

hp DECwindows Motif for hp OpenVMS Alpha

Release Notes

February 2003

This manual describes corrections, known problems, and restrictions that pertain to the HP DECwindows Motif for HP OpenVMS Alpha Version 1.3 software.

Revision/Update Information:	This manual supersedes the <i>DECwindows Motif Version 1.2–6 for OpenVMS Release Notes</i> .
Operating System:	HP OpenVMS Alpha Version 7.3–1
Software Version:	HP DECwindows Motif for HP OpenVMS Alpha Version 1.3

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Palo Alto, California

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ZK6470

The HP DECwindows Motif for HP OpenVMS Alpha Version 1.3 documentation set is available on CD-ROM.

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Preface

These release notes describe corrections, known problems, and restrictions that pertain to the HP DECwindows Motif for HP OpenVMS Alpha Version 1.3 (DECwindows Motif) software.

The notes in this manual are cumulative from DECwindows Motif Version 1.0 and indicate any undocumented items that still pertain to the software. A label within each note specifies when the correction or problem was introduced.

Intended Audience

This manual is intended for users, system managers, and programmers who work with DECwindows Motif.

Document Structure

This manual is structured as follows:

- Chapter 1 provides an overview of the current release.
- Chapter 2 contains general user release notes for all users.
- Chapter 3 contains release notes intended for system managers.
- Chapter 4 contains release notes intended for application and system programmers.
- Chapter 5 contains corrections to the DECwindows Motif documentation set.
- Appendix A contains a subset of the release notes for OSF/Motif Release 1.2.
- Appendix B contains release notes for the DECwindows OSF/Motif Toolkit.

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<http://www.openvms.compaq.com/doc/>

Conventions

In this manual, references to OpenVMS are synonymous with the HP OpenVMS Alpha Operating System.

Unless otherwise specified, references to OpenVMS Clusters, VMScusters, or clusters in this document are synonymous with HP OpenVMS Clusters.

All uses of DECwindows and DECwindows Motif refer to the HP DECwindows Motif for HP OpenVMS Alpha software; and all uses of X server and the X display server refer to the DECwindows X11 Display Server. Additionally, all uses of DECwindows XUI (X User Interface) refer to the DECwindows product prior to DECwindows Motif Version 1.0.

The following conventions are also used in this manual:

- | | |
|--------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ctrl/x | A sequence such as Ctrl/x indicates that you must hold down the key labeled Ctrl while you press another key or a pointing device button. |
| Return | In examples, a key name enclosed in a box indicates that you press a key on the keyboard. (In text, a key name is not enclosed in a box.)

In the HTML version of this document, this convention appears as brackets, rather than a box. |
| ... | Horizontal ellipsis points in examples indicate one of the following possibilities: <ul style="list-style-type: none">• Additional optional arguments in a statement have been omitted.• The preceding item or items can be repeated one or more times.• Additional parameters, values, or other information can be entered. |
| . | Vertical ellipsis points indicate the omission of items from a code example or command format; the items are omitted because they are not important to the topic being discussed. |

()	In command format descriptions, parentheses indicate that you must enclose the choices in parentheses if you choose more than one.
[]	In command format descriptions, brackets indicate optional elements. You can choose one, none, or all of the options. (Brackets are not optional, however, in the syntax of a directory name in an OpenVMS file specification or in the syntax of a substring specification in an assignment statement.)
[]	In command format descriptions, vertical bars separating items inside brackets indicate that you choose one, none, or more than one of the options.
{ }	In command format descriptions, braces indicate required elements; you must choose one of the options listed.
text style	This text style represents the introduction of a new term or the name of an argument, an attribute, or a reason. In the HTML version of this document, this convention appears as <i>italic text</i> .
<i>italic text</i>	Italic text emphasizes important information and indicates complete titles of manuals and variables. Variables include information that varies in system messages (Internal error <i>number</i>), in command lines (/PRODUCER= <i>name</i>), and in command parameters in text (where <i>dd</i> represents the predefined code for the device type).
UPPERCASE TEXT	Uppercase text indicates a command, the name of a routine, the name of a file, or the abbreviation for a system privilege.
Monospace type	Monospace type indicates code examples and interactive screen displays. In the C programming language, monospace type in text identifies the following elements: keywords, the names of independently compiled external functions and files, syntax summaries, and references to variables or identifiers introduced in an example.
-	A hyphen at the end of a command format description, command line, or code line indicates that the command or statement continues on the following line.
numbers	All numbers in text are assumed to be decimal unless otherwise noted. Nondecimal radices—binary, octal, or hexadecimal—are explicitly indicated.

Introduction

This chapter summarizes the corrections, restrictions, and known problems associated with HP DECwindows Motif for HP OpenVMS Alpha Version 1.3. Table 1–1 lists all the notes associated with this release and cross-references the sections in which they are described.

For a detailed description of the features and enhancements introduced with this release, see the *hp DECwindows Motif for hp OpenVMS Alpha New Features* manual.

Table 1–1 Directory of Notes for DECwindows Motif Version 1.3

Title	Section
OpenVMS Display Device and Layered Product Interfaces	
SET DISPLAY: SET DISPLAY/REVOKE Error Message is Misleading	Section 2.1.1.1
SET DISPLAY: I/O Error Displayed When Using SET DISPLAY/REVOKE	Section 2.1.1.3
SET DISPLAY: SET DISPLAY/REVOKE Can Crash the X Server	Section 2.1.1.4
SET DISPLAY: SET DISPLAY/GENERATE Fails When Kerberos is Enabled	Section 2.1.1.2
SET DISPLAY: Display Devices Not Deleted Upon Exit	Section 2.1.1.5
Debugger: DECwindows Motif Interface to the OpenVMS Debugger Not Working Properly	Section 2.1.2.1
General User Notes	
Web Browser Support	Section 2.2.1
Request-Intensive Applications May Pause Before Closing	Section 2.2.2
New Desktop Notes	
Full File Specification No Longer Displayed in DTPAD Banner	Section 2.3.1
Style Manager Displays Incorrect Security Options on Multihead Systems	Section 2.3.2
Application Notes	
Bookreader: Bookreader Hangs When Switching Libraries	Section 2.4.1.1

(continued on next page)

Table 1–1 (Cont.) Directory of Notes for DECwindows Motif Version 1.3

Title	Section
CDA: Viewing Large, Color DDIF Files using eXcursion Version 7.1	Section 2.4.2.1
DECterm: Invoking DECterm May Fail while Kerberos is Enabled	Section 2.4.3.1
DECterm: Euro Currency Symbol May Not Display Correctly When Using eXcursion	Section 2.4.3.2
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General User Release Notes

This chapter contains information about HP DECwindows Motif for HP OpenVMS Alpha Version 1.3 for general users.

2.1 OpenVMS Display Device and Layered Product Interfaces

This section contains release notes that pertain to the OpenVMS display device (SET DISPLAY) and DECwindows Motif layered product interfaces.

2.1.1 OpenVMS Display Device (SET DISPLAY)

This section contains notes pertaining to OpenVMS display devices created and managed using the SET DISPLAY and SHOW DISPLAY commands.

2.1.1.1 SET DISPLAY/REVOKE Error Message is Misleading

V1.3

The error message for revoking a cookie that has timed out is misleading. The error message indicates there is a %SYSTEM-F-BADPARAM, bad parameter value. This does not indicate the nature of the error.

2.1.1.2 SET DISPLAY/GENERATE Fails When Kerberos is Enabled

V1.3

When using the Kerberos authentication protocol, the following command does not work:

```
$ SET DISPLAY/GENERATE=(PROTOCOL=MIT-KERBEROS-5)
```

There is no workaround to this problem.

