

Installing HP Availability Manager Version 2.3-1 on OpenVMS Alpha Systems and Running DECamds and the Availability Manager Concurrently

This document contains the following sections:

- Section 1 describes privileges required to perform various operations using the Data Analyzer.
- Section 2 explains preparations for installing both DECamds and the Availability Manager.
- Section 3 tells how to install the Availability Manager software on OpenVMS systems. Instructions for installing DECamds are in a separate document on the Availability Manager documentation web page at the following url:

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

- Section 4 explains how to run DECamds and the Availability Manager concurrently.

1 Privileges Required

This section outlines the privileges required to perform various operations using the Availability Manager.

| 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 |

2 Installation Preparations

The following sections contain instructions for preparing to install DECamds and the Availability Manager on OpenVMS systems.

Note

The Availability Manager Version 2.3-1 kit for OpenVMS includes the Data Analyzer and Data Collector:

- The Java Data Analyzer can be installed only on OpenVMS Alpha Versions 7.2-2 and its variants, 7.3, 7.3-1, and 7.3-2.
- The Data Collector can be installed on OpenVMS VAX and OpenVMS Alpha Versions 6.2, 7.0, 7.1, 7.1-2, 7.2, 7.2-1 and its variants, 7.3, 7.3-1, and 7.3-2.

- On OpenVMS Version 7.2-2 and later, the Data Analyzer is installed by default. To install only the Data Collector, enter NO when asked, “Do you want the defaults for all options?”
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2.1 Evaluating Hardware, Software, and Disk Space Requirements

For current minimum hardware, software, and disk space requirements for installing and running the Availability Manager, refer to the following Availability Manager web page:

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

2.2 Backing Up the System Disk

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.

2.3 Copying the AVAILMAN.INI File

Before you remove old kits, as described in the next section, copy the `AMDS$AM_CONFIG:AVAILMAN.INI` file and any log files that you need to a different directory so that they can be restored after the installation.

2.4 Removing Old Kits

Before installing the Availability Manager Version 2.3-1 kit, you must remove any old kits on your system. To do so, enter the following command at the DCL prompt:

```
$ PRODUCT REMOVE AVAIL_MAN
```

2.5 Installing Patch Kits

Before installing the Availability Manager, you might need to install patch kits. These are described in the following sections.

2.5.1 Java Remedial Kits

Check for any remedial kits that Java requires. These are currently documented at the following Java web site:

<http://h18012.www1.hp.com/java/alpha/>

Install these remedial kits, even if they are listed as optional. For example, for OpenVMS Version 7.2-1, the `VMS721_PTHREAD` Remedial Kit is listed as optional; however, this kit is required for Availability Manager Version 2.3-1.

These Java patch kits allow you to run JRE 1.3.1-5, which is included in the Availability Manager Version 2.3-1 kit.

2.5.2 Patch Kit for OpenVMS Versions 6.2 and 7.1

Before installing Availability Manager 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 url:

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

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

2.6 Downloading the Software

Follow these steps to download the software:

1. Go to the HP Availability Manager home page:

`http://h71000.www7.hp.com/openvms/products/availman/`

2. Click **Software Download**.

3. Complete the user survey, which allows you to proceed to the Download web page.

4. Click one of the Availability Manager executables:

Availability Manager - Alpha: DEC-VMS-AVAIL_MAN-V0203-1-1.PCSI-DCX_AXPEXE
- VAX: DEC-VMS-AVAIL_MAN-V0203-1-1.PCSI-DCX_VAXEXE

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

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

Availability Manager: DEC-VMS-AVAIL_MAN-V0203-1-1.PCSI

2.7 Reading the Release Notes

The Availability Manager provides online release notes. HP strongly recommends that you read the release notes before you proceed with the installation. On OpenVMS systems, you can obtain a text version of the *Availability Manager Version 2.3-1 Release Notes* by setting the default to the directory where the kit resides. Then enter the following command at the DCL prompt:

```
$ PRODUCT EXTRACT RELEASE_NOTES AVAIL_MAN
```

If you have not set the default to that directory, enter the following command line:

```
$ PRODUCT EXTRACT RELEASE_NOTES AVAIL_MAN/SOURCE=disk:[directory]
```

where:

disk:[directory] refers to the disk and directory where the kit resides.

The default file name is DEFAULT.PCSI\$RELEASE_NOTES.

