

HP C++

Installation Guide for OpenVMS Alpha

Order Number: AA-PY27K-TE

November 2005

This guide contains instructions for installing HP C++ on OpenVMS Alpha systems. It also explains how to read the online release notes before or after installing the product.

This guide applies to HP C++ Version 7.1 for OpenVMS Alpha, and all subsequent point releases for Version 7.0.

Revision/Update Information:	This is a revised manual, replacing AA-PY27J-TE
Operating System & Version:	OpenVMS Alpha Version 7.3-2 or higher. Future maintenance releases might require higher versions.
Software Version:	HP C++ Version 7.1 for OpenVMS Alpha

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Preface

This guide describes how to install HP C++ on the OpenVMS Alpha operating system. It is intended for system managers. Keep this guide with your distribution kit, in case you need it to reinstall HP C++ for any reason.

You may send comments or suggestions concerning this guide, or any HP C++ document, by electronic mail to the following Internet address:

c_docs@hp.com

Document Structure

This guide contains three chapters and three appendixes:

- Chapter 1 describes how to prepare for HP C++ installation.
- Chapter 2 describes how to install the HP C++ compiler.
- Chapter 3 describes postinstallation procedures.
- Appendix A shows a sample compiler installation.
- Appendix B explains how to find a list of the files installed on your system.
- Appendix C provides information to help you with failures.

Associated Documentation

In addition to this guide, the HP C++ 7.1 documentation set includes the following books:

- Stroustrup, Bjarne. *The C++ Programming Language, 3rd Edition*. Reading, Massachusetts: Addison-Wesley, 1997. This book is available only as hardcopy documentation.
- *Using HP C++ for OpenVMS Alpha*
- *C++ Class Library Reference Manual* (online only)
- *C Run-Time Library Reference Manual for OpenVMS Systems*

For information on the HP C++ online release notes, see Chapter 1.

For general information on OpenVMS system management, see the OpenVMS operating system documentation set.

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

Conventions

Table 1 lists the conventions used in this guide.

Table 1 Conventions

Convention	Meaning
UPPERCASE TEXT	Uppercase text indicates the name of a command, a file, a parameter, a procedure, or utility.
<code>\$@SYS\$UPDATE:VMSINSTAL</code>	In interactive examples, prompts or displayed text appears in a monospace font. User input appears in bold monospace font.
<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).
<code>Return</code>	In interactive examples, a key name is shown enclosed to indicate that you press a key on the keyboard.
Ctrl/X	In interactive examples, 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; for example, Ctrl/C or Ctrl/Z.
[YES]	Square brackets indicate that the enclosed item is a default value in a VMSINSTAL prompt. Also, square brackets serve as delimiters for a directory name in a file specification.

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

1

Preparing for HP C++ Installation

This chapter discusses the preparations and requirements necessary for installing HP C++ for OpenVMS Alpha Systems.

This guide applies to Version 7.1 of HP C++ for OpenVMS Alpha Systems and all subsequent maintenance releases up to the next release of the product that includes an updated installation guide.

Your bill of materials (BOM) and indented bills report (BIL) specify the number and contents of your media. Be sure to verify the contents of your kit with this information. If your kit is damaged or if you find that parts of it are missing, contact your HP representative.

HP C++ provides online release notes, which are copied to SYS\$HELP during installation. HP strongly recommends that you read the release notes before proceeding with the installation. For information on accessing the online release notes for the HP C++ compiler, see step 2 in Section 2.2.

1.1 Hardware Requirements

You can install HP C++ on any Alpha processor system capable of running OpenVMS Alpha Version 7.3-2 or higher. See the OpenVMS Operating System's Software Product Description (SPD 25.01.*nn*) for details.

1.2 Required Operating System Components

HP C++ Version 7.1 for OpenVMS Alpha Systems requires OpenVMS Alpha Version 7.3-2 or higher. Future HP C++ releases may require higher versions of the OpenVMS operating system, as described in the online release notes or the *Read Before Installing or Using HP C++ Version 7.n for OpenVMS Systems* letter.

The OpenVMS operating system comes with a variety of support options, or classes. Classes include such features as networking and RMS journaling. To use HP C++, your system should be running a version of OpenVMS Alpha that includes the following classes:

- Programming support
- Utilities

For a complete list of the required classes, see the HP C++ Software Product Description (SPD).

1.3 Optional Software

You can use the following optional software with HP C++:

- HP Language-Sensitive Editor/Source Code Analyzer (LSE/SCA) for OpenVMS Alpha Systems. Support for C++ requires that LSE be installed before the compiler is installed.
- HP Test Manager (DTM) for OpenVMS Alpha Systems
- HP Performance and Coverage Analyzer (PCA) for OpenVMS Alpha Systems
- HP Code Management System (CMS) for OpenVMS Alpha Systems
- HP Module Management System (MMS) for OpenVMS Alpha Systems

For more information on HP DECset Release 12.4A for OpenVMS Alpha Systems, refer to the *Software Product Description* (SPD 42.29.nn).

1.4 License Registration

Before you start the installation, you must register and load the License Product Authorization Key (License PAK) using the OpenVMS License Management Facility (LMF). (For complete information on using the LMF, see the *OpenVMS License Management Utility Manual*.)

1.5 Installation Procedure Requirements

This section discusses settings that you should check to be sure that your system is ready for the installation of HP C++ to proceed.

1.5.1 Process Privileges

To install HP C++, you must be logged in to an account that has SETPRV or at least the following privileges:

- CMKRNL
- WORLD
- SYSPRV

VMSINSTAL turns off BYPASS privileges at the start of the installation.

1.5.2 Process Account Quotas

VMSINSTAL requires that the installation account have minimum quotas as shown in Table 1–1.

Table 1–1 Process Quotas for the Installing Account

Name	Quota
ASTLM	190
BIOLM	160
BYTLM	99,000
DIOLM	160
ENQLM	4000
FILLM	300

Use the OpenVMS Authorize Utility to verify and change process quotas for the installation account in the user authorization file (UAF). (Some sites may restrict the use of the OpenVMS Authorize Utility to certain accounts or people.) For instance, to change the BYTLM quota for the *account-name* installation account, you might enter the following command sequence:

```
$ RUN SYS$SYSTEM:AUTHORIZE
UAF> MODIFY account-name /BYTLM = 99000
UAF> SHOW account-name
UAF> EXIT
$ LOGOUT
```

After the quotas for the installation account have been changed, log out of the installation account and log in again for the new quotas to take effect. You can then proceed with the installation.

User account quotas are stored in the file SYSUAF.DAT. For more information on modifying account quotas, see the description of the Authorize Utility in the OpenVMS System Management documentation set.

