DECram for OpenVMS Installation Guide

April 2001

This guide describes the installation procedure of the DECram for OpenVMS software driver using the POLYCENTER Software Installation utility.

Revision/Update Information	This is a new document
Operating System and Version:	OpenVMS Alpha Version 7.2-1H1 or higher
Software Version:	DECram for OpenVMS Version 3.0

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Preface

Intended Audience

This guide is intended for system managers who are familiar with managing the OpenVMS VAX and the OpenVMS Alpha operating systems.

Document Structure

This guide consists of one chapter and one appendix, as follows:

- *Installing DECram for OpenVMS Version 3.0* describes how to prepare, install, and perform all of the steps necessary for a successful installation of the DECram for OpenVMS product.
- *Appendix A* contains supplementary information on error recovery, a list of installed files, a sample installation, and a sample product removal.

Related Documents

See the following document for information on installation and upgrading of OpenVMS Alpha systems:

- *OpenVMS Alpha Upgrade and Installation Manual*
- *OpenVMS VAX Upgrade and Installation Manual Manual*

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Conventions

The following conventions are used in this manual:

Ctrl/*x*	A sequence such as Ctrl/*x* indicates that you must hold down the key labeled Ctrl while you press another key or a pointing device button.
PF1 *x*	A sequence such as PF1 *x* indicates that you must first press and release the key labeled PF1 and then press and release another key or a pointing device button.
Return	In examples, a key name enclosed in a box indicates that you press a key on the keyboard. (In text, a key name is not enclosed in a box.) In the HTML version of this document, this convention appears as brackets, rather than a box.
. . .	A horizontal ellipsis in examples indicates one of the following possibilities:

- Additional optional arguments in a statement have been omitted.
- The preceding item or items can be repeated one or more times.
- Additional parameters, values, or other information can be entered.

)

. . .	A vertical ellipsis indicates the omission of items from a code example or command format; the items are omitted because they are not important to the topic being discussed.
( )	In command format descriptions, parentheses indicate that you must enclose choices in parentheses if you specify more than one.
[ ]	In command format descriptions, brackets indicate optional choices. You can choose one or more items or no items. Do not type the brackets on the command line. However, you must include the brackets in the syntax for OpenVMS directory specifications and for a substring specification in an assignment statement.
|	In command format descriptions, vertical bars separate choices within brackets or braces. Within brackets, the choices are optional; within braces, at least one choice is required. Do not type the vertical bars on the command line.
{ }	In command format descriptions, braces indicate required choices; you must choose at least one of the items listed. Do not type the braces on the command line.
bold text	This typeface represents the introduction of a new term. It also represents the name of an argument, an attribute, or a reason.

italic text	Italic text indicates important information, complete titles of manuals, or variables. Variables include information that varies in system output (Internal error *number*), in command lines (/PRODUCER=*name*), and in command parameters in text (where *dd* represents the predefined code for the device type).
UPPERCASE TEXT	Uppercase text indicates a command, the name of a routine, the name of a file, or the abbreviation for a system privilege.
Monospace text	Monospace type indicates code examples and interactive screen displays. In the C programming language, monospace type in text identifies the following elements: keywords, the names of independently compiled external functions and files, syntax summaries, and references to variables or identifiers introduced in an example.
-	A hyphen at the end of a command format description, command line, or code line indicates that the command or statement continues on the following line.
numbers	All numbers in text are assumed to be decimal unless otherwise noted. Nondecimal radixes—binary, octal, or hexadecimal—are explicitly indicated.

1

Installing DECram for OpenVMS Version 3.0

This document provides detailed information on installation of the DECram for OpenVMS Version 3.0 product using the POLYCENTER Software Installation utility.

The POLYCENTER Software Installation utility is a complete software installation and management tool for OpenVMS Alpha or VAX systems. Using this utility, you can install, remove, and manage software products on Alpha or VAX systems.

