Compaq C

Installation Guide for OpenVMS VAX Systems

Order Number: AA–PXWXF–TE

February 2001

This guide contains instructions for installing *Compaq C* on a VAX processor system running the *OpenVMS* operating system.

Revision/Update Information: This revised manual supersedes the *DEC C Installation Guide for OpenVMS VAX Systems*, (Order No. AA–PXWXE–TE)

Operating System & Version: *OpenVMS VAX* Version 5.5-2 or higher. Future maintenance releases may require higher versions.

Software Version: *Compaq C* Version 6.4 or higher for *OpenVMS VAX* Systems

Compaq Computer Corporation
Houston, Texas

First Printing, May 1993
Revised, February 2001

This document is available on CD-ROM.

This document was prepared using VAX DOCUMENT Version 2.1.

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Preface

Purpose of this Guide

This guide describes how to install *Compaq C* on VAX processors that are running the *OpenVMS* operating system.

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

You may send comments or suggestions regarding this guide, or any *Compaq C* document, by electronic mail to the following Internet address:

c_docs@compaq.com

Intended Audience

The audience for this guide is the system manager who installs *Compaq C* software.

Structure of this Document

This guide is organized as follows:

- Chapter 1 describes the operating system and hardware requirements for *Compaq C* installation and related procedures that you complete before installing *Compaq C*.
- Chapter 2 describes the step-by-step instructions for the installation.
- Chapter 3 describes actions and considerations after the installation, including running the Installation Verification Procedure (IVP).
- Appendix A contains sample listings for *Compaq C* installation.

Manuals in the *Compaq C* Documentation Set

In addition to this guide, the *Compaq C* documentation set for *OpenVMS VAX* systems includes the following books:

- *Compaq C Migration Guide for OpenVMS VAX Systems*
- *Compaq C Language Reference Manual*
- *Compaq C User's Guide for OpenVMS Systems*
- *Compaq C Run-Time Library Reference Manual for OpenVMS Systems*

Related Manuals

For information on *OpenVMS* system management, see the following documents in the *OpenVMS* documentation set:

- *OpenVMS System Manager's Manual*
- *Guide to Maintaining a VMS System*
- *OpenVMS License Management Utility Manual*
- *Guide to OpenVMS Performance Management*

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 Used in this Guide

Convention	Description
UPPERCASE TEXT	Uppercase letters indicate the name of a command, a file, a parameter, a procedure, or utility.
`$ @SYS$UPDATE:VMSINSTAL`	Monospace boldface text represents user input in interactive examples in the hardcopy and online versions of this guide.

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Table 1 (Cont.) Conventions Used in this Guide

Convention	Description
$	The dollar sign is used to indicate the DCL prompt. This prompt may be different on your system.
Ctrl/x	The key combination Ctrl/X indicates that you must press the key labeled Ctrl while you simultaneously press another key, for example, Ctrl/Y or Ctrl/Z.
Return	In procedures, a key name is shown enclosed to indicate that you press a key on the keyboard.
. . .	Vertical ellipsis in an example means that information not directly related to the example has been omitted.
file-spec, . . .	Horizontal ellipsis indicates that additional parameters, values, or information can be entered.
[ ]	Square brackets indicate that the enclosed item is optional. (Square brackets are not, however, optional in the syntax of a directory name in a file specification or in the syntax of a substring specification in an assignment statement.)
VMS system	All references to *VMS* system refer to the *OpenVMS* operating system.

1

Preparing for *Compaq C* Installation

This chapter discusses the preparations and requirements necessary for installing *Compaq C* for *OpenVMS VAX* Systems.

This guide applies to *Compaq C* for *OpenVMS VAX* Version 6.4 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 Compaq representative.

Compaq C provides separate online release notes. The release notes contain installation-related notes and a summary of technical changes, known problems, restrictions, and incompatibilities. Reading the release notes before proceeding with the installation is strongly recommended. For information on accessing the online release notes, see Section 2.1.

1.1 Required Operating System Components

Compaq C for *OpenVMS VAX* Systems, Version 6.4 requires *OpenVMS VAX* Version 5.5-2 or higher.

The *OpenVMS VAX* (formerly VAX VMS) operating system comes with a variety of support options, including such features as networking and RMS journaling. To use *Compaq C*, your system should be running a version of *OpenVMS* that includes the following:

- Programming support
- Utilities

1.2 Prerequisite Software

If you are installing *Compaq C* on *OpenVMS VAX* Version 5.5-2 or Version 6.0, you must first install the *Compaq C/C++* Run-Time Components kit. See the *Compaq C/C++ Run-Time Components for OpenVMS VAX Reference and Installation Guide* .

1.3 Optional Software

See the Software Support Addendum (SSA) that comes with the Software Product Description (SPD) for a complete list of prerequisite and optional software products and their required version numbers.

Note that *Compaq C* and *VAX C* can coexist on your system. The CC command is used to invoke either the *VAX C* or *Compaq C* compiler. If your system has a *VAX C* compiler already installed on it, you have the option of specifying which compiler will be invoked by default whenever just the CC command verb is used. To invoke the compiler that is not the default, use the CC command with the appropriate qualifier: /DECC for the *Compaq C* compiler, or /VAXC for the *VAX C* compiler. See the *Compaq C* release notes for more information.

1.4 License Registration

Before you install and run *Compaq C* Version 6.4 on a newly licensed node or cluster, you must first register a License Product Authorization Key (License PAK) using the License Management Facility (LMF). The License PAK may 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 *Compaq C* 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 *Compaq C*, review the PAK status and install the PAKs for any prerequisite or optional software before you install *Compaq C*.

You must register and load your license for *Compaq C* before you start the installation to run the Installation Verification Procedure (IVP) and use the software.

To register a license under *OpenVMS VAX*, first log in to the system manager's account, SYSTEM. You then have a choice of two ways to perform the registration:

- Invoke the SYS$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 the License PAK information.

If you plan to use *Compaq C* on more than one node in a VAXcluster, 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 *VMS License Management Utility Manual*.

1.5 Installation Procedure Requirements

This section discusses various requirements for installing *Compaq C*.

Each installation takes approximately 10 to 60 minutes, depending on your type of media and your system configuration.

Installing *Compaq C* and running the Installation Verification Procedure (IVP) on a standalone VAXstation 4000-60 system takes approximately 15 minutes.

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 type YES to continue. To stop the installation process and correct the situation, type NO or press Return. Then correct the problem and restart the installation.

1.5.1 Privileges and Disk Space

To install *Compaq 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 privilege at the start of the installation.

The *Compaq C* requirements for free disk storage space are different during installation and after installation. Table 1–1 lists the storage requirements. You can now install the C documentation in .ps, .txt, and .html formats. The installation default is to not install the documentation, but if you do, note the additional disk space required.

Table 1–1 Disk Space Requirements

Kit	Blocks During Installation	Blocks After Installation
Compiler only	100,000	80,000
Compiler and documentation	180,000	120,000

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 Process Account Quotas

The account you use to install *Compaq C* must have sufficient quotas to enable you to perform the installation. Table 1–2 summarizes the process quotas required for the installation account.

