



OpenVMS V8.4 Volume Shadowing

Overview

Volume shadowing in OpenVMS V8.4 has been extended to support six members in a shadow set, and includes new features and enhancements that improve resiliency, flexibility, and performance for mission-critical OpenVMS operating environments.

Volume shadowing in OpenVMS V8.4 delivers improved:

- Disaster tolerance: The number of supported members in a shadow set increases from three to six. With six members, customers can retain redundancy after the loss of one out of two sites in a cluster, or, alternatively, two out of three sites in a cluster.
- High availability: Enhancements to the mini-copy and mini-merge functions improve availability by reducing the time needed to write a copy of the data to disk, and synchronizing or merging data following a disk failure.
- Flexibility: Opportunity to migrate an existing three-member shadow set to a new storage technology—without downtime—by temporarily forming a six-member shadow set. Customers can also take a ‘point in time’ copy of data by temporarily bringing in shadow set members and then removing them.
- Performance for user read/write I/O

Support for Six-Member Shadow Set

In prior releases of OpenVMS, a shadow set consisted of a maximum of three members, which satisfied typical disaster-tolerant configurations that deployed two members at one site and a third member at a disaster recovery site. However, in the event of a disaster at the primary site, the disaster recovery site would have only one member remaining—creating a potential single point of failure vulnerability.

Today, the leading-edge design standard for disaster-tolerant storage configurations utilizes three geographically dispersed physical locations. With OpenVMS V8.4, a shadow set can consist of six members, enabling each site to have two members. With six members per shadow set, customers have optimal data duplication and availability, and can retain redundancy even after a loss of one out of two sites or two out of three sites in a cluster.

Support for six-member shadow sets also reduces the need for traditional disk backup.



Performance Improvements

- Improved write I/O performance when using host-based mini-merge bitmaps with two new enhancements:
 - Asynchronous/multicast setbit messaging resulting in write performance
 - 10 to 12 percent reduction in total I/O completion time for sequential I/O
- Faster access to read-only data
 - Six members per shadow set enables six times as many reads per second to the same data
- Improved utilization of controller read-ahead cache resulting in better read performance
- Enhanced availability with fast mini-merge and mini-copy functionality with look-ahead algorithm

More information

More information about HP Volume Shadowing for OpenVMS V8.4 is available at: <http://h71000.www7.hp.com/openvms/products/volume-shadowing/index.html>.

Availability & Ordering Information

HP Volume Shadowing for OpenVMS V8.4 is included as a part of the HP OpenVMS V8.4 High-Availability Operating Environment and is available immediately. HP Volume Shadowing for OpenVMS V8.4 can also be purchased separately.