1.5.3 System Parameters

Table 1–2 lists the minimum required system parameter values for the installation. Depending on the kinds of programs and applications running at your site, you might need higher values for some settings.

Table 1–2 Minimum Required System Parameter Values

System Parameter	Minimum Value	Default Value
CLISYMTBL ¹	500	500
GBLPAGES ²	8400	8400
GBLPAGFIL	1024	1024
GBLSECTIONS ²	2	2

¹The CLISYMTBL dynamic system parameter must be set to a minimum value of 500 during the installation procedure. You can change the setting to its original value once the installation is finished.

²These 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.

1.5.4 Disk Space

Requirements for free disk storage space are different during installation and after installation. Table 1–3 summarizes the storage requirements.

Table 1–3 Disk Space Requirements

Component	Blocks After Installation	Peak During Installation
Compiler	150,000	160,000
Text Header Files	13,000	13,000
CXXLINK	500	500
All Components	163,500	173,500

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

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

1.5.5 Backing Up Your System Disk

At the beginning of the installation, VMSINSTAL asks if you have backed up your system disk. HP recommends that you back up your system disk before installing any software.

Use the backup procedures that are established at your site. For details on performing a system disk backup, see the section on the Backup Utility in the OpenVMS System Management documentation set.

1.5.6 Additional System Maintenance Procedures

This section explains how to use the System Generation Utility (SYSGEN) and the AUTOGEN Utility to prepare your system for an installation of HP C++. AUTOGEN uses system configuration data to automatically set system parameters.

1.5.6.1 Checking System Parameter Values

To check the values of your system parameters, enter the following command:

```
$ RUN SYS$SYSTEM:SYSGEN
SYSGEN>
```

At the SYSGEN> prompt, enter the SHOW command to display the value of a system parameter. The following example displays the value for the WSMAX system parameter:

```
SYSGEN> SHOW WSMAX
```

Parameter Name	Current	Default	Min.	Max.	Unit
-----	-----	-----	----	-----	----
WSMAX	81920	4096	1024	1048576	Pagelets
internal value	5120	256	64	65536	Pages

After checking the parameters with the SHOW command, enter the EXIT command at the SYSGEN> prompt to return to DCL level. For information on setting dynamic system parameter values, see Section 1.5.6.4.

1.5.6.2 Calculating the Values for Global Pagelets and Global Sections

To install and run HP C++, you must have sufficient free global pagelets and global sections. You must first find out how many free global pagelets and sections you have on your system. Then use AUTOGEN if you need to increase the global pagelets and global sections system parameters.

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 global pagelets and 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 values displayed by the system are greater than the values in Table 1–2, you do not need to increase the values for these parameters. If the value of free global pagelets or global sections is less than the value in Table 1–2, you must increase the system parameter setting.

Section 1.5.6.3 describes the procedures for increasing these values using AUTOGEN.

1.5.6.3 Changing System Parameter Values with AUTOGEN

Use the AUTOGEN command procedure to change 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
```

Use an editor to access the file. 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 includes both the name of the parameter and its value. For example:

```
WSMAX = 8096
```

To modify incremental parameters such as free global pagelets and global sections, use ADD_GBLPAGES or ADD_GBLSECTS. The following example increases the global page setting by 2000:

```
ADD_GBLPAGES = 2000
```

When you set the page file quota, do not use a value that exceeds the amount of page file space available on the system.

After you make all your changes, exit from the editor and execute the AUTOGEN procedure to recalculate your system parameters. The following command recalculates your system parameters and reboots the system:

```
$ @SYS$UPDATE:AUTOGEN GETDATA REBOOT
```

When you specify REBOOT, AUTOGEN performs an automatic system shutdown and then reboots the system. Any users logged on to the system are immediately disconnected during the shutdown. The automatic reboot puts the new parameter values into effect.

AUTOGEN automatically adjusts some of the SYSGEN parameters based on the consumption of resources since the last reboot. If you do not want to take advantage of this automatic adjustment, include the /NOFEEDBACK qualifier on the AUTOGEN command line.

For more information about using AUTOGEN, see the system management documentation for your operating system.

1.5.6.4 Setting Dynamic System Parameter Values

Use SYSGEN to set dynamic parameters. Dynamic parameters changed with the SYSGEN command WRITE ACTIVE become active immediately without any need to reboot your system. Rebooting returns dynamic system parameter values to their previous settings.

After you change the dynamic parameter values, you should complete the installation before rebooting the system. After you finish the installation, you can reset the dynamic parameters to their previous values or let them be reset automatically when you reboot your system the next time.

If the dynamic parameter values on your system are less than the values previously listed, use the following series of commands to change the values. This example changes the GBLPAGES value to 100000:

```
$ RUN SYS$SYSTEM:SYSGEN
SYSGEN> USE ACTIVE
SYSGEN> SET GBLPAGES 100000
SYSGEN> WRITE ACTIVE
SYSGEN> EXIT
```

Installing the HP C++ Compiler

After you register and load the License Product Authorization Key (License PAK), the installation takes approximately 10 to 15 minutes, depending on your system configuration and the kit components chosen.

2.1 Installing and Using Multiple Compiler Versions

C++ Version 7.1 provides support for installing and using multiple versions of the compiler on the same node.

During installation of Version 7.*n*, if a Version 6.*n* of the compiler is already installed, you have the opportunity to preserve that compiler rather than overwrite it. If you choose to preserve the currently installed compiler, you are then given a choice to keep the currently installed compiler as the system default and install the new compiler as an alternate.

By default, the currently installed system compiler is preserved by making it an alternate compiler and installing the new compiler as the system default. Users can make the choice to use an alternate compiler instead of the installed system compiler by running a command procedure that changes the behavior of the `cxx` command for the process that invokes it.

Some details of the following description may change, but the mechanism is essentially as follows.

2.1.1 Displaying and Selecting the Compiler Version

This kit provides two command procedures to display and control which C++ compiler is used by a process:

- `SYS$SYSTEM:CXX$SHOW_VERSIONS.COM`

This procedure displays the C++ compilers available on the system, along with their version numbers. It also displays which compiler is the default for the current process. The procedure takes an optional version-number argument. Examples:

```
$ @sys$system:cxx$show_versions.com
```

The following C++ compiler(s) are available in
SYS\$SYSTEM:

Filename	Version	
CXX\$COMPILER.EXE	V6.5-020	
CXX\$COMPILER_V06_04-002.EXE	V6.5-002	
CXX\$COMPILER_V06_04-001.EXE	V6.5-001	
CXX\$COMPILER_V06_00-001.EXE	V6.0-001	Process Default
CXX\$COMPILER_V06_02-008.EXE	V6.2-008	

