

Veeam Availability Suite 9.5 Enterprise *Plus* vs. EMC Avamar 7.4

Quick Reference Card

Veeam® recognizes the new challenges companies across the globe face in enabling the Always-On Enterprise™, a business that must operate 24/7/365. To address this, Veeam has pioneered a new market of *Availability for the Always-On Enterprise™* by helping organizations meet recovery time and point objectives (RTPO™) of less than 15 minutes for all applications and data, through a fundamentally new kind of solution that delivers high-speed recovery, data loss avoidance, verified recoverability, leveraged data and complete visibility. *Veeam Availability Suite™*, which includes *Veeam Backup & Replication™*, leverages virtualization, storage, and cloud technologies that enable the modern data center to help organizations save time, mitigate risks, and dramatically reduce capital and operational costs, while always supporting the current and future business goals of Veeam customers. To learn more, visit propartner.veeam.com.

| Capability | Description | Veeam | Avamar |
|---|--|-------|-----------------|
| High Speed Recovery | | | |
| Instant VM Recovery™ | Quickly restore service to users by starting a VM directly from a backup file on regular backup storage. | ✓ | ✓ ¹ |
| Multi-OS instant file level recovery | Recover files from 19 common file systems used by Windows, Linux, BSD, Mac OS, Novell, Solaris and Unix. | ✓ | ✓ ² |
| Agentless recovery from storage snapshots | Restore individual VMs, guest files and application items from EMC VNX, VNX2 and VNXe snapshots, Hewlett Packard Enterprise (HPE) 3PAR StoreServ, StoreVirtual and StoreVirtual VSA snapshots, as well as from NetApp Data ONTAP-based storage, including FAS, FlexArray, Data ONTAP Edge and Nimble CS-series and AF-series snapshots. | ✓ | ✗ ³ |
| Agentless recovery for Microsoft Active Directory | Search and restore for all Active Directory (AD) object types, such as users, groups, computer accounts and contacts, including user and computer password recovery. Includes multi-select restore and container restore, Group Policy Objects (GPO) restore, AD-integrated DNS records restore and Configuration Partition objects restore. | ✓ | ✗ ⁴ |
| Agentless recovery for Microsoft Exchange | Get instant visibility into Microsoft Exchange 2010, 2013 and 2016 backups for item recovery of individual Exchange items (emails, appointments, notes, contacts, etc.), online archive mailboxes and hard-deleted items. Leverage comprehensive e-Discovery functionality, including query-result, size estimation and detailed export reports. Includes support for restore via save, send, PST export and back into the original mailbox. | ✓ | ✗ ⁵ |
| Agentless recovery for Microsoft SQL Server | Restore individual SQL databases with ease, without needing an extensive SQL background or having to search for database and transaction-log files. Includes point-in-time export of SQL database files locally, agentless transaction-log backup and replay, transaction-level recovery of databases and SQL objects (tables, stored procedures, views, etc.) back to the original or new SQL server. | ✓ | ✗ ⁶ |
| Agentless recovery for Microsoft SharePoint | Get instant visibility into SharePoint backups with advanced search-and-browse capabilities for quick recovery of individual SharePoint items and entire sites. Includes SharePoint item restore via save, send, export, entire-site restore, as well as restore to the original location. | ✓ | ✗ ⁷ |
| Agentless recovery for Oracle | Restore individual Oracle databases with ease, without needing an extensive Oracle background or having to search for database and transaction-log files. Includes agentless, transaction-log backup, archived log management and transaction-level recovery of databases back to the original or new Oracle server. | ✓ | ✗ ⁸ |
| Delegated, self-service recoveries for application owners and help desk operators | Restore guest files, VMs, and application items with a single click through a web UI. Includes full self-service for all web UI recovery features by delegating recoveries for individual VMs and groups of VMs to specific users or groups such as local IT staff, application owners, department members, etc. | ✓ | ✓ ⁹ |
| Direct Restore to Microsoft Azure | Restore or migrate on-premises, Windows-based or Linux-based VMs, physical servers and endpoints directly into Microsoft Azure. | ✓ | ✗ ¹⁰ |

