

Installing the DECamds Data Analyzer

This document explains how to install the DECamds Data Analyzer software on OpenVMS Alpha and OpenVMS VAX Version 6.2 and later systems.

Beginning with OpenVMS Version 7.2, the Data Provider ships as part of the OpenVMS installation. Installing or upgrading to OpenVMS Version 7.2 or later automatically installs the Data Provider on your system. You can run the Data Provider on any VAX or Alpha Version 6.2 or later system.

Note

The HP Availability Manager web site might refer you to a more recent version of the Data Provider than the one on the current OpenVMS VAX or Alpha operating system CD-ROM. HP recommends that you install the DECamds Data Provider software using the version indicated at the following URL:

<http://h71000.www7.hp.com/openvms/products/availman/>

The Getting Started chapter in the *DECamds User's Guide* explains how to start using the Data Provider.

This document contains the following sections:

- General installation information
- Data Analyzer installation requirements
- Downloading the Data Analyzer software
- Installing Data Analyzer software from a PCSI kit
- Stopping, starting, and reloading DECamds
- Postinstallation tasks on the Data Analyzer node
- Postinstallation tasks on Data Provider nodes
- Starting to use the Data Provider
- Determining and reporting problems
- Running the Installation Verification Procedure (IVP) separately

1 General Installation Information

DECamds provides online release notes. HP strongly recommends that you read the release notes before proceeding with the installation. You can print the text file of the release notes from the following location:

```
SYS$HELP:AMDS0732.RELEASE_NOTES
```

DECamds consists of client and server software:

- The client software, the Data Analyzer, provides the graphical user interface to display DECamds information to users.
- The server software, the DECamds Data Provider (RMDRIVER), collects the data that DECamds analyzes and displays.

In earlier versions of OpenVMS, you needed to install both the Data Analyzer and Data Provider software on your system from the latest DECams kit. Beginning with OpenVMS Version 7.2, you need to install only the Data Analyzer software on the system where you run the client, or graphical user interface. You need to do this to obtain the new library for DECams Version 7.2 and later.

Possible Problems After Upgrading

Upgrading from versions of the Availability Manager and DECams released prior to OpenVMS Version 7.2 might cause problems when you start the Data Provider using AMDS\$STARTUP.COM. The location of the startup files and some of the logical name definitions in the startup files were changed beginning with OpenVMS Version 7.2. Releases of the Availability Manager and DECams since that time use the new locations and definitions. For a description of these startup files, please refer to Section 8.

2 Data Analyzer Installation Requirements

This section provides a checklist of hardware and software requirements for installing the DECams Data Analyzer. A typical installation takes approximately 5 to 10 minutes per node, depending on your type of media and system configuration.

- **Hardware requirements**

- A workstation monitor. For any hardware configuration without a DECwindows Motif display device, use the DECwindows server to direct the display to a workstation or an X terminal.
- 16 MB of memory for VAX systems and 32 MB for Alpha systems, for the Data Analyzer portion of DECams.

You should use a more powerful system as the number of nodes and the amount of collected data rises. Table 1 shows general guidelines for the default Data Analyzer node. Note that the following table does not preclude DECams from running on a less powerful system than listed for the number of nodes being monitored.

Table 1 Recommended System Requirements

Number of Monitored Nodes	Recommended Alpha Hardware	Recommended VAX Hardware
1-30	DEC 3000 Model 400, 32 MB	VAXstation 3100, 16 MB
20-50	DEC 3000 Model 400, 64 MB	VAXstation 4000 Model 60
40-90	DEC 3000 Model 500	VAXstation 4000 Model 90
91 or more	DEC 4000 Model 620	VAX 6000-420

- **Operating system version**

At least one of the following:

- OpenVMS VAX Version 6.2 or higher
- OpenVMS Alpha Version 6.2 or higher

OpenVMS no longer supports DECams Version 6.1. As a result, beginning with OpenVMS Version 7.2 of DECams, you can no longer install DECams on Version 6.1 systems. You can, however, still monitor Version 6.1 systems.

