation, and self-service full virtual machine–level and file-level recovery.

Flexible
f. vSphere Data Protection Advanced provides agents to protect business-critical applications such as Microsoft SQL Server and Exchange Server. Running application-specific agents from within the virtual machine guarantees application-consistent backup and recovery.

Scalable
g. vSphere Data Protection Advanced scales up to 8TB of backup storage per vSphere Data Protection Advanced virtual appliance. With an average 30-day backup retention period, a single vSphere Data Protection Advanced appliance can protect approximately 200 virtual machines. (This estimate can vary depending on the amount of data, deduplication efficiency, number of changed blocks per day, etc.)

h. Users can scale out by deploying multiple vSphere Data Protection Advanced virtual appliances. Up to 10 virtual appliances are supported per vCenter Server instance.

3. What are the benefits of using an SQL Server agent?

The application-specific agent for Microsoft SQL Server enables you to select any specific database within SQL Server for backup. Databases and logs can be backed up together or separately to meet database administrators' requirements. Log truncation frees up space as checkpoints are reached. For more information, see the user guide.

4. What are the benefits of using an Exchange agent?

The application-specific agent for Microsoft Exchange enables backup and recovery of one or more Exchange databases. Flexible recovery options such as restoring to recovery storage groups or recovery databases enable administrators to test restores and retrieve individual items. For more information, see the user guide.

5. When did VMware introduce vSphere Data Protection Advanced?

VMware introduced vSphere Data Protection Advanced in March 2013.

vmware®

6. **Can users of vSphere Data Protection upgrade to vSphere Data Protection Advanced?**

   Yes. vSphere® Data Protection™ users can purchase the appropriate licenses of vSphere Data Protection Advanced and can migrate their vSphere Data Protection backup policies while backup data stays intact.

VMware vSphere Data Protection Overview

1. **What is VMware vSphere Data Protection?**

   vSphere Data Protection is a backup-and-recovery solution from VMware for **small vSphere environments**.

   vSphere Data Protection is powered by EMC Avamar, a market leader in deduplication backup-and-recovery solutions.

   vSphere Data Protection is a feature included with vSphere 5.1 Essentials Plus, Standard, Enterprise and Enterprise Plus editions at no additional cost. Because vSphere Data Protection is a vSphere feature, it is also included in VMware vCloud® Suite.

2. **Does vSphere Data Protection replace VMware Data Recovery?**

   Yes. vSphere Data Protection replaces the legacy VMware Data Recovery feature in vSphere. vSphere Data Protection provides equivalent scalability to VMware Data Recovery with a more robust and efficient backup engine.

3. **How does the introduction of vSphere Data Protection affect VMware customers using VMware Data Recovery?**

   VMware Data Recovery users will be asked to move to vSphere Data Protection, because VMware Data Recovery will begin its end-of-life process. The VMware Data Recovery support policy follows that of vSphere 5.0. More information is available at https://www.vmware.com/support/policies/lifecycle/enterprise-infrastructure/faq.html

4. **Are current vSphere 5.0 customers entitled to vSphere Data Protection?**

   Yes. All customers with an active support and subscription (SnS) contract at the time of general availability of vSphere 5.1 are entitled to vSphere Data Protection.

5. **When did VMware introduce vSphere Data Protection?**

   VMware introduced vSphere Data Protection with the release of vSphere 5.1 in September 2012.

vSphere Data Protection Advanced and vSphere Data Protection Solution Comparison

1. **What are the commonalities between vSphere Data Protection Advanced and the basic vSphere Data Protection included with vSphere?**

Both solutions are
- Delivered in the form of a Linux-based virtual appliance that runs on top of vSphere hosts.
- Based on EMC Avamar technology, delivering robust and reliable backup functionality with efficient variable-length deduplication.
- Integrated with vSphere APIs - Data Protection, leveraging Changed Block Tracking for backups and restores.
- Fully integrated with vCenter Server and managed directly from vSphere Web Client.
- Simple to set up for backup jobs and policies, and for self-service, full virtual machine–level and file-level recovery.