| Capability | Description | Veeam | Avamar |
|--|---|-------|-----------------|
| Data Loss Avoidance | | | |
| Agentless, application-aware image-based backup | Create application-consistent, image-level VM backups with advanced, application-aware processing (including transaction log truncation) agentlessly. Includes support for creating jobs using vSphere tags and datastore clusters to ensure no VMs are left unprotected. | ✓ | ✓ ¹¹ |
| Backup I/O control | Allows you to set the maximum acceptable I/O latency level for production datastores to ensure backup and replication activities do not impact storage availability to production workloads. Includes a global latency setting and provides setting customization on a per-datastore basis. | ✓ | ✗ ¹² |
| Backup from Storage Snapshots | Create image-based backups and replicas from EMC VNX, VNX2 and VNXe snapshots, HPE 3PAR StoreServ, StoreVirtual and StoreVirtual VSA snapshots, as well as from NetApp Data ONTAP based storage including FAS, FlexArray (V-Series), Data ONTAP Edge, IBM N series and Nimble CS- and AF-series snapshots, as often as necessary with little to no impact on production. | ✓ | ✗ ¹³ |
| Veeam Cloud Connect Backup | Get your backups off site with fully integrated, fast and secure backup, and restore from the cloud through a service provider of your choice. | ✓ | ✓ ¹⁴ |
| End-to-end encryption with lost password recovery | Secure backup data and network transfers with end-to-end AES 256-bit encryption – at source, in-flight, and at rest (tape) – without any negative impact on built-in compression and WAN acceleration data-reduction ratios. Includes lost password protection. | ✓ | ✓ ¹⁵ |
| Native tape support | Back up and archive files and VM backups to standalone tapes, tape libraries and virtual tape libraries connected to any Microsoft Windows server in your environment. Supports copying Windows, Linux and VM backup files to tape. Includes tight integration with backup jobs and supports full tracking of VMs and restore points on tape, as well as in media vaults. Also includes support for global media pools (spanning multiple tape libraries) and a dedicated media pool type to simplify Grandfather-Father-Son (GFS) retention. | ✓ | ✓ |
| Deduplicating storage system integrations | Get faster backup performance by backing up to deduplicating storage integrations (EMC Data Domain Boost, HPE StoreOnce Catalyst and ExaGrid Accelerated Data Mover). | ✓ | ✓ ¹⁶ |
| Built-in WAN Acceleration | Get backups off site up to 50x faster and save bandwidth with agentless Backup Copy jobs and replicas. Supports any target including Veeam Cloud Connect. | ✓ | ✗ ¹⁷ |
| Scale-out Backup Repository™ | Provide an abstraction layer over individual storage devices to create a single, unlimited virtual pool of backup storage for your backups. | ✓ | ✗ ¹⁸ |
| Agentless, image-based VM replication | Replicate VMs on site for high availability, or off site for DR. | ✓ | ✗ ¹⁹ |
| Veeam Cloud Connect Replication | Ensure Availability of your mission-critical applications with fully integrated, fast and secure cloud-based DR through a Disaster Recovery as a Service (DRaaS) provider of your choice. | ✓ | ✗ ²⁰ |
| Verified Recoverability | | | |
| SureBackup® | Automatically test and verify every backed-up VM for recoverability by running the VM directly from a backup file (no full VM restore is required), including support for custom application test scripts. | ✓ | ✗ ²¹ |
| SureReplica | Automatically test and verify every VMware vSphere replica VM for recoverability, including support for custom application test scripts. | ✓ | ✗ ²² |
| Leveraged Data | | | |
| On-Demand Sandbox™ | Run one or more VMs directly from a backup or storage snapshot in an isolated environment with the ability to troubleshoot, test and train on a working copy of the production environment, without impacting business operations. | ✓ | ✗ ²³ |
| Complete Visibility | | | |
| Advanced VM monitoring, reporting, and capacity planning | Veeam ONE™, part of Veeam Availability Suite, delivers real-time monitoring, reporting and capacity planning for production and backup infrastructures. | ✓ | ✗ ²⁴ |
| Multi-hypervisor support | Support for VMware vSphere 4.1 or later, and Microsoft Hyper-V 2008 R2 SP1 or later. View both hypervisors from a single console. | ✓ | ✓ |
| vCloud Director support | Back up vApp and VM metadata and attributes and restore vApps and VMs directly to vCloud with full support for fast-provisioned VMs. Includes scheduled incremental backup jobs of vCloud VMs, customer portal integration via RESTful API, self-service, tenant-managed backup and restore via Enterprise Manager, and native vCloud Director authentication. | ✓ | ✓ ²⁵ |