For more information on the POLYCENTER Software Installation utility, see the *POLYCENTER Software Installation Utility User's Guide.*

Preparing to Install DECram Version 3.0

This section describes how to install DECram for OpenVMS Version 3.0. You can install DECram for OpenVMS Version 3.0 on OpenVMS Version 7.2-1H1 or OpenVMS Version 7.3 Alpha.

Your bill of materials (BOM) and indented bills report (BIL) specify the contents of your kit. Be sure to verify the contents of your kit with this information to ensure that you have everything needed for a successful installation. If your kit is damaged or if parts of it are missing, contact your Compaq support representative.

License Registration

You must register and load your DECram for OpenVMS license for Version 3.0 **before** you start the installation process. This will allow the system to run a verification procedure that assures successful installation and that will allow you to use the software after the installation completes.

To register a license, log in to the system manager's account, SYSTEM. You will then be given a choice of two ways to perform the registration:

- Invoke the SYS$UPDATE:VMSLICENSE.COM procedure. When it prompts you for information, respond with data from your License Product Authorization Key (PAK).
- At the DCL prompt, enter the LICENSE REGISTER command with the appropriate qualifiers that correspond to your License PAK information.

Note

If you plan to use QIOserver, a DECram for OpenVMS license must be installed on the server and each client to which the DECram for OpenVMS disks will be served. See the *OpenVMS System Manager's Guide* and *OpenVMS Release Notes* on the OpenVMS Documentation CD-ROM.

For complete information on using the License Management Facility (LMF), see the *OpenVMS License Management Utility Manual*.

Installation Procedure Requirements

This section and those that follow discuss the requirements for installing DECram for OpenVMS Version 3.0. The installation takes approximately 10 minutes.

Privileges and Disk Space

To install DECram for OpenVMS Version 3.0 and run the DECram Installation Verification Procedure (IVP), you must be logged in to an account that has at least the following privileges enabled:

- AUDIT
- CMKRNL
- PHY_IO
- SYSLCK
- SYSPRV

The free disk storage space required on the system disk for installation of DECram for OpenVMS Version 3.0 is 3600 blocks. The amount of space required after installation, including documentation, is 1800 blocks.

To determine the number of free disk blocks on the system disk, enter the following command at the DCL prompt:

```
$ SHOW DEVICE SYS$SYSDEVICE
```

OpenVMS Alpha System Parameters

To install DECram for OpenVMS on an OpenVMS Alpha operating system, no changes to default system parameter settings are required.

Backing Up Your System Disk

Compaq strongly recommends that you perform a system disk backup prior to installing any software or upgrade on your system.

Use the backup procedures that are established and in use for your site.

For details on performing an OpenVMS system disk backup, refer to your VAX or Alpha Upgrade and Installation Manual.

Installing DECram for OpenVMS

This section explains how to install DECram for OpenVMS Version 3.0. It includes information on how DECram handles the Installation Verification Procedure (IVP) and various installation messages that may appear during the installation process.

Installation Procedure

The DECram for OpenVMS Version 3.0 installation procedure consists of issuing a command for starting the installation. Use the following information to start the installation procedure:

Enter the DCL command PRODUCT INSTALL, followed by the name of the DECRAM product.

For example, to install the DECram for OpenVMS Version 3.0 software, enter the following command:

```
$ PRODUCT INSTALL DECRAM/SOURCE=device directory/HELP
```

where **device** and **directory** refer to the device and directory location for the installation kit.

You can request a description of the features and qualifiers with the PRODUCT INSTALL command when starting an installation. This will help guide you through such tasks as installation verification, purging of files, and configuring the installation. For more information refer to the *POLYCENTER Software Installation Utility User's Guide.* [1]

As the installation procedure progresses, the system displays a status message indicating how much of the installation has completed. For example:

```
Percent Done:  0%...40%...60%...70%...80%...90%...100%
```

If you started the installation by issuing the /LOG qualifier to the INSTALL command, the system will display details of the installation as they occur.

