

# VSI OpenVMS

## VSI Fortran for OpenVMS Integrity Servers Installation Guide

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

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**Software Version:** VSI Fortran Version 8.3-3 for OpenVMS

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# VSI Fortran for OpenVMS Integrity Servers Installation Guide



VMS Software

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|  |           |
|--|-----------|
| <b>Preface .....</b>   | <b>v</b>  |
| 1. About VSI .....   | v         |
| 2. Intended Audience .....   | v         |
| 3. Document Structure .....  | v         |
| 4. Related Documents .....   | v         |
| 5. VSI Encourages Your Comments .....                                      | vi        |
| 6. Conventions .....   | vi        |
| <b>Chapter 1. Preparing for VSI Fortran for OpenVMS Installation .....</b> | <b>1</b>  |
| 1.1. What You Need to Know First .....                                     | 1         |
| 1.2. Reading the Release Notes .....                                       | 1         |
| 1.3. Required Operating System Components .....                            | 2         |
| 1.4. License Registration .....  | 2         |
| 1.5. Installation Procedure Requirements .....                             | 3         |
| 1.5.1. Installation Account Privileges and Disk Space .....                | 3         |
| 1.5.2. System Parameters .....   | 3         |
| 1.5.2.1. Calculating Values for GBLPAGES and GBLSECTIONS .....             | 3         |
| 1.5.2.2. Changing System Parameter Values with AUTOGEN .....               | 4         |
| 1.6. Backing Up Your System Disk .....                                     | 4         |
| 1.7. Recovering from Installation Errors .....                             | 4         |
| <b>Chapter 2. Installing VSI Fortran for OpenVMS .....</b>                 | <b>7</b>  |
| 2.1. Installation Steps .....  | 7         |
| <b>Chapter 3. After Installing VSI Fortran for OpenVMS .....</b>           | <b>11</b> |
| 3.1. Running the Installation Verification Procedure Separately .....      | 11        |
| 3.2. Modifying the System-Wide Startup Command Procedure .....             | 11        |
| 3.3. Making the Product Usable on a VMScluster .....                       | 12        |
| 3.4. Making the FORTRAN Command Available After Installation .....         | 12        |
| 3.5. Setting User Account Quotas .....                                     | 13        |
| 3.6. Enhancing VSI Fortran for OpenVMS Performance .....                   | 13        |
| 3.7. Removing VSI Fortran .....  | 13        |
| 3.8. Troubleshooting the Installation .....                                | 14        |
| <b>Appendix A. Files Added or Updated During Installation .....</b>        | <b>15</b> |
| <b>Appendix B. Installation Messages .....</b>                             | <b>17</b> |



# Preface

This guide explains how to install VSI 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 VSI Fortran for OpenVMS for any other reason.

## 1. About VSI

VMS Software, Inc. (VSI) is an independent software company licensed by Hewlett Packard Enterprise to develop and support the OpenVMS operating system.

VSI seeks to continue the legendary development prowess and customer-first priorities that are so closely associated with the OpenVMS operating system and its original author, Digital Equipment Corporation.

## 2. Intended Audience

This guide is intended for system managers who install VSI Fortran for OpenVMS.

## 3. Document Structure

This guide contains the following chapters and appendixes:

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

## 4. Related Documents

In addition to this guide, the VSI Fortran for OpenVMS documentation set includes the following:

- *VSI Fortran for OpenVMS Language Reference Manual*
- *VSI Fortran for OpenVMS User Manual*
- VSI Fortran for OpenVMS online release notes

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

Once installed, you can use VSI 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 VSI OpenVMS documentation set contain information relevant to installing software:

- *VSI OpenVMS License Management Utility Guide*
- *VSI OpenVMS System Manager's Manual*, which includes:
- *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.

## 5. VSI Encourages Your Comments

You may send comments or suggestions regarding this manual or any VSI document by sending electronic mail to the following Internet address: <docinfo@vmssoftware.com>. Users who have OpenVMS support contracts through VSI can contact <support@vmssoftware.com> for help with this product. Users who have OpenVMS support contracts through HPE should contact their HPE Support channel for assistance.

## 6. Conventions

The following product names may appear in this manual:

- OpenVMS Industry Standard 64 for Integrity Servers
- OpenVMS I64
- I64

All three names — the longer form and the two abbreviated forms — refer to the version of the OpenVMS operating system that runs on the Intel® Itanium® architecture.

