

HP Availability Manager Installation Instructions

Version 3.0

This document contains the following major sections:

1. Availability Manager components
2. Introduction to the installation instructions
3. Data Collector installation on OpenVMS systems
4. Data Analyzer installation on Windows systems
5. Data Analyzer installation on OpenVMS systems
6. Operation instructions

1 Availability Manager Components

You can use the Availability Manager to *collect* data on OpenVMS nodes. You can then *analyze* that data on Windows or OpenVMS systems. Based on the analysis of the data and problems you detect, you can also take a number of corrective actions.

The component of the Availability Manager that enables data collection is the **Data Collector**. The part that directs data collection and analyzes that data, as well as to perform correction actions, is the **Data Analyzer**. The Data Collector also allows the Data Analyzer to communicate over the extended local area network (LAN) to other Data Collectors.

When the Data Analyzer is on a node that is on the wide area network (WAN), it communicates with Data Collectors through a **Data Server**. The advantage of using a Data Server is that, with it, the Data Analyzer can be anywhere on the WAN—for example, at a remote site or at home.

The Availability Manager software is packaged as follows:

- Windows

All three components—the Data Collector, Data Analyzer, and Data Server—are in one kit called the Windows kit.

- OpenVMS

The Data Collector is in its own kit, and the Data Analyzer and Data Server are together in another kit, called the **Combined kit**.

The following table describes where you need to install each software component.

If you want to...,	You must:
Enable data collection on OpenVMS Alpha, VAX, or I64 nodes,...	Install the Data Collector kit on each node or on an entire cluster of nodes on which you want to collect data.

If you want to...,	You must:
Collect and analyze data,...	Install either of the following on one or more nodes : <ul style="list-style-type: none"> For Windows, install the Windows kit For OpenVMS, install kits in the following order: <ol style="list-style-type: none"> The Data Collector kit The Combined kit
Enable data collection over a WAN,...	Install either of the following on one or more nodes : <ul style="list-style-type: none"> For Windows, install the Windows kit For OpenVMS, install kits in the following order: <ol style="list-style-type: none"> The Data Collector kit The Combined kit

Kit Requirements

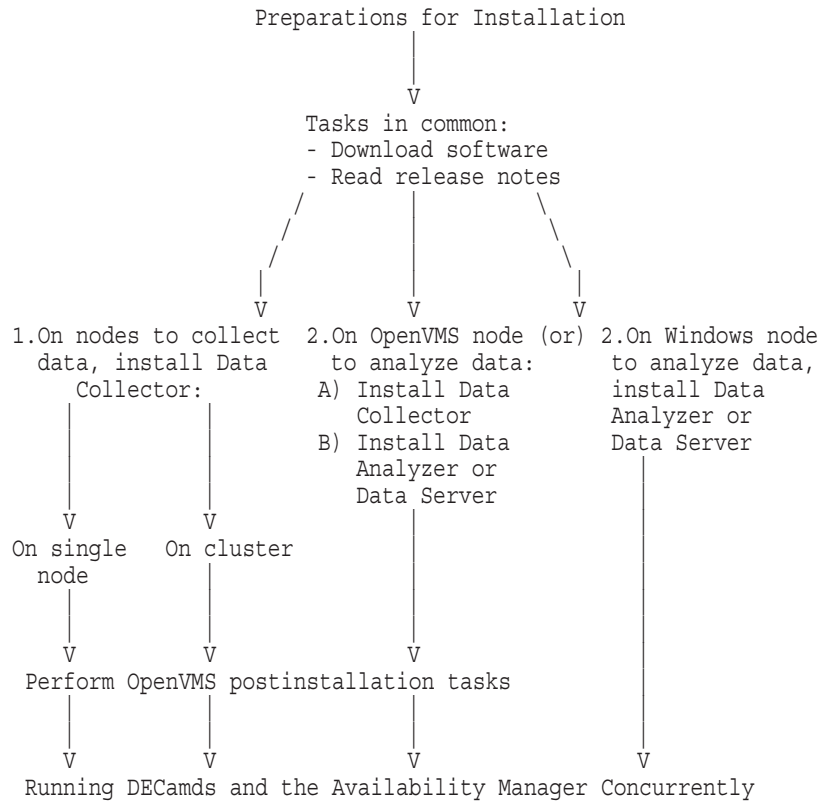
This section outlines the kits that you need for each component and each system on which you plan to install Availability Manager Version 3.0 software, which includes both the Data Collector kit and the Combined kit. The following table shows the systems and version on which you can install this software.

Table 1 Where to Install Availability Manager Version 3.0 Software

Data Collector	OpenVMS VAX Versions	OpenVMS Alpha Versions	OpenVMS I64 Versions
	6.2 through 7.3	6.2 through 8.3	8.2 through 8.3
Data Analyzer or Server	Microsoft Windows Versions	OpenVMS Alpha Versions	OpenVMS I64 Versions
	Windows 2000 Pro Windows XP Pro	7.3-2 through 8.3	8.2 through 8.3

2 Introduction to the Installation Instructions

The following diagram depicts the entire process of installing the Availability Manager software, from the preparations for installation through postinstallation tasks and special requirements for running both the Availability Manager and DECams concurrently. Numbered or lettered items indicate that you need to perform these steps in a specified order.



3 Data Collector Installation on OpenVMS Systems

You need to install the Data Collector software on every OpenVMS node – VAX, Alpha, or I64—on which you want to collect data.

Note

If you want to install the Data Collector, the Data Analyzer, and the Data Server on a node, you need to install the Data Collector kit first and then the Combined kit.

The following sections explain what you need to do to install the Data Collector on one or more nodes in your system. They explain tasks you need to perform before the installation, for the installation, and post-installation.