For more information on local installation, see the sample installation in the *Sample Local DECram Installation* section of this chapter. For more information on shared installations, see the sample installation in *Appendix A*.

Installing over Previous Version 2.3

DECram for OpenVMS Version 3.0 can be installed over a previously installed copy of DECram for OpenVMS Version 2.3. If DECram for OpenVMS Version 3.0 is removed for any reason, then DECram for OpenVMS Version 2.3 is removed as well. If you wish to continue to run DECram for OpenVMS Version 2.3 for any reason, then you must reinstall it.

Installation in a Clustered Environment

Software installation on a clustered system prior to OpenVMS Version 7.3 and DECram Version 3.0 requires installation of the DECram software and a license key for all nodes that were members of the cluster. If you are upgrading from an earlier version of DECram in a clustered OpenVMS environment, you must continue to install the software on all nodes in the cluster where you want the software to be available.

If this is an initial installation of the DECram product (using OpenVMS Version 7.3 and DECram Version 3.0) 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 that there is one, and only one, installation active at any given time.

[1] This manual has been archived but is available on the OpenVMS Documentation CD-ROM.

Stopping or Starting the Installation Procedure

To abort the installation procedure at any time, press Ctrl/Y. You can then enter the DCL command PRODUCT REMOVE to reverse any changes to the system that occurred during the partially completed installation. This command deletes all files created up to that point and causes the installation procedure to be terminated. You can then start the installation again at a later time. To restart the installation procedure, simply enter the DCL command PRODUCT INSTALL.

Recovering from Installation Errors

If the installation procedure fails for any reason, the following message is displayed:

%POLYCENTER Software Installation utility %INSTAL-E-INSFAIL, The installation of DECRAM has failed.

An error can occur during the installation if one or more of the following conditions exist:

1. The operating system version is incorrect.
2. The prerequisite software version is incorrect.
3. Quotas necessary for successful installation are inadequate.
4. Process quotas required by the POLYCENTER Software Installation utility are inadequate.
5. The OpenVMS Help library is currently in use.

If you receive an error message beginning with **%PCSI-E-INSTAL**, refer to the DCL HELP/MESSAGE utility for POLYCENTER Software Installation information. That help utility may also provide a possible solution to any problem you might be experiencing.

If the installation fails, you must restart the installation process. If the installation is unsuccessful due to an installation verification procedure failure, contact a Compaq support representative.

The section titled List of Error Messages and Explanations in this document contains a complete list of installation error messages and explanations.

Installation Files

If the DECram for OpenVMS Version 3.0 installation finds files from a previous installation of DECram on the system, they are deleted. The only file that is NOT deleted is the DECRAM$RECOVER.DAT file, which is renamed to DECRAM$RECOVER.DAT_VMS.

The files that are installed and their directory locations are as follows:

- [SYS$LDR]SYS$MDDRIVER.EXE
- [SYS$STARTUP]MDRECOVER.EXE
- [SYSEXE]MDMANAGER.EXE
- [SYSHLP]DECRAM$HELP.HLP
- [SYSUPD]MDPROMPT.CLD
- [SYSMGR][SYSTEST]DECRAM$IVP.COM
- [SYSMGR][SYSUPD]DECRAM_REMOVE.COM