2. **What are the differences between vSphere Data Protection Advanced and the basic vSphere Data Protection included with vSphere?**

   vSphere Data Protection Advanced provides greater scalability and flexibility:
   - vSphere Data Protection Advanced protects up to 8TB of deduplicated storage per virtual appliance, as opposed to 2TB with vSphere Data Protection.
   - vSphere Data Protection Advanced delivers Microsoft Exchange and SQL Server agents to protect those business-critical applications with application-consistent backups at the guest-OS level.

3. **What are the use cases for vSphere Data Protection Advanced and vSphere Data Protection?**

   vSphere Data Protection Advanced
   With its enhanced scalability and flexibility to provide application-consistent backup for business-critical applications, vSphere Advanced is designed to protect medium-sized vSphere environments of approximately 200 virtual machines per virtual appliance. On average, 8TB of deduplicated storage is enough to back up 200 virtual machines with a 30-day backup retention period. (This estimate can vary depending on the amount of data, deduplication efficiency, number of changed blocks per day, etc.)

   vSphere Data Protection
   vSphere Data Protection is designed to protect small and remote-office vSphere environments of approximately 10–100 virtual machines. On average, 2TB of deduplicated storage is enough to back up 50 virtual machines with a 30-day backup retention period. (This estimate can vary depending on the amount of data, deduplication efficiency, number of changed blocks per day, etc.)

Licensing and Packaging

vSphere Data Protection Advanced

1. Is vSphere Data Protection Advanced sold as a separate product?

Yes. vSphere Data Protection Advanced is a standalone backup- and-recovery solution from VMware that is sold in addition to VMware vSphere.

2. Is vSphere Data Protection Advanced included with any vSphere bundle?

vSphere Data Protection Advanced is included with the vSphere with Operations Management Enterprise and Enterprise Plus acceleration kits.

These bundles include six CPU licenses of vSphere Data Protection Advanced to match the six CPU licenses of vSphere with Operations Management included.

vSphere Data Protection Advanced is not included in the vSphere with Operations Management Standard acceleration kit.

vSphere Data Protection Advanced is not included in any edition of vCloud Suite.

vSphere Data Protection Advanced can be purchased à la carte to be used with any vSphere edition or vSphere bundle that does not include vSphere Data Protection Advanced.

3. How is vSphere Data Protection Advanced licensed?

vSphere Data Protection Advanced is licensed per physical CPU. Only virtual machines running on properly licensed CPUs can be backed up.

An unlimited number of virtual machines can be backed up on properly licensed CPU hosts.

4. What is the minimum licensing requirement?

Customers deploying vSphere Data Protection Advanced must license all the CPUs in a vSphere host and all hosts included in the vSphere cluster.

vSphere Data Protection Advanced customers cannot backup virtual machines running on unlicensed vSphere hosts or vSphere clusters.

5. Are current vSphere Data Protection users entitled to vSphere Data Protection Advanced?

No. vSphere Data Protection users who want to take advantage of the enhanced capabilities of vSphere Data Protection Advanced need to purchase the appropriate number of licenses to protect their vSphere hosts or vSphere clusters.

6. How do vSphere Data Protection Advanced customers handle the license keys?

The license keys that VMware provides to vSphere Data Protection Advanced customers are for reference only and reflect product-license compliance. The keys are not required for activating the product.

vSphere Data Protection

7. Is vSphere Data Protection sold as a separate product?

No. vSphere Data Protection is a feature delivered at no additional cost as part of the vSphere platform. It is included with vSphere Essentials Plus Kit and above.

Technical Requirements

The following information applies to both vSphere Data Protection Advanced and vSphere Data Protection.

1. Will vSphere Data Protection solutions work with prior versions of vSphere?

Yes. Both solutions will work with VMware ESX® and ESXi™ 4.1i, 5.0i and 5.1i.

2. Can vSphere Data Protection solutions be used without a vCenter Server instance?

No. Both solutions are designed to leverage vCenter Server. They require the presence of VMware vCenter Server 5.1 or above.

3. Are vSphere Data Protection solutions compatible with vCenter Server linked mode?

When vCenter Server instances running in linked mode are connected, the vSphere Data Protection appliance can communicate only with the vCenter Server instance that it is associated with.

4. How are the vSphere Data Protection solutions managed?

Both vSphere Data Protection Advanced and vSphere Data protection can be managed only through vSphere Web Client.