Table 1–2 Process Account Quotas for the Installing Account

ASTLM	190
BIOLM	160
DIOLM	160
ENQLM	4000
FILLM	300
PGFLQUOTA	20,480

User account quotas are stored in the file SYSUAF.DAT. Use the *OpenVMS* Authorize Utility (AUTHORIZE) to verify and change process quotas for the installation account. (Some sites may restrict the use of the *OpenVMS* Authorize Utility to certain accounts or people.) For example, to change the BIOLM quota for the *account-name* installation account, you might enter the following command sequence:

```
$ RUN SYS$SYSTEM:AUTHORIZE
UAF> MODIFY account-name/BIOLM = 160
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.

For more information on modifying account quotas, see the description of the Authorize Utility in the *OpenVMS System Management Subkit*.

1.5.3 System Parameters

Installing *Compaq C* requires certain system parameter settings.

The minimum number of contiguous free global pages and global sections needed for the installation depends on whether SYS$SYSTEM:DECC$COMPILER.EXE was previously installed as a shared known image. See Table 1–3.

Table 1–3 Global Sections and Pages Required

Previously Installed as Shared?	Global Sections	Global Pages
No	1	Sufficient number of contiguous free global pages to contain the file SYS$LIBRARY:DCLTABLES.EXE
Yes	4	Approximately 2000 contiguous free global pages plus a sufficient number of contiguous free global pages to contain the file SYS$LIBRARY:DCLTABLES.EXE

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

Note

You must ensure that your system has the necessary global page and global section SYSGEN quotas for the installation. Failure to do so could cause the DCL tables to be corrupted in some situations.

1.5.3.1 Calculating the Values for CONTIG_GBLPAGES and FREE_GBLSECTS

To install and run *Compaq C*, you must have sufficient contiguous free global pages and free global sections. You must first find out how many free global pages and sections you have on your system. Use AUTOGEN if you need to increase the CONTIG_GBLPAGES and FREE_GBLSECTS system parameters.

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

```
$ DIR/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 pages needed for the file.

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

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

If the value of contiguous free global pages or free global sections is less than the value required (see Section 1.5.3), you must increase the system parameter setting.

Section 1.5.3.2 describes the procedures for increasing these values using AUTOGEN.

1.5.3.2 Changing System Parameter Values with AUTOGEN

If you do not have enough contiguous free global pages or free global sections to install *Compaq C*, you can do either of the following:

- Delete an existing known image using the *OpenVMS* Install Utility.
- Use the AUTOGEN command procedure to increase the GBLPAGES or GBLSECTIONS system parameters.

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

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

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 GBLPAGES and GBLSECTIONS, use ADD_GBLPAGES and ADD_GBLSECTIONS, respectively. The following example increases the global page setting by 2000:

```
ADD_GBLPAGES = 2000
```

Be aware that when you set the page file quota, you should 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. Enter the following command to recalculate your system parameters and reboot the system:

```
$ @SYS$UPDATE:AUTOGEN SAVPARAMS 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.

The AUTOGEN Utility 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 *OpenVMS System Management Subkit*.

1.5.4 Backing Up Your System Disk

At the beginning of the installation, VMSINSTAL asks if you have backed up your system disk. Doing a system disk backup before installing any software is strongly recommended.

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 Subkit*.

1.6 Installing and Using Multiple Compiler Versions

Compaq C Version 6.4 provides initial support for installing and using multiple versions of the compiler on the same node.

During installation of Version 6.4, if a Version 6.0 or Version 6.2 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 `cc` command for the process that invokes it.

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

1.6.1 Displaying and Selecting the Compiler Version

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

- SYS$SYSTEM:DECC$SHOW_VERSIONS.COM

  This procedure displays the *Compaq 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$system:decc$show_versions.com

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

Filename                      Version
---------------------------------------
DECC$COMPILER.EXE             V6.4-005
DECC$COMPILER_T06_04-002.EXE  T6.4-002
DECC$COMPILER_T06_04-001.EXE  T6.4-001
DECC$COMPILER_V06_00-001.EXE  V6.0-001    Process Default
DECC$COMPILER_V06_02-008.EXE  V6.2-008

$ @sys$system:decc$show_versions.com V6.0

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

Filename                      Version
---------------------------------------
DECC$COMPILER_V06_00-001.EXE  V6.0-001    Process Default
```

- SYS$SYSTEM:DECC$SET_VERSION.COM

  This procedure sets up process logicals that point to an alternate *Compaq C* compiler in SYS$SYSTEM, or it removes the process logicals to revert to using the default system compiler. The procedure takes one argument, a version number or the keyword SYSTEM. If no arguments are specified you are prompted for them. The SYSTEM argument selects the installed system compiler, which is the one displayed with the filename DECC$COMPILER.EXE in the output of decc$show_versions.com.

Alternate compilers are shown in that output with their version number appended to the simple filename (DECC$COMPILER_V06_02-008.EXE in the previous example).

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 decc$set_version.com routine. However, to select a 6.4 compiler, a full ident string is required to distinguish between the V6.4-005, T6.4-001, and the T6.4-002 compiler:

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

@sho logical DECC$*

(LNM$PROCESS_TABLE)

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

$ @decc$set_version.com 6.4

The following 6.4 Compaq C compiler(s) are available in
SYS$SYSTEM:

Filename                      Version
---------------------------------------
DECC$COMPILER.EXE             V6.4-005
DECC$COMPILER_T06_04-001.EXE  T6.4-001
DECC$COMPILER_T06_04-002.EXE  T6.4-002

Ambiguous version number, please be specify a full version number, ex: V6.4-005
Version number : V6.4-005

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

When this procedure is run in a process, subsequent `cc` 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.

1.6.2 Side Effects and Restrictions on Multiple Versions

When you install this kit, it provides the latest CLD file (to established DCL tables), the latest decc$rtldef.tlb, and the latest documentation, even if you select the option of having the new compiler as the alternate compiler. The new CLD file and the new decc$rtldef.tlb do not adversely impact a preexisting Version 6-based compiler because they are upwardly compatible. However, if you attempt to use a new compiler option with an older compiler, you will no longer get a DCL error that the option is not supported. Instead, the option will be silently ignored. For example, note that before installation of Version 6.4, the following would have produced: "%DCL-W-IVQUAL, unrecognized qualifier ...."

```
$@sys$system:decc$set_version.com 6.2
$ cc /first_include foo.c  ! /first_include new in 6.4
$ !No complaint
```

And because you must have the newest CLD file and header files in order to use the newest compiler, if you run an older installation procedure to put an older compiler back on your system, you must then re-run the Version 6.4 installation to get the newest files.

