

HP Fortran for
OpenVMS Integrity Servers

Installation Guide

October 2007

This guide describes how to install HP Fortran on the HP OpenVMS Integrity Servers operating system.

Revision/Update Information:	This is a revised manual.
Operating System:	OpenVMS for Integrity Servers Version 8.2-1 or higher
Software Version:	HP Fortran for OpenVMS Integrity Servers Version 8.2

Hewlett-Packard Company
Palo Alto, California

© Copyright 2007 Hewlett-Packard Development Company, L.P.

Confidential computer software. Valid license from HP required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

The information contained herein is subject to change without notice. The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Intel and Itanium are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

Printed in the US

Contents

Preface.....	v
1 Preparing for HP Fortran Installation	
1.1 What You Need to Know First.....	1-1
1.2 Reading the Release Notes.....	1-2
1.3 Required Operating System Components.....	1-2
1.4 License Registration.....	1-3
1.5 Installation Procedure Requirements.....	1-4
1.5.1 Installation Account Privileges and Disk Space.....	1-4
1.5.2 System Parameters.....	1-5
1.5.2.1 Calculating Values for GBLPAGES and GBLSECTIONS.....	1-5
1.5.2.2 Changing System Parameter Values with AUTOGEN.....	1-6
1.6 Backing Up Your System Disk.....	1-7
1.7 Recovering from Installation Errors.....	1-7
2 Installing HP Fortran	
2.1 Installation Steps	2-1
3 After Installing HP Fortran	
3.1 Running the Installation Verification Procedure Separately.....	3-1
3.2 Modifying the System-Wide Startup Command Procedure.....	3-2
3.3 Making the Product Usable on a VMScLuster.....	3-2
3.4 Making the FORTRAN Command Available After Installation.....	3-3
3.5 Setting User Account Quotas.....	3-4

3.6	Enhancing HP Fortran Performance.....	3-4
3.7	Removing HP Fortran.....	3-5
3.8	Troubleshooting the Installation.....	3-5
3.9	Getting Help and Reporting Problems.....	3-6

A Files Added or Updated During Installation

B Installation Messages

Tables

1-1	Disk Space Requirements.....	1-4
-----	------------------------------	-----

This guide explains how to install HP Fortran on the OpenVMS Integrity Servers operating system.

Keep this guide with your distribution kit. You will need it to install maintenance updates or to reinstall HP Fortran for any other reason.

Intended Audience

This guide is intended for system managers who install HP Fortran.

Document Structure

This guide contains the following chapters and appendixes:

- o Chapter 1 describes procedures that you must complete before installing HP Fortran.
- o Chapter 2 describes how to install HP Fortran.
- o Chapter 3 describes post-installation considerations.
- o Appendix A lists the files installed.
- o Appendix B lists the installation messages.

Related Documents

In addition to this guide, the HP Fortran documentation set includes the following:

- o HP Fortran for OpenVMS Language Reference Manual
- o HP Fortran for OpenVMS User Manual
- o HP Fortran online release notes

For the location of the release notes, see Section 1.2.

Once installed, you can use HP Fortran online HELP, which describes the command qualifiers, explains run-time messages, and provides a quick-reference summary of language topics. To use online HELP, enter HELP followed by the command name. For example:

```
$ HELP FORTRAN
```

The following manuals in the HP OpenVMS documentation set contain information relevant to installing software:

- o HP OpenVMS License Management Utility Manual
- o HP OpenVMS System Manager's Manual, which includes:
 - o HP OpenVMS System Manager's Manual, Volume 1: Essentials
 - o HP OpenVMS System Manager's Manual, Volume 2: Tuning, Monitoring, and Complex Systems
- o Guide to OpenVMS Performance Management

For help understanding OpenVMS error messages, see the OpenVMS System Messages and Recovery Procedures Reference Manual or the online HELP/MESSAGE facility.