The following conventions might be used in this manual:

|                   |  |
|-------------------|--|
| Ctrl/ <i>x</i>    | A sequence such as Ctrl/ <i>x</i> indicates that you must hold down the key labeled Ctrl while you press another key or a pointing device button.  |
| PF1 <i>x</i>      | A sequence such as PF1 <i>x</i> indicates that you must first press and release the key labeled PF1 and then press and release another key or a pointing device button.  |
| ...               | A horizontal ellipsis in examples indicates one of the following possibilities: <ul style="list-style-type: none"> <li>• Additional optional arguments in a statement have been omitted.</li> <li>• The preceding item or items can be repeated one or more times.</li> <li>• Additional parameters, values, or other information can be entered.</li> </ul> |
| .<br>. .<br>. . . | 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.  |
| <b>bold type</b>        | Bold type represents the name of an argument, an attribute, or a reason.   |
| <i>italic type</i>      | Italic type indicates important information, complete titles of manuals, or variables. Variables include information that varies in system output (Internal error <i>number</i> ), in command lines ( <i>/PRODUCER= name</i> ), and in command parameters in text (where <i>dd</i> 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 radixes — binary, octal, or hexadecimal — are explicitly indicated.   |
| real                    | This term refers to all floating-point intrinsic data types as a group.  |
| complex                 | This term refers to all complex floating-point intrinsic data types as a group.  |
| logical                 | This term refers to logical intrinsic data types as a group.   |
| integer                 | This term refers to integer intrinsic data types as a group.   |
| Fortran                 | This term refers to language information that is common to ANSI FORTRAN-77, ANSI/ISO Fortran 90, ANSI/ISO Fortran 95, and VSI Fortran for OpenVMS 90.  |
| Fortran 90              | This term refers to language information that is common to ANSI/ISO Fortran 90 and VSI Fortran for OpenVMS. For example, a new language feature introduced in the Fortran 90 standard.   |
| Fortran 95              | This term refers to language information that is common to ISO Fortran 95 and VSI Fortran for OpenVMS. For example, a new language feature introduced in the Fortran 95 standard.  |
| VSI Fortran for OpenVMS | Unless otherwise specified, this term (formerly Compaq Fortran) refers to language information that is common to the Fortran 90 and 95 standards, and any VSI Fortran for OpenVMS extensions, running on the OpenVMS operating system. Since the Fortran 90 standard is a superset of the FORTRAN-77 standard, VSI Fortran for OpenVMS also supports the FORTRAN-77 standard. VSI Fortran for OpenVMS supports all of the deleted features of the Fortran 95 standard. |

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





# Chapter 1. Preparing for VSI Fortran for OpenVMS Installation

This chapter describes:

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

## 1.1. What You Need to Know First

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

- VSI Fortran installation kit files
- VSI Fortran documentation files, including this *Installation Guide* and other files
- 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
- 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 VSI Fortran release notes to a file and type or print them before starting the VSI Fortran installation. The VSI 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).

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

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

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

`SY$HELP:FORTRAN_RELEASE_NOTES.PS`

## 1.3. Required Operating System Components

VSI Fortran requires OpenVMS Integrity Servers operating system V8.4-1H1 or higher.

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

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

- Programming support
- Utilities

For a complete list of the required components, see the *VSI Fortran for OpenVMS Software Product Description (SPD)*.

## 1.4. License Registration

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

This specific LMP product names used by VSI Fortran for OpenVMS are:

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

The VSI 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 VSI 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 VSI Fortran, review the PAK status and install the PAKs for any prerequisite or optional software before you install VSI Fortran.

You must register and load your license for VSI 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:

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

If you plan to use VSI 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 *VSI OpenVMS License Management Utility Guide*.

## 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 VSI Fortran for OpenVMS, you must be logged in to an account that has at least the following privileges enabled:

- BYPASS
- CMKRNL
- SYSLCK
- SYSPRV

Table 1.1 lists VSI Fortran's requirements for free disk storage space.