Note that there are two logical names involved in establishing the compiler version: one for the compiler image and one for its message file. This version of the compiler issues a diagnostic if it is invoked with the wrong version of the message file, but prevous versions of the compiler do not detect this situation. If you find that an older version of the compiler is issuing diagnostics that do not make sense for the code construct they are attached to, or if the message text is missing and only a message number is issued, check that you have matched versions of the files designated by the two logicals using the command "$ show logical decc$compiler*". The response should show matching version-numbered files as in the example that selects the Version 6.2 compiler. Or if you are using the system compiler, the response should be "%SHOW-S-NOTRAN, no translation for logical name DECC$COMPILER*".

1.6.3 Installation Procedure Changes

When you install *Compaq C* Version 6.4 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 cc 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
Installing *Compaq C*

This chapter explains how to install *Compaq C*:

- Section 2.1 contains a step-by-step description of the installation procedure.
- Section 2.2 covers error recovery considerations.

2.1 Installation Procedure

The *Compaq C* installation procedure consists of a series of questions and informational messages. See Appendix A for sample installations.

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.

Defaults appear in brackets ([ ]) throughout the installation procedure.

1. **Log in to a privileged account and set your default device and directory to SYS$UPDATE, where VMSINSTAL resides.**

   ```
   Username: SYSTEM
   Password:
   $ SET DEFAULT SYS$UPDATE
   ```

2. **Invoke VMSINSTAL.**

   ```
   @SYS$UPDATE:VMSINSTAL saveset-name device-name OPTIONS N
   ```

   saveset-name
   The installation name for the component. For *Compaq C*, use the following installation name:

   CC06*n*

   Where *n* represents the minor (point) release number of *Compaq C*, such as CC064 for Version 6.4. Refer to the label on the *Compaq C* distribution kit or the *Compaq C* BOM or BIL for the maintenance update number of your kit.

device-name
The name of the device on which you plan to mount the media, or the name of the *device:[directory]* that contains the save sets. For example, DKA400: is the device name used in examples in this guide. The directory is [CC06*n*.KIT], where *n* is the minor release number.

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

```
DKA400:[CC06n.KIT]
```

OPTIONS N
An optional parameter that indicates you want to see the question on release notes. If you do not include the OPTIONS N parameter, 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 OPTIONS N.

There are several other options you can select when you invoke VMSINSTAL:

- Auto_answer (A): Initially creates a file that contains your answers to VMSINSTAL questions and prompts. This option, and the answer file it produces, can save time during a reinstallation (typically after upgrading your system).
- Get save set (G): Stores product save sets temporarily on a magnetic tape or in a disk directory.
- File log (L): Logs all activity to the terminal during installation.
- Alternate root (R): Installs the product to a system root other than that of the running system.

See the *OpenVMS* documentation on software installation in the *OpenVMS System Management Subkit* for detailed information on these options. If you specify more than one option, separate the options with commas (for example: OPTIONS A,N).

The following example invokes VMSINSTAL to install *Compaq C* and shows the system response. This example uses the OPTIONS N release note parameter.

```
$ @SYS$UPDATE:VMSINSTAL CC06n DKA400:[CC06n.KIT] OPTIONS N

      OpenVMS VAX Software Product Installation Procedure V5.5-2


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. VMSINSTAL does not prompt you for any options, so be sure to include OPTIONS N on the VMSINSTAL command line to access the release notes during the installation.

When you invoke VMSINSTAL, it checks for the following requirements:

- Whether you logged in to a privileged account. We recommend 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 Section 1.5.
- Whether any users are logged in to the system. If users are logged in, you are asked whether you want to continue the installation. If you want to continue, enter YES. If you want to stop the installation, press Return.

3. **Confirm system backup.**

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

VMSINSTAL asks if you are satisfied with your system backup. You should always back up your system disk before performing an installation. 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.

4. **Mount the media.**

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

```
Where will the distribution volumes be mounted: DKA400:[CC06n.KIT]
```

If this prompt appears, enter the name of the distribution (media) device and directory the contains the *Compaq C* kit (save set). For example, if the media is contained on a CD located on unit DKA400:, enter DKA400:[CC06*n*.KIT] in reply to this question (where *n* is the minor release number.)

Depending on the type of device and whether the device is already mounted, the following prompt may or may not appear:

```
Please mount the first volume of the set on DKA400:.
* Are you ready? YES
%MOUNT-I-MOUNTED, Compaq C mounted on DKA400:
```

If you have not already done so, you should now insert the distribution volume on the device you specified when you invoked VMSINSTAL. The device name appears in the line preceding the question. VMSINSTAL then asks you if you are ready to continue with the installation.

If you enter YES to indicate that you are ready, VMSINSTAL displays a message that the media containing *Compaq C* has been mounted on the specified device and that the installation has started.

If you entered the wrong device name when you invoked VMSINSTAL and need to restart the installation, enter NO in response to the ‘‘Are you ready?’’ question. To abort the installation for other reasons, press Ctrl/Y.

5. **Verify the product being installed**

```
The following products will be processed:
  CC V6.n

    Beginning installation of CC V6.n at 20:00
%VMSINSTAL-I-RESTORE, Restoring product saveset A...
```

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

6. **Select a release notes option.**

```
Release notes included with this kit are always copied to SYS$HELP.

Additional Release Notes Options:

    1.  Display release notes
    2.  Print release notes
    3.  Both 1 and 2
    4.  None of the above

* Select option [2]:
```

If you specified OPTIONS N when you invoked VMSINSTAL, you are asked to choose one of the four options for reviewing the release notes.

- Select option 1 to immediately display the release notes online. You can terminate the display at any time by pressing Ctrl/C.

- Select option 2 to print the release notes. You are prompted for the name of the print queue that you want to use:

  ```
  * Queue name [SYS$PRINT]:
  ```

  Either press Return to send the file to the default output print device (SYS$PRINT) or enter another queue name.

- Select option 3 to immediately display the release notes online and then be prompted for a queue name for the printed version.
- Select option 4 if you have already reviewed the release notes and are restarting the installation.

Next, VMSINSTAL displays the following question:

```
* Do you want to continue the installation [N]?: YES
%VMSINSTAL-I-RELMOVED, Product's release notes have been moved to SYS$HELP.
```

To continue the installation, enter YES. Otherwise, press Return. In either case, the release notes are copied to the following file in the SYS$HELP directory (where *n* is the minor version number):

```
SYS$HELP:CC06n.RELEASE_NOTES
```

Note

The name of the release notes file installed by VMSINSTAL consists of the current product name and version number. Do not delete release notes for previous versions of *Compaq C* (if any).

---

7. **Respond to license registration queries.**

   Compaq C supports the *OpenVMS* License Management Facility (LMF). The installation procedure displays license information about your product, asks if you want *Compaq C* documentation installed, and asks if you have registered and loaded your Product Authorization Key (PAK) for *Compaq C*. The following is an example of such information:

```
Compaq C Version 6.4 for OpenVMS VAX Systems

  Copyright 2001 Compaq Computer Corporation

  Compaq and the Compaq logo Registered in U.S. Patent and Trademark Office.

  Confidential computer software. Valid license from Compaq 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.
```

```
 Product:       C
 Producer:      DEC
 Version:       6.4
 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 have to register and load your PAK to run the Installation Verification Procedure (IVP). If you have not done so, you should stop the installation, register and load your PAK, and then restart the installation.