2.1.1.3 I/O Error Displayed When Using SET DISPLAY/REVOKE

V1.3

Using the SET DISPLAY/REVOKE command to revoke a generated, trusted, cookie can sometimes result in an I/O error similar to the following:

```
XIO: fatal IO error 65535 (connection aborted) on X server ":0.0"
      after 10 requests (8 known processed) with 0 events remaining.
```

This error results from the cookie being used by the SET DISPLAY/REVOKE command to connect to the server. Revoking the cookie breaks the connection to the display server.

Although the error appears fatal, the revoke operation actually completes successfully.

General User Release Notes

2.1 OpenVMS Display Device and Layered Product Interfaces

2.1.1.4 SET DISPLAY/REVOKE Can Crash the X Server

V1.3

The following sequence of commands can cause an X server crash.

```
$ SET DISPLAY/CREATE/TRANSPORT=DECNET/GENERATE=(TRUSTED)
$ SET DISPLAY/REVOKE
```

The problem also occurs if you substitute TCPIP for DECNET.

To avoid this problem, do one of the following:

- Do not activate the Security (SECURITY) and Application Group (XC-APPGROUP) extensions. In SYS\$MANAGER:DECW\$PRIVATE_SERVER_SETUP.COM, make sure that SEC_XAG is not included in the definition for DECW\$SERVER_EXTENSIONS.

- Use the LOCAL transport.

```
$ SET DISPLAY/CREATE/TRANSPORT=LOCAL/GENERATE=(TRUSTED)
```

- Enable security auditing by setting the DECW\$SERVER_AUDIT_LEVEL server parameter to a value of 4 or greater in the file SYS\$MANAGER:DECW\$PRIVATE_SERVER_SETUP.COM.

2.1.1.5 Display Devices Not Deleted Upon Exit

V1.2

When creating user-mode display devices with the DCL SET DISPLAY command, note that any unused devices may not be deleted when you log out of DECwindows Motif. Display devices created with SET DISPLAY are seen as permanent devices until used by an X client application and are not destroyed upon exit.

To avoid this problem, create supervisor-mode display devices.

2.1 OpenVMS Display Device and Layered Product Interfaces

2.1.2 Debugger

This section contains notes pertaining to the DECwindows Motif interface to the OpenVMS Debugger.

2.1.2.1 DECwindows Motif Interface to the OpenVMS Debugger Not Working Properly

V1.3

The DECwindows Motif interface to the OpenVMS Alpha Version 7.3–1 Debugger does not function as expected with HP DECwindows Motif for HP OpenVMS Alpha Version 1.3. An update kit for the OpenVMS Alpha Debugger is available that corrects this problem. Contact your HP customer support representative to obtain the TIMA kit for OpenVMS Alpha Version 7.3–1 related to this issue.

2.1.3 DECTPU

This section contains release notes related to the DECwindows Motif interface to DECTPU.

2.1.3.1 Small Display Monitors and DECTPU

V1.0

When running DECTPU for DECwindows Motif on small display monitors, the main window can be less than fully visible.

To correct this condition, follow these steps:

1. Add the following resources to your DECTPU X resource file:

```
Tpu.Tpu$MainWindow.X:           0
Tpu.Tpu$MainWindow.Y:           0
Tpu.Tpu$MainWindow.Rows:       21
Tpu*condensedFont:              on
Tpu*fontSetSelection:           1
```

2. Copy the resource file from SYS\$LIBRARY:EVE.DAT and add the previous lines.
3. Use the logical name TPU\$DEFAULTS to point at the new resource file.

The following example invokes the EVE DECwindows Motif user interface using the X resource file names eve_small_window.dat in your login directory to edit the file LOGIN.COM.

```
$ DEFINE TPU$DEFAULTS SYS$LOGIN:EVE_SMALL_WINDOW.DAT
$ EDIT/TPU/INTER=DECWINDOWS LOGIN.COM
```

2.2 General DECwindows Motif Environment

This section contains release notes that pertain to the general DECwindows Motif user environment. This includes corrections, restrictions, and known problems that are common to both the New Desktop and the Traditional DECwindows Desktop environments.

2.2.1 Web Browser Support

V1.3

The Compaq Secure Web Browser (CSWB) is the officially supported web browser for OpenVMS Alpha and is a licensed part of the HP OpenVMS operating system. CSWB is based on the Mozilla Web Browser, which is designed for standards compliance, performance and portability.

General User Release Notes

2.2 General DECwindows Motif Environment

CSWB is available from the following OpenVMS web page:

<http://www.openvms.compaq.com/openvms/products/ips/cswb/cswb.html>

This page contains installation and running instructions, as well as information about hardware and software prerequisites, system parameters, account quotas, and problem reporting.

2.2.2 Request-Intensive Applications May Pause Before Closing

V1.3

There may be a slight delay when a request-intensive application running over a LOCAL network connection is forced to close via the Window Manager. For example, an attempt to close the DECW\$EXAMPLES:ICO application from a LOCAL display results in a slight pause before the application window closes.

This is a result of resource contention between the Window Manager (DTWM) and server processes. To prevent this problem from occurring, decrease the startup priority of the server process (DECW\$SERVER_0) to 4.

2.2.3 Application Race Condition Can Crash the X Server

V1.2-6

Quickly spawning and killing multiple client application processes on a multihead system has occasionally caused a crash of the X server. Abruptly stopping a client application before it has finished connecting to the server can prompt a race condition that causes the server to crash.

To avoid this problem, allow sufficient time for each application to connect to the server before stopping the application process.

2.2.4 Support Discontinued for Display PostScript

V1.2-6

Starting August 1, 1998, support was discontinued for Adobe Display PostScript software resulting from Adobe Systems Incorporated discontinuing its former ongoing support for Display PostScript.

This action has had a varying degree of impact on the behavior of those DECwindows Motif applications that used the Adobe Display PostScript software. For example, starting with DECwindows Motif for OpenVMS Version 1.2-6, Bookreader can no longer display graphics in PostScript format.

For information about the effects of this action on specific DECwindows applications, see the following release notes:

- Bookreader, Section 2.4.1.2
- CDA, Section 2.4.2.2
- DECwindows mail, Section 2.4.5.2

To learn about the possible impact to user-written and third-party applications designed for the DECwindows Motif environment, see Section 4.1.5.

2.2.5 Limited Support for Tear-Off Menus

V1.2-3

The following applications do not support tear-off menus:

- CDA Viewer
- Notepad
- Print Screen

2.2.6 Implications of the Message, “System Menu Bar: Pseudo Mouse Not Available”

V1.2-3

“System Menu Bar: Pseudo Mouse not available” is an informational message that is included in the user’s SYS\$LOGIN:DECW\$SM.LOG file when you run a session. It is not an error message. The message occurs when the OpenVMS Session Manager is run remotely to a non-OpenVMS server. The OpenVMS server provides pseudomouse mode, a mode that allows you to use arrow keys to move the mouse cursor.

2.2.7 Printing from Applications Linked Against OSF/Motif Release 1.1.3

V1.2

Applications that are linked against OSF/Motif Release 1.1.3 may end abruptly when you attempt to print on systems that do not have print queues. Any layered products that linked against the OSF/Motif Release 1.1.3 libraries and use the standard DECwindows print dialog (“print widget”) are also affected.

As a possible solution, either avoid displaying the DECwindows print dialog, or define a print queue on your system. The print queue does not have to be connected to a printer to accept print jobs. Assign a name to the print queue that indicates the print queue is not connected to a printer, for example, NULL_PRINTER.

2.3 New Desktop Environment

This section contains release notes that pertain to the New Desktop environment.