If you must run the Data Analyzer from an OpenVMS Version 6.1 system, use an older version of DECamsd.

- **Display software**

DECwindows Motif for OpenVMS Version 1.1 or higher installed on the Data Analyzer node system.

- **Privileges**

Operation	Privileges Needed
Monitor only (read-only access)	OPER
Implement fixes (write access)	OPER
Stop, start, reload, or restart the Data Provider node. Includes changing security or group name.	OPER, CMKRNL, LOG_IO, SYSNAM, SYSPRV

Note

For OpenVMS Version 6.2 and later, if the Data Provider is running on the same node as the Data Analyzer node, you must also have either SYSPRV privilege or ACL access to the RMA0: device.

- **Disk space**

- 4266 blocks on VAX systems.
- 4660 blocks on Alpha systems.

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

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

- **System parameter settings**

These settings are the same as those required for operating system installation. The Installation Verification Procedure (IVP) requires additional space as follows:

GLBPAGFIL	1200
WSMAX	16384

You can modify WSMAX and GLBPAGFIL using the System Management utility (SYSMAN). See the *HP OpenVMS System Manager's Manual* for more information.

- **Process account quotas (minimum)**

ASTLM	150
BIOLM	51
BYTLM	75000
FILLM	20
PRCLM	3
PGFLQUO	25600

TQELM 100
WSEXTENT 16384

Note that the AMDS\$COMM_READS logical determines the default value. If you are reinstalling the Data Analyzer, or have changed AMDS\$COMM_READS, then the following formulas are used to determine the default value:

ASTLM >= (AMDS\$COMM_READS*3)
BIOLM >= (AMDS\$COMM_READS+1)
BYTLM >= (AMDS\$COMM_READS*1500)
TQELM >= (AMDS\$COMM_READS*2)

User account quotas are stored in the file SYSUAF.DAT. Use the OpenVMS Authorize utility (AUTHORIZE) to verify and change user account quotas. For more information on modifying account quotas, see the description of the Authorize utility in the OpenVMS system management documentation.

Note

On both Alpha and VAX systems, HP recommends that you perform a system disk backup before installing any software. Use the backup procedures that are established at your site. For details about performing a system disk backup, see the OpenVMS Backup utility documentation.

- **Patch Kit Requirement**

Before installing DECams on OpenVMS Version 6.2 or 7.1 systems, you must install the following patch kit:

V6.2 to V7.1 PCSI ECO

This patch kit is available from the Public FTP Access area at the following web site:

<http://www.support.compaq.com/patches/>

The patch upgrades PCSI to the functionality of PCSI in OpenVMS Version 7.2. DECams kits require this functionality.

3 Downloading the Data Analyzer Software

The Data Analyzer software is available on the OpenVMS operating system layered product CD-ROM or from the Availability Manager web site.

Follow these steps to download the software from the web:

1. From the Availability Manager home page, click **Software Download**. The Availability Manager home page is at the following URL:

<http://h71000.www7.hp.com/openvms/products/availman/>

2. Complete the user survey, which allows you to proceed to the Download web page.
3. Depending on the architecture of your system (Alpha or VAX), click one of the DECams executables:

DECams - Alpha: DEC-VMS-AMDS-V0703-2-1.pcsi-dcx_axpexe
DECams - VAX: DEC-VMS-AMDS-V0703-2-1.pcsi-dcx_vaxexe

4. Save the executable to a device and directory of your choice.

5. Run the executable and accept the default file name. The result will be:

```
DECamds:                                DEC-VMS-AMDS-V0703-2-1.PCSI
```

The next section provides installation instructions for the Data Analyzer.

4 Installing Data Analyzer Software from a PCSI Kit

This section describes the installation procedure on an OpenVMS Version 6.2 or later systems from a POLYCENTER Software Installation (PCSI) kit.

- **Starting the installation**

Use the following procedure to start the installation:

Enter the OpenVMS DCL command `PRODUCT`, the name of the task to be performed, and the name of one or more products. For example, to install DECamds Version 7.3-2, enter the following command:

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

where:

device directory refers to the device and the directory where the kit is located.