8. **Decide whether to install the documentation.**

```
    HTML, postscript and text versions of the Compaq C Users Guide,
    Language Reference Manual and RTL Reference Manual may be optionally
    installed into SYS$COMMON:[SYSHLP.CC$VAX_HELP_064].
    These documents consume approximately 40000 blocks.

* Should these manuals be provided? [NO]? yes Return
```

If you have adequate disk space and wish to install the C documentation, enter Yes. Once the documentation is installed, you can browse the HTML version by opening the following file from your browser:

```
SYS$COMMON:[SYSHLP.CC$VAX_HELP_064]INDEX.HTM
```

9. **Read information about Release Notes.**

```
  This kit contains a file summarizing the new features, changes,
  restrictions, and compatibility issues in this release of Compaq C.
  This file is named CC064.RELEASE_NOTES and has been placed in
  SYS$HELP:.

  This file contains information valuable to Compaq C programmers.
  Please inform your user community of this file's existence.
```

10. **Choose the IVP option.**

The installation procedure asks if you want to run the IVP. The IVP for *Compaq C* checks to be sure that the installation is successful. It is recommended that you run the IVP by answering YES to the following prompt:

```
   This kit contains an Installation Verification Procedure (IVP)
    to verify the correct installation of Compaq C.  The IVP will
    be left in:

        SYS$COMMON:[SYSTEST]DECC$IVP.COM

    After the installation is complete, you can invoke the command
    file at any time to verify that Compaq C is installed and
    working correctly.
```

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

After *Compaq 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 *Compaq C*.

11. **Choose the default for the CC command.**

    You will see the prompts described in this step only if your system has a VAX C compiler installed.

    The CC command is used to invoke either the *VAX C* or *Compaq C* compiler. If your system has a *VAX C* compiler already installed on it, you have the option of specifying which compiler will be invoked by default whenever just the CC command verb is used. To invoke the compiler that is not the default, use the CC command with the appropriate qualifier: /DECC for the *Compaq C* compiler, or /VAXC for the *VAX C* compiler.

    If *VAX C* is installed on your system, you can choose the default to use for the CC command:

```
A VAX C compiler was found on your system. The CC command will have
the capability to invoke the Compaq C compiler via the command CC/DECC.
The CC command will also have the capability to invoke the VAX C
compiler via the command CC/VAXC. You have the choice of the CC
command defaulting to execute either:
    - the Compaq C compiler [DECC]
    - the VAX C compiler [VAXC]
If you choose DECC as the default, existing command files using CC to
invoke VAX C may not work.  Other layered products expecting CC to
invoke VAX C during their installation procedure may not install.

* The default compiler when only CC is specified, VAXC or DECC [DECC]:
```

    Either press Return to accept DECC as the default, or enter VAXC.

    If VAX C is not installed on the system, the following information is displayed:

```
VAX C is not installed on the system. Should you install VAX C at
some future time, you must reinstall Compaq C to provide a command line
definition for the CC command that can invoke either product.
```

12. **Purge files.**

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

    The directories SYS$HELP, SYS$MESSAGE, SYS$SYSTEM, DECC$LIBRARY, and SYS$TEST may contain previous versions of *Compaq C* files. These files are replaced during the installation with new files, but the old files are not automatically purged. Purging is recommended.

In response to the purging prompt, press Return to purge the files or enter NO to keep them.

13. **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. If you chose to have files purged, that work is done now. The following messages are displayed:

```
    You have answered all of the questions for this installation.  The
    installation will now execute in 10 to 60 minutes without further
    intervention, depending on your configuration, installation media,
    and so forth.

        The C Runtime Library headers and Starlet headers are installed as
        a Text Library (.TLB).  The traditional text form  of the headers
        (.H files) are also provided for  reference  purposes only) in
        the directories: SYS$COMMON:[DECC$LIB.REFERENCE.DECC$RTLDEF] and
        SYS$COMMON:[DECC$LIB.REFERENCE.SYS$STARLET_C].

        Please note that the compiler does not search the reference areas
        SYS$COMMON:[DECC$LIB.REFERENCE.DECC$RTLDEF] and
        SYS$COMMON:[DECC$LIB.REFERENCE.SYS$STARLET_C] during compilation.
        Instead headers are taken from the text library.

%VMSINSTAL-I-SYSDIR, This product creates system disk directory
                                                 VMI$ROOT:[SYSTEST.DECC].

    Your OpenVMS system will now be updated to include the
    following new and modified files:

    [SYSEXE]DECC$COMPILER.EXE              [new]
    [SYSHLP]HELPLIB.HLB                    [modified]
    [SYSHLP]CC$HELP*.HTML                  [new]
    [SYSHLP]CC06n.RELEASE_NOTES            [new]
    [SYSHLP]CC06n_RELEASE_NOTES.PS         [new]
    [SYSLIB]DCLTABLES.EXE                  [modified]
    [SYSLIB]DECC$RTLDEF.TLB                [new]
    [SYSLIB]DECC$COMPILED_PRINTF.OLB       [new]
    [DECC$LIB.REFERENCE.SYS$STARLET_C]*.H  [new]
    [DECC$LIB.REFERENCE.DECC$RTLDEF]*.H    [new]
    [SYSMSG]DECC$MSG_SHR.EXE               [new]
    [SYS$STARTUP]DECC$STARTUP.COM          [new]
    [SYSTEST]DECC$IVP.COM                  [new]
    [SYSTEST.DECC]DECC$IVP*.*              [new]
```

```
The file SYS$STARTUP:DECC$STARTUP.COM contains commands to be
executed at system startup to allow for the best compilation
performance.  You may want to invoke this command file from your
system's site specific startup file. This command file does not
have to be invoked for correct operation of Compaq C.
```

The end of the installation is indicated by the following message:

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

14. **Observe the IVP.**

    If you chose to run the IVP, VMSINSTAL now invokes the IVP to verify that *Compaq C* was installed successfully:

```
Beginning COMPAQ C V6.n Installation Verification Procedure

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Confidential computer software. Valid license from Compaq 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.

Image Check Complete
License Check Complete
Version Check Complete
Message Check Complete
Header Check Complete
Run Time Library Check Complete

COMPAQ C V6.n Installation Verification Procedure Successful

    Installation of CC V6.n completed at hh.mm

    VMSINSTAL procedure done at hh:mm
```

15. **The installation procedure ends.**

```
   Installation of CC V6.n completed at hh:mm

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

Creating installation data file: VMI$ROOT:[SYSUPD]CC06n.VMI_DATA

   VMSINSTAL procedure done at hh:mm

$ LOGOUT
SYSTEM     logged out at dd-mmm-yyyy hh:mm:ss.ss
```

When the installation is complete, you can choose to install more products or to log out (as shown here). If you removed any media from the console drive before beginning the installation, you should replace it now.

Be aware that VMSINSTAL deletes or changes entries in the process symbol tables during the installation. Therefore, if you are going to continue using the system manager's account and you want to restore these symbols, you should log out and log in again.