2.3.1 Full File Specification No Longer Displayed in DTPAD Banner

V1.3

When selecting a file from the File Manager (DTFILE) and opening that file for editing (using DTPAD), the full file specification (node, disk, directory, and filename) is no longer displayed in the window banner. Only the filename portion of the specification is displayed.

2.3.2 Style Manager Displays Incorrect Security Options on Multihead Systems

V1.3

When the using the Style Manager to access the Security Options dialog box from a screen other than screen 0, the settings shown in the dialog box may be incorrect.

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2.3 New Desktop Environment

To prevent this from occurring, always display the Security Options dialog box from screen 0. Use the Set Default Screen tool to select the screen on which the Style Manager displays.

Note that this problem only occurs on multiheaded systems configured without XINERAMA. In the XINERAMA case, there is only one logical screen.

2.3.3 Desktop Applications Disappear When Setting a Home Session

V1.2-6

In the Style Manager, selecting Startup and then Set Home Session can cause applications that you previously started using the Application Manager to disappear. This can happen if you start these applications with the Application Manager and then close the Application Manager before setting your home session.

The workaround is to keep the Application Manager window open.

2.3.4 DTSESSION Logging Problem

V1.2-5

In some cases, DTSESSION continues to log errors to its log file until all free disk space is filled. These errors could occur, for example, if DECW\$DISPLAY is set to an incorrect value, or if CDE\$SYSTEM_DEFAULTS:[BIN]DTSCREEN.EXE is not properly installed.

If on the New Desktop the Session Manager (DTSESSION) is unable to start the Screen Saver (DTSCREEN), it logs an error to the log file *device:[user.DT]ERRORLOG*. DTSESSION logs this error at a user-settable interval controlled by the Style Manager's "Time Per Background" parameter.

To workaround this problem, increase the "Time Per Background" parameter to the maximum (120 minutes), or exit the New Desktop when you are done with it, rather than locking the screen.

2.3.5 File Manager Problems with Extended File Specifications

V1.2-5

- The "Selected/Move to" menu item does not support case preservation. The files are moved correctly, but case is not preserved.
- The File Manager currently does not support case preservation when you create file names that contain special characters. For example, "Special^&Characters" will be converted to "SPECIAL^&CHARACTERS.;1".
- The "Selected/Put in Trash" menu item does not work on ODS-5 volumes marked for EFS (Extended File Specifications). This applies only to folders with extended file names. An error message similar to the following is displayed:

File Manipulation Error

```
Cannot create "sys$sysroot:[sysmgr.dt.trash]qwertyuiopasdfghjklzxcvbnm-  
QWERTYUIOPASDFGHJKLZXCVCBVM.LONG_NAME;1"
```

The most common cause is that you do not have the correct permissions for the involved files or folders.

To view permissions, select the object and then select "Change Permissions..." from the Selected or popup menu.

General User Release Notes

2.3 New Desktop Environment

These files can be deleted at the DCL level.

- Dragging a file or folder with an extended file name to Trash causes an error message. On an ODS-2 volume you can drag a file or folder with a short file name to Trash and still be able to restore it. On an ODS-5 volume you can drag a file or folder with a short name to Trash, but you cannot restore even files with short names from an ODS-5 volume. These files can be deleted at the DCL level.
- The “File/New Folder” menu item can handle the creation of a folder when the path length exceeds 255 characters, but the folder cannot be displayed (it is hidden). These files can be viewed at the DCL level.
- The “File/Find/File” menu item cannot find a file with file name that exceeds 235 characters if the full file name has been entered in the dialog’s form field. To avoid the problem, use wildcards to conduct the search.
- The “Selected/Purge” menu item does not work for long file names on ODS-5 volumes marked for EFS (Extended File Specifications). “Short” file names do not present this problem. An error similar to the following is displayed:

File Manipulation Error

```
Cannot create "sys$sysroot:[sysmgr.dt.trash]qwertyuiopasdfghjklzxcvbnm-  
QWERTYUIOPASDFGHJKLZXCVBNM.LONG_NAME;1"
```

The most common cause is that you do not have the correct permissions for the involved files or folders.

To view permissions, select the object and then select "Change Permissions..." from the Selected or popup menu.

These files with long file names can still be purged at the DCL level.

- Updated protection settings are not displayed when invoking “Fileview/Command/Protection,” although the settings have actually been updated. However, the new settings can be verified by either issuing a DCL command or invoking “Fileview/Command/Show File.”

2.3.6 DECwrite Icon Does Not Open DECwrite Program

V1.2-5

DECwindows does not include the DECwrite program. However, it does include the DECwrite icon on the New Desktop. If the DECwrite product has not been installed, clicking on the DECwrite icon results in the following error messages:

```
> RCV'D (pid 000000CA): %DCL-W-IVVERB, unrecognized command verb -  
check validity and spelling  
-> RCV'D (pid 000000CA): \DECWRITE\  
-> RCV'D (pid 000000CA): TESTER logged out at  
29-JUL-1998 17:56:44.63
```

If the DECwrite product is installed and you still get this error, ensure that DECwrite is started in SYSTARTUP_VMS.COM.

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2.3 New Desktop Environment

2.3.7 Delay When Exiting a Session with Open TPU Windows

V1.2-4

Users will experience a one-minute delay for each DECwindows Text Processing utility (TPU) window displayed when exiting the session or when saving a home session.

The DECwindows interface for TPU (EVE editor) requires notification if its state needs to be saved, but it does not respond to that notification sent by Session Manager. The Session Manager waits one minute for a response before continuing, resulting in the delay.

2.3.8 Viewing TIF Files with dximageview

V1.2-4

When using dximageview to view TIF formatted files from the CDE\$SYSTEM_DEFAULTS:[APPCONFIG.HELP.C.GRAPHICS] directory, the following warning messages are displayed:

```
TIFFOpen: Warning, unknown field with tag 34209 (0x85a1) ignored.  
TIFFOpen: XResolution: Rational with zero denominator (num = 200).
```

Note this error only occurs with the TIF files in CDE\$SYSTEM_DEFAULTS:[APPCONFIG.HELP.C.GRAPHICS]; it is only a warning. The file is still displayed correctly by the image viewer.

2.3.9 Text Editor Restrictions

V1.2-4

The Text Editor application, which is part of the New Desktop, is described in Chapter 10 of the *Common Desktop Environment: User's Guide*. Currently, it has the following issues and restrictions:

- The reference page for Text Editor describes a client/server implementation of the Text Editor. This release of the Text Editor supports the -“standAlone” option only and is not built as a client/server application.
- The spell-checking function described in the section “To Correct Misspelled Words” is not implemented in this version of the Text Editor.
- The Text Widget upon which the New Desktop Text Editor is based does not set the size of a tab to exactly the width of eight (8) characters; it is usually slightly larger. When displaying text with a combination of spaces and tabs, text may not appear vertically aligned.

2.3.10 Some File Names Displayed in UNIX Format

V1.2-4

In the Application Manager Find dialog box and in error messages reported by the Help Viewer, file names are displayed in UNIX format rather than in standard OpenVMS format. For example, SYS\$SYSROOT:[SYSMGR]LOGIN.COM appears as /sys\$sysroot/sysmgr/login.com.

2.3.11 Front Panel Clock is an Icon Only

V1.2-4

The New Desktop Front Panel Clock is an animated icon that displays the current system time using an analog display. The icon has no other function and does not support single-click or double-click operations.

2.3.12 ToolTalk Actions Not Supported

V1.2-4

Creation of ToolTalk Action definitions in the Action Definition files (*.dt) as described in the *Common Desktop Environment: Advanced User's and System Administrator's Guide* is not supported. Although some ToolTalk actions exist in the Action Definition files installed with this product, modification of these actions is not supported and could cause some New Desktop functions to fail.