For a description of the features you can request with the `PRODUCT INSTALL` command when starting an installation such as running the IVP, purging files, and configuring the installation, see the *POLYCENTER Software Installation Utility User's Guide*.

As an installation procedure progresses, the system displays a percentage message to indicate how much of the installation is done. For example:

```
Percent Done: 15%
...30%
...46%
...62%
...76%
...92%
%PCSI-I-SUCCESS, operation completed successfully
```

If you started the installation using the `/LOG` qualifier, the system displays details of the installation.

- **Stopping and restarting the installation**

Use the following procedure to stop and restart the installation:

1. To stop the procedure at any time, press `Ctrl/Y`.
2. Enter the `PRODUCT REMOVE` command to reverse any changes to the system that occurred during the partial installation. This deletes all files created up to that point and causes the installation procedure to exit.
3. Go back to the beginning of the installation procedure to restart the installation.

- **Recovering from errors**

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

```
%POLYCENTER Software Installation utility
%INSTAL-E-INSFAIL, The installation of DECamds 7.3-2 has failed.
```

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

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

If you receive any error message beginning with %PCSI-E-INSTAL, refer to the OpenVMS DCL HELP/MESSAGE utility for POLYCENTER Software Installation information and a possible solution to the problem.

If the installation fails, you must restart the installation procedure. If the installation fails due to an IVP failure, contact an HP support representative.

Sample Installation on an OpenVMS Alpha System

Example 1 shows a sample installation on an OpenVMS Alpha system. This sample was run on a system that had no previous version of DECams installed. Depending on which layered products you have on your system, you might see additional messages and questions when you perform your installation.

Example 1 Sample OpenVMS Alpha Installation

```
$ PRODUCT INSTALL AMDS
```

```
The following product has been selected:
```

```
DEC VMS AMDS V7.3-2          Layered Product
```

```
Do you want to continue? [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 VMS AMDS V7.3-2: DECams (Availability Manager for Distributed Systems) V7.3-2
```

```
COPYRIGHT © (c) 2003
```

```
Hewlett-Packard Development Company, L.P.
```

```
Palo Alto, California
```

```
License and Product Authorization Key (PAK) Information
```

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

```
DECams Data Provider Installation Verification Procedure
```

```
DECams Startup File
```

```
DECams Logicals Customization File has been installed
```

```
DECams Data Provider Security Access File has been installed
```

```
DECams Data Analyzer Security Access File has been installed
```

```
DECams Data Analyzer Installation Verification Procedure (IVP)
```

```
IVP may fail due to the following PQL values being too low:
```

```
PQL_MASTLM, PQL_MBIOLM, PQL_MTQELM, or PQL_MBYTLM
```

(continued on next page)

Example 1 (Cont.) Sample OpenVMS Alpha Installation

```
See the file AMDS$SYSTEM:AMDS$PCSI_IVP_OUTPUT.LOG for help on failure.
Do you want to review the options? [NO]
Execution phase starting ...
The following product will be installed to destination:
  DEC VMS AMDS V7.3-2                      DISK$ALPHA_SSB:[VMS$COMMON.]
Portion done: 0%...20%...30%...40%...50%...60%...70%...80%...90%...100%
The following product has been installed:
  DEC VMS AMDS V7.3-2                      Layered Product
%PCSI-I-IVPEXECUTE, executing test procedure for DEC VMS AMDS V7.3-2 ...
%PCSI-I-IVPSUCCESS, test procedure completed successfully
DEC VMS AMDS V7.3-2: DECamds (Availability Manager for Distributed Systems) V7.3-2
This product requires the following SYSGEN parameters:
  GBLPAGES add 1172
```

5 Starting, Stopping, and Reloading DECamds

Note

Starting, stopping, or reloading DECamds (the AMDS\$STARTUP.COM procedure) requires at least TMPMBX, NETMBX, SYSNAM, LOG_IO, and CMKRNL privileges. Use the OpenVMS Authorize utility (AUTHORIZE) to determine whether users have the required privileges and then make adjustments as needed.