2.2 Error Recovery

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 Compaq C V6.n has failed.
```

If the IVP fails, you see these messages:

```
The Compaq C V6.n Installation Verification Procedure failed.
```

```
%VMSINSTAL-E-IVPFAIL, The IVP for Compaq C V6.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 Section 1.5.

If the installation fails, you must restart the installation procedure from step 2 in Section 2.1. 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 a Compaq field service representative.

3

After Installing *Compaq C*

Compaq C is now installed and can be invoked by all users with the CC command.

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

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

You can perform the following system management tasks after *Compaq 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 VAXcluster
- Setting user account quotas
- Tailoring your system
- Enhancing performance
- Reporting problems

3.1 Running the Installation Verification Procedure Separately

You usually run the IVP during installation. If you want to run the *Compaq C* IVP separately to ensure the integrity of installed files should system problems occur, execute the following command procedure:

```
$ @SYS$SYSROOT:[SYSTEST]DECC$IVP
```

If the IVP fails for any reason, the following message is displayed:

```
Compaq C VERSION 6.n TEST FAILED
```

3.2 Editing and Organizing System Files

To provide for automatic startup of *Compaq C* when your system is rebooted, add the command line that starts *Compaq C* to the system startup file, SYS$MANAGER:SYSTARTUP_VMS.COM (V5.0 and later) or SYS$MANAGER:SYSTARTUP_V5.COM (V5.x systems):

```
$ @SYS$STARTUP:CCXX$STARTUP.COM
```

You must invoke this command procedure to define the logical names that the compiler needs to find the *Compaq C* header source files and any *Compaq C++* class library header files.

Note

SYS$STARTUP:CCXX$STARTUP.COM initializes the *Compaq C* and *Compaq C++* compile-time environment only. To initialize the *DEC C/C++ Run-Time Components* environment on applicable *OpenVMS VAX* systems, execute SYS$STARTUP:CRT$STARTUP.COM according to the instructions in the installation guide for that kit.

If your system has *DEC C++ for OpenVMS VAX* Version 1.1 installed, be sure to note the following changes and required actions:

- *DEC C++ for OpenVMS VAX* Version 1.2 has succeeded Version 1.1. Compaq recommends that you upgrade to Version 1.2, which has many problem fixes and a new installation and startup procedure that cooperates with the procedures used by this *Compaq C* installation.
- Beginning with *DEC C++ for OpenVMS VAX* Version 1.2 and and *DEC C for OpenVMS VAX* Version 4.0, the default locations for the top-level directories dev:[DECC$LIBRARY] and dev:[CXX$LIBRARY] have changed to SYS$COMMON:[DECC$LIB] and SYS$COMMON:[CXX$LIB], respectively.

  After installing *DEC C for OpenVMS VAX* Version 4.0 or higher, the system logical DECC$LIBRARY_INCLUDE points to a new header area. Therefore, if your system has *DEC C++ for OpenVMS VAX* Version 1.1 installed, be sure to take note of the old location before installing *Compaq C*.

- With *DEC C* Version 4.0 and higher, the location for the library form of the *DEC C* headers has changed from that used in previous *DEC C* and *DEC C++* versions. The old location was dev:[DECC$LIBRARY.INCLUDE]. The new location is SYS$LIBRARY.
- The *DEC C* Version 4.0 and higher startup is called CCXX$STARTUP.COM and is shared by *Compaq C* and *Compaq C++*. This startup file obsoletes both CC$STARTUP.COM (used in previous test versions of *DEC C*) and CXX$STARTUP.COM (if *DEC C++ for OpenVMS VAX* Version 1.1 is installed on your system).

  Delete CC$STARTUP.COM and CXX$STARTUP.COM and remove them from SYS$STARTUP:SYSTARTUP_xxx.COM.

  As a reminder to do this, the *Compaq C* installation creates stub copies of both CC$STARTUP.COM and CXX$STARTUP.COM that do nothing but announce that the old versions of these files are obsolete and should be deleted.

In summary, unless you want to reuse the obsolete default directories for DECC$LIBRARY_INCLUDE, you should remove the following files from the old areas (dev is selected during *DEC C++* Version 1.1 installation; it defaults to SYS$SYSDEVICE):

```
dev:[DECC$LIBRARY...]*.*;*
dev:[000000]DECC$LIBRARY.dir;*
SYS$STARTUP:CXX$STARTUP.COM
SYS$STARTUP:CC$STARTUP.COM
SYS$COMMON[SYSTEST.DECC...]*.*;*
SYS$COMMON[SYSTEST]DECC.dir;*
SYS$HELP:CC013.RELEASE_NOTES;*
```

If you are installing the *DEC C* Version 4.0 (or higher) files into the same areas as you chose for the C header files when installing *DEC C++* Version 1.1, you can either delete the entire directory tree dev:[DECC$LIBRARY...] before installing the new version, or delete only the following files after installing *Compaq C*:

```
SYS$STARTUP:CXX$STARTUP.COM;*
SYS$STARTUP:CC$STARTUP.COM;*
dev:[DECC$LIBRARY.SYSTEM]*.*;*
dev:[DECC$LIBRARY]SYSTEM.dir;*
dev:[DECC$LIBRARY.CRTL]*.*;*
dev:[DECC$LIBRARY]CRTL.dir;*
dev:[DECC$LIBRARY.INCLUDE]DECC$RTLDEF.TLB_OLD;*
SYS$COMMON[SYSTEST.DECC...]*.*;*
SYS$COMMON[SYSTEST]DECC.dir;*
```

If you have a system logical or one or more options files that point to the old linker and the old run-time libraries (RTLs) that resided in dev:[CXX$LIBRARY.SYSTEM]LINK.EXE and dev:[DECC$LIBRARY.CRTL]*.*, you should remove them. That linker is obsolete and the RTLs are made obsolete by the *DEC C/C++ Run-Time Components* Version 6.0 for *OpenVMS VAX* kit (or by your Version 6.0 or later *OpenVMS VAX* system).

3.3 VAXcluster Considerations

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

1. Enter the LICENSE LOAD command, as described in the *OpenVMS License Management Utility Manual*, to activate the license on each node in the VAXcluster on which *Compaq C* is to be executed.
2. Log in to the installation node and use the *OpenVMS* INSTALL Utility to determine whether DECC$COMPILER.EXE is a known image:

   ```
   $ INSTALL
   INSTALL> LIST SYS$SYSTEM:DECC$COMPILER.EXE
   ```

   If the output of the preceding LIST command shows DECC$COMPILER.EXE to be a known image, perform all of the following steps. Otherwise, perform all of the following steps except step 5.
3. Log in to a node on the cluster.
4. Update the DCL tables on all nodes, if enough global pages are available:

```
SYSMAN>SET ENV/CLUSTER
SYSMAN>DO -
IF F$GETSYI("CONTIG_GBLPAGES").GT.F$FILE("SYS$SHARE:DCLTABLES.EXE","EOF") -
THEN INSTALL REPLACE SYS$SHARE:DCLTABLES
```

5. If DECC$COMPILER.EXE was established as a known image using the INSTALL utility, enter the following commands:

   ```
   $INSTALL
   INSTALL> REPLACE SYS$SYSTEM:DECC$COMPILER.EXE
   ```

   This command replaces the INSTALL entry for DECC$COMPILER.EXE.