3.1 Preparing to Install Data Collector Software

The following sections explain tasks you need to perform before you install Data Collector software.

3.1.1 Check Privileges

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

Operation	Privileges Needed
Stop, start, reload, or restart Data Collector nodes. Includes changing security or group name.	OPER, CMKRNL, LOG_IO, SYSNAM, SYSPRV

3.1.2 Evaluate Hardware, Software, and Disk Space Requirements

For current minimum hardware, software, and disk space requirements for installing and running the Data Collector software, see the "Product Description" link on the Availability Manager home page:

<http://www.hp.com/products/openvms/availabilitymanager>

3.1.3 Back Up the System Disk

HP recommends that you perform a system disk backup on OpenVMS systems 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 in the *HP OpenVMS System Manager's Manual* and the *HP OpenVMS System Management Utilities Reference Manual*.

3.1.4 Steps to Take If You Have a Version Prior to Version 2.4

If you have a version of the Availability Manager prior to Version 2.4 on your system, perform the steps in this section. (This is required because of the kit reorganization introduced in Version 2.4.)

If you do not have a version prior to Version 2.4, go to Section 3.2.

1. Copy the Data Analyzer files if you have run the Data Analyzer Version 2.3-1 or earlier on this node.

This includes copying 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. Remove old kits

On OpenVMS systems, before installing the Availability Manager Version 3.0 software, you must remove old kits on your system. To do so, enter the following command at the DCL prompt:

```
$ PRODUCT REMOVE AVAIL_MAN
```

3. Install the Availability Manager Version 2.4 Data Collector kit

If you are running OpenVMS Version 6.2 through 7.2-2 or their variants, and you have a version of the Availability Manager prior to Version 2.4 on your system, you must install the Availability Manager Data Collector Version 2.4 before installing Version 3.0. This additional installation corrects various kitting irregularities introduced by older versions of the Availability Manager and OpenVMS.

You can obtain the Version 2.4 kit on the Software Download link on the Availability Manager home page:

<http://www.hp.com/products/openvms/availabilitymanager>

3.2 Installing Patch Kits

Before installing the Availability Manager Data Collector on any version of OpenVMS, you must install the latest POLYCENTER Software Installation (PCSI) patch kit, which is available at the following url:

<http://www2.itrc.hp.com/service/index.do?admit=-1335382922+1133985057493+28353475>

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

3.3 Downloading the Software

Follow these steps to download Data Collector software:

1. Go to the HP Availability Manager home page:
<http://www.hp.com/products/openvms/availabilitymanager/>
2. Click **Software Download**.
3. Complete the user survey, which allows you to proceed to the Download web page.
4. At a minimum, you need one Data Collector kit, depending on your environment and where you are installing the Data Collector.

The following list of kits is actually the same kit, packaged in three different ways to correlate with the platform on which you install the kit. Click one of the Data Collector executable shown in the following table.

System and Versions	File
Alpha and I64 V8.3:	HP-VMS-AVAIL_MAN_COL-V0300-IAV-1.PCSI\$COMPRESSED_ESW
Alpha V7.3-2 - V8.3, I64 V8.2 - V8.3:	HP-VMS-AVAIL_MAN_COL-V0300-IAV-1.PCSI\$COMPRESSED
Alpha V7.2-2 to V7.3-1	HP-VMS-AVAIL_MAN_COL-V0300-IAV-1.PCSI\$COMPRESSED Install PCSI V2.0 patch per Section 3.2 first.
Alpha prior to V7.2-2:	HP-VMS-AVAIL_MAN_COL-V0300-IAV-1.PCSI-DCX_AXPEXE
VAX V6.2 - V7.3:	HP-VMS-AVAIL_MAN_COL-V0300-IAV-1.PCSI-DCX_VAXEXE

Note

Steps 5 and 6 pertain only to the PCSI-DCX_AXPEXE or PCSI-DCX_VAXEXE kits.

5. Save the downloaded file to a device and directory of your choice.
6. Run the Alpha executable on an Alpha system and the VAX executable on a VAX system, accepting the default file name:

On an Alpha node: HP-VMS-Avail_Man_Col-V0300-IAV-1.PCSI_DCX_AXPEXE
On a VAX node: HP-VMS-Avail_Man_Col-V0300-IAV-1.PCSI_DCX_VAXEXE

Note

If the kit is on an ODS-5 disk, the file name must be in all-capital letters for the kit to install correctly.

The results for either kit will be:

HP-VMS-Avail_Man_Col-V0300-IAV-1.PCSI

Note

The remaining steps in this section, which apply to I64 as well as Alpha and VAX nodes, pertain to the .PCSI and .PCSI\$COMPRESSED kits.

7. Copy the PCSI kits as follows:

- a. If you are installing on one or more single nodes, save the Data Collector executable on each node on which you want to collect data.
- b. If you are installing on a cluster, save the executable on a disk that is available clusterwide.

Read the Release Notes

The Availability Manager provides release notes in the software kit and at the Documentation link at the following web site:

<http://www.hp.com/products/openvms/availabilitymanager>

HP strongly recommends that you read the release notes before proceeding with the installation.

In the software kit on OpenVMS systems, you can obtain a text version of the *HP Availability Manager Version 3.0 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_COL
```

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

```
$ PRODUCT EXTRACT RELEASE_NOTES AVAIL_MAN_COL/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.

3.4 Installing the Data Collector Software

Recall that if you want to install both the Data Collector and the Data Analyzer on a node, you need to install the Data Collector first and then the Data Analyzer.

The following sections describe how to install the Data Collector on a single node and on a cluster.

