

# EMC AVAMAR VIRTUAL EDITION

## Data protection for virtualized environments

### ESSENTIALS

- **Hypervisor Integration:** Integration with VMware and Microsoft
- **Self-Service Recovery:** Application owners take control of the data protection of their applications
- **Simplified Administration:** Wizard driven setup and management
- **Replication and Encryption:** Data is encrypted and deduplicated to secure and minimize network bandwidth consumption
- **Granular Level Recovery:** Immediate item level recovery with granular level recovery of data and applications
- **Data Domain Boost Integration:** Provides additional scalability and performance
- **Scalable:** Scales to 4TB of protected data and protects both virtual and physical servers
- **Deduplication:** 95% reduction in network usage and decreased backup times by up to 90%
- **Instant Access:** Instant recovery of VMs that were backed up to a Data Domain system

With EMC® Avamar Virtual Edition® (AVE) you have powerful data protection, unified management and hypervisor integration. The hypervisor integration allows storage and application administrators to take advantage of self-service data protection while using their native hypervisor interfaces. AVE provides flexible deployment options and can be loaded on a VMware® ESX® Server, a Microsoft® Hyper-V Server, and deployed on Microsoft Azure.

AVE will optimize the data protection of your servers and mission critical application by deduplicating the data at the source. AVE deduplication will reduce network usage by up to 95% and backup storage by up to 90%. The restore of data is up to 30 times faster than traditional backups. With AVE you have fast, self-service, simplified and automated data protection for your virtual environments.

### Data Protection for Microsoft

AVE provides centralized data protection of your Microsoft private and hosted clouds, including Hyper-V and Azure. It is simple to protect your mission critical applications by leveraging the interfaces that you already use when managing your applications. Self-service data protection empowers applications administrators to centrally manage the data protection of their Microsoft applications. Backup administrators are responsible for assigning the appropriate data protection policies using Microsoft System Center Virtual Machine Manager. Policies are enforced when the virtual machines are provisioned.

#### Performance

- Multi-stream backups with EMC® Data Domain® systems
- Integration with EMC Data Domain Boost™
- Multi-Proxy backup for scalability and increased performance

#### Ease of Administration & Configuration

- Integration with Microsoft System Center Virtual Machine Manager
- Unified management of all Microsoft application backup and recovery tasks

#### Backup

- Application consistent backup
- Forever full backup at the cost of incremental
- Seamless protection for Live Migration

#### Recovery

- Granular Level Recovery for immediate item level restore
- File recovery from image backup

- Physical to virtual bare metal recovery
- Wizard driven disaster recovery
- Automated restore rehearsal for validation of disaster recovery readiness

## Data Protection for Azure

AVE supports three scenarios with data protection for Azure.

### Backup and recovery for VMs running on Azure cloud

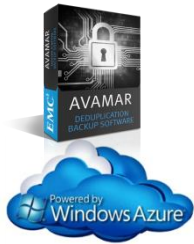
You can very easily setup your backup policies using your native interface, and with AVE you never backup the same data twice. Your daily full backup will be completed in a fraction of the time by backing up only unique changed data. Application administrators perform granular-level recovery in one simple step, eliminating the need for the service provider to perform backup and recovery of mission critical applications.

### Replicating backup data to the Azure cloud

AVE will automatically replicate the backup data to AVE running on Azure. With a copy of the backup data in Azure, you recover from the backup on Azure with the option of restoring to an alternate location, such as your production site. Your backup within Azure will be secure, and the amount of data transferred over the network is greatly reduced.

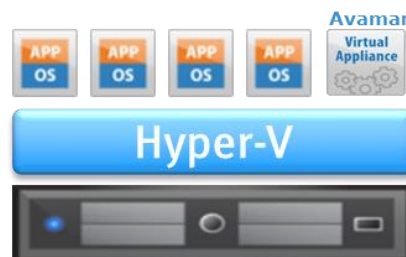
### Backup and recovery from on premise to the Azure cloud

AVE will back up the data from your production site into the Azure cloud following the same simple processes as if AVE were to reside within your datacenter. You have the added benefit of off-site data protection with an easy recovery back to the production site or an alternate location.



## Data Protection for Hyper-V

With AVE you can ensure that your backups will be completed within your required backup window and meet your service level agreements. AVE has the capability to protect each VM via an image based backup method. By understanding the virtual hard disk format, the backup application will scan the VM files directly in the Hyper-V file system, processing the data more efficiently than an agent-based method.

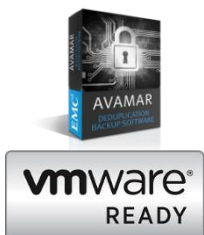


Cluster Shared Volumes (CSV) allows multiple nodes to have access to all disks within the clusters. With AVE you can designate multiple proxy node systems for your backup. This brings performance benefits by allowing any host within the cluster to perform a backup.

## Data Protection for VMware

AVE uses Avamar data protection technology to protect VMware virtual environments. An advantage of AVE is the ability to perform end-point backups, including file systems and mission critical applications residing within remote offices.

Avamar backup to Data Domain brings value through instant access to a virtual machine by booting the VM directly from Data Domain via an NFS datastore. With the instant access feature, there is no restore operation required.



Avamar integration with vRealize Automation (vRA) and vCloud Director (vCD) provide data protection services for public cloud, private cloud, hybrid cloud and born-in-the-cloud. The plugin for vRA embeds data protection directly into the VM blueprints. These blueprints ensure that data protection is always applied during the VM provisioning process. The extension for vCD embeds backup services right into vCloud Director and can be shared and distributed in a multi-tenant model.

#### Performance

- Change Block Tracking (CBT) for backup and recovery
- High-speed, image-level backup and recovery for bare metal protection of each VM
- Universal proxy load balancing

#### Ease of Administration & Configuration

- Automated Proxy management provides end to end intelligent collection, analysis and auto provisioning of proxy servers
- Automated snapshot management provides discovery and cleanup of snapshots

#### Backup

- Forever full backup at the cost of incremental
- Virtual and physical server protection
- Application consistent backup
- Agentless VM image level backups

#### Recovery

- Physical to virtual bare-metal restore
- Granular level recovery for immediate item level restore
- Automated restore rehearsal for validation of disaster recovery readiness

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