   Repeat this step only for those nodes of the cluster on which you activated the *Compaq C* license in step 1. (In most cases, all the nodes will be licensed.)

3.4 User Account Requirements

To work with *Compaq C*, user accounts on your system must have certain privileges and quotas. The following sections contain information on these requirements.

3.4.1 Privileges

To use *Compaq 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 *Compaq 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 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 Enhancing *Compaq C* Performance

The following sections include information on system tuning and explain how to install *Compaq C* as a shared image.

3.5.1 Tuning Your System

After you install *Compaq C*, you might want to adjust your system to enhance performance or lower the use of some system resources. Information about tuning your system is included in the *Guide to OpenVMS Performance Management*.

3.5.2 Installing *Compaq C* as a Shared Image

If you expect *Compaq C* to be used extensively on your system, you can reduce the system overhead and memory requirements by installing it as a shared image.

To install *Compaq C* as a shared image on a system that is currently running, use the *OpenVMS* INSTALL utility. We recommend that you install *Compaq C* as shared on a system that has been rebooted recently, because the available space in the global page table is less likely to be fragmented.

To install *Compaq C* as a shared image:

1. Make sure your system has the required number of available global pages and global sections. See Section 1.5.3.1.

2. After you have reset the system parameter values, invoke the *OpenVMS* INSTALL utility from a privileged account and install *Compaq C* as a shared image by entering the following commands:

```
$ INSTALL
INSTALL> ADD SYS$SYSTEM:DECC$COMPILER.EXE/OPEN/SHARED/HEADER_RESIDENT
INSTALL> ADD SYS$MESSAGE:DECC$MSG_SHR.EXE/OPEN/SHARED/HEADER_RESIDENT
INSTALL> EXIT
```

3. Add the following lines to the appropriate system startup command file so that *Compaq 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 for *OpenVMS* Version 5.5-2, for example, is SYS$STARTUP:SYSTARTUP_V5.COM.

```
$ INSTALL
ADD SYS$SYSTEM:DECC$COMPILER.EXE/OPEN/SHARED/HEADER_RESIDENT
ADD SYS$MESSAGE:DECC$MSG_SHR.EXE/OPEN/SHARED/HEADER_RESIDENT
EXIT
```

When you install *Compaq C* as a shared image you need to increase the global pages and global sections parameters as described in Section 1.5.3.1.

3.6 Getting Help and Reporting Problems

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

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 *Compaq 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 *Compaq 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 Compaq.

If the problem is related to *Compaq 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 *Compaq C* documentation to the following Internet address:

c_docs@compaq.com

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

A

Sample Installations

This appendix contains sample installations of the components on the *Compaq C* kit. Be aware that this is only a sample. Sometimes the installation procedure is modified in maintenance updates of this product.

Because this installation guide is not always revised for maintenance updates, be sure to read the *Read Before Installing Compaq C for OpenVMS VAX Systems, Version 6.n* letter before you install this product. This letter notes any significant changes to the installation samples shown here.

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

The sample installations assume that DECnet has been shut down, and that no users are logged on to your system. The Installation Verification Procedure (IVP) runs at the end of the installations.

A.1 New Installation

This sample was run on a system that had no previous version of *Compaq C* installed.

```
$ @sys$update:vmsinstal CC064 DKA400:[CC064.KIT] options n

        OpenVMS VAX Software Product Installation Procedure X7.2-72B

It is 22-JAN-2001 at 09:48.

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

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

The following products will be processed:

  CC V6.4

        Beginning installation of CC V6.4 at 09:48

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

    Release notes included with this kit are always copied to SYS$HELP.

    Additional Release Notes Options:
```

```
        1.  Display release notes
        2.  Print release notes
        3.  Both 1 and 2
        4.  None of the above

* Select option [2]: Return
* Queue name [SYS$PRINT]: Return
Job CC064 (queue LP29_B, entry 166) started on LP29_B
* Do you want to continue the installation [NO]? yes Return

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

  Compaq C Version 6.4 for OpenVMS VAX Systems

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  Confidential computer software. Valid license from Compaq 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.

        Product:      C
        Producer:     DEC
        Version:      6.4
        Release Date: 05-JAN-2001

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

    HTML, postscript and text versions of the Compaq C Users Guide,
    Language Reference Manual and RTL Reference Manual may be optionally
    installed into SYS$COMMON:[SYSHLP.CC$VAX_HELP_064].
    These documents consume approximately 40000 blocks.

* Should these manuals be provided [NO]: yes Return

    This kit contains a file summarizing the new features, changes,
    restrictions, and compatibility issues in this release of Compaq C.
    This file is named CC064.RELEASE_NOTES and has been placed in
    sys$common:[syshlp.cc$vax_help064]

    This file contains information valuable to Compaq C programmers.
    Please inform your user community of this file's existence.


    This kit contains a file summarizing the new features, changes,
    restrictions, and compatibility issues in this release of Compaq C.
    This file is named CC064.RELEASE_NOTES and has been placed in
    sys$common:[syshlp.cc$vax_help064]

    This file contains information valuable to Compaq C programmers.
    Please inform your user community of this file's existence.


* The default compiler when only CC is specified, VAXC or DECC [DECC]: Return
```

```
    This kit contains an Installation Verification Procedure (IVP)
    to verify the correct installation of Compaq C.  The IVP will
    be left in:

        SYS$COMMON:[SYSTEST]DECC$IVP.COM

    After the installation is complete, you can invoke the command
    file at any time to verify that Compaq C is installed and
    working correctly.

* Do you want to run the IVP after the installation [YES]? no Return

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

All questions have been answered. The installation will take a few minutes.

        The C Runtime Library headers and Starlet headers are installed as
        a Text Library (.TLB).  The traditional text form  of the headers
        (.H files) is also provided (for  reference  purposes only) in
        the directories: SYS$COMMON:[DECC$LIB.REFERENCE.DECC$RTLDEF] and
        SYS$COMMON:[DECC$LIB.REFERENCE.SYS$STARLET_C].

        Please note that the compiler does not search the reference areas
        SYS$COMMON:[DECC$LIB.REFERENCE.DECC$RTLDEF] and
        SYS$COMMON:[DECC$LIB.REFERENCE.SYS$STARLET_C] during compilation.
        Instead headers are taken from the text library.

    Please add SYS$STARTUP:CCXX$STARTUP.COM to the system startup
    procedure called SYS$STARTUP:SYSTARTUP_xxx.

    To use Compaq C for OpenVMS VAX on other VAX nodes of a VMScluster
    enter the command "$ @SYS$STARTUP:CCXX$STARTUP.COM" from a privileged
    account on each such node.  This will install Compaq C images and define
    "DECC$*" system-wide logical names.

%VMSINSTAL-I-RESTORE, Restoring product save set B ...

        The CXXDEMANGLE utility appears on this system.
        Installation of the kit version will not be performed.


    Your OpenVMS system will now be modified to include the
    following new and modified files:
```

```
    [SYSEXE]DECC$COMPILER.EXE             [new]
    [SYSMSG]DECC$MSG_SHR.EXE              [new]
    [SYSHLP]HELPLIB.HLP                   [modified]
    [SYSHLP.CC$VAX_HELP_064]*.*           [new]
    [SYSHLP]CC064.RELEASE_NOTES           [new]
    [SYSLIB]DCLTABLES.EXE                 [modified]
    [SYSLIB]DECC$RTLDEF.TLB               [new]
    [DECC$LIB.REFERENCE.SYS$STARLET_C]*.H [new]
    [DECC$LIB.REFERENCE.DECC$RTLDEF]*.H   [new]
    [SYSLIB]DECC$OLB.EXE                  [new]
    [SYSLIB]DECC$OLB.README               [new]
    [SYSLIB]DECC$OLB.OLB                  [new]
    [SYS$STARTUP]CCXX$STARTUP.COM         [modified]
    [SYSEXE]DECC$SET_VERSIONS.COM         [new]
    [SYSEXE]DECC$SHOW_VERSIONS.COM        [new]
    [SYSTEST]DECC$IVP.COM                 [modified]

    The file SYS$STARTUP:CCXX$STARTUP.COM contains commands to be
    executed at system startup to allow for the best compilation
    performance.  You may want to invoke this command file from your
    system's site specific start up file.  This command file does not
    have to be invoked for correct operation of Compaq C.

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

        Installation of CC V6.4 completed at 10:02

        VMSINSTAL procedure done at 10:02
```