- [SYSHLP]DECRAM_INSTALL_GUIDE.*
- [SYSHLP]DECRAM_USERS_GUIDE.*

Sample Local DECram Installation

The following is a sample of a successful DECram for OpenVMS Version 3.0 installation for a Local DECram for OpenVMS disk using OpenVMS version 7.3. Note that the Installation Verification Procedure (IVP) is run automatically at the end of the example and shows that the installation operation was successful.

```
$ product install decram

The following product has been selected:
    DEC AXPVMS DECRAM V3.0-0HP              Layered Product [Installed]

Do you want to continue? [YES] yes

Configuration phase starting ...

You will be asked to choose options, if any, for each selected product and for
any products that may be installed to satisfy software dependency requirements.

DEC AXPVMS DECRAM V3.0-0HP: DECRAM for OpenVMS requires minimum OpenVMS V7.2-1H1

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    This product requires the license PAK DECRAM

Do you want the defaults for all options? [YES] yes

Do you want to review the options? [NO] no

Execution phase starting ...

The following product will be installed to destination:
    DEC AXPVMS DECRAM V3.0-0HP              SYS$SYSDEVICE:[VMS$COMMON.]


Portion done: 0%...10%...50%...60%...70%...80%
Executing DECRAM specific install procedure...
...90%...100%

The following product has been installed:
    DEC AXPVMS DECRAM V3.0-0HP              Layered Product

%PCSI-I-IVPEXECUTE, executing test procedure for DEC AXPVMS DECRAM V3.0-0HP ...
Begin DECRAM IVP ...

From SYS$COMMON:[SYSMGR]MDRECOVER.DAT
Recovering $4$MDA0 Size 0 Label MDA0
%MOUNT-I-MOUNTED, MDA0 mounted on _$4$MDA0: (SABL6)

Device           Device        Error    Volume    Free    Trans     Mnt
 Name            Status        Count    Label     Blocks  Count     Cnt
$4$MDA0:(SABL6)  Mounted         0       MDA0      169      1         1
Number of difference sections found: 0
Number of difference records found: 0

DIFFERENCES /IGNORE=()/MERGED=1-
    SYS$COMMON:[SYSEXE]MDMANAGER.EXE;1-
    MDA0:[000000]MDMANAGER.EXE;1

From SYS$COMMON:[SYSMGR]MDRECOVER.DAT
Disk $4$MDA0 Size 0 Label MDA0
        Local memory, persist, noserve, nowritebuffered.

SYS$GALAXY.EXE loaded and running.
SYS$QIOSERVER*.EXE loaded and running.
SYS$MDDRIVER.EXE loaded and running.
```

```
End DECRAM IVP ...
%PCSI-I-IVPSUCCESS, test procedure completed successfully
DEC AXPVMS DECRAM V3.0-0HP: DECRAM for OpenVMS requires minimum OpenVMS V7.2-1H1
    See the Installation Guide for information on post installation tasks.
    DECRAM documentation can be found in SYS$HELP:DECRAM*
    Login and type DECRAM HELP at the VMS prompt for help on DECRAM commands.
```

Appendix A contains examples for creating a shared DECram disk and for removing DECram software.

A

Supplementary Information

This appendix contains the following information:

- Error recovery and failure messages
- Sample IVP failure message
- Listing of installed files
- Sample installation of a shared DECram for OpenVMS disk
- Sample DECram product removal

Error Recovery

If errors occur during the installation or when the Installation Verification Procedure (IVP) is running, the failure messages are displayed.

In the case of an IVP failure, you will see one of the following messages:

```
Problem encountered attempting to create a DECram disk
Problem encountered initializing a DECram disk
Unsuccessful termination of DECram V3.0 IVP
```

Errors can also occur during the installation if any of the following conditions exist:

- The operating system is a version prior to OpenVMS VAX Version 7.2.
- Installation account quotas necessary for successful installation are insufficient.
- System parameter values for successful installation are insufficient.
- The VMS help library is currently in use.
- The product license has not been registered and preloaded.

For descriptions of the error messages generated by these conditions, see the OpenVMS documentation sections referring to system messages, recovery procedures, and OpenVMS software installation. If you are notified that any of these conditions exist, you should take the appropriate action as described in the message. For information on installation requirements, see the *Preparing to Install DECram for OpenVMS* section.

List of Error Messages and Explanations

This section contains a complete listing of error messages and an explanation of what change needs to be made to fix the problem.