Validation and substantiation

- ¹ EMC Avamar instant access is only available for backups stored on EMC Data Domain storage. Storage vMotion is required to migrate the VM from the backup storage onto a production datastore (Veeam's Quick Migration allows migration of instantly recovered VMs without a Storage vMotion license). Avamar instant access only works with VMware vSphere and is limited to a single restore at a time. [EMC Avamar 7.4 for VMware User Guide](#), p. 74, *Instant access*.
- ² Numerous limitations on Windows file systems: Dynamic disks, deduplicated NTFS volumes, ReFS volumes, extended partitions, and compressed partitions are not supported. Encrypted files and folders cannot be restored. Additional agents required for Hyper-V file level restore. [EMC Avamar 7.4 for VMware User Guide](#), p. 74, *Image and file-level restore guidelines*. [EMC Avamar 7.4 for Hyper-V VSS User Guide](#), p. 77, *Granular Level Recovery*.
- ³ EMC Avamar has no ability to browse and recover data from storage snapshots.
- ⁴ EMC Avamar has no native granular recovery for Microsoft Active Directory [Application recovery guide](#), p. 81, *Application level recovery*.
- ⁵ Multiple agents are required to properly protect and recover Microsoft SQL data: The Avamar Client for Windows and Avamar Plug-in for SQL Server. [EMC Avamar 7.4 for SQL Server User Guide](#), p. 16, *Architecture*. Point-in-time restore is not available for restore of system databases. [EMC Avamar 7.4 for SQL Server User Guide](#), p. 36, *Point-in-time restore*.
- ⁶ Multiple agents are required to properly protect and recover Microsoft Exchange data: The Avamar Client for Windows, Avamar Plug-in for Exchange VSS, and Avamar Plug-in for Exchange GLR. [EMC Avamar 7.4 for Exchange VSS User Guide](#), p. 20, *Architecture*. Granular recovery for Exchange only supports restore of Mailboxes, mail folders, and messages. Granular recovery is not supported on public folder databases. [EMC Avamar 7.4 for Exchange VSS User Guide](#), p. 27, *Granular level recovery*.
- ⁷ Multiple agents are required to properly protect and recover Microsoft SharePoint data: The Avamar Client for Windows, Avamar Plug-in for SharePoint VSS (front-end and/or back-end options depending on which SharePoint component the agent is being installed on). All SharePoint components (front-end web servers, application servers, query servers, crawl servers, and database servers) require agents. No support for SharePoint 2016. [EMC Avamar 7.4 for SharePoint VSS User Guide](#), p. 16, *Architecture*. Granular recovery is not built-in to Avamar, instead it requires a 3rd party tool from Kroll Ontrack to perform individual SharePoint item recovery. [EMC Avamar 7.4 for SharePoint VSS User Guide](#), p. 30, *Granular level recovery*.
- ⁸ Multiple agents are required to properly protect and recovery Oracle data: The Avamar Client for Windows or Linux and Avamar Plug-in for Oracle. [EMC Avamar 7.4 for Oracle User Guide](#), p. 16, *Architecture*.
- ⁹ The EMC Data Protection Restore Client is a minimally functional client accessed through a web browser that allows file level restores of VMs with the same file system limitations mentioned in #2. [EMC Avamar 7.4 Plug-in for vSphere Web Client Administration Guide](#), p. 31, *Using File Level Restore*.
- ¹⁰ While the Virtual Edition of Avamar can be deployed in Azure, no direct restore to Azure is supported.
- ¹¹ Backups of full VMs can be agentless and use VSS through VMware tools to achieve application-consistent backups for supported applications (with installed and functional VSS writer). However, Windows operating systems without a supported application will be backed up in a file system-consistent state. VSS through VMware tools does not provide log truncation for applications and VMware tools quiescence does not guarantee application-consistent backup – individual application agents are required. [EMC Avamar 7.4 for VMware User Guide](#), p. 23, *Image backup virtual machine quiescing*.