3.4.1 Stopping Data Collectors

Stop any Data Collector currently running on a node by entering the following command:

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

3.4.2 To Install the Data Collector on a Single Node

To install the Data Collector software on a single node, enter the DCL command **PRODUCT INSTALL**, followed by the name of one or more products. For example, to install the Version 3.0 Data Collector, enter the following command:

```
$ PRODUCT INSTALL AVAIL_MAN_COL/SOURCE=disk:[directory]
```

where *disk* and *directory* refer to the disk and the directory where the kit is located.

Note

Currently, you 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 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 start the installation using the **/LOG** qualifier to the **INSTALL** command, the system displays details of the installation.

A sample log file of this entire installation procedure follows.

Installation of the Data Collector on a Single Node

The following product has been selected:

```
HP VMS AVAIL_MAN_COL V3.0-IAV          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.

```
HP VMS AVAIL MAN COL V3.0-IAV:
HP Availability Manager Data Collector Version 3.0-IAV
COPYRIGHT ©2007 Hewlett-Packard Development Company, L.P.
Hewlett-Packard Company - Palo Alto, California
License and Product Authorization Key (PAK) Information
```

* This product does not have any configuration options.

Execution phase starting ...

The following product will be installed to destination:

```
HP VMS AVAIL_MAN_COL V3.0-IAV          DISK$ALPHA_V732:[VMS$COMMON.]
```

The following product will be removed from destination:
 HP VMS AVAIL_MAN_COL V2.6-BAV DISK\$ALPHA_V732:[VMS\$COMMON.]

Portion done: 0%...10%...20%...30%...40%...60%...90%...100%

The following product has been installed:
 HP VMS AVAIL_MAN_COL V3.0-IAV Layered Product

The following product has been removed:
 HP VMS AVAIL_MAN_COL V2.6-BAV Layered Product

HP VMS AVAIL_MAN_COL V3.0-IAV: HP Availability Manager Data Collector Version 3.0-IAV
 HP Availability Manager Startup File has been placed in SYS\$STARTUP.
 HP Availability Manager Logicals Customization File has been installed.
 DECams Data Provider Security Access File has been installed.

\$

3.4.3 To Install the Data Collector on a Cluster

To install the Data Collector on a cluster, follow these steps:

1. Create a PCSI option file. For example:

```
$ PRODUCT INSTALL AVAIL_MAN_COL /CONFIGURATION=(OUTPUT=AM_CONFIG.PCF)
```

2. Perform a cluster install; for example:

```
$ RUN SYS$SYSTEM:SYSMAN
SYSMAN> SET ENVIRONMENT /CLUSTER

%SYSMAN-I-ENV, current command environment:
Clusterwide on local cluster
Username SYSTEM will be used on nonlocal nodes

SYSMAN> DO PRODUCT INSTALL AVAIL MAN COL
%SYSMAN-I-OUTPUT, command execution on node AFFS51
.
.
.
Portion done: 0%...10%...20%...30%...40%...50%...60%...70%...100%
SYSMAN> exit
$
```

An example of the complete log file produced when you install Data Collector kits clusterwide follows.

Log File—Automated Clusterwide Installation of the Data Collector

Notes: The .PCF file was in the /SOURCE directory, and \$5\$DKA1 was mounted clusterwide.

```
$ RUN SYS$SYSTEM:SYSMAN
SYSMAN> SET ENVIRONMENT /CLUSTER
%SYSMAN-I-ENV, current command environment:
Clusterwide on local cluster
Username SYSTEM            will be used on nonlocal nodes

SYSMAN> DO PRODUCT INSTALL AVAIL MAN COL
SYSMAN> /CONFIGURATION=(INPUT=AM_CONFIG.PCF)
SYSMAN> /SOURCE=$5$DKA1:[000000.KITS]
%SYSMAN-I-OUTPUT, command execution on node AFFS1

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.

HP VMS AVAIL_MAN_COL V3.0-IAV: HP Availability Manager Data Collector Version 3.0-IAV
```



```

COPYRIGHT ©2007 Hewlett-Packard Development Company, L.P.
Hewlett-Packard Company - Palo Alto, California

License and Product Authorization Key (PAK) Information
* This product does not have any configuration options.
Execution phase starting ...
The following product will be installed to destination:
    HP VMS AVAIL_MAN_COL V3.0-IAV          DISK$S1-XB1C:[VMS$COMMON.]
The following product has been installed:
    HP VMS AVAIL_MAN_COL V3.0-IAV          Layered Product
HP VMS AVAIL_MAN_COL V3.0-IAV: HP Availability Manager Data Collector Version 3.0-IAV
    HP Availability Manager Startup File has been placed in SYS$STARTUP.
    HP Availability Manager Logicals Customization File has been installed.
    DECamds Data Provider Security Access File has been installed.
Portion done: 0%...10%...20%...30%...60%...90%...100%
%SYSMAN-I-OUTPUT, command execution on node AFFS3
Configuration phase starting ...
You will be asked to choose options, if any, for each selected product and for
any products that may be installed to satisfy software dependency requirements.
HP VMS AVAIL_MAN_COL V3.0-IAV: HP Availability Manager Data Collector Version 3.0-IAV
    COPYRIGHT ©2007 Hewlett-Packard Development Company, L.P.
    Hewlett-Packard Company - Palo Alto, California
    License and Product Authorization Key (PAK) Information
    * This product does not have any configuration options.
Execution phase starting ...
The following product will be installed to destination:
    HP VMS AVAIL_MAN_COL V3.0-IAV          DISK$AFFS3_V83:[VMS$COMMON.]
The following product will be removed from destination:
    HP VMS AVAIL_MAN_COL V2.6-BAV          DISK$AFFS3_V83:[VMS$COMMON.]
The following product has been installed:
    HP VMS AVAIL_MAN_COL V3.0-IAV          Layered Product
The following product has been removed:
    HP VMS AVAIL_MAN_COL V2.6-BAV          Layered Product
HP VMS AVAIL_MAN_COL V3.0-IAV: HP Availability Manager Data Collector
Version 3.0-IAV
    HP Availability Manager Startup File has been placed in SYS$STARTUP.
    HP Availability Manager Logicals Customization File has been installed.
    DECamds Data Provider Security Access File has been installed.
Portion done: 0%...10%...20%...30%...40%...60%...90%...100%
SYSMAN> EXIT
$

```

3.5 Interrupting and Restarting an Installation

Use the following procedure to stop and restart an 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.

3.6 Recovering from Errors

If the installation procedure fails for any reason, the following set of messages is displayed:

```
%POLYCENTER Software Installation utility
%INSTAL-E-INSFAIL, The installation of AVAIL_MAN_COL 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.