DUPINVALID Message

This dupinvalid error occurs if the PRODUCT INSTALL DECRAM command is issued again before a PRODUCT REMOVE DECRAM command. This error is not harmful and should be considered as informational only.

```
Executing DECRAM specific install procedure...
%SYSMAN-I-NODERR, error returned from node SABL6
-STARTUP-E-DUPINVALID, file MDRECOVER.EXE is already in STARTUP table

...90%...100%
```

DECram Driver Message

This message occurs if the DECRAM device driver is already active on the system. A reboot is required to remove the old driver and install the new driver.

```
%PCSI-I-IVPEXECUTE, executing test procedure for DEC AXPVMS DECRAM V3.0-0HP ...
Begin DECRAM IVP ...
-I- A DECRAM driver is already installed.
-I- The new DECRAM driver was not installed.
-I- REBOOT to install the new driver.
-I- After REBOOT, @sys$test:decram$ivp.com local/shared
End DECRAM IVP ...
%PCSI-I-IVPSUCCESS, test procedure completed successfully
```

NOLICENSE Message

The installation terminates with this error if the license is not installed.

```
%PCSI-I-PRCOUTPUT, output from subprocess follows ...
%SYSTEM-F-NOLICENSE, operation requires software license
%PCSI-E-EXEPRCFAIL, product supplied EXECUTE PRECONFIGURE procedure failed
-SYSTEM-F-NOLICENSE, operation requires software license
%PCSI-E-S_OPFAIL, operation failed
%PCSIUI-E-ABORT, operation terminated due to an unrecoverable error condition
```

OpenVMS Version Message

This error is returned if the version of OpenVMS on the system is not a minimum of V7.2-1H1.

```
The following product will be installed to destination:
    DEC AXPVMS DECRAM V3.0-0HP              DISK$SABL6:[VMS$COMMON.]

Minimum OpenVMS software not found on system, abort installation

This kit requires a minimum of OpenVMS version V7.2-1H1.
Terminating is strongly recommended.  Do you want to terminate? [YES] YES

Portion done: 0%
%PCSI-E-S_OPCAN, operation cancelled by request
%PCSIUI-E-ABORT, operation terminated due to an unrecoverable error condition
```

IVP Message

The following error occurs if the DECRAM IVP fails for any reason. This failure occurred in the VMS Difference command of the IVP.

```
 :
Begin DECRAM IVP ...
%MOUNT-I-MOUNTED, MDZ32767 mounted on _$99$MDZ32767: (SABL6)

Device                 Device     Error    Volume       Free    Trans    Mnt
Name                   Status     Count    Label        Blocks  Count    Cnt
$99$MDZ32767: (SABL6)  Mounted      0      MDZ32767      169      1       1
%DIFF-F-OPENIN, error opening MDZ32767:[000000]MDMAN.EXE; as input
-RMS-E-FNF, file not found

%PCSI-E-IVPFAILURE, test procedure completed with an error status
-DIFF-F-OPENIN, error opening !AS as input
%PCSI-E-IVPINSTALL, product is installed, but its verification test has failed
Do you want to continue? [YES] NO

DEC AXPVMS DECRAM V3.0-0HP: DECRAM for OpenVMS requires minimum OpenVMS V7.2-1H1

    See the Installation Guide for information on post installation tasks.

    DECRAM documentation can be found in SYS$HELP:DECRAM*

    Login and type DECRAM HELP at the VMS prompt for help on DECRAM commands.
```

Installed Files

The DECram for OpenVMS installation procedure installs a number of files on your system. The following list contains the names of all the files changed or created during installation. It also provides an explanation for each of the files.

SYS$LIBRARY:DCLTABLES.EXE

This file is changed when you install DECram for OpenVMS Version 3.0 on OpenVMS Operating System Version 7.2-1H1.

SYS$LOADABLE_IMAGES:SYS$MDDRIVER.EXE

(Used on OpenVMS Alpha systems.) These are the files for the DECram for OpenVMS Version 3.0 for OpenVMS device driver (MDDRIVER).

See the Installation Files section in this document for a complete list of all of the new files that are installed with the DECram for OpenVMS Version 3.0 software.

