COMPAQ

Software Product Description

PRODUCT NAME: Compaq DECram for OpenVMS Alpha Version 3.0, and OpenVMS Alpha and VAX Version 2.3 SPD 34.26.09

DESCRIPTION

Compaq DECram for OpenVMS Version 3.0 supports the OpenVMS for Alpha platform.

Compaq DECram for OpenVMS Version 2.3 supports both the OpenVMS for Alpha and OpenVMS for VAX platforms.

DECram for OpenVMS is a disk device driver that improves I/O performance by allowing an OpenVMS system manager to create pseudo disks (RAMdisks), which reside in main memory. Frequently accessed data can be accessed much faster from a DECram device than from a physical disk device. These RAMdisks can be accessed through the file system just as physical disks are accessed, requiring no change to the application or the system software.

Because main memory is allocated for a DECram device, extra memory is generally required. The OpenVMS system manager can designate the amount of memory dedicated to the DECram device(s) and the files that will be stored on it.

In DECram for OpenVMS Alpha Version 3.0, DECram's capability is extended to use OpenVMS Galaxy shared memory to create a VMS shared memory disk. This allows users to take advantage of OpenVMS Galaxy shared memory without modifications to any of their applications.

With DECram for OpenVMS Version 3.0, the limit on the DECram disk size has been extended to 4,294,967,296 blocks on OpenVMS Alpha systems running OpenVMS Version 7.2-1H1 or higher.

With DECram Version 2.3, the maximum disk size on an OpenVMS Alpha system is limited to 67,108,864 blocks, and the maximum disk size on an OpenVMS VAX system is limited to 524,280 blocks. It is possible to create logically contiguous devices greater than either of these limits by creating multiple DECram devices and binding them together.

Cluster Environment

DECram Version 3.0 is fully compatible with DECram Version 2.3. There can be any combination of these two versions of DECram in an OpenVMS Cluster.

DECram Version 3.0 will only run on OpenVMS Alpha systems.

However, the RAMdisk can be accessed by OpenVMS VAX systems in an OpenVMS Cluster system.

DECram Version 3.0 will run in the following configurations:

- AlphaServer systems with OpenVMS Galaxy configured with one or more instances as nodes in an OpenVMS Cluster.
- Standalone OpenVMS Alpha systems.
- OpenVMS Cluster systems consisting of all Alphas or a combination of Alpha and VAX systems.

DECram Version 3.0 can be installed over a previously installed copy of DECram Version 2.3, on Alpha systems only. If DECram Version 3.0 is removed for any reason, then DECram Version 2.3 is removed as well. If you want to continue to run DECram Version 2.3, it must be reinstalled.

If this is an initial installation of DECram Version 3.0, using OpenVMS Version 7.2-1H1 or higher, on an Alpha-based system in a clustered environment and all nodes that will be using DECram have a common system disk, then only one installation of the DECram software on the cluster is required. However, for each node in the cluster that will be using the DECram product, a license key must be installed. If you are installing DECram in a cluster, then be sure there is only one installation active at any given time.

If this is an initial installation of DECram Version 3.0 using OpenVMS Version 7.2-1H1 or higher in a clustered environment and there is no common system disk, then the DECram Version 3.0 software must be installed on each node of the cluster where you want to create a DECram disk.

If this is an upgrade of a clustered environment from DECram Version 2.3 to DECram Version 3.0, then, without exception, the DECram Version 3.0 software must be installed on all nodes in the cluster where you want to create a DECram disk.

Installation of DECram versions prior to DECram Version 3.0 on a clustered system requires installation of the DECram software and a license key for all nodes that are members of the cluster.

DECram Version 3.0 is fully supported when installed on any valid and licensed standalone or clustered Alpha system.

DECram Version 2.3 is fully supported when installed on any valid and licensed standalone Alpha or VAX system, or any clustered VAX system.

A minimum of DECram Version 2.3 is required for any OpenVMS Cluster systems running any version of OpenVMS Alpha.

DECram for OpenVMS Version 3.0 supports operation in an Adaptive Partitioned Multiprocessing (APMP) environment, also known as Compaq Galaxy Software Architecture on OpenVMS. Previous versions of DECram must not be used if RAM disks are being served, or served and shadowed, across nodes within a cluster, or if DECram is being used in an Adaptive Partitioned Multiprocessing instance.

Multiple DECram devices can be members of a Volume Shadowing for OpenVMS shadow set and can be served by mass storage control protocol (MSCP) or QIO Served. There are no special hardware requirements to install DECram for OpenVMS.

In DECram Version 3.0, Volume Shadowing for OpenVMS will support shadow sets composed of DECram devices and other disk class devices. Removal of the last non DECram device will cause the shadow set virtual unit to abort and become unavailable. Please refer to the Volume Shadowing for OpenVMS Software Product Description (SPD 27.29.xx) for more information.