2.8 Upgrading from Versions Prior to OpenVMS Version 7.2

Upgrading from versions of the Availability Manager released prior to OpenVMS Version 7.2 might cause problems when you start the Data Collector (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 since that time use the new locations and definitions.

For a description of these startup files, please see Section 4.1.1.

3 Installing the HP Availability Manager Software

Use the following procedure to start the installation:

Enter the DCL command `PRODUCT INSTALL`, followed by the name of one or more products. For example, to install the Availability Manager Version 2.3-1, enter the following command:

```
$ PRODUCT INSTALL AVAIL_MAN
```

Note

You currently must install Availability Manager files in the PCSI default directory root.

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

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

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

3.1 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 DCL command `PRODUCT REMOVE` 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. Reenter the `PRODUCT INSTALL` command to begin the installation again.

3.2 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 AVAIL_MAN 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 an error message beginning with %PCSI-E-INSTAL, refer to the 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 your HP support representative.

Note

If the installation successfully replaced the Data Collector driver (over a previous installation), you must reboot the system to use the new driver.

3.3 Performing Postinstallation Tasks

After you install the Availability Manager, you need to perform several postinstallation steps, which are explained in the following sections.

3.3.1 Merging Customizations of Files

If the Availability Manager 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.

3.3.2 Editing Additional Files

Following installation of the Availability Manager software, you need to edit one file, and you can optionally edit two additional files on each Data Collector node.

The following list indicates the steps to take on OpenVMS Alpha or VAX Data Collector nodes. The files in steps 1 and 2, which are optional steps, contain default values that are used if you do not supply values. Step 3 is mandatory.

1. Optionally edit the following file to change passwords, which allow the node to be monitored by another node:

```
SYS$MANAGER:AMDS$DRIVER_ACCESS.DAT
```

2. Optionally edit the following file to change the name of the group you want this node to belong to:

```
AMDS$SYSTEM:AMDS$LOGICALS.COM
```

3. To start the Data Collector when the system boots, you must add the following line to the SYS\$MANAGER:SYSTARTUP_VMS.COM file:

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

3.3.3 Defining Logical Names

OpenVMS kits for DECamsd Version 7.3-2 and Availability Manager Version 2.3-1 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:

| Logical | Description |
|------------------|--|
| 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. |

3.3.4 Turning on Managed Objects on OpenVMS Version 7.3 or Later Data Collector Nodes

Managed objects are available only on OpenVMS Version 7.3 and later. They are discussed in the introduction to the Cluster chapter in the *Availability Manager User's Guide*. Before a Data Collector node can make managed object data available to Data Analyzers, the system manager must take steps so that the Data Collector driver, `RMDRIVER`, is loaded early in the boot process.

OpenVMS kits for Availability Manager Version 2.3-1 contain a data file called `SYS$AMCONFIG.DAT`. This file turns “managed object” functionality on and off on Data Collector nodes. This functionality is turned off by default.

At boot time on both OpenVMS VAX and Alpha systems, the operating system looks for the `SYS$AMCONFIG.DAT` file in the `SYS$SYSROOT:[SYSEXE]` directory. If the file is found, the boot code reads the file to determine whether to load `RMDRIVER` so that managed objects can begin to use this driver at boot time.

In the template file on the kit, the flag in the `SYS$AMCONFIG.DAT` file is set to `FALSE` (the default) so that `RMDRIVER` is not loaded at boot time. Instead, `AMDS$STARTUP.COM` will load the file when it starts the Availability Manager.

System managers can perform the following actions to load `RMDRIVER` at boot time, thereby enabling users to access information about switched LANs on their systems:

1. Copy the `SYS$AMCONFIG.DAT` file from the `SYS$EXAMPLES` directory to the `SYS$SYSROOT:[SYSEXE]` directory.
2. Change the flag in the `SYS$AMCONFIG.DAT` file to `TRUE`.
3. Reboot your system.

After you complete these steps, `RMDRIVER` will be loaded at boot time, allowing managed objects to register with `RMDRIVER` and allowing users to see switched LAN data on their systems.

4 Running DECamds and the HP Availability Manager Concurrently

This section discusses how to configure and start Data Collectors and Data Analyzers for both DECamds and the Availability Manager.

To install and run DECamds and the Availability Manager *concurrently*, complete the steps outlined in Table 1.