```
$ @sys$system:cxx$show_versions.com V6.0
```

The following C++ compiler(s) are available in
SYS\$SYSTEM:

Filename	Version	
CXX\$COMPILER_V06_00-001.EXE	V6.0-001	Process Default

- **SYS\$SYSTEM:CXX\$SET_VERSION.COM**

This procedure sets up process logicals that point to an alternate C++ compiler in SYS\$SYSTEM, or it removes the process logicals to revert to using the default system compiler. The procedure takes one argument, a version number or the keyword SYSTEM. If no arguments are specified you are prompted for them. The SYSTEM argument selects the installed system compiler, which is the one displayed with the filename CXX\$COMPILER.EXE in the output of CXX\$show_versions.com. Alternate compilers are shown in that output with their version number appended to the simple filename; for example, the version 6.2-008 compiler is shown as CXX\$COMPILER_V06_02-008.EXE.

To select a compiler, pass a full ident string or enough of the ident string to be unique. For example: to select the V6.2-008 compiler from the previous list, pass V6.2-008 or V6.2 to the CXX\$set_version.com routine. However, to select a 6.5 compiler, a full ident string is required to distinguish between the V6.5-020, V6.5-001, and the V6.5-002 compiler:

```
$ @sys$system:cxx$set_version.com V6.2-008
```

```
$ show logical CXX$*
```

```
(LNM$PROCESS_TABLE)
```

```
"CXX$COMPILER" =  
  "SYS$SYSTEM:CXX$COMPILER_V06_02-008.EXE"  
"CXX$MSG_SHR" =  
  "SYS$MESSAGE:CXX$MSG_SHR_V06_02-008.EXE"
```

```
$ @CXX$set_version.com 6.5
```

The following 6.5 C++ compiler(s) are available in
SYS\$SYSTEM:

Filename	Version
CXX\$COMPILER.EXE	V6.5-020
CXX\$COMPILER_V06_04-001.EXE	V6.5-001
CXX\$COMPILER_V06_04-002.EXE	V6.5-002

Ambiguous version number, please be specify a full version number, ex: V6.5-020
Version number : V6.5-020

```
$ show logical CXX$COMPILER
"CXX$COMPILER" = "SYS$SYSTEM:CXX$COMPILER_V06_04-005.EXE" (LNM$PROCESS_TABLE)
$ show logical CXX$msg_shr
"CXX$MSG_SHR" = "SYS$MESSAGE:CXX$MSG_SHR_V06_04-005.EXE" (LNM$PROCESS_TABLE)
```

When this procedure is run in a process, subsequent `cx` commands invoke the selected compiler version (until the procedure is run again). The process-level logicals used do not affect other processes or users on the system.

- **SYS\$SYSTEM:CXX\$DELETE_VERSION.COM**

This procedure removes the C++ compilers from the system. The procedure takes an optional version-number argument, as shown in the following example:

```
$ @sys$system:cx$delete_version V6.5-001
```

The following V6.5-001 HP C++ compiler(s) are available in SYS\$SYSTEM

Filename	Version
CXX\$COMPILER_V06_05-001.EXE	V6.5-001

Really delete these compiler(s)? yes
Deleting HP C++ V6.5-001

```
Deleting SYS$COMMON:[CXX$LIB]CXX$CLD_V06_05-001.CLD;
Deleting SYS$COMMON:[SYSEXE]CXX$COMPILER_V06_05-001.EXE;1
Deleting SYS$COMMON:[SYSMSG]CXX$COMPILER_MSG_V06_05-001.EXE;1
Deleting SYS$COMMON:[SYSEXE]CXX$LINK_V06_05-001.EXE;1
Deleting SYS$COMMON:[SYSMSG]CXX$LINK_MSG_V06_05-001.EXE;1
Deleting SYS$COMMON:[SYSEXE]CXX$DEMANGLER_V06_05-001.EXE;1
Deleting SYS$COMMON:[SYSLIB]CXXL$ANSI_DEF_V06_05-001.TLB;1
Deleting SYS$COMMON:[SYSLIB]LIBCXXSTD_V06_05-001.OLB;1
Deleting SYS$COMMON:[CXX$LIB]CXXDEMANGLER_V06_05-001.CLD;
Deleting SYS$COMMON:[CXX$LIB]CXXLINK_V06_05-001.CLD;
```

2.1.2 Installation Procedure Changes

When you install C++ Version 7.1 or higher on a system that already has a Version 6.0 or higher compiler installed, you are given the chance to preserve the currently installed system compiler. To do this, answer YES to the following question (the *xxx* will be replaced by the full version number of the existing system compiler):

```
"Should the existing xxx system compiler be preserved [NO]:"
```

If you answer NO, the installation proceeds in the traditional manner, overwriting the currently installed system compiler.

If you answer YES, you are then asked an additional question. To get the traditional behavior of installing the kit compiler as the system default, answer NO to the question:

```
"Should this xxx system compiler remain the default when cxx is typed [NO]:"
```

Because you have previously asked to preserve the existing system compiler, that compiler is made an alternate compiler before the new system compiler is installed from the kit. If you answer YES to the question, the kit compiler is installed as an alternate compiler with a name that is based on its ident, and the existing system default compiler remains the default.

2.2 Installation Procedure

If it is not already inserted, place the compact disc (CD-ROM) media into the CD-ROM drive.

To abort the installation procedure at any time, press Ctrl/Y. When you press Ctrl/Y, the installation procedure deletes all files it has created up to that point and exits. You can then start the installation again.

Note

The kit installation procedure invokes a utility program to manipulate header file text libraries. Attempts to abort the installation might be ignored while the program is executing. If the procedure does not abort immediately, press Ctrl/Y until it does.

When the system prompts you with a question during the installation procedure, the default answer is often listed in brackets ([]).

1. **Log in to a privileged account and set your default device and directory to SYS\$UPDATE.**

Username: **SYSTEM**
Password:

2. Invoke VMSINSTAL.

@SYS\$UPDATE:VMSINSTAL *saveset-name device-name option-list*

To start the installation, invoke the VMSINSTAL command procedure from a privileged account, such as the SYSTEM account. VMSINSTAL is in the SYS\$UPDATE directory. The elements that you specify when you invoke the VMSINSTAL command procedure are as follows:

saveset-name

The installation name for the component. For HP C++, use the following installation name:

CXX07*n*

n represents the minor (point) release number for HP C++ such as CXX071 for Version 7.1.

To obtain the directory location of the HP C++ save set on the CD-ROM, refer to the *Software Product Library CD-ROM User's Guide* booklet that accompanies the CD-ROM distribution kit, or before starting installation, complete these steps:

- a. To determine whether the CD-ROM drive is already mounted (with the MOUNT command), enter the following command:

```
$ SHOW DEVICE DKA400:
```

- b. If it is not mounted, enter the appropriate MOUNT command to mount the CD-ROM (omit the /FOREIGN qualifier).
- c. To obtain the save-set name, enter a DIRECTORY command specifying the directory file from the previous command:

```
$ DIRECTORY DKA400: [CXX07n.KIT]CXX07n.A
```

n represents the minor release of HP C++.

device-name

The name of the device on which you plan to mount the media and the directory containing the HP C++ save set. For example, DKA400: is the device name used in examples in this guide. The directory is [CXX07*n*], where *n* is the minor release number.

To specify the device name on the @VMSINSTAL command line, enter:

```
DKA400: [CXX07n]
```

option-list

The word `OPTIONS` followed by one or more of the following option designators—A, G, L, N, R:

- **Auto_answer option (A)**
Initially creates a file that contains your answers to `VMSINSTAL` questions and prompts. You can then use the option (and the answer file) to save time during a reinstallation (typically after upgrading your system).
- **Get save-set option (G)**
Lets you store product save sets temporarily on a magnetic tape or in a disk directory.
- **File log option (L)**
Logs all activity to the terminal during installation.
- **Display or print the release notes (N)**
Indicates that you want to see the installation question on release notes. If you do not include the N option, `VMSINSTAL` does not ask you about the release notes. You should review the release notes before proceeding with the installation in case they contain additional information about the installation.

If you are restarting the installation and have already reviewed the release notes, you do not need to specify the N option. (Even if you omit the N option when you invoke `VMSINSTAL`, the HP C++ release notes are copied automatically to the `SYS$HELP` directory.)
- **Alternate root option (R)**
Lets you install the product to a system root other than that of the running system.

For detailed information on these software installation options, see the OpenVMS operating system documentation. If you specify more than one option, separate the options with commas, such as `OPTIONS A,N`.

The following example invokes `VMSINSTAL` to install HP C++ and shows the system response. This example uses the `OPTIONS N` release note option.

```
$ @SYS$UPDATE:VMSINSTAL CXX07n DKA400:[CXX07n] OPTIONS N
```

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It is dd-mmm-yyyy at hh:mm.
Enter a question mark (?) at any time for help.

If you do not supply either the product name or the device name, VMSINSTAL prompts you for this information later in the installation procedure.

3. Verify user's account and quotas.

When you invoke VMSINSTAL, it checks the following:

- Whether you are logged in to a privileged account. HP recommends that you install software from the system manager's account with your default device and directory set to SYS\$UPDATE.
- Whether you have adequate quotas for installation. VMSINSTAL checks for the quota values shown in Table 1-1.

VMSINSTAL then checks to determine whether any users are logged in to the system. If users are logged in, VMSINSTAL asks whether you want to continue the installation:

```
* Do you want to continue anyway [NO]? YES
```

If you want to continue, enter YES. If you want to stop the installation, press Return.

4. Confirm system backup.

```
* Are you satisfied with the backup of your system disk [YES]?
```

If you are satisfied with the backup of your system disk, press Return. Otherwise, enter NO to discontinue the installation. After you back up your system disk, you can restart the installation.

5. Specify distribution.

If you omitted the device name on the VMSINSTAL command line, the following prompt appears:

```
* Where will the distribution volumes be mounted: DKA400:[CXX07n]
```

If this prompt appears, enter the name of the distribution (media) device and directory that contains the HP C++ kit (save set). For example, if the media is contained on a CD-ROM located on unit DKA400:, enter DKA400:[CXX07n] in reply to this question (where *n* is the minor version number).

6. Specify save set.

If you omitted the product save set name on the VMSINSTAL command line, the following prompt appears:

```
Enter the products to be processed from the first distribution volume set.  
* Products: CXX07n
```

If this prompt appears, enter the C++ for OpenVMS Alpha kit name. The name has the format: CXX07*n* (where *n* is the minor version number).

7. Verify the product being installed.

The following products will be processed:

```
CXX V7.n
```

```
Beginning installation of CXX V7.n at hh:mm
```

```
%VMSINSTAL-I-RESTORE, Restoring product save set A...
```

The product name and version are displayed. This save set (A) is restored to a subdirectory of SYS\$UPDATE:.

Next, VMSINSTAL displays a message like the following:

```
%VMSINSTAL-I-REMOVED, Product's release notes have been moved to SYS$HELP.
```

```
HP C++ V7.n for OpenVMS Alpha Systems
```

The release notes are copied to the following files in the SYS\$HELP directory:

```
SYS$HELP:CXX.RELEASE_NOTES  
SYS$HELP:CXX_RELEASE_NOTES.PS
```

After the installation, you can enter the following command to view the location of the release notes through the Help facility:

```
$ HELP CXX RELEASE_NOTES
```

8. Choose the Installation Verification Procedure option

If you have chosen to install the compiler component, the installation procedure now asks if you want to run the Installation Verification Procedure (IVP). The IVP checks to be sure that the installation is successful. HP recommends that you run the IVP.

```
* Do you want to run the IVP after the installation [YES]?
```

After HP C++ is installed, you can run the IVP independently to verify that the software is available on your system. You might need to run the IVP after a system failure to make sure that users can access HP C++.

9. Select components to install

The installation procedure lets you select the components of the kit that you want to install. The choices are as follows:

- C++ compiler

This component includes help text, command definitions, and the IVP for the compiler.

- C Run-Time Library and C++ Class Library text header files

For efficiency, the header files are installed on the system in text library format, within `SYS$LIBRARY`. However, this creates a problem when users need to use the headers as reference. To remedy this, the installation procedure will now prompt you to install a “reference copy” of the text headers. These are in traditional text form, and are suitable for searching, lookup, and so on. When selected, the procedure will break them up and install them into the following subdirectories:

```
SYS$COMMON: [CXX$LIB.REFERENCE.CXXL$DEF_HXX]
SYS$COMMON: [CXX$LIB.REFERENCE.CXXL$DEF_H]
SYS$COMMON: [CXX$LIB.REFERENCE.CXX$RTLDEF_HXX]
SYS$COMMON: [CXX$LIB.REFERENCE.CXX$RTLDEF]
```

By default, they will not be searched by the compiler.

Note

The header files (text libraries) are now automatically installed based on the time stamps found within them. Time stamps on the kit versions are compared to those on the system, and the kit libraries are installed only if they are found to be more recent. All of this occurs without prompting.

- CXXLINK facility

Select the components you want to install by answering YES or NO to the questions. If you want a more detailed description of any component, enter a question mark (?). After the explanation is displayed, you will be prompted again for a response.

If you enter YES, the installation procedure validates that your request is possible and installs the component.

If you enter NO, the installation procedure then issues prompts for selecting the next component.

10. Respond to license registration query

The HP C++ compiler component supports the OpenVMS License Management Facility (LMF). (For complete information on using the LMF, see the *OpenVMS License Management Utility Manual*.) If you entered YES to install the compiler component, the installation procedure displays license information about HP C++. It asks whether you have registered and loaded your PAK for each product. The following is an example of the information and the queries presented by the installation procedure:

```
The HP C++ compiler component requires a Product
Authorization Key (PAK) for HP C++ to be registered and
loaded. Answer the following question with YES if a PAK
with the specified product name and a date equal to or
later than the date shown is registered and loaded, otherwise
answer NO.
```

```
Product:      CXX-V
Producer:     DEC

Version:      7.n

Release Date: dd-mmm-yyyy
```

```
* Does this product have an authorization key registered and
loaded?: YES
```

If you have not registered and loaded your PAK, you must answer NO to this question. You must register and load your PAKs to complete the installation successfully. If you have not done so, you should stop the installation, register and load your PAKs, and then restart the installation.

11. Read informational messages

At this point, the installation procedure displays a number of informational messages that report on the progress of the installation. There are no further questions. If the installation procedure has been successful up to this point, VMSINSTAL moves the new or modified files to their target directories, updates help files, and updates DCL tables, if necessary. See Appendix B for a list of files installed on the system.

If you answered YES in response to the prompt that requests a file purge, previous versions of the HP C++ files are now purged. The end of the installation is indicated by the following message:

```
%VMSINSTAL-I-MOVEFILES, files will now be moved to their target
directories...
```

12. Observe the IVP

If you chose to run the IVP, VMSINSTAL now invokes the IVP to verify that HP C++ was installed successfully.

If HP C++ was installed successfully, the IVP displays the following:

```
HP C++ V7.n Installation Verification Procedure completed successfully.
```

13. End the installation procedure

```
Installation of CXX V7.n completed at hh:mm
```

```
Adding history entry in VMI$ROOT:[SYSUPD]VMSINSTAL.HISTORY
```

```
Creating installation data file: VMI$ROOT:[SYSUPD]CXX07n.VMI_DATA
```

Depending on whether you specified parameters on the VMSINSTAL command line, the * Products: prompt or the DCL prompt (\$) may appear. If the * Products: prompt appears, you can return to the DCL prompt by pressing Ctrl/Z.

If you removed any media from the console drive before beginning the installation, you should replace it now.

VMSINSTAL deletes or changes entries in the process symbol tables during the installation. Therefore, if you are going to continue using the installation account (such as SYSTEM) and you want to restore these symbols, you should log out and log in again.

2.3 Error Recovery

If VMSINSTAL detects any problems during the installation, it notifies you and asks if you want to continue the installation. In some instances, you can enter YES to continue. To stop the installation process and correct the situation, enter NO or press Return. Correct the problem and restart the installation.

If errors occur during the installation itself or when the Installation Verification Procedure (IVP) is running, VMSINSTAL displays failure messages. If the installation fails, you will see the following message:

```
%VMSINSTAL-E-INSFAIL, The installation of HP C++  
Version 7.n has failed.
```

If the IVP fails, you will see these messages:

```
The HP C++ Version 7.n Installation  
Verification Procedure failed.
```

```
%VMSINSTAL-E-IVPFAIL, The IVP for HP C++  
Version 7.n has failed.
```

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

- The operating system version is incorrect.

- A prerequisite software version is incorrect.
- Quotas necessary for successful installation are insufficient.
- System parameter values for successful installation are insufficient.
- The OpenVMS Help library is currently in use.
- The product license has not been registered and loaded.

For descriptions of the error messages generated by these conditions, see the OpenVMS documentation on system messages, recovery procedures, and OpenVMS software installation. If you are notified that any of these conditions exist, you should take the appropriate action as described in the message. For information on installation requirements, see Chapter 1.

If the installation fails, you must restart the installation procedure from step 2. For an explanation of any system messages, see the *OpenVMS System Messages and Recovery Procedures Reference Manual* or the online HELP/MESSAGE facility. If the installation fails due to an IVP failure, contact an HP field service representative.

3

After C++ Installation

HP C++ is now installed and can be invoked by all users with the `cxx` command.

The installation procedure modifies the DCL command table so that the `cxx` command is 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 `cxx` command must log out and log in again, or use the following DCL command:

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

The following tasks can be performed after HP C++ is installed:

- Running the Installation Verification Procedure (IVP) separately
- Editing the system startup and shutdown files
- Modifying system parameter settings
- Making the product usable on a VMScluster
- Setting user account quotas
- Installing the compiler as a shared image
- Removing the compiler, if desired
- Reporting problems

The following sections describe these tasks in detail.

3.1 Running the Installation Verification Procedure Separately

You usually run the Installation Verification Procedure (IVP) during installation. To run the IVP separately to ensure the integrity of installed files should system problems occur, type the following:

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

If the IVP fails, you see these messages:

```
The HP C++ 7.1 Installation Verification Procedure failed.  
%VMSINSTAL-E-IVPFAIL, The IVP for HP C++ 7.1 has failed.
```

3.2 Editing and Organizing the System Files

You do not need to edit the compiler system startup (CCXX\$STARTUP.COM) and shutdown files to provide for automatic startup and shutdown of HP C++ when your system is rebooted. You may optionally add SYS\$STARTUP:CCXX\$STARTUP.COM to the system startup procedure to install the images.

3.3 VMScluster Considerations

After completing the initial installation, if you want to install HP C++ on multiple nodes in a cluster, you must run INSTALL on each of the other nodes and enter the following command:

```
INSTALL> REPLACE SYS$LIBRARY:DCLTABLES.EXE
```

If you are using a dual-architecture (VAX and Alpha systems) 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 *OpenVMS System Manager's Manual*.

3.4 User Account Requirements

Many products cannot be used unless certain privilege and quota requirements are met by user accounts. The following sections describe the privilege and quota requirements needed to work with HP C++.

3.4.1 User Privileges

To use HP C++, each account must have at least the TMPMBX and NETMBX privileges. Use the OpenVMS Authorize Utility to determine whether users have the privileges they require.

3.4.2 User Account Quotas

To use HP C++, 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), consider adjusting the working set (WSDEF, WSQUOTA, WSEXTENT) and pagefile (PGFLQUOTA) account quotas to improve performance.

See Section 1.5.2 for a description of how to verify and change account quotas.

3.5 Installing the HP C++ Compiler and the C++ Class Library as a Shared Image

HP highly recommends that you reduce the system overhead and memory requirements by installing the HP C++ compiler and the C++ Class Library as shared images. To install HP C++ as a shared image on a system that is currently running, use the INSTALL Utility. HP recommends that you install HP C++ as shared on a system that has been rebooted recently because the available space in the global pagelet table is less likely to be fragmented.

To install HP C++ and the Class Library as a shared image:

1. Determine the number of available (free) global pagelets and global sections on your system and the number of each needed to install and run HP C++ (see Section 1.5.6.2).
2. If necessary, increase the current number of global pagelets and global sections parameters (see Section 1.5.6.2).

After you reset the system parameter values, invoke the INSTALL Utility from a privileged account and install the HP C++ compiler as a shared image:

```
$ INSTALL
INSTALL> ADD SYS$SYSTEM:CXX$COMPILER.EXE /OPEN /SHARED
INSTALL> EXIT
```

Similarly, install the C++ Class Library as a shared image:

```
$ INSTALL
INSTALL> ADD SYS$LIBRARY:CXXL$011_SHR.EXE /OPEN /SHARED
INSTALL> EXIT
```

Add the following lines to the appropriate system startup command file so that HP C++ is available as a shared image each time the system is started. (If your site has modularized its startup procedures, be sure you add the lines to the correct file.) The default startup command file is SYS\$MANAGER:SYSTARTUP_VMS.COM.

```
$ INSTALL
ADD SYS$SYSTEM:CXX$COMPILER.EXE /OPEN /SHARED
ADD SYS$LIBRARY:CXXL$011_SHR.EXE /OPEN /SHARED
EXIT
```

Using the /PRIVILEGED qualifier is neither necessary nor recommended.

To install the compiler message file, enter the following commands:

```
$ INSTALL
INSTALL> ADD SYS$MESSAGE:CXX$COMPILER_MSG.EXE
INSTALL> EXIT
```

To install the Class Library message file, enter the following commands:

```
$ INSTALL
INSTALL> ADD SYS$MESSAGE:CXXL$MSG_SHR.EXE
INSTALL> EXIT
```

When you install HP C++ as a shared image you need to increase the global pagelets and global sections parameters. See Section 1.5.6.2 for information on changing these parameters.

3.6 Removing the Compiler from Your System

A command procedure CXX\$PRODUCT_REMOVE is available should you wish to remove the HP C++ compiler product from your system for any reason. The procedure performs the equivalent of a PCSI PRODUCT REMOVE command.

Before issuing the command procedure, you are required to disable the product license to prevent a compilation from interfering with the delete process.

If the compiler has been installed as a shared image, the command procedure will uninstall the image.

The command procedure takes no parameters and can be run as follows:

```
$ @SYS$SYSTEM:CXX$PRODUCT_REMOVE
Do you wish to proceed with removing HP C++ <No>? Yes [Ret]
Enter "Yes" to remove the compiler from your system.
```

3.7 Getting Help and Reporting Problems

If an error occurs while HP C++ is in use and you believe the error is caused by a problem with the product, please report it to HP.

If you have a Software Product Services Support Agreement, contact your Customer Support Center (CSC) by telephone or by using the electronic means provided with your support agreement (such as DSNlink). The CSC provides telephone support for high-level advisory and remedial assistance. When you initially contact the CSC, indicate the following:

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

Whether you submit information electronically or contact the appropriate support specialist by telephone, please take the following steps:

1. Describe as accurately as possible the circumstances and state of the system when the problem occurred. Include the description and version number of the HP C++ compiler being used. Demonstrate the problem with specific examples.
2. Reduce the problem to as small a size as possible.
3. Remember to include listings of any command files, INCLUDE files, or relevant data files, and so forth.
4. Provide a listing of the program.
5. If the program is longer than 50 lines, submit a copy of it on machine-readable media (diskette or magnetic tape).
6. Report only one problem per report. This will facilitate a faster response.
7. Mail the problem report to HP.

If the problem is related to HP C++ documentation, you can report the problem to the CSC (if you have a Software Product Services Support Agreement and the problem is severe); otherwise, send your comments about HP C++ documentation to the following Internet address:

`c_docs@hp.com`

To obtain information about purchasing a Software Product Services Support Agreement or other support services, please contact your local HP sales representative or business partner.

A

Sample C++ Compiler Installation

This appendix contains a sample installation for the HP C++ kit. It is only a sample. Sometimes the installation procedure is modified in maintenance updates of this product.

Because this installation guide is not usually revised for maintenance updates, be sure to read the applicable *Read Before Installing or Using HP C++* letter before you install this product. This letter notes any significant changes to the installation sample shown here. Such information also appears in the online release notes.

Depending on which layered products you have on your system, you might see additional messages and questions when you perform your installation.

This sample installation assumes that DECnet has been shut down, that no users are logged in to your system, and that OPTIONS N is specified to print the release notes. The Installation Verification Procedure (IVP) runs at the end of the installation.

Example A-1 shows a sample installation of HP C++ 7.1 on an OpenVMS Alpha Version 8.2 system.

Example A-1 Sample HP C++ Installation on OpenVMS Alpha Version 8.2

```
$ @sys$update:vmsinstal
```

```
OpenVMS Alpha Software Product Installation Procedure V8.2
```

```
It is 16-June-2005 at 13:35.
```

```
Enter a question mark (?) at any time for help.
```

```
* Are you satisfied with the backup of your system disk [YES]? Y
```

```
* Where will the distribution volumes be mounted: DKA400:[CXX071]
```

```
Enter the products to be processed from the first distribution volume set.
```

```
* Products: cxx
```

```
* Enter installation options you wish to use (none): n
```

```
The following products will be processed:
```

```
CXX V7.1
```

```
Beginning installation of CXX V7.1 at 13:35
```

```
%VMSINSTAL-I-RESTORE, Restoring product save set A ...
```

```
%VMSINSTAL-I-REMOVED, Product's release notes have been moved to SYS$HELP.
```

```
HP C++ Version V7.1 for OpenVMS Alpha Systems
```

```
Copyright 2005 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.
```

```
* Should this V7.1-001 system compiler remain the default when cxx is typed [NO]:  
The newly installed compiler will become the system default compiler.
```

```
* Do you want to purge files replaced by this installation [YES]?
```

```
This kit contains an Installation Verification Procedure  
(IVP) to verify the correct installation of the  
HP C++ compiler component and class library headers.  
IVP will be placed in:
```