If you receive an error message beginning with `%PCSI-E-INSTAL`, see 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.

Note

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

3.7 Performing Postinstallation Tasks

After you install the Data Collector on one or more OpenVMS systems, you need to perform several postinstallation steps, which are divided into tasks you perform for the following:

- Previous installations
- New installations

3.7.1 For Previous Installations: Merge Customizations of Files

In the course of an installation, the Availability Manager renames `*.TEMPLATE` files to `*.TEMPLATE_OLD`. It then installs new `*.TEMPLATE` files and lets you know if differences exist between the `*.TEMPLATE` and the `*.TEMPLATE_OLD` files.

Template files have the names shown in the following table:

Configuration File	Configuration File Template
AMDSSLOGICALS.COM	AMDSSLOGICALS.TEMPLATE
AMDSSDRIVER_ACCESS.DAT	AMDSSDRIVER_ACCESS.TEMPLATE

If you have existing logicals and access files, the installation kit leaves them on the system as is. Any changes to these files because of new or changed features are included in the *.TEMPLATE files. You can then merge these changes into your logicals and access files with a text editor, as necessary.

Use the DIFFERENCE utility on the *.TEMPLATE and *.TEMPLATE_OLD files to highlight the updates to the template.

3.7.2 For New Installations: Edit Additional Files

Following installation of Data Collector software, you need to edit one file; 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, 2 and 3, which are optional steps, contain default values that are used if you do not supply values. Step 4 is mandatory for the Data Collector to start when the system boots.

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

`SYSS$MANAGER:AMDSS$DRIVER_ACCESS.DAT`

The password section of the file is close to the end of the file, after the Password documentation section and in Section 1.3 of the *DECams User's Guide*.

2. Define logical names

OpenVMS kits for DECams Version 7.3-2B and Availability Manager Version 3.0 provide a template file and an initial command procedure that system managers can modify to define the logical names the Data Collector uses. The files are SYSS\$MANAGER:AMDSS\$LOGICALS.TEMPLATE and SYSS\$MANAGER:AMDSS\$LOGICALS.COM. Edit the .COM file to change the default logicals that are used to start the Data Collector and to locate its configuration files.

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

Logical	Description
AMDSS\$GROUP_NAME	Specifies the group that this node will be associated with when it is monitored.
AMDSS\$DEVICE	For nodes with more than one network adapter, allows you to specify which adapter the Availability Manager should use.

Logical	Description
AMDS\$SRM_DEFAULT_INTERVAL	The number of seconds between multicast “Hello” messages from the Data Collector to the Data Analyzer node when the Data Collector is inactive or is only minimally active. The minimum value is 5. The maximum value is 300.
AMDS\$SRM_SECONDARY_INTERVAL	The number of seconds between multicast “Hello” messages from the Data Collector to the Data Analyzer node when the Data Collector is active. The minimum value is 5. The maximum value is 1800.

- For node-specific settings, create the following file:

```
SYSS$MANAGER:AMDS$LOGICALS_<node-name>.COM
```

Edit the file to include node-specific customization entries.

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

```
$ @SYSS$STARTUP:AMDS$STARTUP START
```

3.7.3 Turn on Managed Objects on OpenVMS Version 7.3 or Later 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 *HP OpenVMS 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 3.0 contain a data file called SYSS\$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 OpenVMS VAX, Alpha, and I64 systems, the operating system looks for the SYSS\$AMCONFIG.DAT file in the SYSS\$SYSROOT:[SYSEXEC] 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 SYSS\$AMCONFIG.DAT file is set to TRUE (the default) so that RMDRIVER is loaded at boot time.

Note

The SYSS\$AMCONFIG.DAT file must be in a variable-length carriage-return-carriage-control format. If you create the file as a stream or stream-variant file, the OpenVMS boot code might not recognize the file contents correctly.

To confirm that you have the correct format, enter the following DCL command:

```
$ DIRECTORY/FULL SYSS$AMCONFIG.DAT
```

A correctly-formatted file will include the following two lines:

```

.
.
.
Record format:      Variable length, maximum 0 bytes, longest 0 bytes
Record attributes:  Carriage return carriage control
.
.
.

```

You can also enter the following command:

```
$ DUMP SYS$AMCONFIG.DAT
```

Correct output from this command will show the 'B' in "BOOTLOAD=TRUE" as the third character in the first disk block; for example:

```

20455552 543D4441 4F4C544F 4F420034 4.BOOTLOAD=TRUE 000000
64616F4C 203B2020 20202020 20202020          ; Load 000010
6F6F6220 74612052 45564952 444D5220  RMDRIVER at boo 000020
00000000 00000000 FFFF656D 69742074 t time..... 000030
00000000 00000000 00000000 00000000 ..... 000040
.
.
.

```

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:

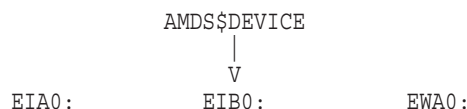
1. Copy the SYS\$AMCONFIG.DAT file from the SYS\$EXAMPLES directory to the SYS\$SYSROOT:[SYSEXEC] directory.
2. Reboot your system.