Table 1 Installing and Running DECamds and Availability Manager Concurrently

| Step | Description | For more information, see... |
|------|--|--|
| 1 | Install DECamds. | See Section 2 for preparation instructions. For installation steps, see the DECamds installation instructions, which are available as a link from the Availability Manager Documentation web page. |
| 2 | Install the Availability Manager. | Section 2 through Section 3.3.1 |
| 3 | Review the Availability Manager and DECamds configuration files. | Section 4.1 |
| 4 | Make postinstallation edits. | Section 4.2 |
| 5 | Make sure the Data Collector is started on Data Analyzer nodes. | Section 3 |
| 6 | Use DCL commands to run DECamds and the Availability Manager. | Section 4.5 |

4.1 Understanding Availability Manager and DECamds Configuration Files

The DECamds and Availability Manager products have several common files that the Data Collector (or Data Provider, in DECamds terms) uses. These two products also have several files that have similar functions. Files, directories, or logical names with the same or similar function have the prefix AMDS\$ or AMDS\$AM, representing DECamds or the Availability Manager, respectively.

The installation also uses this naming scheme to place files that are specific to either product. For example, the file that defines logical names for DECamds is:

```
AMDS$SYSTEM:AMDS$LOGICALS.COM
```

For the Availability Manager, this file is:

```
AMDS$AM_SYSTEM:AMDS$LOGICALS.COM
```

The names of files that the products have in common usually start with AMDS\$.

4.1.1 Using Configuration Files

The following table shows the configuration files that the startup command procedure creates for the Availability Manager and for DECamds.

| File | Availability Manager | DECamds |
|---|----------------------------|--|
| Installation directory | SYS\$COMMON:[AMDS\$AM] | SYS\$COMMON:[AMDS] |
| Startup command procedure | SYS\$STARTUP:AMDS\$STARTUP | Same as Availability Manager |
| Driver file (contains passwords for DECamds V7.1 and earlier) | n/a | AMDS\$SYSTEM: AMDS\$DRIVER_ACCESS.DAT |

| File | Availability Manager | DECamds |
|--|--|-------------------------------------|
| Driver file (contains passwords for DECamds V7.2 and later) | SYS\$MANAGER: AMDS\$DRIVER_ACCESS.DAT | Same as Availability Manager |
| Logical names command file (contains group names for DECamds V7.1 and earlier) | n/a | AMDS\$SYSTEM: AMDS\$LOGICALS.COM |
| Logical names command file (contains group names for DECamds V7.2 and later) | SYS\$MANAGER: AMDS\$LOGICALS.COM | Same as Availability Manager |

4.1.2 Merging Files

To use Data Collector passwords as well as group names and other configuration data from DECamds Version 7.1 and earlier, you must merge versions of files:

- For passwords

The passwords that the Data Collector (SYS\$RMDRIVER) accepts from the Data Analyzer for DECamds Version 7.1 and earlier are stored in the AMDS\$DRIVER_ACCESS.DAT file in the SYS\$COMMON:[AMDS] directory. The passwords for later versions of DECamds and for the Availability Manager are stored in SYS\$MANAGER:AMDS\$DRIVER_ACCESS.DAT.

For both products to use this file, merge any data you want to keep from the copy of AMDS\$DRIVER_ACCESS.DAT in the SYS\$COMMON:[AMDS] directory into the copy in the SYS\$MANAGER directory. Then remove the file from the SYS\$COMMON:[AMDS] directory. If you have both products installed and want both products to use the same AMDS\$DRIVER_ACCESS.DAT file, make sure this file resides only in SYS\$MANAGER.

- For group names and other configuration data

The group names and other configuration data that the Data Collector (SYS\$RMDRIVER) accepts from the Data Analyzer for DECamds Version 7.1 and earlier are stored in the AMDS\$LOGICALS.COM file in the SYS\$COMMON:[AMDS] directory. The group names for later versions of DECamds and for the Availability Manager are stored in SYS\$MANAGER:AMDS\$LOGICALS.COM.

For both products to use this file, merge any data you want to keep from the copy of AMDS\$LOGICALS.COM in the SYS\$COMMON:[AMDS] directory into the copy in the SYS\$MANAGER directory. Then remove the file from the SYS\$COMMON:[AMDS] directory. If you have both products installed and want both products to use the same AMDS\$LOGICALS.COM file, make sure this file resides only in SYS\$MANAGER.