A.2 Upgrade Installation

This sample was run on a system that had a previous version of *Compaq C* installed. The system is upgraded to the new version of the compiler, which becomes the default compiler. The old compiler is retained as an alternative compiler.

```
$ @sys$update:vmsinstal CC064 DKA400:[CC064.KIT]

        OpenVMS VAX Software Product Installation Procedure X7.2-72B

It is 17-JAN-2001 at 14:50.

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

%VMSINSTAL-W-NOTSYSTEM, You are not logged in to the SYSTEM account.
%VMSINSTAL-W-ACTIVE, The following processes are still active:
        UCX$NTPD
* Do you want to continue anyway [NO]? yes
* Are you satisfied with the backup of your system disk [YES]? Return

The following products will be processed:

  CC V6.4
```

```
        Beginning installation of CC V6.4 at 14:50

%VMSINSTAL-I-RESTORE, Restoring product save set A ...
%VMSINSTAL-I-RELMOVED, Product's release notes have been moved to SYS$HELP.

  Compaq C Version 6.4 for OpenVMS VAX Systems

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  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.

    A C V6.0-001 compiler was found on your system.
    Type YES to keep this compiler on your system either as
    the default system compiler, or as an alternate compiler.
    Type NO to supersede C V6.0-001.

 Should the existing V6.0-001 system compiler be preserved [NO]: yes Return

    Type NO to have the compiler on this kit become the default system compiler
    and to have the currently installed compiler saved as an alternate compiler.
    Type YES to keep the current system compiler as the default compiler,
    and to have the compiler on this kit available as an alternate compiler.
    Alternate compilers can be invoked with the cc command after invoking
    sys$common:[sysexe]decc$set_version.com passing a version_number.

* Should this V6.0-001 system compiler remain the default when cc is typed [NO]: no Return

        Product:      C
        Producer:     DEC
        Version:      6.4
        Release Date: 05-JAN-2001

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

    HTML, postscript and text versions of the Compaq C Users Guide,
    Language Reference Manual and RTL Reference Manual may be optionally
    installed into SYS$COMMON:[SYSHLP.CC$VAX_HELP_064].
    These documents consume approximately 40000 blocks.

* Should these manuals be provided [NO]: yes Return

    This kit contains a file summarizing the new features, changes,
    restrictions, and compatibility issues in this release of Compaq C.
    This file is named CC064.RELEASE_NOTES and has been placed in
    sys$common:[syshlp.cc$vax_help064]

    This file contains information valuable to Compaq C programmers.
    Please inform your user community of this file's existence.

* The default compiler when only CC is specified, VAXC or DECC [DECC]: Return
```

```
    This kit contains an Installation Verification Procedure (IVP)
    to verify the correct installation of Compaq C.  The IVP will
    be left in:

        SYS$COMMON:[SYSTEST]DECC$IVP.COM

    After the installation is complete, you can invoke the command
    file at any time to verify that Compaq C is installed and
    working correctly.

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

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


All questions have been answered. The installation will take a few minutes.

        The C Runtime Library headers and Starlet headers are installed as
        a Text Library (.TLB).  The traditional text form  of the headers
        (.H files) is also provided (for  reference  purposes only) in
        the directories: SYS$COMMON:[DECC$LIB.REFERENCE.DECC$RTLDEF] and
        SYS$COMMON:[DECC$LIB.REFERENCE.SYS$STARLET_C].

        Please note that the compiler does not search the reference areas
        SYS$COMMON:[DECC$LIB.REFERENCE.DECC$RTLDEF] and
        SYS$COMMON:[DECC$LIB.REFERENCE.SYS$STARLET_C] during compilation.
        Instead headers are taken from the text library.

    Please add SYS$STARTUP:CCXX$STARTUP.COM to the system startup
    procedure called SYS$STARTUP:SYSTARTUP_xxx.

    To use Compaq C for OpenVMS VAX on other VAX nodes of a VMScluster
    enter the command "$ @SYS$STARTUP:CCXX$STARTUP.COM" from a privileged
    account on each such node.  This will install Compaq C images and define
    "DECC$*" system-wide logical names.

%VMSINSTAL-I-RESTORE, Restoring product save set B ...

        The CXXDEMANGLE utility appears on this system.
        Installation of the kit version will not be performed.

    Your OpenVMS system will now be modified to include the
    following new and modified files:
```

```
    [SYSEXE]DECC$COMPILER_V06_00-001.EXE   [renamed]
    [SYSMSG]DECC$MSG_SHR_V06_00-001.EXE    [renamed]
    [SYSEXE]DECC$COMPILER.EXE              [new]
    [SYSMSG]DECC$MSG_SHR.EXE               [new]
    [SYSHLP]HELPLIB.HLP                    [modified]
    [SYSHLP.CC$VAX_HELP_064]*.*            [new]
    [SYSHLP]CC064.RELEASE_NOTES            [new]
    [SYSLIB]DCLTABLES.EXE                  [modified]
    [SYSLIB]DECC$RTLDEF.TLB                [new]
    [DECC$LIB.REFERENCE.SYS$STARLET_C]*.H  [new]
    [DECC$LIB.REFERENCE.DECC$RTLDEF]*.H    [new]
    [SYSLIB]DECC$OLB.EXE                   [new]
    [SYSLIB]DECC$OLB.README                [new]
    [SYSLIB]DECC$OLB.OLB                   [new]
    [SYS$STARTUP]CCXX$STARTUP.COM          [modified]
    [SYSEXE]DECC$SET_VERSIONS.COM          [new]
    [SYSEXE]DECC$SHOW_VERSIONS.COM         [new]
    [SYSTEST]DECC$IVP.COM                  [modified]

    The file SYS$STARTUP:CCXX$STARTUP.COM contains commands to be
    executed at system startup to allow for the best compilation
    performance.  You may want to invoke this command file from your
    system's site specific start up file.  This command file does not
    have to be invoked for correct operation of Compaq C.

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

    Beginning COMPAQ C V6.4 Installation Verification Procedure

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

    Image Check Complete
    License Check Complete
    Version Check Complete
    Message Check Complete
    Header Check Complete
    Run Time Library Check Complete

    COMPAQ C V6.4 Installation Verification Procedure Successful

        Installation of CC V6.4 completed at 15:04

        VMSINSTAL procedure done at 15:04
```