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

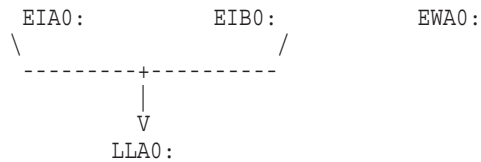
3.7.4 Take Advantage of Logical LAN Device Support

The Availability Manager is compatible with this feature. You can specify a logical LAN device in the logical AMDS\$DEVICE in the file AMDS\$LOGICALS.COM. However, if the current device name that the logical AMDS\$DEVICE specifies is part of a logical LAN failover set, the device name needs to be changed. This is because specifying a physical device in a failover set is illegal and results in an error when executing \$@SYS\$STARTUP:AMDS\$STARTUP START. For a device name, you can specify either the logical LAN device name of the failover set or another network device.

The following figure shows a possible OpenVMS pre-Version 7.3-2 configuration. The AMDS\$DEVICE logical points to EIB0:.



If, after installing OpenVMS Version 7.3-2, you create a logical LAN failover set with EIA0: and EIB0:, the AMDS\$DEVICE logical can no longer specify EIB0:, because EIB0: is now in a failover set. In this case, you must set the AMDS\$DEVICE logical to either LLA0:, which is the logical LAN device, or to EWA0:



For further information on setting up logical LANs, see “Understanding LAN Failover” in the *HP OpenVMS System Manager’s Manual*.

3.8 Starting the Data Collector on Data Collection Nodes

To manage the Data Collector, start by invoking the command procedure SYS\$STARTUP:AMDS\$STARTUP. To list the functions that this procedure performs, enter the following:

```
@ SYS$STARTUP:AMDS$STARTUP HELP
```

For the Data Collector to access requests to collect data and to support the Data Analyzer, you must start the Data Collector by entering the START command:

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

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

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

4 Data Analyzer and Data Server Installation on Windows Systems

This section contains subsections that explain the installation procedure for the Data Analyzer and Data Server on Windows nodes. Because both components are in the same kit, they are both installed at the same time.

This installation procedure assumes that you want to install the application files on a local drive. You might, however, want to install the application files on a network drive for a number of reasons—for example, if the network is backed up regularly, or if your local drive is low on available space. For better performance, HP recommends that you install on a local drive.

The following sections contain instructions for preparing to install HP Availability Manager software on Windows systems. The installation and modification of the Availability Manager requires that you use the local Administrator account.

Before you start to install HP Availability Manager Version 3.0, close all other applications.

4.1 Uninstalling Old Software

If you have previously installed an Availability Manager kit prior to Version 2.3, you must uninstall your old kit before installing the Version 3.0 kit. (The HP Availability Manager InstallShield script causes the installation to terminate if you do not uninstall old kits and reboot.)

Before uninstalling, copy the AvailMan.ini file to a different folder so that it can be restored after the installation. Its default location might be either of the following:

```
\Program Files\Hewlett-Packard\HP Availability Manager\AvailMan.ini  
\Program Files\Compaq\Availability Manager\AvailMan.ini
```

To uninstall the old software, follow these steps:

1. Go to the Control Panel on your system.
2. Select Add/Remove Programs.
3. Select Availability Manager.
4. Select Change/Remove. This brings up InstallShield.
5. Select "Remove all installed components" and then select OK.
6. Reboot before installing the new kit.

When you uninstall the old kit, you might be asked if you want to delete a number of files, including some, if not all, of the following:

```
C:\WINNT\System32\declog.exe  
C:\WINNT\System32\pwel32.dll  
C:\WINNT\System32\pwiocb32.dll  
C:\WINNT\System32\pwlogsvc.exe  
C:\WINNT\System32\spawn32.exe  
C:\WINNT\System32\drivers\deccore.sys  
C:\WINNT\System32\drivers\decndis.sys  
C:\WINNT\System32\drivers\damdrv.sys
```

If you have Pathworks installed, delete *only* the last file, damdrv.sys. If you **do not** have Pathworks installed, you can safely delete all the files you are prompted for; the new kit does not need these files.

4.2 Downloading the New Software

To download the software, follow these steps:

1. Go to the HP Availability Manager software web page:
<http://www.hp.com/products/openvms/availabilitymanager>
2. Complete the Registration Form, which gives you access to the download web page.
3. On the Windows section of the download web page, click the name of the following file:

```
AvailMan030_i.exe -- for Intel systems  
                    running on Windows 2000 or Windows XP
```

4. On the screen that is displayed, click **Save**, and enter the name of the folder in which you want to save the kit.

Read the Release Notes

HP strongly recommends that you read the release notes before proceeding with the installation. To access the release notes:

1. Go to the Documentation link on the Availability Manager home page:
`http://www.hp.com/products/openvms/availabilitymanager`
2. Click *HTML* following “Version 3.0 Release Notes” to display the release notes in HTML format. (You can also print these notes.)

4.3 Installing the New Software

This section explains tasks associated with installing the Availability Manager software on Windows systems.

To install the software, follow these steps:

1. Go to the folder containing the saved kit, and double-click the name of the file, AvailMan030_i.exe to start the installation. (This is a standard Windows product installation.)
2. Click **Next** to accept the Modify option (the default).
3. After the installation is complete, you must restart your system. To do this, click **Finish** or press **Enter** once to complete the installation and restart. Do not press **Enter** multiple times, or the machine will log you off instead of restarting the system.
4. Copy the saved AvailMan.ini file (see Section 4.1) to the new root directory:

`\Program Files\Hewlett-Packard\HP Availability Manager V3.0\`

4.4 Reinstalling Version 3.0 Software

If, for any reason, you need to remove and reinstall Version 3.0 software, the software detects whether the Availability Manager has already been installed and displays a Welcome dialog box with the following options:

Option	Description
Modify	To add new components and replace existing the latest versions.
Repair	To reinstall the product completely.
Remove	To uninstall the product.