```
SYS$TEST:CXX$IVP.COM
```

(continued on next page)

**Example A-1 (Cont.) Sample HP C++ Installation on OpenVMS Alpha
Version 8.2**

After the installation is complete, you can invoke the command file at any time to reverify that HP C++ is installed and working correctly. If you wish to invoke it automatically at the completion of this installation procedure, answer Yes to the following question.

* Do you want to run the IVP after the installation [YES]? **Y**

The C Runtime Library, and C++ Class Library, headers will be installed as Text Libraries (.TLBs). If you also wish to install the traditional text form of the headers (.H and .HXX files) for reference purposes, please answer yes to the following question. The text headers will be placed in a subdirectory that will not be searched by the compiler. Instead, they will be placed the subdirectory tree:

```
SYS$COMMON:[CXX$LIB.REFERENCE...]
```

(SYS\$COMMON:[CXX\$LIB.REFERENCE...] for the HP C RTL header library, CXX\$RTLDEF, and the system definition header library, SYS\$STARLET_C.)

Note that doing this may double the disk space used for the headers.

* Do you want to install the text form of the headers? [YES]? **Y**

The HP C++ compiler component requires a Product Authorization Key (PAK) for HP C++ to be registered and loaded. Answer the following question with YES if a PAK with the specified product name and a date equal to or later than the date shown is registered and loaded, otherwise answer NO.

```
Product:      CXX-V
Producer:     DEC

Version:      7.1
Release Date: dd-mmm-2005
```

* Does this product have an authorization key registered and loaded? **Y**

All questions and validations regarding the installation of HP C++ kit components have now been asked. Depending upon your configuration, time estimates for the installation(s) are as follows:

(continued on next page)

Example A-1 (Cont.) Sample HP C++ Installation on OpenVMS Alpha Version 8.2

Compiler/Linker/Library: 2 minutes
Text form of headers: 4 minutes
IVP: 2 minutes
Moving files: 6 minutes

You may optionally add the SYS\$STARTUP:CCXX\$STARTUP.COM to the system startup procedure. To use HP C++ for OpenVMS Alpha on other Alpha nodes of a VMScluster, from a privileged account on each such node enter the command "\$ @SYS\$STARTUP:CCXX\$STARTUP.COM". This will install images.

The existing version of VMI\$ROOT:[SYSLIB]DECC\$RTLDEF.TLB is identical or newer than the one on this installation kit. Installation of the kit version will not be performed.

Your OpenVMS system will now be updated to include the following new and modified file(s):

SYS\$HELP:CXX.RELEASE_NOTES	[new]
SYS\$HELP:CXX_RELEASE_NOTES.PS	[new]
SYS\$TEST:CXX\$IVP.COM	[new]
SYS\$SYSTEM:CXX\$DELETE_VERSION.COM	[new]
SYS\$SYSTEM:CXX\$SET_VERSION.COM	[new]
SYS\$SYSTEM:CXX\$SHOW_VERSIONS.COM	[new]
SYS\$SYSTEM:CXX\$COMPILER.EXE	[new]
SYS\$MESSAGE:CXX\$COMPILER_MSG.EXE	[new]
SYS\$LIBRARY:DCLTABLES.EXE	[modified]
SYS\$COMMON:[CXX\$LIB]CXX\$CLD.CLD	[new]
SYS\$SYSTEM:CXX\$COMPILER_V07_01-001.EXE	[new]
SYS\$MESSAGE:CXX\$COMPILER_MSG_V07_01-001.EXE	[new]
SYS\$COMMON:[CXX\$LIB]CXX\$CLD_V07_01-001.CLD	[new]
SYS\$HELP:HELPLIB.HLB	[modified]
SYS\$SYSTEM:CXX\$LINK.EXE	[new]
SYS\$MESSAGE:CXX\$LINK_MSG.EXE	[new]
SYS\$COMMON:[CXX\$LIB]CXXLINK.CLD	[new]
SYS\$SYSTEM:CXX\$LINK_V07_01-001.EXE	[new]
SYS\$MESSAGE:CXX\$LINK_MSG_V07_01-001.EXE	[new]
SYS\$COMMON:[CXX\$LIB]CXXLINK_V07_01-001.CLD	[new]
SYS\$SYSTEM:CXX\$DEMANGLE.EXE	[new]
SYS\$COMMON:[CXX\$LIB]CXXDEMANGLE.CLD	[new]
SYS\$SYSTEM:CXX\$DEMANGLE_V07_01-001.EXE	[new]
SYS\$COMMON:[CXX\$LIB]CXXDEMANGLE_V07_01-001.CLD	[new]

(continued on next page)

**Example A-1 (Cont.) Sample HP C++ Installation on OpenVMS Alpha
Version 8.2**

```
SYS$HELP: [CXX$HELP] INTZLN.PDF [new]
SYS$HELP: [CXX$HELP] IOSTREAM.PDF [new]
SYS$HELP: [CXX$HELP] INTZLN.PS [new]
SYS$HELP: [CXX$HELP] IOSTREAM.PS [new]
SYS$HELP: [CXX$HELP] CXX_CLASSLIB.PS [new]
SYS$HELP: [CXX$HELP] CXX_USERSGUIDE.PS [new]
SYS$HELP: [CXX$HELP] CXX_CLASSLIB.TXT [new]
SYS$HELP: [CXX$HELP] CXX_USERSGUIDE.TXT [new]
SYS$STARTUP: CXX$STARTUP.COM [new]
SYS$LIBRARY: LIBCXXSTD.OLB [new]
SYS$LIBRARY: LIBCXXSTD_MA.OLB [new]
SYS$LIBRARY: LIBCXXSTD_NOINST.OLB [new]
SYS$LIBRARY: LIBCXXSTD_MA_NOINST.OLB [new]

SYS$LIBRARY: LIBCXXSTD_V07_01-001.OLB [new]
SYS$LIBRARY: LIBCXXSTD_MA_V07_01-001.OLB [new]
SYS$LIBRARY: LIBCXXSTD_NOINST_V07_01-001.OLB [new]
SYS$LIBRARY: LIBCXXSTD_MA_NOINST_V07_01-001.OLB [new]

SYS$LIBRARY: CXXLSANSI_DEF.TLB [new]
SYS$LIBRARY: CXXLSANSI_DEF_V07_01-001.TLB [new]
```

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...

Beginning HP C++ V7.1-001 Installation Verification Procedure

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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.

Test compiler operation and error messages...

Test Class Library operation...

HP C++ V7.1-001 Installation Verification Procedure completed successfully

Installation of CXX V7.1 completed at 13:45

Adding history entry in VMI\$ROOT:[SYSUPD]VMSINSTAL.HISTORY

Creating installation data file: VMI\$ROOT:[SYSUPD]CXX071.VMI_DATA

Enter the products to be processed from the next distribution volume set.

(continued on next page)

**Example A-1 (Cont.) Sample HP C++ Installation on OpenVMS Alpha
Version 8.2**

* Products:

```
VMSINSTAL procedure done at 13:45
$
```


B

Files Installed on Your System

The HP C++ installation procedure installs and modifies a number of files on your system, as listed in Table B-1.

Table B-1 Files Installed or Modified

File	New or Modified
SYS\$HELP:CXX.RELEASE_NOTES	new
SYS\$HELP:CXX_RELEASE_NOTES.PS	new
SYS\$TEST:CXX\$IVP.COM	new
SYS\$SYSTEM:CXX\$DELETE_VERSION.COM	new
SYS\$SYSTEM:CXX\$SET_VERSION.COM	new
SYS\$SYSTEM:CXX\$SHOW_VERSIONS.COM	new
SYS\$SYSTEM:CXX\$COMPILER.EXE	new
SYS\$MESSAGE:CXX\$COMPILER_MSG.EXE	new
SYS\$LIBRARY:DCLTABLES.EXE	modified
SYS\$COMMON:[CXX\$LIB]CXX\$CLD.CLD	new
SYS\$SYSTEM:CXX\$COMPILER_V07_01-001.EXE	new
SYS\$MESSAGE:CXX\$COMPILER_MSG_V07_01-001.EXE	new
SYS\$COMMON:[CXX\$LIB]CXX\$CLD_V07_01-001.CLD	new
SYS\$HELP:HELPLIB.HLB	modified
SYS\$SYSTEM:CXX\$LINK.EXE	new
SYS\$MESSAGE:CXX\$LINK_MSG.EXE	new
SYS\$COMMON:[CXX\$LIB]CXXLINK.CLD	new
SYS\$SYSTEM:CXX\$LINK_V07_01-001.EXE	new

(continued on next page)

Table B–1 (Cont.) Files Installed or Modified

File	New or Modified
SYS\$MESSAGE:CXX\$LINK_MSG_V07_01-001.EXE	new
SYS\$COMMON:[CXX\$LIB]CXXLINK_V07_01-001.CLD	new
SYS\$SYSTEM:CXX\$DEMANGLE.EXE	new
SYS\$COMMON:[CXX\$LIB]CXXDEMANGLE.CLD	new
SYS\$SYSTEM:CXX\$DEMANGLE_V07_01-001.EXE	new
SYS\$COMMON:[CXX\$LIB]CXXDEMANGLE_V07_01-001.CLD	new
SYS\$HELP:[CXX\$HELP]INTZLN.PDF	new
SYS\$HELP:[CXX\$HELP]IOSTREAM.PDF	new
SYS\$HELP:[CXX\$HELP]INTZLN.PS	new
SYS\$HELP:[CXX\$HELP]IOSTREAM.PS	new
SYS\$HELP:[CXX\$HELP]CXX_CLASSLIB.PS	new
SYS\$HELP:[CXX\$HELP]CXX_USERSGUIDE.PS	new
SYS\$HELP:[CXX\$HELP]CXX_CLASSLIB.TXT	new
SYS\$HELP:[CXX\$HELP]CXX_USERSGUIDE.TXT	new
SYS\$STARTUP:CCXX\$STARTUP.COM	new
SYS\$LIBRARY:LIBCXXSTD.OLB	new
SYS\$LIBRARY:LIBCXXSTD_MA.OLB	new
SYS\$LIBRARY:LIBCXXSTD_NOINST.OLB	new
SYS\$LIBRARY:LIBCXXSTD_MA_NOINST.OLB	new
SYS\$LIBRARY:LIBCXXSTD_V07_01-001.OLB	new
SYS\$LIBRARY:LIBCXXSTD_MA_V07_01-001.OLB	new
SYS\$LIBRARY:LIBCXXSTD_NOINST_V07_01-001.OLB	new
SYS\$LIBRARY:LIBCXXSTD_MA_NOINST_V07_01-001.OLB	new
SYS\$LIBRARY:CXXL\$ANSI_DEF.TLB	new
SYS\$LIBRARY:CXXL\$ANSI_DEF_V07_01-001.TLB	new

C

Recovering from Errors

This appendix provides information to help you with failures or errors that might occur during product installation or product use.

C.1 Failures During HP C++ Installation

If VMSINSTAL detects any problems during the installation, it notifies you and asks if you want to continue the installation. In some instances, you can enter yes to continue. To stop the installation process and correct the situation, enter no or press Return, then correct the problem and restart the installation.

If errors occur during the installation itself or when the Installation Verification Procedure (IVP) is running, VMSINSTAL displays failure messages. If the installation fails, you see the following message:

```
%VMSINSTAL-E-INSFAIL, The installation of  
HP C++ 7.1 has failed.
```

If the IVP fails, you see these messages:

```
The HP C++ 7.1 Installation Verification Procedure failed.
```

```
%VMSINSTAL-E-IVPFAIL, The IVP for HP C++ 7.1 has failed.
```

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

- The operating system version is incorrect.
- A prerequisite software version is incorrect.
- Quotas necessary for successful installation are insufficient.
- System parameter values for successful installation are insufficient.
- The OpenVMS Help library is currently in use.
- The product license has not been registered and loaded.

For descriptions of the error messages generated by these conditions, see the OpenVMS documentation on system messages, recovery procedures, and OpenVMS software installation. If you are notified that any of these conditions exist, you should take the appropriate action as described in the message. For information on installation requirements, see Chapter 1.

C.2 Problems During HP C++ Use

If you encounter a problem while using HP C++, see the *Release Notes*. If the problem is unresolved, report it to HP. Depending on the type of support you have and the nature of the problem, take one of the following actions:

- If you have a Software Product Services Support Agreement, contact your HP Customer Support Center (CSC), either by telephone or using the electronic means provided with your support agreement (such as DSNlink). The CSC provides telephone support for high-level advisory and remedial assistance. When you initially contact the CSC, please indicate the following:
 - The name (OpenVMS Alpha) and version of your operating system
 - The product name (HP C++) and version number you are using
 - The hardware system you are using, such as a model number
 - A very brief description of the problem (one sentence if possible)
 - How critical the problem is

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

CSC personnel might ask for additional information, such as listings of any command files, INCLUDE and COPY 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 (floppy diskette or magnetic tape).

- If the problem is related to HP C++ documentation, you can report the problem to the CSC (if you have a Software Product Services Support Agreement and the problem is severe); otherwise, send your comments about HP C++ documentation to the following Internet address:
`c_docs@hp.com`