A.3 Installation with Old Compiler as Default

This sample was run on a system that had a previous version of *Compaq C* installed. In this sample, the new version of the compiler is installed, but the previous version of the compiler is kept and made the default compiler.

The installation procedure prompts you to designate one of the compiler versions as the system default compiler. See Section 1.6 for more information on installing and using multiple compiler versions.

```
$ @sys$update:vmsinstal CC064 DKA400:[CC064.KIT]

        OpenVMS VAX Software Product Installation Procedure X7.2-72B

It is 17-JAN-2001 at 11:00.

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

%VMSINSTAL-W-NOTSYSTEM, You are not logged in to the SYSTEM account.
%VMSINSTAL-W-ACTIVE, The following processes are still active:
        UCX$NTPD
* Do you want to continue anyway [NO]? yes Return
* Are you satisfied with the backup of your system disk [YES]? yes Return

The following products will be processed:

  CC V6.4

        Beginning installation of CC V6.4 at 11:00

%VMSINSTAL-I-RESTORE, Restoring product save set A ...
%VMSINSTAL-I-RELMOVED, Product's release notes have been moved to SYS$HELP.

  Compaq C Version 6.4 for OpenVMS VAX Systems

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  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.

    A C V6.0-001 compiler was found on your system.
    Type YES to keep this compiler on your system either as
    the default system compiler, or as an alternate compiler.
    Type NO to supersede C V6.0-001.

* Should the existing V6.0-001 system compiler be preserved [NO]: yes Return
```

```
    Type NO to have the compiler on this kit become the default system compiler
    and to have the currently installed compiler saved as an alternate compiler.
    Type YES to keep the current system compiler as the default compiler,
    and to have the compiler on this kit available as an alternate compiler.
    Alternate compilers can be invoked with the cc command after invoking
    sys$common:[sysexe]decc$set_version.com passing a version_number.

* Should this V6.0-001 system compiler remain the default when cc is typed [NO]: yes Return

        Product:      C
        Producer:     DEC
        Version:      6.4
        Release Date: 05-JAN-2001

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

    HTML, postscript and text versions of the Compaq C Users Guide,
    Language Reference Manual and RTL Reference Manual may be optionally
    installed into SYS$COMMON:[SYSHLP.CC$VAX_HELP_064].
    These documents consume approximately 40000 blocks.

* Should these manuals be provided [NO]: yes Return

    This kit contains a file summarizing the new features, changes,
    restrictions, and compatibility issues in this release of Compaq C.
    This file is named CC064.RELEASE_NOTES and has been placed in
    sys$common:[syshlp.cc$vax_help064]

    This file contains information valuable to Compaq C programmers.
    Please inform your user community of this file's existence.

    This kit contains an Installation Verification Procedure (IVP)
    to verify the correct installation of Compaq C.  The IVP will
    be left in:

        SYS$COMMON:[SYSTEST]DECC$IVP.COM

    After the installation is complete, you can invoke the command
    file at any time to verify that Compaq C is installed and
    working correctly.

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

All questions have been answered. The installation will take a few minutes.

        The C Runtime Library headers and Starlet headers are installed as
        a Text Library (.TLB).  The traditional text form  of the headers
        (.H files) is also provided (for  reference  purposes only) in
        the directories: SYS$COMMON:[DECC$LIB.REFERENCE.DECC$RTLDEF] and
        SYS$COMMON:[DECC$LIB.REFERENCE.SYS$STARLET_C].

        Please note that the compiler does not search the reference areas
        SYS$COMMON:[DECC$LIB.REFERENCE.DECC$RTLDEF] and
        SYS$COMMON:[DECC$LIB.REFERENCE.SYS$STARLET_C] during compilation.
        Instead headers are taken from the text library.
```

```
    Please add SYS$STARTUP:CCXX$STARTUP.COM to the system startup
    procedure called SYS$STARTUP:SYSTARTUP_xxx.

    To use Compaq C for OpenVMS VAX on other VAX nodes of a VMScluster
    enter the command "$ @SYS$STARTUP:CCXX$STARTUP.COM" from a privileged
    account on each such node.  This will install Compaq C images and define
    "DECC$*" system-wide logical names.

%VMSINSTAL-I-RESTORE, Restoring product save set B ...

        The CXXDEMANGLE utility appears on this system.
        Installation of the kit version will not be performed.

    Your OpenVMS system will now be modified to include the
    following new and modified files:

    [SYSEXE]DECC$COMPILER_V06_04-005.EXE  [new]
    [SYSMSG]DECC$MSG_SHR_V06_04-005.EXE   [new]
    [SYSHLP]HELPLIB.HLP                   [modified]
    [SYSHLP.CC$VAX_HELP_064]*.*           [new]
    [SYSHLP]CC064.RELEASE_NOTES           [new]
    [SYSLIB]DCLTABLES.EXE                 [modified]
    [SYSLIB]DECC$RTLDEF.TLB               [new]
    [DECC$LIB.REFERENCE.SYS$STARLET_C]*.H [new]
    [DECC$LIB.REFERENCE.DECC$RTLDEF]*.H   [new]
    [SYSLIB]DECC$OLB.EXE                  [new]
    [SYSLIB]DECC$OLB.README               [new]
    [SYSLIB]DECC$OLB.OLB                  [new]
    [SYS$STARTUP]CCXX$STARTUP.COM         [modified]
    [SYSEXE]DECC$SET_VERSIONS.COM         [new]
    [SYSEXE]DECC$SHOW_VERSIONS.COM        [new]
    [SYSTEST]DECC$IVP.COM                 [modified]

    The file SYS$STARTUP:CCXX$STARTUP.COM contains commands to be
    executed at system startup to allow for the best compilation
    performance.  You may want to invoke this command file from your
    system's site specific start up file.  This command file does not
    have to be invoked for correct operation of Compaq C.

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

        Installation of CC V6.4 completed at 11:14

        VMSINSTAL procedure done at 11:14
```