- ¹² Manual network bandwidth throttling is available for certain scenarios, but this is not equivalent to datastore latency monitoring and automatic backup I/O throttling. Avamar has no visibility into the datastore I/O load or how it is impacted by a backup job, and therefore cannot make intelligent I/O throttling and task placement decisions. [EMC Avamar 7.4 for VMware User Guide](#), p. 57, *Adding guest backup throttling parameters to a dataset*.
- ¹³ EMC Avamar has no native storage snapshot integration for backup or restore.
- ¹⁴ EMC partners with a small number of managed service providers that offer hosting of replicated backup data offsite. Complex networking is required compared to Veeam Cloud Connect which requires only a single TCP port protected by SSL encryption.
- ¹⁵ EMC Avamar offers encryption of data at rest but provides no mechanism to recover backups when the password is lost.
- ¹⁶ EMC Avamar integrates with EMC Data Domain Boost but not Exagrid or HPE StoreOnce Catalyst. [Data Domain Boost Integrations](#). [Exagrid Technology Partners](#). [HPE StoreOnce Datasheet](#).
- ¹⁷ Performance-optimized variable-length block size dedupe helps to lower the amount of data sent to a backup repository, but Avamar offers no global cache required by definition of proper WAN acceleration. As a result, multiple Avamar appliances will each send the same data (such as blocks from OS files) over WAN, requiring significantly more bandwidth. Additionally, Avamar deduplication is optimized for performance as to not impact local backups, whereas Veeam uses more advanced deduplication algorithm optimized for better data reduction. [EMC Avamar 7.4 Administration Guide](#), p. 30, *Data deduplication*.
- ¹⁸ EMC Avamar does not provide an abstraction layer over individual storage devices to create a single virtual pool of backup storage for your backups. Its proprietary nodes can be scaled to add additional storage capability but this also adds the potentially unnecessary expense of additional compute resources. By contrast, Veeam's Scale-out Backup Repository can be constructed from existing independent storage devices and can be configured for capacity or performance.
- ¹⁹ EMC Avamar has no native VM replication functionality.
- ²⁰ EMC Avamar has no native VM replication functionality and therefore has no ability to replicate VMs to a managed service provider cloud.
- ²¹ EMC Avamar's Backup Validation requires that the entire VM is restored from backup before its basic recoverability testing (VMware tools heartbeat) can be performed. Entire VM restore requirement makes testing more than a few VMs every day impossible, unlike Veeam SureBackup, which is able to test every restore point of every VM every time – thanks to VMs running directly from backup files. There is no built-in application verification support (included test script), or ability to test recoverability of applications requiring multiple VMs (for example, Microsoft Exchange cannot start up without a Domain Controller present). vSphere only. [EMC Avamar 7.4 for VMware User Guide](#), p. 77, *Backup Validation*.
- ²² EMC Avamar has no native VM replication functionality therefore has no ability to verify the integrity of replica VMs.
- ²³ EMC Avamar does not provide a supported, managed, and isolated virtual lab environment that is securely accessible from production environment for troubleshooting applications, testing OS updates and software patches.
- ²⁴ EMC Avamar has basic capacity monitoring and estimation of 'days until full' in 30, 90, and > 90 day thresholds. It has no monitoring of VM performance, alerting, or infrastructure capacity planning. [EMC Avamar 7.4 Administration Guide](#), p. 237, *Capacity forecasting*.
- ²⁵ Requires separate product with little integration in Avamar. [EMC vCloud Director Data Protection Extension](#). No support for fast-provisioned VMs. [EMC vCloud Director Data Protection Extension](#), p. 26.