



AUTO-SNAPSHOT MANAGER/ VMWARE EDITION

AUTOMATED, INTEGRATED, AND SCALABLE PROTECTION OF VIRTUAL MACHINES

SIMPLIFIED VIRTUAL DATA PROTECTION WITH AUTO-SNAPSHOT MANAGER/VMWARE® EDITION:

- High performance, space-efficient hypervisor-aware SAN-based snapshot and replication support
- Automated, consolidated virtual machine backup and recovery
- Scalable HW-based solution for online data protection of virtual infrastructure
- Reduced snapshot space overhead and enhanced ESX Server performance
- Fast recovery of individual virtual machines and VMFS DataStores
- Easy to navigate GUI with both SAN and VMware-centric views
- Snapshot policies logically assigned to virtual machine hierarchies

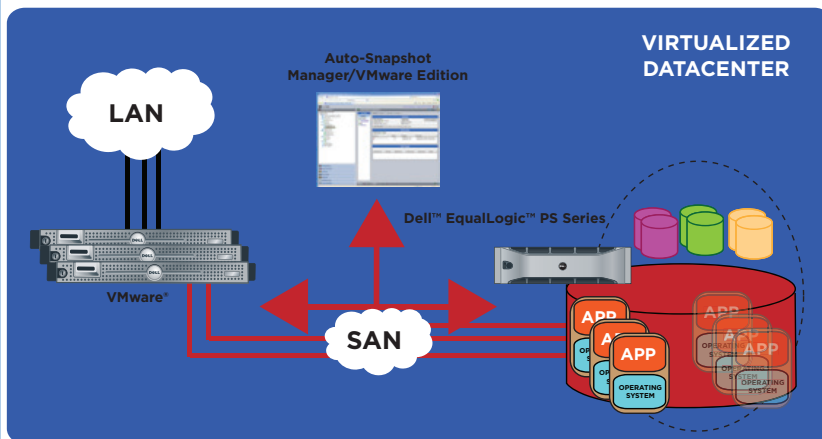
DATA PROTECTION INCREASINGLY DIFFICULT FOR CONSOLIDATED IT ENVIRONMENTS

As organizations consolidate more virtual machines on fewer servers and IT computing infrastructure is expected to support 24 x 7 operations, data protection and recovery becomes a greater challenge for IT managers. With nightly backup windows shrinking and more application data sets sharing fewer physical servers, both bandwidth and computing cycles require existing backup methods to be augmented with new technologies. Virtual server—and hypervisor-based snapshotting and replication tools are available today, but they can consume far too much of the physical servers' resources and provide less than optimal storage utilization. In both scenarios, virtual machine recovery is often slow and sometimes unreliable.

SAN-based data protection tools provide some relief. By offloading data protection operations from the host servers to the SAN, snapshots can be efficiently created and stored without using server resources. Unfortunately, many storage vendor's tools for coordinating the creation of SAN-based protection of running virtual machines environments are relatively new and unproven or don't provide complete protection, resulting in an inordinate amount of time dedicated to data management and a concern as to whether the copies are in fact recoverable. Current SAN-based solutions lack scalability,

centralized management and in most cases tight integration with the server virtualization platforms they serve, while adding significant cost and complexity.

VMWARE INTEGRATED DATA PROTECTION WITH ASM/VE



Auto-Snapshot Manager/VMware Edition (ASM/VE) is an innovative data management tool that enhances the speed, quality, and scalability of data protection in a VMware environment. ASM/VE coordinates and manages array-based snapshots, clones and replicas of virtual machines residing in VMware VMFS file systems, offloading the ESX Server of data protection processing. As with all of the EqualLogic advanced data protection and disaster recovery features, ASM/VE is included at no additional cost or licensing fees.

SCALABLE, INTEGRATED DATA PROTECTION FOR VMWARE ENVIRONMENTS

Auto-Snapshot Manager/VMware Edition (ASM/VE) is an innovative data protection feature of the Dell™ EqualLogic™ PS Series iSCSI SAN that enables fast, online protection of VMware virtual machines and VMFS file systems. ASM/VE provides an easy-to-use graphical interface that coordinates the creation, recovery and scheduling of PS Series snapshots and replicas with vCenter and VMware's native snapshotting technology, enhancing protection, storage utilization, and performance of VMware-based virtual infrastructures. The resulting Hypervisor-aware snapshot (Smart Copy) and remote replicas can now be easily and rapidly created, managed, and recovered.

Integrated directly with standard VMware application programming interfaces (APIs), Auto-Snapshot Manager/VMware Edition understands the relationships and location of virtual machines (VM's), VMFS Datastores, and PS Series SAN-based volumes. With intuitive SAN and VMware-centric navigation and a built-in scheduler, the VMware administrator can simply and flexibly set snapshot or replica creation schedules of individual virtual machines, groups of virtual machines, or even all virtual machines in a VMware Datacenter, coordinating snapshot and replica creation across all SAN-based volumes upon which the virtual machines reside.

Auto-Snapshot Manager/VMware Edition (ASM/VE) helps make protection of virtual machines simple, scalable and cost effective. ASM/VE delivers intuitive centralized management of virtual machine level snapshots and replicas through automation and integration with VMware vStorage APIs. When used with the comprehensive suite of integrated VMware data protection and disaster recovery features, Dell EqualLogic PS Series users can secure their virtual infrastructure at the application, virtual server, and data center levels for business continuance with confidence.

BENEFITS OF DEPLOYING AUTO-SNAPSHOT MANAGER/VMWARE EDITION:

- **Quick, Scalable Creation of VMFS-consistent Snapshots** - Using advanced API-based integration with VMware's vCenter, ASM/VE automates the creation of coordinated, SAN-based, point-in-time Smart Copies of the entire virtual infrastructure. Create Smart Copies of individual VMs, VM folders, data stores, clusters and even the entire data center for maximum scalability.
- **Virtual Machine Aware Disaster Protection through Replication** - Using the same advanced API integration with VMware's vCenter along with ASM/VE automated scheduling features, the virtual infrastructure can now be remotely replicated to an off-site data center for additional disaster protection.
- **Quick Recovery of Individual Virtual Machines from SAN-based Snapshots** - With just a few clicks, administrators can selectively restore individual virtual machines and bring them back online, without affecting other running virtual machines on the same volume allowing organizations to get back to business faster.
- **Simple Data Management Through Graphical Navigation** - With multiple logical data views, easy navigation, and a built-in scheduler, administrators can simply define data protection policies, create online backups, and quickly recover their data, all with just a few button clicks.
- **Automated Snapshot and Replication Scheduling** - Using its built-in scheduler, ASM/VE simplifies data management by providing automatic periodic snapshot creation or comprehensive disaster recovery replication to a remote site of individual virtual machines, VMFS DataStores, and the entire ESX Cluster.
- **Integrated vCenter Organized Views** - With intimate knowledge of VMware's virtual machine folder hierarchy, ASM/VE consolidates data logically, allowing administrators to intuitively manage their data, reducing learning curves and the potential for mistakes.
- **Enhanced Performance, Scalability and Protection** - By offloading data protection processing to the PS Series SAN, ASM/VE helps enable virtualized server environments to scale better and perform more efficiently.
- **VM Cloning and Snapshots for Test and Development** - Gain new insight into your VMware infrastructure by using ASM/VE-created clones to analyze performance, software updates, and interoperability. Quickly and easily use snapshots to test new patches or software builds in your environment before deploying them into the production environment.