2.3.13 Session Manager Save and Restore Limitations

V1.2-4

The Session Manager supplied with the New Desktop supports the WM_SAVE_YOURSELF protocol for the following DECwindows Motif applications: Bookreader, DECterm, and Calendar.

Note

This Session Manager application should not be confused with the Session Manager protocol that is part of X11R6.6 and available with HP DECwindows Motif for HP OpenVMS Alpha Version 1.3 systems.

Applications that have been written to take advantage of this protocol can:

- Save their state when the user exits a session.
- Restore a state when the user starts a new session.

The New Desktop applications support save/restore, but many existing DECwindows Motif applications have not been modified to support the WM_SAVE_YOURSELF protocol.

The impact of this difference between existing and new applications can be seen during a logout/login sequence as follows:

- Applications supporting save/restore create a main window if they were running when the user logged out.
- Applications that do not support save/restore do not automatically restart.

An example of an existing DECwindows Motif application that supports save/restore is DECwindows Mail.

2.3.14 File Manager Search List Limitations

V1.2-4

The File Manager application has the following limitations with search lists in the New Desktop environment.

- If you specify a folder (directory) name, which is strictly a logical name, and the logical name translates to a search list, only the first directory encountered in the search list is displayed.
- When displaying a directory whose name includes a search-listed device, all directories in the search path are displayed. If more than one directory with the same name exists in the search path, an icon appears for each instance of that directory. If more than one file with the same name exists in the search path, the behavior depends on whether the Show Top Version Only filter option has been selected. If selected, only one icon of the file with the

General User Release Notes

2.3 New Desktop Environment

highest version is displayed. If not selected, all versions from all locations are displayed. However, if more than one of the files has the same version number, any action to any of the files with that version applies to the first occurrence of the file in the search path.

For example, suppose the files `SYS$SPECIFIC:[SYSMGR]TOOLS.DIR;1` and `SYS$COMMON:[SYSMGR]TOOLS.DIR;1` both exist in a system. If a user switches to the directory `SYS$SYSROOT:[SYSMGR]`, two icons represent the file `TOOLS.DIR`. Operations performed on either of the two icons work identically. New files are created in the first directory in the search path. In addition, some actions for these icons may not work properly.

To work around this problem, specify explicit directory names when a conflict occurs, for example, `SYS$SPECIFIC:[SYSMGR]` or `SYS$COMMON:[SYSMGR]`.

2.3.15 Login and Pause Screen Text Field Restrictions

V1.2-4

The following sections provide information about the Login Screen and Pause Screen text fields.

2.3.15.1 Control Characters Not Recognized When Entering Username

The New Desktop does not support entering control characters in the login Username text field. If entered, these characters are discarded. This differs from the DECwindows login Username text field which supports such key sequences as:

- `Ctrl/U`, `Ctrl/J`, or `F13` (deletes to beginning of the line)
- `Ctrl/H` or `F11` (positions to the beginning of the line)
- `Ctrl/E` (positions at the end of the line)

The New Desktop does support `Ctrl/U`, which when typed while entering a password at login or when unpausing the screen, erases any characters entered up to that point.

2.3.15.2 Use Return Key to Move Between Login Text Fields

Because the Username text field and Password text field are different dialog boxes in the New Desktop, press the Return key to move the cursor from the Username text field to the Password text field. The Tab key does not move the cursor to the next text field; rather, this action highlights the OK button.

2.3.15.3 First Character Discarded When Entering Pause Screen Password

If the workstation is paused and the Password dialog box is not displayed, the first character typed is ignored. This differs from the DECwindows pause screen, which always accepts any characters typed.

When using the New Desktop, use a nontyping key, such as Shift, or move the mouse to redisplay the Pause dialog box before entering your password. If you are unsure of what you have already typed, you can use `Ctrl/U` to erase the Password text field.

2.3.15.4 Text on the Welcome Screen is Not Displayed

If the 100-dpi fonts are not included in the X server's font path, the welcome text is not displayed on the blue welcome screen that appears immediately after logging in. This may also occur if you are displaying your session on a remote X server.

2.3.16 Font Selection Limitations

V1.2-4

On the New Desktop, Style Manager contains a control that displays a dialog box used to select font size. Selecting a new font size affects only New Desktop applications and does not affect existing DECwindows Motif applications.

2.3.17 Default Workspace Limitations

V1.2-4

The New Desktop provides a default backdrop for the four default workspaces. You can change or even select Nobackdrop using the Backdrop control located in Style Manager.

When no backdrop is selected, you cannot drag icons and place them on the backdrop of the desktop. If you drag an icon and release it, it snaps back to File Manager or Application Manager.

Icons that were dropped on the background before Nobackdrop was selected remain and function correctly.

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2.4 Applications

2.4 Applications

The following sections contain notes related to specific DECwindows Motif applications.

2.4.1 Bookreader

This section contains release notes pertaining to the Bookreader application.

2.4.1.1 Bookreader Hangs When Switching Libraries

V1.2-6

When running DECwindows Motif Version 1.2-6 or greater on an OpenVMS Alpha Version 7.3-1 system, entering a library file specification that ends with a semicolon or a version number in the Selection field from the Switch Libraries dialog box causes Bookreader to hang.

To prevent this problem from occurring, do not specify a semicolon or version number at the end of the file specification.

2.4.1.2 Support for Display PostScript Removed

V1.2-6

With the removal of the support for Display PostScript from the current version of DECwindows Motif, Bookreader no longer supports the display of PostScript artwork in online manuals. When Bookreader detects PostScript artwork, it displays a full-size figure window with a large "X" overlaid with an error message box containing the following message:

```
Unable to display PostScript(R) graphic.  
This feature is no longer available.
```

There is no workaround.

2.4.1.3 Including Comment Characters in the DECW\$BOOKSHELF File

V1.2-3

If you include a comment character (! or #) in the last line of the DECW\$BOOKSHELF file, Bookreader fails with a reserved operand fault. As a workaround, ensure that you do not add comment characters to the last line of the file.

2.4.2 CDA

This section contains release notes that pertain to the Compound Document Architecture (CDA) Run-Time Services and CDA Viewer components of DECwindows Motif.

2.4.2.1 Viewing Large, Color DDIF Files using eXcursion Version 7.1

V1.3

If you are unable to display large, color DDIF files while running the CDA Viewer from an eXcursion X Server session, HP recommends that you do one of the following:

- Display the DDIF file from a CDA Viewer session that uses local or DECnet transport—outside of eXcursion.
- Upgrade the HP PATHWORKS 32 software to Version 7.2 or later. See the OpenVMS web site (<http://www.openvms.compaq.com>) for information on obtaining a copy of this software.

2.4.2.2 Support for Display PostScript Removed

V1.2-6

With the removal of the support for Display PostScript from the current version of DECwindows Motif, CDA no longer supports the display of PostScript source. The PostScript option has been removed from the CDA Viewer. If you attempt to view a PostScript file from the character cell interface CDA viewer, the viewer displays the following message:

```
%CDA-E-UNSUPFMT, unsupported document format.
```

There is no workaround.

2.4.3 DECterm

This section contains release notes pertaining to the DECterm application.

2.4.3.1 Invoking DECterm May Fail while Kerberos is Enabled

V1.3

When using Kerberos authentication, the DECterm controller may fail to start. The workaround for this problem is to change SYLOGIN.COM so that Kerberos is initialized (@SYS\$MANAGER:KRB\$SYMBOLS.COM) within the MODE_OTHER section of SYLOGIN.COM.