5 Data Analyzer and Data Server Installation on OpenVMS Systems

This section contains subsections explaining how to install Data Analyzer and Data Server Version 3.0 software on OpenVMS systems. Because both components are in the same kit, they are both installed at the same time.

Note

If you want to install the both the Data Collector and the Data Analyzer on a node, you need to install the Data Collector first and then the Data Analyzer.

5.1 Preparing to Install Data Analyzer and Data Server Software

The following sections explain tasks you need to perform before you install Data Analyzer and Data Server software.

5.1.1 Check Privileges

The following table outlines the privileges required to perform various operations using the Availability Manager Data Analyzer and Data Server.

Operation	Privileges Needed
Use the Data Analyzer only to monitor nodes (read-only access)	OPER, SYSPRV
Implement fixes from the Data Analyzer (write access)	OPER, SYSPRV
Use the Data Server	OPER

5.1.2 Evaluate Hardware, Software, and Disk Space Requirements

For current minimum hardware, software, and disk space requirements for installing and running the Availability Manager software, see the "Product Description" link on the following Availability Manager home page:

<http://www.hp.com/products/openvms/availabilitymanager>

In addition, the disk where you install the Combined kit must be an ODS-5 formatted disk (the installation disk). You can choose the installation disk with the /DESTINATION qualifier of the \$ PRODUCT command.

5.1.3 Back Up the System

On Alpha, VAX, and I64 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 in the *HP OpenVMS System Manager's Manual* and the *HP OpenVMS System Management Utilities Reference Manual*.

5.1.4 Convert the installation disk to ODS-5 format

If you need to convert the installation disk to ODS-5 format, follow these steps:

1. If you are converting the system disk, boot the system from another disk or the OpenVMS update media DVD or CD.
2. Mount the ODS-2 disk:

```
$ MOUNT/OVERRIDE_ID ddvn:
```
3. Convert the disk:

```
$ SET VOLUME/STRUCTURE_LEVEL=5 ddcn:
```
4. If you are converting the system disk, reboot the system, else mount the disk as it is usually mounted.

5.1.5 Steps to Take If You Have a Version Prior to Version 2.4

If you have a version of the Availability Manager prior to Version 2.4 on your system, perform the steps below. This is required because of the kit reorganization introduced in Version 2.4.

1. Copy the AVAILMAN.INI file

Before you remove old kits on the Data Analyzer, as described in Step 2, 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. Remove old kits

On OpenVMS systems, before installing the Availability Manager Version 3.0 software, you must remove old kits on your system. To do so, enter the following command at the DCL prompt:

```
$ PRODUCT REMOVE AVAIL_MAN
```

5.1.6 Step to Take If You Have a Version the Availability Manager Data Analyzer

Deinstall the Data Analyzer by entering the following command at the DCL prompt:

```
$ PRODUCT REMOVE AVAIL_MAN_ANA
```

5.2 Installing Patch Kits

Before installing the Combined Version 3.0 kit, you might need to install patch kits. These are described in the following list.

- You might need to install OpenVMS patch kits required by Java Version 1.5.0. To decide whether or not you need to do this, go to the following web site:

<http://www1.itrc.hp.com/service/patch/mainPage.do>

Look for the patch kits listed for OVMS Java Version 1.5.0.

- Java remedial kits on OpenVMS nodes

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 Alpha Version 7.3-2, the `VMS732_PTHREAD-***` Remedial Kit is listed as optional; however, this kit is required for the Availability Manager Version 3.0 because it is required by Java Version 1.5.0.

These Java patch kits allow you to run JRE 1.5.0, which is included in the Availability Manager Version 3.0 kit.

- Patch kit for all versions of OpenVMS on Data Analyzer, Data Server, and Data Collector nodes

Before installing the Availability Manager Data Collector, Data Analyzer, or Data Server on any version of OpenVMS, you must install the latest POLYCENTER Software Installation (PCSI) patch kit, which is available at the following URL:

<http://www1.itrc.hp.com/service/patch/mainPage.do>

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

5.3 Installing the Data Collector

The Data Collector must be installed for the Data Analyzer or Data Server to function correctly. For details, see Section 3.

5.4 Downloading the Software

Follow these steps to download the Data Analyzer and Data Server software:

1. Go to the HP Availability Manager home page:

<http://www.hp.com/products/openvms/availabilitymanager>

2. Click **Software Download**.
3. Complete the user survey, which allows you to proceed to the Download web page.
4. At a minimum, you need one Combined kit, depending on your environment and where you are installing the Data Analyzer or Data Server.

Click the following Data Analyzer kits:

OpenVMS Alpha: HP-AXPVMS-Avail_Man_ANA_SRVR-V0300-A-1.PCSI\$COMPRESSED
OpenVMS I64: HP-I64VMS-Avail_Man_ANA_SRVR-V0300-I-1.PCSI\$COMPRESSED

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

Read the Release Notes

The Availability Manager provides release notes in the software kit and at its Documentation link at the following URL:

<http://www.hp.com/products/openvms/availabilitymanager>

HP strongly recommends that you read the release notes before proceeding with the installation.