Reader's Comments

HP welcomes your comments on this manual. You can send comments by email to:

fortran@hp.com

Be sure to tell us the name of the manual and the operating system that you are using (that is, OpenVMS on Integrity Servers) in the subject line or content of your email.

HP Fortran Web Page

The HP Fortran web page is located at:

<http://www.hp.com/go/fortran>

This Web site contains information about software patch kits, example programs, and additional product information.

Conventions

The following typographic conventions might be used in this manual:

Ctrl/x A sequence such as Ctrl/x indicates that you must hold down the key labeled Ctrl while you press another key or a pointing device button.

PF1 x A sequence such as PF1 x indicates that you must first press and release the key labeled PF1 and then press and release another key or a pointing device button.

<Return> In examples, a key name enclosed in a box indicates that you press a key on the keyboard. (In text, a key name is not enclosed in a box.)

In the HTML version of this document, this convention appears as brackets, rather than a box.

. . . A horizontal ellipsis in examples indicates one of the following possibilities:

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

.
. A vertical ellipsis indicates the omission of items from a code example or command format; the items are omitted because they are not important to the topic being discussed.

() In command format descriptions, parentheses indicate that you must enclose choices in parentheses if you specify more than one.

- [] In command format descriptions, brackets indicate optional choices. You can choose one or more items or no items. Do not type the brackets on the command line. However, you must include the brackets in the syntax for OpenVMS directory specifications and for a substring specification in an assignment statement.
- | In command format descriptions, vertical bars separate choices within brackets or braces. Within brackets, the choices are optional; within braces, at least one choice is required. Do not type the vertical bars on the command line.
- { } In command format descriptions, braces indicate required choices; you must choose at least one of the items listed. Do not type the braces on the command line.
- bold type** Bold type represents the introduction of a new term. It also represents the name of an argument, an attribute, or a reason.
- italic type* Italic type indicates important information, complete titles of manuals, or variables. Variables include information that varies in system output (Internal error number), in command lines (/PRODUCER=name), and in command parameters in text (where dd represents the predefined code for the device type).
- UPPERCASE TYPE Uppercase type indicates a command, the name of a routine, the name of a file, or the abbreviation for a system privilege.
- A hyphen at the end of a command format description, command line, or code line indicates that the command or statement continues on the following line.

numbers All numbers in text are assumed to be decimal unless otherwise noted. Nondecimal radices-binary, octal, or hexadecimal-are explicitly indicated.

In this manual, some version numbers are given as Vn.n. When you install HP Fortran, the actual version numbers appear on your screen.

Preparing for HP Fortran Installation

This chapter describes:

- o Section 1.1, What You Need to Know First
- o Section 1.2, Reading the Release Notes
- o Section 1.3, Required Operating System Components
- o Section 1.4, License Registration
- o Section 1.5, Installation Procedure Requirements
- o Section 1.6, Backing Up Your System Disk
- o Section 1.7, Recovering from Installation Errors

1.1 What You Need to Know First

The HP OpenVMS Software Product Library CD-ROM (media CD-ROM) set provides the following files:

- o HP Fortran installation kit files
- o HP Fortran documentation files, including this Installation Guide and other files
- o Online CD-ROM documentation files in the [README] directory on the first media CD-ROM, including a CD-ROM user guide and master list of CD-ROM products
- o A CDMENU utility

To determine whether the appropriate media CD-ROM is already mounted on your system, contact the appropriate system manager.

1.2 Reading the Release Notes

You can extract the HP Fortran release notes to a file and type or print them before starting the HP Fortran installation. The HP Fortran release notes are also installed on your system after installation.

For information about using the CDMENU utility and locating the appropriate media CD-ROM, see the first few steps in Section 2.1.

For information about reading the online release notes before installation, use the PRODUCT EXTRACT RELEASE_NOTES command described in Section 2.1 (step 6).