To start and stop the Data Provider driver, enter the following command. (Use this command if a node will be used to both provide and collect system data.)

```
$ @SYS$STARTUP:AMDS$STARTUP.COM [parameter]
```

where the optional *parameter* is one of the following:

NODRIVER	Defines the default input and output logicals on the Data Analyzer node driver. Use this parameter on the Data Analyzer node where the Data Provider driver is not running. It is the default.
START	Starts the Data Provider driver.
STOP	Stops the Data Provider driver.
RELOAD	On OpenVMS VAX systems only. Loads a new Data Provider driver. Use this parameter when installing a new version of DECamds.

Note

If you use the OpenVMS Snapshot Facility, stop the DECamds Data Analyzer and Data Provider node drivers before taking a system snapshot.

6 Postinstallation Tasks on a Data Analyzer Node

Perform the following tasks after installing the DECamds Data Analyzer:

1. If you were previously running an earlier version of DECamds, check the differences between the .DAT or .COM files on your system and the associated .TEMPLATE files provided with the new kit. Change your existing files as necessary.

Note

The new .TEMPLATE files may contain important changes. However, to avoid altering your customizations, the upgrade procedure does not modify your existing customized versions of these files. Check the new .TEMPLATE versions of these files provided with the kit, and make the appropriate change to your files.

2. Modify default Data Analyzer security files on each Data Analyzer node.

The security files must be modified to implement fixes (fixes require write access). Refer to the security section of the *DECamds User's Guide* for complete instructions about designing security files.

3. Define the system directory logical name AMDS\$SYSTEM.

To define the logical name AMDS\$SYSTEM on systems running the Data Analyzer but not the Data Provider, enter the following command:

```
$ @SYS$STARTUP:AMDS$STARTUP.COM NODRIVER
```

This command requires SYSNAM privilege. The NODRIVER parameter specifies that the procedure is to define the input and output logical names in AMDS\$LOGICALS.COM.

4. Modify user accounts as needed.

To use DECamds, user accounts require certain privileges and quotas:

- Using the Data Analyzer node for data collection (read access) requires TMPMBX, NETMBX, and OPER privileges.
- Performing fixes (write access) requires the CMKRNL privilege in addition to TMPMBX, NETMBX, and OPER.
- Using the AMDS\$STARTUP.COM to start, stop, or reload the Data Provider requires at least TMPMBX, NETMBX, SYSNAM, LOG_IO, and CMKRNL privileges.

5. Start the application.

For example, the following command starts DECamds with all input files read from AMDS\$SYSTEM and all output files written to the current default directory. Only data from group A nodes and group B nodes is displayed.

```
$ AVAIL /CONFIGURE=AMDS$SYSTEM /LOG_DIRECTORY=SYS$LOGIN-  
_$/GROUP=(GROUP_A, GROUP_B)
```


7 Postinstallation Tasks on Data Provider Nodes

Perform the following tasks after installing DECamds on Data Provider nodes:

1. If you have not read the release notes, please read them.
2. Modify user accounts.
Users who maintain the security or group name files or load new versions of the driver need privileges associated with the driver startup procedure.
3. Add AMDS\$STARTUP.COM to the node's startup and shutdown procedures to provide for automatic startup and shutdown of the Data Provider driver when a node is booted or shut down.

Add the following command line to SYS\$MANAGER:SYSTARTUP_VMS.COM:

```
$ @SYS$STARTUP:AMDS$STARTUP.COM START
```

Also, edit SYSHUTDWN.COM to add the following line:

```
$ @SYS$STARTUP:AMDS$STARTUP.COM STOP
```

4. Modify Data Provider default security files.
To implement fixes, which require write access, the security files must be modified. The Data Provider security file contains a list of three-part codes representing Data Analyzer nodes that have read or write access to that node. Refer to the security section of the *DECamds User's Guide* for complete instructions about designing security files.
5. Assign a node to a group.
For instructions, refer to the *DECamds User's Guide*.
6. Start DECamds (the Data Provider).
Even though the IVP starts and stops the driver, you must start the Data Provider drivers by entering the following command on each node:

```
$ @SYS$STARTUP:AMDS$STARTUP.COM START
```

8 Starting to Use the Data Provider

Before starting to use the Data Provider, you need to move and remove several files to make the Data Provider RMDRIVER part of OpenVMS.