In the software kit on OpenVMS systems, you can obtain a text version of the *HP Availability Manager Version 3.0 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_ANA_SRVR
```

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

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

where:

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

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

5.5 Performing the Installation

To install the Data Analyzer on an OpenVMS system, enter a command similar to the following:

```
$ PRODUCT INSTALL AVAIL_MAN_ANA_SRVR/SOURCE=disk1:[directory1]  
/DESTINATION=disk2:[directory2]
```

where:

disk1:[directory1] refer to the disk and directory where the Combined kit resides. If you omit this qualifier, the command uses the default directory.

disk2:[directory2] refer to the disk and directory where the kit installs the Availability Manager Data Analyzer or Data Server software. If you omit this qualifier, the command uses the [VMS\$COMMON] directory on the system disk.

An example of a log file produced when you enter this command follows:

Log File—Installation of the Data Analyzer on an OpenVMS System

The following product has been selected:

HP AXPVMS AVAIL_MAN_ANA_SRVR V3.0-A 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.

HP AXPVMS AVAIL_MAN_ANA_SRVR V3.0-A: HP Availability Manager Data Analyzer Version 3.0

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Hewlett-Packard Company - Palo Alto, California

License and Product Authorization Key (PAK) Information

* This product does not have any configuration options.

Execution phase starting ...

The following product will be installed to destination:

HP AXPVMS AVAIL_MAN_ANA_SRVR V3.0-A DISK\$ALPHA_V732:[VMS\$COMMON.]

Portion done: 0%...10%...90%...100%

The following product has been installed:

HP AXPVMS AVAIL_MAN_ANA_SRVR V3.0-A Layered Product

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.

5.6 Interrupting and Restarting an Installation

Use the following procedure to stop and restart an 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.

5.7 Recovering from Errors

If the installation procedure fails for any reason, the following set of messages is displayed:

%POLYCENTER Software Installation utility

%INSTAL-E-INSFAIL, The installation of AVAIL_MAN_ANA_SRVR 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, see 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.

5.8 Starting the Data Collector on a Data Analyzer or Data Server Node

To run the Data Analyzer or Data Server on a workstation, you must start the Data Collector on that node. For instructions, see Section 3.8.

6 Operation Instructions

The following sections explain how to use OpenVMS and Windows commands to start the Availability Manager and how to modify memory allocation pool values. Additional sections explain how to run the Availability Manager and DECams concurrently.

6.1 OpenVMS Commands and Qualifiers

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

Note

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.

For the appropriate PGFLQUOTA settings, see Section 6.4.

6.1.1 Starting the Data Analyzer

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

```
$ AVAIL/ANALYZER
```

Note

In previous versions, the command to start the Data Analyzer was the following:

```
$ AVAIL/AVAIL
```

This command continues to exist for backward compatibility.

To start the Data Server, enter the following DCL command:

```
$ AVAIL/SERVER
```

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

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

You can also use the following qualifier with the AVAIL/SERVER command:

Qualifier	Description	Default Value of <i>n</i>
/PORT_NUMBER= <i>n</i>	IP port number	9819

where:

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

n is the IP port number used when the Data Analyzer is initiating a connection with the Data Server.

Use *k* or *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/ANALYZER/IHEAP=64M/MHEAP=128M
```