HP strongly recommends that you read the release notes before installing HP Fortran. They contain information about changes to the installation and use of HP Fortran, such as the minimum version of the HP OpenVMS operating system required for this release of HP Fortran.

After installation, the release notes are installed as text and PostScript form in:

```
SYS$HELP:FORTRAN.RELEASE_NOTES  
SYS$HELP:FORTRAN_RELEASE_NOTES.PS
```

1.3 Required Operating System Components

HP Fortran Version 8.2 requires HP OpenVMS Integrity Servers Version 8.2-1 or higher.

Future HP Fortran releases may require higher versions of the operating system, as described in the release notes.

The HP OpenVMS operating system comes with a variety of support options (or components). To use HP Fortran, your system should be running a version of the HP OpenVMS operating system that includes the base component and the following other components:

- o Programming support
- o Utilities

For a complete list of the required components, see the HP Fortran Software Product Description (SPD) on the media CD-ROM.

1-2 Preparing for HP Fortran Installation

1.4 License Registration

Before you install and run HP Fortran Version 8.2 on a newly-licensed node (or cluster), you must first register a License Product Authorization Key (License PAK), using the License Management Facility (LMF).

The specific LMP product names used by HP Fortran are:

- o FORTRAN or FORTRAN90: Unlimited (Alpha only) or Personal-Use License (Alpha only)
- o FORTRAN-USER or FORTRAN90-USER: Concurrent-Use License

The HP Fortran compiler will accept either a FORTRAN(-USER) or FORTRAN90(-USER) PAK. It is not required that both PAKs be loaded.

The License PAK might be shipped along with the kit if you ordered the license and media together; otherwise, it is shipped separately to a location based on your license order. If you are installing HP Fortran as an update on a node or cluster already licensed for this software, you have already completed the License PAK registration requirements.

If you are installing prerequisite or optional software along with HP Fortran, review the PAK status and install the PAKs for any prerequisite or optional software before you install HP Fortran.

You must register and load your license for HP Fortran before you start the installation in order to run the Installation Verification Procedure (IVP) and use the software.

Log in to a privileged account, such as the system manager's account, SYSTEM. You have a choice of two ways to register a license:

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

If you plan to use HP Fortran on more than one node in a cluster, you will need to perform a license load on the other nodes after you complete this installation. See Section 3.3.

For complete information on using LMF, see the HP OpenVMS License Management Utility Manual.

1.5 Installation Procedure Requirements

After you have registered and loaded the license PAK and read the appropriate parts of this Installation Guide, the installation takes approximately 2 to 5 minutes, depending on your system configuration.

1.5.1 Installation Account Privileges and Disk Space

To install HP Fortran, you must be logged in to an account that has at least the following privileges enabled:

- o BYPASS
- o CMKRNL
- o SYSLCK
- o SYSPRV

Table 1-1 lists HP Fortran's requirements for free disk storage space.

Table_1-1_Disk_Space_Requirements_____

Kit_Component_____	During Installation_____	After_Installation_____
HP Fortran compiler_____	62,000 blocks_____	60,000 blocks

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

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

1-4 Preparing for HP Fortran Installation

1.5.2 System Parameters

Installing HP Fortran requires certain system parameter settings.

The minimum number of free global pagelets (512-byte subpage unit) and global sections needed is eleven (11) global sections and approximately 20,000 contiguous free global pagelets, plus a sufficient number of contiguous free global pagelets to contain the file `SYS$LIBRARY:DCLTABLES.EXE`. (See Section 1.5.2.1.)

These values represent the number of free global pagelets and global sections required for the installation, not the total number you need to run your system and other software.

Note

If you do not ensure that your system has the necessary global pagelets and global section `SYSGEN` parameters for the installation, the DCL tables can become corrupted in some situations.

1.5.2.1 Calculating Values for `GBLPAGES` and `GBLSECTIONS`

To install and run HP Fortran, you must have sufficient free global pagelets and global sections.