2.4.3.2 Euro Currency Symbol May Not Display Correctly When Using eXcursion

V1.3

Due to differences in how the euro symbol is supported between eXcursion and DECwindows Motif, the symbol may not display correctly on DECterm windows invoked via eXcursion. DECterm substitutes Latin-9 fonts with equivalent Latin-1 fonts, causing problems with the display of the symbol.

To prevent font substitution from occurring, modify the eXcursion font alias files, as described in the eXcursion release notes. The release notes describe how to edit the alias files, and describe additional restrictions related to support of the euro currency symbol.

2.4.3.3 Window Text is Not Displayed Properly on Multihead Systems

V1.3

In a multihead configuration that uses the XINERAMA extension and Powerstorm 4d20 graphics cards, DECterm windows may not display text properly. However, keyboard input is still processed.

Refreshing any affected DECterm displays by running the XREFRESH utility from within each window will normally correct the situation. XREFRESH can be executed as follows:

```
$ RUN DECW$UTILS:XREFRESH
```

2.4.3.4 DECterm Crashes Loading Agfa Monotype TrueType Fonts Specified with Wildcards

V1.3

When you attempt to specify an Agfa Monotype TrueType font (such as the DECterm font) using a wildcard in the font specification, DECterm crashes. The workaround is to enter the full X Logical Font Description (XLFD) name for the font (as listed in the *hp DECwindows Motif for hp OpenVMS Alpha New Features* manual) rather than specifying the wildcarded font name.

General User Release Notes

2.4 Applications

2.4.3.5 DECterm Window Shrinking Problem

V1.2-5

If the XUI window manager is in use, “Auto Resize Terminal” is on, and you used the mouse to resize the DECterm window, the DECterm window shrinks. To workaroud this problem, add the following line to the DECterm resource file `DECW$TERMINAL_DEFAULT.DAT`:

```
DECW$TERMINAL.main.terminal.useWMHints: false
```

If you make this change, be aware that the window manager will report the size of the DECterm window in pixels rather than character cells. Also, if you maximize a DECterm window, it might not properly restore to its previous size. However, it will no longer shrink.

2.4.3.6 DECterm Resource File Name

V1.2-4

The locale of the display is now used to create the file name of the DECterm resource file. For example, if the locale is set to “ja_JP”, then the default resource file name becomes `DECW$TERMINAL_DEFAULT_JA_JP.DAT`.

However, DECterm continues to use the old resource file name until the user selects Save Options at least once in the particular locale. The default resource file name for DECterm continues to be `DECW$TERMINAL_DEFAULT.DAT` if the locale meets any of the following conditions:

- Is “C”
- Starts with “en_US”
- Contains “8859-1”

2.4.3.7 Maximum Number of DECterm Windows

V1.2-4

A DECterm controller can create a maximum of 23 DECterm windows. This occurs because DECterm needs an event flag for each terminal window to use. There are 23 event flags that DECterm can use. (Event flag 0 and event flags 24–32 are not available for DECterm to use.)

If you need more than 23 DECterm windows, then you must create a new controller. To create a new controller, enter the following command:

```
$ MCR DECW$TERMINAL
```

Note that the window from which this command is executed cannot be used for anything else because this command does not return until the last DECterm window is closed. After starting the controller with this method, the user can create another 23 DECterm windows with the DCL command `CREATE/TERMINAL`.

2.4.3.8 Resizing the Terminal

V1.2-3

If you maximize the DECterm window when you enable the Auto Resize Terminal window option, the window is expanded to its nearest cell boundary; the window does not necessarily occupy the entire screen. The Restore options continue to function appropriately.

2.4.3.9 Reporting the DECterm Window Size

V1.2-3

When you enable the Show Feedback option in the Workspace Options dialog box of the Window Manager and you resize a DECterm window, the size of the window is reported in characters instead of pixels.

2.4.3.10 Changing the Auto Repeat Setting

V1.2-3

You cannot change the Auto Repeat setting in the DECterm Keyboard Options dialog box. Instead, change the setting in the Keyboard dialog box in the Session Manager (Traditional DECwindows Desktop) or Style Manager (New Desktop).

2.4.3.11 Positioning DECterm Windows

V1.2-3

DECterm windows may not be displayed where the DECW\$TERMINAL.x and DECW\$TERMINAL.y resources are specified. On the Traditional DECwindows Desktop, DECterm windows are positioned incorrectly if the resource `Mwm*clientAutoPlace` is set to TRUE. As a workaround, set this resource to FALSE and restart MWM.

If using the New Desktop workspace manager, DTWM, then the relevant resource is `Dtwm*clientAutoPlace`. Set this resource to FALSE and restart the workspace manager.

2.4.3.12 Timeout for Displaying the Copyright Notice

V1.2-3

If keyboard or mouse activity does not take place for 10 seconds after the copyright notice is displayed on the terminal, the notice disappears from the DECterm screen.

2.4.3.13 Selecting Fonts

V1.2

Not all fonts work properly with DECterm. DECterm emulates a character-cell terminal, and, therefore, expects the fonts to be monospaced (each glyph occupies the same number of pixels). Proportional fonts can be chosen, but they produce unpredictable results.

Furthermore, DECterm fonts are supplied in families of 26 related fonts, including variations for bold, double-width, double-width/double-height, normal, and condensed characters. Also, DECterm fonts include special characters, such as the Line Drawing and the DIGITAL Technical character sets. A DECterm font family is identified by the font naming convention.

Use of fonts that do not have all the related font family variations, fonts that do not have the needed special characters, or font families that do not adhere to the DECterm font family naming conventions, may not result in an optimal display or otherwise perform as expected.

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2.4 Applications

2.4.3.14 Supported DECterm Logical Names

V1.1

Table 2–1 describes the logical names that are supported by DECterm. If you do not define these logical names in your LOGIN.COM file, the controller uses the default values.

Table 2–1 Logical Names Supported by DECterm

Logical Name	Description
DECTERM_DIAG	Enables diagnostic messages.
DECTERM_SHOW_PARSING	Shows characters as they are parsed.
DECW\$DECTERM_OUTPUT	Name of diagnostic output file; default is SYS\$OUTPUT.
DECW\$DECTERM_REGIS_CURSOR	Specifies which cursor to use for ReGIS.
DECW\$TERMINAL_NODENAME	Node name used by controller if it cannot find another name.
DECW\$DECTERM_CTRL_SSRWAIT	Sets the SSRWAIT flag for the controller to 1.
DECW\$DECTERM_CTRL_PSWAPM	Sets the PSWAPM flag for the controller to 1.
DECW\$DECTERM_CTRL_WSEXTENT	Sets the WSEXTENT quota for the controller.
DECW\$DECTERM_CTRL_WSQUOTA	Sets the WSQUOTA quota for the controller.
DECW\$DECTERM_DISABLE_QUOTA_CHECKING	Turns off quota checking.
DECW\$DECTERM_MEM_DIAG	Shows controller quota calculations.

2.4.3.15 Printing to an Attached Printer

V1.1

Printing to a port device requires you to have read and write privileges on that port. You cannot print by allocating the device, since the controller requires access to the device. Instead, set the device to WORLD:RW.

For example, to use the printer port on a VAX 3100 system, enter the following command from a privileged account or include the command in the system startup file:

```
$ SET PROTECTION=WORLD:RW TTA3:/DEVICE
```

2.4.3.16 Improving Hold Screen Response Time

V1.1

If the hold screen key response time is too slow, add the following lines to your DECW\$TERMINAL_DEFAULT.DAT file:

```
DECW$TERMINAL.main.terminal.syncFrequency: 1  
DECW$TERMINAL.main.terminal.batchScrollCount: 1
```

Using these resources can affect the performance of the DECterm window. The actual impact on performance varies from site to site. You can trade off scrolling speed to hold-screen response time. A faster hold-screen response results in a slower scrolling speed. The default values for these resources are 10 and 0, respectively.