5. Can the vSphere Data Protection solutions back up virtual machines that are not powered on?

Yes. A virtual machine does not need to be powered on to be backed up by vSphere Data Protection Advanced or vSphere Data Protection.

Other Product Information

1. Can customers continue to use VMware Data Recovery to protect their data?

Yes. Users can continue using VMware Data Recovery for as long as VMware supports it.

If you decide to upgrade your vSphere infrastructure to vSphere 5.1, you need to start using vSphere Data Protection, because vSphere 5.1 does not support VMware Data Recovery. We encourage customers to replace their data-protection platform to take advantage of the benefits that vSphere Data Protection offers.

If it is likely that you will perform a restore from a recent VMware Data Recovery backup (e.g., from within the past 30–60 days), we recommend that you retain a VMware Data Recovery appliance on a host running a compatible version of vSphere on which to perform a VMware Data Recovery restore. For longer-term purposes (i.e., several months or years), a copy of the installation media for compatible versions of VMware Data Recovery and vSphere should be archived with the VMware Data Recovery backup media in case the need arises to restore data protected by VMware Data Recovery.

2. **How has deduplication improved with the vSphere Data Protection solutions?**

   The vSphere Data Protection solutions use a unique variable-length deduplication technology that ensures that storage of duplicate data is kept to a minimum, which keeps storage growth in check. Variable-length deduplication has the highest rates of deduplication, with a typical average of 99 percent in file systems and 96 percent in databases. Results vary based on data types and daily change rates.

3. **Are the deduplication capabilities of vSphere Data Protection Advanced different from those in vSphere Data Protection?**

   No. Both solutions provide the same variable-length deduplication capabilities.

4. **Can customers disable deduplication?**

   No. Deduplication is always enabled, and all backups using vSphere Data Protection solutions are deduplicated.

5. **Are SQL Server and Exchange backups performed with vSphere Data Protection application-consistent?**

   For Microsoft SQL Server 2008 and 2012, and for Microsoft Exchange 2003, 2007 and 2010, vSphere Data Protection Advanced provides application-specific agents to ensure that all backups and restores are application-consistent in Windows 2008 or later environments. See the support matrix in the user guide for more details.

6. **Do vSphere Data Protection Advanced and vSphere image-level backups provide application consistency for virtual machines running a Windows OS?**

   Yes. vSphere Data Protection Advanced and vSphere Data Protection provide application-consistent backup and recovery for Windows servers by leveraging Microsoft's Volume Shadow Copy Service (VSS). VMware Tools must be installed.

   For vSphere Data Protection Advanced, the recommended approach for protecting applications is to use the agents that are included with the solution. For more information, see the user guide.

7. **Do the vSphere Data Protection solutions support backup to tape?**

   Both vSphere Data Protection solutions natively support backup to disk. They provide no native method for archiving the disk backups to other media, such as tape. However, you can establish a maintenance window in which the backup datastores are in a "quiesced" state, which facilitates tape backups that use software from VMware ecosystem partners.

8. **Can third-party deduplicated storage be used as destination?**

   No. The vSphere Data Protection backup datastore uses proprietary technology that is incompatible with third-party deduplication storage.

9. **Can a Network File System (NFS) share be used as destination for the deduplicated store?**

   vSphere Data Protection solutions cannot natively use NFS storage as a destination. However, vSphere Data Protection can write to a virtual disk that resides on any NFS storage device listed in the VMware storage compatibility guide.

10. **Are vSphere Data Protection solutions compatible with VMware vCloud Director?**

    At this time, neither vSphere Data Protection Advanced nor vSphere Data Protection is compatible with VMware vCloud Director®.

11. **Are vSphere Data Protection solutions compatible with VMware Horizon View?**

    At this time, neither vSphere Data Protection nor vSphere Data Protection Advanced is compatible with VMware Horizon View™.

12. **Are vSphere Data Protection solutions a repackaged Avamar Virtual Edition?**

    No. Both VMware Data Protection solutions are entirely new products developed in collaboration with EMC Avamar. Customers will be able to purchase vSphere Data Protection Advanced from VMware or VMware resellers.

13. **Is there a migration path from vSphere Data Protection to EMC Avamar?**

    No. There is no upgrade path from VMware Data Recovery, vSphere Data Protection or vSphere Data Protection Advanced to any third-party backup software, including EMC Avamar.