Enter the following DCL command to determine the number of global pagelets required by `SYS$LIBRARY:DCLTABLES.EXE`:

```
$ DIRECTORY/SIZE SYS$LIBRARY:DCLTABLES.EXE
```

This command returns the size (in blocks) of `SYS$LIBRARY:DCLTABLES.EXE`. As an approximation, use this figure as the number of global pagelets for the file.

You can use the `WRITE` command with the `F$GETSYI` lexical function to find the number of free contiguous global pagelets and free global sections. The following example shows how to get this information at your terminal (the default for `SYS$OUTPUT`):

```
$ WRITE SYS$OUTPUT F$GETSYI("CONTIG_GBLPAGES")
15848
$ WRITE SYS$OUTPUT F$GETSYI("FREE_GBLSECTS")
24
```

If the value of free global pagelets or global sections is less than the required value (see Section 1.5.2), you must increase the system parameter setting.

Section 1.5.2.2 describes the procedures for increasing these values using AUTOGEN.

1.5.2.2 Changing System Parameter Values with AUTOGEN

If you do not have enough free global pagelets or free global sections to install HP Fortran, you can use the AUTOGEN command procedure to increase the GBLPAGES or GBLSECTIONS system parameters.

AUTOGEN automatically adjusts values for parameters that are associated with the values you reset manually. To change system parameters with AUTOGEN, edit the following file:

```
SYS$SYSTEM:MODPARAMS.DAT
```

To change a parameter value listed in this file, delete the current value associated with that parameter and enter the new value.

To add a new parameter, add a line to the file that specifies the name of the parameter and its value. To modify incremental parameters such as GBLPAGES and GBLSECTIONS, use the ADD_ prefix.

After you make all your changes, exit from the editor.

When you execute the AUTOGEN procedure to recalculate your system parameters, AUTOGEN uses the information in your MODPARAMS.DAT file and also can automatically adjust some of the SYSGEN parameters based on the consumption of resources since the last reboot.

For information about using AUTOGEN and its command-line parameters, see the HP OpenVMS System Manager's Manual, Volume 2: Tuning, Monitoring, and Complex Systems.

1.6 Backing Up Your System Disk

HP recommends that you do a system disk backup before installing any software. Use the backup procedures that are established at your site. For details on performing a system disk backup, see the Using VMS BACKUP manual.

1.7 Recovering from Installation Errors

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

- o The operating system version is incorrect.
- o The privileges or disk space for successful installation are insufficient.

For descriptions of error messages generated by these and related conditions, see the HP OpenVMS documentation on system messages and software installation or the online HELP/MESSAGE command. Take the appropriate action described in the message.

For information on system requirements for installing HP Fortran, see Section 1.3.

For a list of problems that can cause an unsuccessful installation, see Section 3.8.

To report a problem to HP, see Section 3.9.

Installing HP Fortran

This chapter describes how to install HP Fortran.

2.1 Installation Steps

The installation procedure loads HP Fortran product distribution files on to the system disk on the system where you perform the installation.

Follow these steps to install HP Fortran from the HP OpenVMS Software Products Library CD-ROM set:

1. Log in to a privileged account on the system (or cluster) where you will install HP Fortran. This account must have the following privileges enabled:
 - o BYPASS
 - o CMKRNL
 - o SYSLCK
 - o SYSPRV

If your process has the SETPRV privilege, you can enable these privileges by entering the following command:

```
$ SET PROCESS/PRIVILEGE=(BYPASS,CMKRNL,SYSLCK,SYSPRV)
```

To check whether your process has these privileges enabled, enter the following command:

```
$ SHOW PROCESS/PRIVILEGES
```

2. To obtain the kit directory location of the HP Fortran product distribution files on the appropriate HP OpenVMS Software Product Library CD-ROM (media CD-ROM), do one of the following:
 - o Use the CDMENU utility provided on the media CD-ROM.