4.2 Making Postinstallation Edits

After you install DECamds and the Availability Manager and you understand the configuration files for both products, make postinstallation file edits for Version 7.2, 7.2-1, 7.3, 7.3-1, or 7.3-2 Alpha or VAX Data Collector nodes. Two of the file edits are optional, and one is required, as explained in the following list:

1. Optionally, edit the following file to change passwords, which allow the node to be monitored by another node:

SYS\$MANAGER:AMDS\$DRIVER_ACCESS.DAT

2. Optionally, edit the following file to change the name of the group you want this node to belong to:

```
AMDS$MANAGER:AMDS$LOGICALS.COM
```

3. To start the Data Collector when the system boots, you must add the following line to the SYS\$MANAGER:SYSTARTUP_VMS.COM file:

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

4. Before running the application from a particular account, verify that the following two account settings are at least the minimum quotas:

| Account | Quota |
|---------|--|
| PGFLQUO | 220,000 pagelets if you use the default for MHEAP. Add 2,000 pagelets for each MB you increase MHEAP above the default. (See Section 4.5.1.) |
| BYTLM | 36,000 bytes or greater |

If necessary, use the OpenVMS Authorize utility to increase these quotas.

4.3 Performance Considerations

By default, the only data collected on OpenVMS nodes is node summary data. You can collect this data on many nodes without incurring performance problems. If you do not have a high-performance workstation, and you have many nodes configured, be careful about enabling more data collection on the Data Collection Customization page. This is especially true when you run the Data Analyzer on OpenVMS systems.

A feature added after Version 1.3 might help satisfy your data collection needs: when you open a node-specific data page, all types of data are automatically collected for that node.

For a detailed discussion of setting system parameters for improved performance, see the section on Setting Process Quotas for Better Performance in the Compaq Software Development Kit v1.3.1-5 on Open VMS at the following url:

http://h18012.www1.hp.com/java/documentation/1.3.1-5/ovms/docs/release_notes.html#processquotas

4.4 Starting the Data Collector on Data Analyzer Nodes

To run a workstation as a Data Analyzer, you must start it as a Data Collector to start the driver. For instructions, see Section 3.3.

4.5 Using DCL Commands to Run DECamds and the Availability Manager

After you make postinstallation file edits, use the commands shown in the following sections to start the Availability Manager and DECamds.

User with Inadequate Page File Quota Cannot Run Data Analyzer

If a user with inadequate page file quota (PGFLQUOTA) tries to run the Availability Manager Data Analyzer on OpenVMS, an error message is displayed and the application stops. Inadequate PGFLQUOTA causes unusual behavior in the OpenVMS Java Virtual Machine, preventing the Availability Manager from starting and running normally. Please refer to the OpenVMS Installation Instructions for the appropriate PGFLQUOTA settings.

4.5.1 Starting the Availability Manager

To start the Availability Manager, enter the following DCL command:

```
$ AVAIL/AVAIL
```

You can also use either of the following qualifiers with the AVAIL command:

| Qualifier | Description | Default Value of <i>n</i> |
|------------------|-------------------|---------------------------|
| /IHEAP= <i>n</i> | Initial heap size | 16M |
| /MHEAP= <i>n</i> | Maximum heap size | 40M |

where:

n is the amount of memory to allocate to the heap.

Use *n*K or *n*M on the command line to specify kilobytes or megabytes, respectively. The default values are in megabytes. The following example specifies /IHEAP and /MHEAP values in megabytes:

```
$ AVAIL/AVAIL/IHEAP=64M/MHEAP=128M
```

For large memory configurations, you might want to increase the heap sizes of the application for better performance. Note that the value of PGFLQUOTA must be a minimum of:

$$140,000 + (2,000 * \text{MHEAP})$$

4.5.2 Starting DECamds

To start DECamds, enter the following DCL command:

```
$ AVAIL/MOTIF
```

You can also use any of the following qualifiers:

| Qualifier | Description |
|----------------|---|
| /CONFIGURE | Specifies the directories from which input files are read. This can be a search list of directories or a logical defining a search list of directories. |
| /LOG_DIRECTORY | Specifies the directory to which log files are written. Output files can be directed to the null device, NLA0: |
| /GROUP | A comma-separated list of the groups of Data Provider nodes that you want the Data Analyzer to access. |

Note

If you later install a version of DECamds that is earlier than Version 7.3-2, you must reinstall the Availability Manager to define the AVAIL command correctly.