2.4.3.17 DECterm Graphics

V1.1

The following information is specific to DECterm graphics:

- In some cases, a private colormap is created in DECterm. This private colormap is created when ReGIS or Sixel graphics are displayed in the window and a sufficient number of colors from the default colormap cannot be allocated. The result is that when the DECterm window has input focus, the colormap changes for the entire workstation. The default colormap is four colors on a four-plane or monochrome system and 16 colors on color systems with more than four planes.

To restore a DECterm window to the default colormap, select Clear Display from the Commands menu to clear the window. Then select Reset Terminal from the Commands menu to reset the terminal.

- Only graphics, not text, are written to the graphics backing store. When part of a window has to be redrawn in DECterm, the graphics portion of the window is drawn first, then the text is overlaid. As a result, the redrawn window might not look the same as the original picture.
- ReGIS addresses the entire window, not just 24 rows and 80 columns, so the aspect ratio between text and graphics might not always be the same as on the VT330 or VT340 terminal.
- The following ReGIS features are not implemented:
 - Command Display mode
 - Scrolling
 - Output cursors

2.4.3.18 DECterm Resource Usage

V1.1

You cannot create more terminal windows than your system resources and quotas allow. If you have insufficient resources, a dialog box is displayed with a message indicating that no additional DECterm windows can be created.

To reduce the memory requirement of each DECterm window and create additional terminal windows, decrease the number of Record Lines Off Top in the Display dialog box and decrease the number of columns for each DECterm window.

Once the resource limit is reached, log out of all DECterm windows that are running on the host system before you increase the number of terminal windows.

2.4.3.19 Diagnostic Crash File and Messages

V1.1

DECterm produces a diagnostic file when a status code of fatal is returned. The DECTERM_ERROR.LOG file is produced in the login directory when the DECterm application exits abnormally. If you have a problem with the DECterm application, submit a copy of this log file to your HP service representative. However, under certain circumstances, a log file is generated even when no problem is encountered. Therefore, the appearance of a log file as an isolated event should not be cause for a problem report.

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2.4 Applications

You can enable additional levels of diagnostic messages by defining either a logical name or a symbol named `DECTERM_DIAG`. When defined, enhanced diagnostics are displayed by the DECterm images. Use this mode only for diagnosing problems; it causes Session Manager message windows to be generated for each new DECterm created from the Session Manager.

DECterm diagnostics can be captured in a file by defining the logical name `DECW$DECTERM_OUTPUT` to point to a file.

2.4.3.20 Using the Debugger

V1.0

To redirect the output from the debugger to a DECterm window, enter the following command:

```
$ CREATE/TERMINAL/NOPROCESS/DEFINE=xxx
```

This command creates a DECterm without an associated process but with a logical name of *xxx* that points to the terminal. This procedure enables you to direct output to a DECterm window other than the window where the application is currently running. To redirect the output, enter the following commands:

```
$ DEFINE /USER DBG$INPUT xxx:
$ DEFINE /USER DBG$OUTPUT xxx:
$ RUN /DEBUG application.EXE
```

2.4.3.21 Virtual Terminal Support

V1.0

To create a process that uses a virtual terminal, enter the following command:

```
$ CREATE/TERMINAL/NOPROCESS
```

Then establish focus to the newly created DECterm, press Return, and log in. Note that the `/DEFINE` qualifier is not required.

2.4.3.22 VT330 and VT340 Terminal Emulation Restrictions

V1.0

Although DECterm incorporates some of the features of the VT330- and VT340-series video terminals, such as ReGIS and Sixel graphics; it does not provide complete VT330 and VT340 terminal emulation.

The following restrictions apply to DECterm:

- User-loadable characters (DRCS), local mode, and control representation mode (CRM) are not implemented.
- The checkerboard character (character 97 in the DIGITAL Special Graphic character set) is used as an error character in place of the reverse question mark.
- DECterm uses replace mode as the default for Sixel drawing on servers with eight planes or less. On servers with more than eight planes, DECterm uses overlay mode; replace mode is not functional on those servers.

2.4.3.23 Using CREATE/TERMINAL/DETACHED/PROCESS

V1.0

The /PROCESS=*procnam* qualifier does not work when used in conjunction with the /DETACHED qualifier, unless there is already a process running on the system where its process name is equal to the user name.

To work around this problem, use the following command procedure:

```
$! CREATE_TERM_PROC.COM
$!
$! Invoke as SPAWN/NOWAIT @CREATE_TERM_PROC procname
$!
$ SET NOON
$!
$! Set Process name to username
$!
$ X = F$CONTEXT("PROCESS", PID, "PRCNAM", "'F$PROCESS()'", "EQL")
$ NAME = F$EDIT(F$GETJPI(X, "USERNAME"), "COLLAPSE")
$ SET PROCESS/NAME="'NAME'"
$ CREATE/TERMINAL/DETACHED/PROCESS="'P1'"
$!
$! Allow new process to RUN LOGINOUT before exiting subprocess
$ WAIT 00:00:10
```

If the /PROCESS=*procnam* qualifier specifies a process name that is already in use, the DECterm is created but creation of the process inside the DECterm fails. In this case, the DCL command CREATE/TERMINAL returns the following error message:

```
%SYSTEM-F-DUPLNAM, duplicate name
```

2.4.3.24 ReGIS Locator Report

V1.0

When DECterm sends a ReGIS locator report in response to the R(P(I)) command, or in multiple input mode and the locator position is outside the addressable area, DECterm sends a locator report with the coordinates omitted. For example, press the A key to generate the report:

```
A[<CR>, where <CR> is a carriage return (ASCII code 13).
```

2.4.4 DECwindows CD Player

This section contains release notes pertaining to the DECwindows CD Player application.

2.4.4.1 Required Privileges

V1.1

The DECwindows CD Player (DECW\$CDPLAYER) application in the DECW\$EXAMPLES directory requires PHY_IO and DIAGNOSE privileges to operate the compact-disc player hardware. Either your process or the image must have these privileges.

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2.4 Applications

2.4.5 DECwindows Mail

This section contains release notes pertaining to the DECwindows Mail application.

2.4.5.1 Compress Drawer No Longer Results in an Access Violation

V1.3

The Compress Drawer operation in DECwindows Mail has been updated and no longer results in an access violation.

2.4.5.2 Support Removed for Display PostScript

V1.2-6

With the removal of the support for Display PostScript from the current version of DECwindows Motif, DECWmail no longer supports the display of messages that are exclusively PostScript code. In previous versions, DECWmail sensed the presence of a mail message containing PostScript and used Display PostScript to display the message.

Currently, when DECWmail detects a messages that is exclusively PostScript code, it displays the following error message:

[This PostScript@ message cannot currently be displayed.]

As a workaround, use the Extract option in the File menu, (deselect the "Include Header Information" button in the Extract dialog box), and print the extracted file.

2.4.5.3 Pasting Messages from the Directory Window

V1.2-4

In DECwindows Mail, if the user selects one or more messages in the directory window using MB1 and then clicks on MB2 in another window (such as a DECterm window), the entire contents of the selected messages is pasted into the other window. The selected messages are highlighted in the directory window, however the text of the selected and pasted message is not highlighted in the Read window.