For large memory configurations or if a process running the Availability Manager is page faulting excessively or running sluggishly, 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 * MHEAP)
```

6.1.2 Starting DECamds

If you have DECamds installed, to start it, 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.

6.2 Windows Commands and Options

The following sections explain how to run the Data Analyzer or Data Server and how to modify memory allocation pool values on Windows systems.

6.2.1 Running the Application

Steps for running the application follow.

1. From the Windows **Start** menu, click **Programs**.
2. Click “HP Availability Manager.”
3. Follow either step A or B:
 - a. Click “Data Analyzer Startup.”
 - b. Click “Data Server Startup.”

The Availability Manager displays the Application window. (See the Getting Started chapter in the *HP OpenVMS Availability Manager User's Guide* or see Getting Started online help.)

6.2.2 Modifying Memory Allocation Pool (Heap) Values

For large-memory configurations, you might want to increase the heap sizes of the application for better performance. However, the default values are adequate for most installations.

To modify the memory allocation pool (heap) values for the Availability Manager Data Analyzer on Windows systems, you must modify the minimum and maximum heap default values in the Data Analyzer Startup shortcut command. (The shortcut value is stored in the **Programs** folder of the **Start** Menu folder.)

Follow these steps:

1. From the Start menu, select Programs and then go to HP Availability Manager.
2. Right-click the Data Analyzer Startup option.
3. Click **Properties**.
4. Click the **Shortcut** tab.
5. In the Target box:
 - To modify the minimum size of memory allocation pool, enter a new value for -Xms *x*. (*x* must be a value greater than or equal to the default value of 24 megabytes.)
 - To modify the maximum size of memory allocation pool, enter a new value for -Xmx *x*. (*x* must be a value greater than or equal to the default value of 60 megabytes.)
6. When you finish entering new values, click one of the following:
 - **OK** to make the new values take effect and to close the window.
 - **Apply** to make the new values take effect and to leave the window open.

6.3 Using DECamds and the Availability Manager Concurrently

The following sections discuss how to configure and start Data Collectors and Data Analyzers on OpenVMS systems for both DECamds and the Availability Manager. Availability Manager performance considerations are also discussed.

To install and run DECamds and the Availability Manager *concurrently*, complete the steps outlined in Table 2.

Table 2 Installing and Running DECamds and Availability Manager Concurrently

Step	Description	For more information, see...
1	Install DECamds.	See the DECamds installation instructions, which are available as a link from the Availability Manager Documentation page, which is a link on the following web page: http://www.hp.com/products/openvms/availabilitymanager Be sure to follow the instructions for migrating to a new DECamds setup in Section 8 of the DECamds Installation Instructions. These instructions are on the web page cited above.
2	Install the Availability Manager Data Collector and Data lyser	Section 3 through Section 3.8
3	Review the Availability Manager and DECamds configuration files.	Section 6.3.1
4	Make postinstallation edits.	Section 6.3.2
5	Make sure the Data Collector is started on all nodes on which it is installed.	Section 3.8
6	Use DCL commands to run DECamds and the Availability Manager.	Section 6.1

6.3.1 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:

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

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

6.3.1.1 Using Configuration Files Upgrading from versions of the Availability Manager released prior to OpenVMS Version 7.2 might cause problems when you start the Data Collector (AMD\$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.

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

File	Availability Manager	DECams
Installation directory	SY\$COMMON:[AMD\$AM]	SY\$COMMON:[AMDS]
Startup command procedure	SY\$STARTUP:AMD\$STARTUP	Same as Availability Manager
Driver file (contains passwords for DECams V7.1 and earlier)	n/a	AMD\$SYSTEM: AMD\$DRIVER_ ACCESS.DAT
Driver file (contains passwords for DECams V7.2 and later)	SY\$MANAGER: AMD\$DRIVER_ACCESS.DAT	Same as Availability Manager
Logical names command file (contains group names for DECams V7.1 and earlier)	n/a	AMD\$SYSTEM: AMD\$LOGICALS.COM
Logical names command file (contains group names for DECams V7.2 and later)	SY\$MANAGER: AMD\$LOGICALS.COM	Same as Availability Manager
Node-specific logical names file	SY\$MANAGER: AMD\$LOGICALS_ <node-name>.COM	Same as Availability Manager

6.3.1.2 Merging Files To use Data Collector passwords as well as group names and other configuration data from DECams Version 7.1 and earlier, you must merge versions of files for the following:

The passwords that the Data Collector (SY\$RMDRIVER) accepts from the Data Analyzer are stored as follows:

- For DECams Version 7.1 and earlier, passwords are stored in the AMD\$DRIVER_ACCESS.DAT file in the SY\$COMMON:[AMDS] directory.
- For later versions of DECams and for the Availability Manager, passwords are stored in SY\$MANAGER:AMD\$DRIVER_ACCESS.DAT.

For both products to use this file, follow these steps:

1. Merge any data you want to keep from the copy of AMD\$DRIVER_ACCESS.DAT in the SY\$COMMON:[AMDS] directory into the copy in the SY\$MANAGER directory.
2. Then remove the file from the SY\$COMMON:[AMDS] directory.

If you have both products installed and want both products to use the same AMD\$DRIVER_ACCESS.DAT file, make sure this file resides only in SY\$MANAGER.

For Group Names, Network Devices, and Other Configuration Data

The group names and other configuration data that the Data Collector (SYSS\$RMDRIVER) accepts from the Data Analyzer are stored as follows:

- For DECamds Version 7.1 and earlier, this data is stored in the AMDS\$LOGICALS.COM file in the SYSS\$COMMON:[AMDS] directory.
- For later versions of DECamds and for the Availability Manager, this data is stored in SYSS\$MANAGER:AMDS\$LOGICALS.COM.

For both products to use this file, follow these steps:

1. Merge any data you want to keep from the copy of AMDS\$LOGICALS.COM in the SYSS\$COMMON:[AMDS] directory into the copy in the SYSS\$MANAGER directory.
2. Then remove the file from the SYSS\$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 SYSS\$MANAGER.

Note

Version 2.3 introduced a way to specify node-specific settings found in AMDS\$LOGICALS.COM for a cluster environment. For example, you were able to set the AMDS\$DEVICE logical to a node's specific network adapter. The following subsection discusses this file, AMDS\$LOGICALS_<node-name>.COM.

6.3.1.3 Invocation Behavior of Customization Files You can place node-specific settings in SYSS\$MANAGER:AMDS\$LOGICALS_<node-name>.COM, where *node-name* is the name of the OpenVMS node in the cluster.

To create this file, copy AMDS\$LOGICALS.TEMPLATE to AMDS\$LOGICALS_<node-name>.COM, and edit the file to configure node-specific settings.

When SYSS\$STARTUP:AMDS\$STARTUP executes, it searches for and executes the following files, if they exist, in this order:

1. SYSS\$MANAGER:AMDS\$LOGICALS.COM
2. SYSS\$MANAGER:AMDS\$LOGICALS_<node-name>.COM

Either or both files can be present; however, if neither file is present, SYSS\$STARTUP:AMDS\$STARTUP outputs an error message and exits.

6.3.2 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 Versions 7.2, 7.3, 8.2, 8.3, and all variants of these versions.

Two of the file edits are optional, and one is required, as explained in the following steps:

1. Follow the instructions in Section 3.7.1 and Section 3.7.2.
2. To start the Data Collector when the system boots, you must add the following line to the SYSS\$MANAGER:SYSTARTUP_VMS.COM file:

```
@SYSS$STARTUP:AMDS$STARTUP START
```

6.4 Availability Manager Performance Considerations

To run Availability Manager applications most efficiently, you need to check a number of settings. For example, before running the application from a particular account, verify that the following account settings are at least the minimum quotas:

Account	Quota
PGFLQUO	2,100,000 pagelets if you use the default for MHEAP. Add 2,000 pagelets for each MB you increase MHEAP above the default. (See Section 6.1.1.)
BYTLM	2,000,000 bytes or greater
WSEXTENT	16,384

Also, verify that the following SYSGEN parameter setting is at least the minimum quota:

Parameter	Quota
WSMAX	16,384

The Java Runtime Environment provides a tool to help you set the necessary account and system parameters correctly. You can access and run this tool from the following location:

```
@ SYS$COMMON:[AMD$AM.JRE.LIB] JAVA$CHECK_ENVIRONMENT
```

Note, however, that the values that this tool generates are only recommendations.

For a detailed discussion of setting system parameters for improved performance, see the section “Setting Process Quotas for Better Performance” in the *5.0.x User Guide for OpenVMS Alpha and I64* at the following URL:

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