Sample Installation of a Shared DECram Disk

This section contains another sample installation of DECram for OpenVMS Version 3.0. This sample was run on a system that had no previous version of DECram for OpenVMS installed and used OpenVMS Version 7.3.

The sample installation assumes that no users are logged in to the system. Note that the Installation Verification Procedure (IVP) runs automatically at the end of the installation.

```
$ product install decram

The following product has been selected:
    DEC AXPVMS DECRAM V3.0-0HP              Layered Product

Do you want to continue? [YES] yes

Configuration phase starting ...

You will be asked to choose options, if any, for each selected product and for
any products that may be installed to satisfy software dependency requirements.

DEC AXPVMS DECRAM V3.0-0HP: DECRAM for OpenVMS requires minimum OpenVMS V7.2-1H1

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    This product requires the license PAK DECRAM

Do you want the defaults for all options? [YES] NO

 YES for IVP test in local memory. NO for IVP test in shared memory. [YES] NO

Do you want to review the options? [NO] NO

Execution phase starting ...

The following product will be installed to destination:
    DEC AXPVMS DECRAM V3.0-0HP              SYS$SYSDEVICE:[VMS$COMMON.]


Portion done: 0%...10%...20%...50%...60%...70%...80%
Executing DECRAM specific install procedure...

...90%...100%

The following product has been installed:
    DEC AXPVMS DECRAM V3.0-0HP              Layered Product

%PCSI-I-IVPEXECUTE, executing test procedure for DEC AXPVMS DECRAM V3.0-0HP ...
Begin DECRAM IVP ...
%MOUNT-I-MOUNTED, MDZ32767 mounted on _$99$MDZ32767: (SABL6)

Device                  Device       Error    Volume    Free  Trans    Mnt
 Name                   Status       Count    Label     Blocks Count   Cnt
$99$MDZ32767: (SABL6)   Mounted       0      MDZ32767    169    1       1
Number of difference sections found: 0
Number of difference records found: 0

DIFFERENCES /IGNORE=()/MERGED=1-
    SYS$COMMON:[SYSEXE]MDMANAGER.EXE;1-
    MDZ32767:[000000]MDMANAGER.EXE;1

From SYS$COMMON:[SYSMGR]MDRECOVER.DAT
Disk $99$MDZ32767 Size 0 Label MDZ32767
        Shared memory, persist, noserve, nowritebuffered.

SYS$GALAXY.EXE loaded and running.
SYS$QIOSERVER*.EXE loaded and running.
SYS$MDDRIVER.EXE loaded and running.

End DECRAM IVP ...
```

```
%PCSI-I-IVPSUCCESS, test procedure completed successfully
DEC AXPVMS DECRAM V3.0-0HP: DECRAM for OpenVMS requires minimum OpenVMS V7.2-1H1
    See the Installation Guide for information on post installation tasks.
    DECRAM documentation can be found in SYS$HELP:DECRAM*
    Login and type DECRAM HELP at the VMS prompt for help on DECRAM commands.
```

Removing DECram

The following is an example of a successful removal of the DECram product from the OpenVMS Version 7.3 operating system.

```
$ product remove decram
The following product has been selected:
    DEC AXPVMS DECRAM V3.0-0HP              Layered Product
Do you want to continue? [YES]
The following product will be removed from destination:
    DEC AXPVMS DECRAM V3.0-0HP              SYS$SYSDEVICE:[VMS$COMMON.]

Portion done: 0%
Executing DECRAM specific remove procedure...
%DELETE-I-FILDEL, SYS$COMMON:[SYSHLP]DECRAM$HELP.HLB;1 deleted (102 blocks)
%SYSMAN-I-NEWCOMPFIL, current component file is now STARTUP$STARTUP_LAYERED
...40%...50%...60%...70%...80%...100%
The following product has been removed:
    DEC AXPVMS DECRAM V3.0-0HP              Layered Product
```

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