2.4.5.4 Responses to Keyboard Actions

V1.2-3

Enhancements in the DECwindows Mail application to comply more closely with OSF/Motif style conventions cause some changes with application responses to keyboard actions. Note the following changes.

If you use the Tab key to advance through text entry boxes in the Create/Send window, the current field is no longer highlighted. To select a field, use one of the standard Motif actions, such as double or triple clicking MB1, or use the Shift+Alt → key sequence.

In several dialog boxes, press either the Select key or the space bar to activate a pushbutton through the keyboard. Note that the Return key and the Enter key are bound to other widgets in the dialog box. Alternatively, you can continue to click MB1 to activate a pushbutton.

2.4.5.5 Using the Color Customizer with DECwindows Mail

V1.2

If you use the color customizer sample program provided in the directory DECW\$EXAMPLES to control DECwindows Mail colors, the DECwindows Mail color customization dialog boxes used to modify those colors may not reflect the correct current color values. This is normal behavior; use the color customizer instead of the DECwindows Mail color customization dialog boxes to change these values. Alternatively, exit from the color customizer and restart DECwindows Mail. See *hp DECwindows Motif for hp OpenVMS Alpha New Features* for more information about the color customizer.

2.4.6 Notepad

This section contains release notes pertaining to the Notepad application.

2.4.6.1 Notepad Is Linked with the OSF/Motif Release 1.1.3 Toolkit

V1.2-3

The Notepad application is linked with the OSF/Motif Release 1.1.3 Toolkit. Notepad is not modified to link with the OSF/Motif Release 1.2.3 Toolkit, which is provided with the HP DECwindows Motif for HP OpenVMS Alpha Version 1.3 product. The following restrictions apply:

- OSF/Motif Release 1.2 drag-and-drop functionality is not supported. As a workaround, use the standard clipboard operations (Cut, Copy, and Paste) to transfer text into Notepad.
- OSF/Motif Release 1.2 tear-off menus are not supported.

2.4.7 Paint

This section contains release notes pertaining to the Paint application.

2.4.7.1 Private Colormaps

V1.1

If your workstation does not have sufficient colormap entries to view or edit a color image, Paint creates a private colormap. When this happens, the Paint image retains its colors, but the colors on the rest of the workstation are modified. To restore the colors to their original values, give another window input focus by clicking on it.

2.4.7.2 Slow Performance of Some Paint Operations

V1.0

On GPX systems, Paint might appear slow even when performing basic operations such as drawing a brush stroke. This is because the pixmap is being swapped into the pixmap memory in order to paint the object. If Paint performance is slow, click on the Pencil tool and draw a point in the image area. This should improve performance following the initial Pencil click.

When editing images (especially color images), you can resize the image area using the Picture Size... entry from the Options menu. Resize to the least possible image area to significantly reduce the amount of required pixmap memory.

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2.4 Applications

2.4.8 Session Manager

This section contains release notes pertaining to the Session Manager application.

2.4.8.1 Specifying Node Names for Authorized Users That Contain Reserved Characters

V1.2

When specifying a list of users who can access the X server in the Authorized Users dialog box, place the node name within quotation marks if the name contains any of the following:

- Reserved characters: space, tab, comma (,) or double quotation mark (")
- Double colon (::)
- A colon (:) as the final character in the node name

Session Manager automatically adds quotation marks to the node name if they are needed, unless the node name begins with a double quotation mark. If the node name begins with a double quotation mark, Session Manager assumes that the user has already quoted the node name and does not change it.

Within a quoted string, a double quotation mark should be replaced by two double quotation marks (""). For example, the quoted string "DEC:.zko."my node" should be changed to the following:

```
("DEC:.zko." "my node" " ") .
```

2.4.8.2 Using the Color Customizer with Session Manager

V1.2

If you are using the color customizer example program provided in the directory DECW\$EXAMPLES to control Session Manager colors, the Session Manager color customization dialog boxes used to modify those colors may not reflect the correct current color values. This is normal behavior; use the color customizer instead of the Session Manager color customization dialog boxes to change these values. Alternatively, exit the color customizer and restart your session. See the *hp DECwindows Motif for hp OpenVMS Alpha New Features* manual for more information about the color customizer.

2.4.8.3 Detached Processes Created by Default May Prevent Other Applications from Opening

V1.1

Applications created by FileView and Session Manager are detached processes.

The implication is that during application startup, SYS\$MANAGER:SYLOGIN.COM and SYS\$LOGIN:LOGIN.COM command procedures are executed. Any command executed by these command procedures which reads from SYS\$INPUT reads data intended to be used by FileView or Session Manager for the application startup. This prevents the application from starting. Examples of such commands are INQUIRE, READ/PROMPT, and SET TERMINAL/INQUIRE.

Extensive SYLOGIN.COM or LOGIN.COM command procedures slow down application startup. Many of the operations performed in a SYLOGIN.COM or LOGIN.COM are meaningless for DECwindows application startup. Therefore, the SYLOGIN.COM and LOGIN.COM files should be conditionalized for DECwindows application startup performance. When starting a DECwindows application, only a minimum of SYLOGIN.COM and LOGIN.COM commands should be executed. Typically, the commands that should be executed are the redefinition of DECW\$USER_DEFAULTS (if present), and other logical

name definitions if the user will be referencing them from within the context of a DECwindows application. The following code segment can be inserted into SYLOGIN.COM and LOGIN.COM immediately following the commands necessary for DECwindows:

```
$ mode = f$mode()
$ tt_devname = f$trnlm("TT")
$ session_mgr_login = (mode .eqs. "INTERACTIVE") .and. -
    (f$locate("WSA",tt_devname) .ne. f$len(tt_devname))
$ session_detached_process = (mode .eqs. "INTERACTIVE") .and. -
    (f$locate("MBA",tt_devname) .ne. f$len(tt_devname))
$ if session_mgr_login .or. session_detached_process then exit
```

Applications continue to run even if these lines are not added to the SYLOGIN.COM and LOGIN.COM files.

2.4.8.4 Change in Input Focus When Using a Private Logo

V1.0

If you are logging into DECwindows Motif and using a private logo command file, input focus might revert unexpectedly to the Username field when the private logo starts up.

2.4.8.5 Stopping a Session Manager Process

V1.0

Stopping the Session Manager process abruptly can have serious consequences for nonprivileged workstation users. DECwindows must be restarted to avoid the following problems:

- A nonprivileged user cannot start a new Session Manager or create a new login box.
- If the session is paused, the Pause cover window is deleted and unauthorized users can access windows on that workstation.
- The workstation can also become unusable if the Session Manager process is terminated by the job controller (for example, when the user's access hours, which might be from 8 a.m. to 5 p.m., are exceeded).

As a possible solution, restart DECwindows on each workstation in a batch job that runs during off-hours.

Use the STOP/NOEXIT command to stop the process. Otherwise, stop the Session Manager process, and restart DECwindows (if you have system manager privileges) with the following command:

```
$ @SYS$MANAGER:DECW$STARTUP RESTART
```

2.4.9 Window Manager

This section contains release notes pertaining to the DECwindows Motif Window Manager.

2.4.9.1 Modifying Icon Box Title

V1.3

To change the title of the icon box on a system running HP DECwindows Motif for HP OpenVMS Alpha Version 1.3 or greater, edit the DECW\$MWM.DAT file (in DECW\$USER_DEFAULTS or DECW\$SYSTEM_DEFAULTS), and set the value of Mwm*title instead of Mwm*iconBoxTitle.

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2.4 Applications

2.4.9.2 Help Text Does Not Display from All Screens in a Multihead System

V1.3

Invoking help (by right-clicking) on a screen other than screen 0, displays a Bookreader window with no content.