**Table 1.1. Disk Space Requirements**

| Kit Component        | During Installation | After Installation |
|----------------------|---------------------|--------------------|
| VSI 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
```

### 1.5.2. System Parameters

Installing VSI 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 VSI 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 `SY$LIBRARY:DCLTABLES.EXE`:

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

This command returns the size (in blocks) of `SY$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$GETSYI` lexical function to find the number of free contiguous global pagelets and free global sections. The following example shows how to get this information at your terminal (the default for `SY$OUTPUT`):

```
$ WRITE SY$OUTPUT F$GETSYI ("CONTIG_GBLPAGES")
15848
$ WRITE SY$OUTPUT F$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 VSI 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:

```
SY$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 *VSI OpenVMS System Manager's Manual*.

## 1.6. Backing Up Your System Disk

VSI 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 OpenVMS Backup Manual*.

## 1.7. Recovering from Installation Errors

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

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

For descriptions of error messages generated by these and related conditions, see the VSI 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 VSI Fortran, see Section 1.3.

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



# Chapter 2. Installing VSI Fortran for OpenVMS

This chapter describes how to install VSI Fortran for OpenVMS.

## 2.1. Installation Steps

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

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

1. Log in to a privileged account on the system (or cluster) where you will install VSI Fortran. This account must have the following privileges enabled:

- `BYPASS`
- `CMKRNL`
- `SYSLCK`
- `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 VSI Fortran product distribution files on the appropriate VSI OpenVMS Software Product Library CD-ROM (media CD-ROM), do one of the following:

- Use the `CDMENU` utility provided on the media CD-ROM.
- View the CD-ROM master index file on the media CD-ROM.
- 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 VSI 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
Total of 1 file.
```

6. To extract the VSI Fortran online release notes before you install VSI 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 VSI 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 VSI 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 Vn.n           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 V8.1           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 Vn.n: HP Fortran for OpenVMS Integrity Servers

Copyright 2006 Hewlett-Packard Development Company, L.P.  
This software product is sold by Hewlett-Packard Company  
PAKs used: FORTRAN or FORTRAN-USER

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

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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 V8.1                      DISK:[VMS\$COMMON.]

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

The following product has been installed:  
HP I64VMS FORTRAN Vn.n                      Layered Product

%PCSI-I-IVPEXECUTE, executing test procedure for  
HP I64VMS FORTRAN Vn.n  
%PCSI-I-IVPSUCCESS, test procedure completed successfully  
HP I64VMS FORTRAN Vn.n: HP Fortran for OpenVMS Integrity Servers

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

Type HELP FORTRAN Release\_notes for release notes location.

The compiler is now available from the command line of newly created processes.

To enable access to the compiler from the command line of a currently 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.
9. To obtain a list of files installed, enter the following command:

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

# Chapter 3. After Installing VSI Fortran for OpenVMS

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

- Section 3.1: Running the Installation Verification Procedure Separately
- Section 3.2: Modifying the System-Wide Startup Command Procedure
- Section 3.3: Making the Product Usable on a VMScluster
- Section 3.4: Making the FORTRAN Command Available After Installation
- Section 3.5: Setting User Account Quotas
- Section 3.6: Enhancing VSI Fortran for OpenVMS Performance
- Section 3.7: Removing VSI Fortran
- Section 3.8: Troubleshooting the Installation

## 3.1. Running the Installation Verification Procedure Separately

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

If system problems occur, you should run the VSI 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 VSI 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 VSI 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 VSI Fortran:

1. Issue the LICENSE LOAD command, as described in the *VSI OpenVMS License Management Utility Guide*, to activate the license on each node in the VMScLuster on which VSI 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 VSI 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 *VSI 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

VSI 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 VSI Fortran. There is no benefit from installing the compilers with privileges.

To use VSI 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 *VSI OpenVMS System Manager's Manual*.

## 3.6. Enhancing VSI Fortran for OpenVMS Performance

After you install VSI 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:

- 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.
- 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.
- 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 *VSI OpenVMS System Manager's Manual*. For information about system tuning and performance investigation, see the *Guide to OpenVMS Performance Management*.

## 3.7. Removing VSI Fortran

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

#### \$ PRODUCT REMOVE FORTRAN

After removing VSI Fortran from the system, remove the call to SYSS\$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:

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

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

- The system logical name SYSS\$SYSROOT should not be modified from the preset definition provided by the VSI OpenVMS operating system.

# Appendix A. 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
[SYSEXEC]F90$MAIN.EXE
[SYSHLP]FORTRAN.RELEASE_NOTES
[SYSHLP]FORTRAN_RELEASE_NOTES.PS
[000000]F90.HLP
[000000]FORTRAN.HLP
[000000]F90.CLD
[000000]FORT$FORTRANF95.
CLD
[SYSLIB]FORSYSDEF.TLB
[SYSLIB]FORSYSDEFV83R.
TLB
[SYSLIB]FORT$FORTRANF95.
CLD
[SYSMMSG]F90$MSG.EXE
[SYSTEST]FORT$IVP.COM
```





# Appendix B. 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.