- o View the CD-ROM master index file on the media CD-ROM.
- o Contact the appropriate system manager.

For information about using the CDMENU utility and the CD-ROM files on the media CD-ROM set, see the media CD-ROM user guide, which accompanies the media CD-ROM distribution kit. The media CD-ROM user guide and CD-ROM master index file are provided as online files in the [README] directory on the first media CD-ROM.

3. To determine whether the appropriate media CD-ROM is already mounted on your system, enter the following command:

```
$ SHOW DEVICE DKA400
```

Note

DKA400 is the device name used in examples in this document to show where the appropriate media CD-ROM has been mounted.

4. If the media CD-ROM containing the HP Fortran installation files is not mounted, either contact the appropriate system manager or insert the appropriate media CD-ROM (write down the volume label) into an available CD-ROM drive. Enter the appropriate MOUNT command to mount the media CD-ROM (omit the /FOREIGN qualifier), such as the following:

```
$ MOUNT DKA400 label
```

Where label is the volume label of that media CD-ROM.

5. To check that you have located the correct CD-ROM device and directory, use the following DIRECTORY command:

```
$ DIRECTORY *.PCSI*
```

```
Directory DKA400:[dir.subdir]
HP-I64VMS-FORTRAN-Vnnnn-x-1.PCSI$COMPRESSED
HP-I64VMS-FORTRAN-Vnnnn-x-1.PCSI$COMPRESSED_ESW
Total of 2 files.
```

6. To extract the HP Fortran online release notes before you install HP Fortran, enter the following command:

```
$ PRODUCT EXTRACT RELEASE_NOTES FORTRAN /SOURCE=disk:[dir]
```

In this command, disk:[dir] is the specification of the disk and directory containing the product installation files. If your process default directory is the directory on the CD-ROM that contains the HP Fortran product distribution files, you can specify the /SOURCE directory as /SOURCE=[].

You can view or print the file FORTRAN.RELEASE_NOTES before you continue with the installation (next command). For example:

```
$ TYPE/PAGE FORTRAN.RELEASE_NOTES
```

7. To install the HP Fortran compiler, enter the following PRODUCT INSTALL command:

```
$ PRODUCT INSTALL FORTRAN /SOURCE=disk:[dir]
```

Where disk:[dir] is the specification of the disk and directory containing the product installation files.

The following text appears:

```
1 - HP I64VMS FORTRAN V8.2           Layered Product
2 - All products listed above
? - Help
E - Exit
```

Choose one or more items from the menu: 1

The following product has been selected:

```
HP I64VMS FORTRAN V8.2           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.

HP I64VMS FORTRAN V8.2: HP Fortran for OpenVMS Integrity Servers

Copyright 2007 Hewlett-Packard Development Company, L.P.

This software product is sold by Hewlett-Packard Company

PAKs used: FORTRAN or FORTRAN-USER

Installing HP Fortran 2-3

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

Copyright 2007 Hewlett-Packard Development Company, L.P.

HP, the HP logo, Alpha and OpenVMS are trademarks of Hewlett-Packard Development Company, L.P. in the U.S.

and/or

other countries.

Confidential computer software. Valid license from HP required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software,

Computer

Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

Do you want to review the options? [NO]

Execution phase starting ...

The following product will be installed to destination:
HP I64VMS FORTRAN V8.2 DISK:[VMS\$COMMON.]

Portion done: 0%...80%...90%...100%

The following product has been installed:
HP I64VMS FORTRAN V8.2 Layered Product

FORTRAN V8.2 ...

%PCSI-I-IVPEXECUTE, executing test procedure for HP I64VMS
%PCSI-I-IVPSUCCESS, test procedure completed successfully

HP I64VMS FORTRAN V8.2: HP Fortran for OpenVMS Integrity Servers

nodes

Execute SYS\$STARTUP:FORT\$STARTUP.COM on all other VMScluster

Type HELP FORTRAN Release_notes for release notes location

created

The compiler is now available from the command line of newly

processes

currently

To enable access to the compiler from the command line of a
running process (such as this one), execute:
SET COMMAND/TABLE=SYS\$COMMON:[SYSLIB]DCLTABLES

Insert the following lines in SYS\$MANAGER:SYSTARTUP_VMS.COM:
@SYS\$STARTUP:FORT\$STARTUP

\$

8. Installation takes about 2-5 minutes (depending on your

system. When installation has been completed, the DCL \$ prompt reappears.

2-4 Installing HP Fortran

9. To obtain a list of files installed, enter the following command:

```
$ PRODUCT SHOW OBJECT /PRODUCT=FORTRAN
```

After Installing HP Fortran

You can perform the following tasks after HP Fortran is installed:

- o Section 3.1, Running the Installation Verification Procedure Separately
- o Section 3.2, Modifying the System-Wide Startup Command Procedure
- o Section 3.3, Making the Product Usable on a VMScluster
- o Section 3.4, Making the FORTRAN Command Available After Installation
- o Section 3.5, Setting User Account Quotas
- o Section 3.6, Enhancing HP Fortran Performance
- o Section 3.7, Removing HP Fortran
- o Section 3.8, Troubleshooting the Installation
- o Section 3.9, Getting Help and Reporting Problems

3.1 Running the Installation Verification Procedure Separately

The HP Fortran Installation Verification Procedure (IVP) runs automatically during HP Fortran installation.

If system problems occur, you should run the HP Fortran IVP separately to ensure the integrity of the installed files. To run the IVP, enter the following command:

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

If any problems are encountered, a message such as the following appears:

```
HP Fortran 95 TEST FAILED
```


For information about what to do if you have trouble, see Section 3.8.

3.2 Modifying the System-Wide Startup Command Procedure

Add the following line to the system-wide startup file (if you have not done so previously), such as the file `SYS$MANAGER:SYSTARTUP_VMS.COM` or a command procedure that it invokes:

```
$ @SYS$STARTUP:FORT$STARTUP
```

This command procedure installs HP Fortran images in memory and performs related actions.

The Fortran startup procedure line does not take any parameters (arguments).

3.3 Making the Product Usable on a VMScluster

If you want to run HP Fortran on multiple nodes of a VMScluster, first check to see that you have the appropriate software license (see Section 1.4). Then perform the following steps after you install HP Fortran:

1. Issue the `LICENSE LOAD` command, as described in the HP OpenVMS License Management Utility Manual, to activate the license on each node in the VMScluster on which HP Fortran is to be executed.
2. The commands in this step should be executed on all cluster nodes, whether or not they are licensed to use HP Fortran; failure to do so may cause unexpected errors for users.

Note

If you are using a dual-architecture heterogeneous cluster, before executing these commands, make sure the appropriate logical names have been set to define the scope of the `SYSMAN DO` commands. For more information, see the HP OpenVMS System Manager's Manual.

3. While logged in as SYSTEM, or as another username that has the CMKRNL and SYSPRV privileges enabled, use the OpenVMS SYSMAN utility to make the new versions of shareable images available, as follows:

```
$ RUN SYS$SYSTEM:SYSMAN
SYSMAN> SET ENVIRONMENT/CLUSTER
%SYSMAN-I-ENV, current command environment:
    Clusterwide on local cluster
    Username SYSTEM      will be used on nonlocal nodes
SYSMAN> DO INSTALL REPLACE SYS$LIBRARY:DCLTABLES.EXE
%SYSMAN-I-OUTPUT, command execution on node NODE1
%SYSMAN-I-OUTPUT, command execution on node NODE2
```

If any of the INSTALL commands fail, reboot the affected node.

The SYSMAN utility will cause each DO command to be executed on all nodes of the local cluster.

4. The SYS\$STARTUP:FORT\$STARTUP.COM file installs the compilers as a known image. This command procedure file should be executed on all cluster nodes using the following DO command:

```
SYSMAN> DO @SYS$STARTUP:FORT$STARTUP
%SYSMAN-I-OUTPUT, command execution on node NODE1
%SYSMAN-I-OUTPUT, command execution on node NODE2
```

5. Finally, exit from SYSMAN.