User Interface

With DECram Version 3.0, you can use the new DECram command interface or continue using the same familiar commands from SYSMAN for creating, initializing, and mounting DECram disks.

With DECram Version 3.0, the disk is configured using the DECRAM> user interface to create and format the random-access memory (RAM) disk. The INITIALIZE command is then used to write the OpenVMS cluster file system to the RAM disk.

With DECram Version 2.3, the user interface to a DECram device is the same as other disk class devices.

Management Interface

A DECram device is managed by the same tools as any other OpenVMS disk device. For example, the INITIALIZE, MOUNT, and DIRECTORY commands will work the same on both hard disk and DECram devices. However, the standard utilities are used differently to set up a DECram device.

System Analysis

Before creating a DECram device, the OpenVMS system manager must determine its size. Each disk block allocated to a DECram device will mean one less disk block of available memory. The system manager should also assess the need for multiple DECram units. See Restrictions listed below.

System Generation

When adding a DECram device, the OpenVMS system manager must reassess the values for the SYSGEN parameters that control paging and swapping behavior.

Restrictions

DECram for OpenVMS currently has the following restrictions:

- Data in a DECram device is volatile, unless shadowed with a physical disk.
- DECram Version 3.0 cannot be installed on a VAX system.
- In DECram Version 3.0, the maximum size of a single DECram device on OpenVMS Alpha systems running OpenVMS V7.2-1H1 or higher is 2048 Gigabytes (GB).
- In DECram Version 2.3, a single DECram device size on OpenVMS Alpha systems running OpenVMS Version 7.1 or higher is limited to 32 GB.

- In DECram Version 2.3, a single DECram device size on OpenVMS VAX systems running OpenVMS Version 6.2 or higher is limited to 256 Megabytes (MB).

Note: For disk volumes larger than 256 MB on VAX or 2048 GB on Alpha, multiple DECram disk devices can be created and bound into a volume set.

DECram for OpenVMS is not designed to support long-term data storage. If a system or hardware failure occurs, data stored in the DECram device is lost and must be recreated. This restriction does not apply if the device is shadowed to a real physical device, using a supported version of Volume Shadowing for OpenVMS.

HARDWARE REQUIREMENTS

Processor and hardware configurations must conform to specifications in the OpenVMS Operating System Software for VAX and Alpha Product Description (SPD 25.01.xx), or the appropriate operating system documentation set.

SOFTWARE REQUIREMENTS

DECram for OpenVMS Version 3.0 supports OpenVMS Alpha Version 7.2-1H1 or higher.

DECram for OpenVMS Version 2.3 supports OpenVMS Alpha Versions 7.1, 7.2 and 7.3. A minimum of DECram Version 2.3 or higher is required for any OpenVMS Cluster systems running any version of OpenVMS Alpha or VAX.

DECram for OpenVMS Version 2.3 supports OpenVMS VAX Version 6.2 or higher.

ORDERING INFORMATION

OpenVMS for VAX

Software Licenses: QL-GJ9A*-**
Software Media: QA-YL48A-H8
Software Product Services: QT-GJ9A*-**

DECram for OpenVMS Version 2.3 (for VAX) is distributed on the OpenVMS VAX Software Product Library Distribution CD-ROMs (order number QA-YL48A-H8).

DECram is no longer available on TK50 and magtape media.

OpenVMS for Alpha

Software Licenses: QL-MV3A*-**
Software Media: QA-03XAA-H8
Software Product Services: QT-MV3A*-**

DECram for OpenVMS Version 3.0 (for Alpha) is distributed on the OpenVMS Alpha Software Product Library Distribution CD-ROMs (order number QA-03XAA-H8).

DECram for OpenVMS Version 2.3 (for Alpha) is distributed on the OpenVMS Alpha Software Product Library Distribution CD-ROMs (order number QA-03XAA-H8).

* Denotes variant fields. For additional information on available licenses, services, and media, refer to the appropriate price book.

DECram for OpenVMS documentation is available in text, PostScript, HTML and PDF formats.

SOFTWARE LICENSING

This software is furnished under the licensing provisions of Compaq Computer Corporation's Standard Terms and Conditions. For more information about Compaq's licensing terms and policies, contact your local Compaq office.

License Management Facility Support

This layered product supports the OpenVMS License Management Facility.

License units for this product are allocated on a CPU-capacity basis.

For more information on the License Management Facility, refer to the OpenVMS Operating System for VAX and Alpha Software Product Description (SPD 25.01.xx), or the appropriate operating system documentation set.

SOFTWARE PRODUCT SERVICES

A variety of service options are available from Compaq. For more information, contact your local Compaq office.

SOFTWARE WARRANTY

This software is provided by Compaq with a 90-day conformance warranty in accordance with the Compaq warranty terms applicable to the license purchase.