Move these Files

Move the following files:

File	Old Directory Location	New Directory Location
AMDS\$DRIVER_ACCESS.DAT	SYS\$COMMON:[AMDS]	SYS\$COMMON:[SYSMGR]
AMDS\$LOGICALS.COM	SYS\$COMMON:[AMDS]	SYS\$COMMON:[SYSMGR]

These new directory locations should not affect previous copies of AMDS\$DRIVER_ACCESS.DAT that are in the AMDS\$SYSTEM directory because the AMDS\$SYSTEM logical is now a search list for SYS\$COMMON:[AMDS] and SYS\$COMMON:[SYSMGR]. Previous copies of the files will still be valid; however, new copies of the files will be placed in the new locations.

Delete this File

Because the installation replaces the following file, remove it from your system:

```
SYS$COMMON:[AMDS]AMDS$RMCP.EXE
```

Merge Customizations of Files

If the DECamds installation finds these files, it renames them as follows:

Original File Name	Renamed to...
AMDS\$DRIVER_ACCESS.DAT	AMDS\$DRIVER_ACCESS.DAT_OLD
AMDS\$AM_LOGICALS.COM	AMDS\$AM_LOGICALS.COM_OLD
AMDS\$LOGICALS.COM	AMDS\$LOGICALS.COM_OLD
AMDS\$AM_STARTUP.COM	AMDS\$AM_STARTUP.COM_OLD
AMDS\$STARTUP.COM	AMDS\$STARTUP.COM_OLD

The installation then creates new versions of these files using the original file name. You must merge any customizations you have made to the files into the files provided by the installation.

You might find it helpful to use the DIFFERENCES utility to compare the new and old files.

If you have any questions about running DECamds or Availability Manager, or both, refer to *Installing Availability Manager Version 2.2 on OpenVMS Alpha Systems and Running DECamds and the Availability Manager Concurrently*, which is available on the Availability Manager Documentation web page:

<http://h71000.www7.hp.com/openvms/products/availman/docs.html>

Modify Site-Specific Configuration Setup Logicals

OpenVMS kits for DECamds Version 7.3-1 provide a template file that system managers can modify to define the logical names used by the Data Collector. The file, SYS\$MANAGER:AMDS\$SYSTARTUP.TEMPLATE, can be copied to SYS\$MANAGER:AMDS\$SYSTARTUP.COM and edited to change the default logicals that are used to start the Data Collector and to locate its configuration files

The two most common logicals, especially in a mixed-environment cluster configuration, are the following:

- AMDS\$GROUP_NAME— specifies the group that this node will be associated with when it is monitored.
- AMDS\$CONFIG— specifies the location of the security file used by the Data Collector.

Enter Data Provider Commands

To start to use the Data Provider, perform either of the following tasks:

- Run the SYS\$STARTUP:AMDS\$STARTUP START command procedure at the OpenVMS DCL prompt (\$).
- Add the @SYS\$STARTUP:AMDS\$STARTUP START command to the SYSTARTUP_VMS.COM command file in the SYS\$MANAGER directory.

9 Determining and Reporting Problems

If you encounter a problem while using DECamds, report the problem to HP. Depending on the nature of the problem and the type of support you have, take one of these actions:

- If your software contract or warranty agreement entitles you to telephone support, contact an HP support representative.
- If the problem is related to the DECamds documentation, see the Preface of *DECamds User's Guide* for instructions.

10 Running the Installation Verification Procedure Separately

Usually the Installation Verification Procedure (IVP) runs during installation. Should system problems occur after you install DECamds, check the integrity of installed files by executing the following command procedure:

```
$ @SYS$TEST:AMDS$IVP.COM
```

The IVP leaves the Data Provider in the same state in which it was found. For example, if the Data Provider is running, the IVP stops and starts it.