```
SYSMAN> EXIT
$
```

3.4 Making the FORTRAN Command Available After Installation

HP Fortran is now installed and can be invoked by all users with the FORTRAN command.

The installation procedure modifies the DCL command table so that the FORTRAN commands are recognized and processed. However, the previous command table is still in effect for those users who are currently logged in.

All logged-in users who want to use the FORTRAN command must log out and log in again, or use the following DCL command:

```
$ SET COMMAND /TABLES=SYS$LIBRARY:DCLTABLES
```

3.5 Setting User Account Quotas

No special privileges are needed to use HP Fortran. There is no benefit from installing the compilers with privileges.

To use HP Fortran, a user account does not need to meet any special quota requirements. However, for users who will be compiling very large programs (many program units compiled together) or running very large performance-critical programs, consider the adjusting working set (WSDEF, WSQUOTA, WSEXTENT) and page file (PGFLQUOTA) account quotas to improve performance.

Use the OpenVMS Authorize Utility from a suitably privileged account to change the process quotas in the user authorization file (UAF). Some sites may restrict the use of the Authorize Utility to certain accounts or people.

After the quotas for the account have been changed, the user should log out of the account and log in again for the new quotas to take effect.

For information on using the Authorize Utility, see the HP OpenVMS System Manager's Manual, Volume 1: Essentials.

3.6 Enhancing HP Fortran Performance

After you install HP Fortran, you might want to adjust your system to enhance performance or lower the use of some system resources.

If users will be compiling very large programs (many program units compiled together) or running very large performance-critical programs, consider the following:

- o Check that adequate page file space exists. Large programs need more virtual memory during compilation and execution than small programs. Use the INSTALL command to extend an existing page file or create one or more new page files.

3-4 After Installing HP Fortran

- o The SYSGEN parameter virtual page count is related to the total amount of page file space. If you create more page file space, review the virtual page count parameter and increase it if necessary.
- o The SYSGEN parameter maximum working set (WSMAX) might also be checked if a larger process working set is needed.

For more information on page file use and SYSGEN parameters, see the HP OpenVMS System Manager's Manual, Volume 2: Tuning, Monitoring, and Complex Systems. For information about system tuning and performance investigation, see the Guide to OpenVMS Performance Management.

3.7 Removing HP Fortran

To remove HP Fortran from the system, use the following command:

```
$ PRODUCT REMOVE FORTRAN
```

After removing HP Fortran from the system, remove the call to SYS\$STARTUP:FORT\$STARTUP.COM from your system startup procedure.

3.8 Troubleshooting the Installation

If your installation is not successful, check for the following possible problems:

- o The appropriate PAK must be available to the user performing the installation. The PAK must be registered and loaded before you can install HP Fortran. For information about registering a PAK, see Section 1.4. Then reinstall HP Fortran.
- o The DCLTABLES.EXE file should be in the SYS\$COMMON:[SYSLIB] directory. There should not be a copy of DCLTABLES.EXE in SYS\$SPECIFIC:[SYSLIB].

If a copy of DCLTABLES.EXE is found in a SYS\$SPECIFIC root, rename it to DCLTABLES.OLD, do an INSTALL REPLACE SYS\$LIBRARY:DCLTABLES, then reinstall HP Fortran.

After Installing HP Fortran 3-5

- o The system logical name SYSSYSROOT should not be modified from the preset definition provided by the HP OpenVMS operating system.

3.9 Getting Help and Reporting Problems

If an error occurs while HP Fortran is in use and you believe the error is caused by a problem with HP Fortran, do one of the following:

- o If you have a Software Product Services Support Agreement, contact HP Global Services by telephone (in the United States, 1-800-354-9000) or by using the electronic means provided with your support agreement.
- o If you do not have a service contract, you can arrange for per-call support.

When you initially contact HP Global Services, indicate the following:

- o The name and version number of the operating system (HP OpenVMS Integrity Servers) you are using
- o The name (HP Fortran) and version number of HP Fortran you are using
- o The hardware system you are using (such as a model number)
- o How critical the problem is
- o A very brief description of the problem (one sentence if possible)

When you submit information electronically or are speaking on the phone to the appropriate support specialist, you can provide more detailed information. This includes the specific commands used to compile and link the program, the error messages displayed, and relevant detailed information (possibly including source program listings). Try to narrow the cause of the problem to a specific source module or lines of code.

Support personnel may ask for additional information, such as listings of any command files, INCLUDE files, relevant data files, and so forth. If the program is longer than

50 lines, submit a copy of it electronically or provide machine-readable media.

Experience shows that problem reports sometimes do not contain enough information to duplicate or identify the problem. Concise, complete information helps HP give accurate and timely service to software problems.

To obtain information about purchasing HP support services, contact your local sales representative.

You can also send comments and questions about the HP Fortran product to the following email address: fortran@hp.com. Be sure to specify the operating system that you are using, (that is, OpenVMS Integrity Servers), in the subject line or content of your email.

Files Added or Updated During Installation

This appendix lists the files that are added to or updated on your OpenVMS system during installation. Note that some files might not be installed depending on selected options or your system's configuration or operating system version.

The files are:

```
[SYS$STARTUP]FORT$STARTUP.COM
[SYSEXE]F90$MAIN.EXE
[SYSHLP]FORTRAN.RELEASE_NOTES
[SYSHLP]FORTRAN_RELEASE_NOTES.PS
[000000]F90.HLP
[000000]FORTRAN.HLP
[000000]F90.CLD
[000000]FORT$FORTRAN-F95.CLD
[SYSLIB]FORSYSDEF.TLB
[SYSLIB]FORSYSDEF-V83R.TLB
[SYSLIB]FORT$FORTRAN-F95.CLD
[SYSMMSG]F90$MSG.EXE
[SYSTEST]FORT$IVP.COM
```

Installation Messages

This appendix lists the more common diagnostic messages you might see during product installation. If you encounter a message not shown here, use the HELP/MESSAGE command to display information about it. If you add the /LOG qualifier to the PRODUCT INSTALL command, many additional informational messages will be displayed, which can be ignored.

INSTALLERR, error executing DCL INSTALL command

Explanation: The POLYCENTER Software Installation utility installs a file as a known image by having the DCL command INSTALL execute in a subprocess. The INSTALL command failed.

User Action: Take action based on the accompanying messages. If you specify the /TRACE qualifier when you retry the operation, you can view the command sent to the subprocess.

IVPFAILURE, test procedure completed with an error status

Explanation: The installation verification test procedure for the product completed with an exit status that indicates a failure. If you were executing a PRODUCT INSTALL command, the product has been completely installed, but its test procedure failed.

User Action: Take action based on the accompanying messages. If you specify the /TRACE qualifier when you retry the operation, you can view the commands sent to the subprocess and the output generated when these commands are executed.

RETAIN, 'object' 'object-name' was not replaced because 'object' from kit does not have higher generation number

Explanation: During installation of a software product (or a patch to a software product), the specified object (either a file or a library module) was not copied from the kit to the destination disk. The installation utility found an object with the same name already installed on the destination disk and that object's generation (sequencing) number was the same or greater than the generation number of the object from the kit. Therefore, the object with the latest generation number (the previously installed item) was left on your destination disk.

This condition typically occurs when you install multiple patches or updates to the same product. The installation utility performs conflict detection and resolution so that your system will always retain the most current files even if updates are not installed in chronological order.

User Action: None.