If you want to display help on a multihead configuration using the right-click method, initiate the request from screen 0.

2.4.9.3 Alt + Space Key Does Not Post the Window Menu

V1.2-4

With most Motif implementations, the Alt+space key combination prompts the Window Manager to display the Window menu. However, DECwindows Motif maps the Alt+space key binding to the Compose Character function. This provides a method for character composition on keyboards which do not supply a specific Compose Character key.

To change the Alt+space key binding so that it displays the Window menu, follow the procedure appropriate to your desktop environment.

For New Desktop systems:

1. Copy CDE\$SYSTEM_DEFAULTS:[CONFIG.lang]SYS.DTWMRC to DISK\$:[LOGIN.DT]DTWMRC.DAT.
2. In the Keys DtKeyBindings section, uncomment the following line:

```
Alt<Key>space icon|window f.post_wmenu
```
3. Restart the Workspace Manager.

For Traditional DECwindows Desktop systems:

1. Copy DECW\$SYSTEM_DEFAULTS:DECW\$MWM_RC.DAT to DECW\$USER_DEFAULTS:DECW\$MWM_RC.DAT.
2. In the Keys DtKeyBindings section, uncomment the line:

```
Alt<Key>space icon|window f.post_wmenu
```
3. Restart the Window Manager.

2.4.9.4 Using the Color Customizer with DECwindows Motif Window Manager

V1.2

If you are using the color customizer provided in the DECW\$EXAMPLES directory to control Motif Window Manager colors, the Motif Window Manager customization dialog boxes used to modify those colors may not reflect the correct current color values. This is normal behavior; use the color customizer instead of the Motif Window Manager color customization dialog boxes to change these values. Alternatively, exit the color customizer and then restart Motif Window Manager. See *hp DECwindows Motif for hp OpenVMS Alpha New Features* for more information about the color customizer.

2.4.9.5 Changing Function Key Bindings Using the Window Manager Configuration File

V1.0

The configuration file `DECW$MWM_RC.DAT` defines how the Window Manager uses the function keys. Most of the accelerators use the form Alt key (or Compose Character key) and function key, for example `Alt+F7`.

If any application needs to use these keys, you must either comment them out by placing an exclamation point (!) at the beginning of the line, or create new keyboard bindings. Then change `Mwm*keyBindings:DefaultKeyBindings` in the MWM resource file to point to the new bindings.

With the Motif binding, you can no longer use the `Alt+spacebar` or the `Compose Character+spacebar` to bring up the Window menu because it interferes with `Compose Character` sequences in DECterm. Use `Shift+F11` to bring up the Window menu.

To reenable `Alt+space`, select the appropriate option in the Workspace Options dialog box and apply the current settings. You can also remove the comment for the default button bindings for `Alt+space` in the `DECW$MWM_RC.DAT` file.

2.4.9.6 Restarting the Window Manager

V1.0

The file `SYS$MANAGER:DECW$MWM.COM` is used for information on how to restart the Window Manager. By default, it is always restarted on all the screens that are available. However, if you are not starting the Window Manager from the Session Manager, then the Window Manager might not have been initially started on all the available screens. You can modify this file to change the way the window is restarted for your system.

2.4.9.7 Customizing Color-Related Resources for Monochrome Monitors

V1.0

The Motif Window Manager does not support full customization of color-related resources for monochrome monitors in the Options dialog box. In order to change the colors, you might need to modify the pixmap resources by directly editing the `DECW$MWM_BW.DAT` resource file. For example, to change the color of the active window's title background, you must change the `Mwm*activeBackgroundPixmap` resource. Some values include `25_foreground`, `50_foreground`, `75_foreground`, and `unspecified pixmap`.

In addition, by default, the title text is created with a white background. To use the same color as the rest of the title, set the `Mwm*cleanText` resource to `FALSE`.

2.4.9.8 Customizing Colors on Multihead Systems

V1.0

If you have a multihead system with different monitor types (color, monochrome, or gray-scale), you can customize the colors only by using the Options dialog box on the monitors that match the type of your main monitor (screen 0). To customize the other monitors, you must either log in to a system with that monitor type or directly edit the resource files.

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2.4 Applications

2.4.9.9 Moving the Icon Box Off Screen

V1.0

If you move the icon box to the edge of the screen and then resize it using the keyboard, you can move it off the screen. To retrieve the icon box, press Alt+Tab until you reach that window and then press Shift Escape (F11) to bring up the Window menu for that window. You can then move the window back onto the screen.

2.4.9.10 Multiline Icon Title Not Centered

V1.0

The Window Manager does not center all the lines of a multiline icon title.

2.5 Tools and Utilities

This section contains notes related to X Window System utilities that have been ported to DECwindows Motif.

2.5.1 X Authority Utility (xauth)

This section contains release notes pertaining to the X Authority utility (xauth).

2.5.1.1 File Locking Not Supported with Logical Names

V1.3

The X Authority utility (xauth) does not support file locking when files are specified using a logical name. Since xauth does not translate OpenVMS logicals, it creates the lock files in the current default directory versus the directory specified by the logical.

For example, the following xauth command creates the lock files in the current default directory not in the USER directory specified by the logical XAUTH_FILE:

```
$ DEFINE XAUTH_FILE DISK:[USER]FILE.DECW$XAUTH
$ XAUTH -f XAUTH_FILE
```

In order to use logical names with xauth, translate each logical before invoking xauth, for example:

```
$ XAUTH_FILE = F$TRNLNM ("XAUTH_FILE")
$ XAUTH -f 'XAUTH_FILE'
```

Note that this restriction only pertains to using logical names with xauth and does not apply when using logical names with the SET DISPLAY/XAUTHORITY_FILE command.

2.5.1.2 Specifying File Names without File Types Can Result in Failure

V1.3

The X Authority utility (xauth) cannot differentiate between files and directories of the same name if the file does not yet exist and the type is not specified. For example, the following xauth command creates a set of lock files but does not create the X authority file:

```
$ CREATE/DIRECTORY [.TEST]
$ XAUTH -f TEST
```

In this case, xauth fails without reporting an error.

To prevent this problem from occurring, always specify a file type when specifying an X authority file.

2.5.2 Print Screen

This section contains release notes pertaining to the Print Screen utility.

2.5.2.1 Print Screen Truncates PostScript Output

V1.2-3

When using the Print Screen application to produce PostScript output on some printers, part of the output may be lost. Usually, the upper and left portion is missing when printing in landscape mode and the lower and left portion is missing when printing in portrait mode. This problem is caused by differences between PostScript printers.

To correct this problem, DECwindows Motif for OpenVMS Version 1.2-5 added support for four resources that can be specified in DECW\$PRINTSCREEN.DAT:

```
PrintScreen.plxtranslate  
PrintScreen.plytranslate  
PrintScreen.plxscale  
PrintScreen.plyscale
```

These resources control the size and position of the PostScript image on the page. The `plxtranslate` and `plytranslate` resources control the x and y offsets of the image in inches from the origin. The `plxscale` and `plyscale` resources are an x and y scale factor to allow the entire image to be displayed on the page after the origin is moved.

System Management Release Notes

This chapter describes changes, corrections, restrictions, and known problems that pertain to managing a DECwindows Motif system.

3.1 Installation and Upgrade Information

This section contains release notes related to the DECwindows Motif installation and upgrade procedures.

3.1.1 DECwindows Motif Version Support and Compatibility

V1.3

The following table lists which versions of DECwindows Motif are supported on various OpenVMS versions. Support is defined to mean all features and functionality are available, except for Display PostScript, which has been withdrawn from all servers since OpenVMS Version 7.3.

Table 3–1 Supported Versions of DECwindows Motif

DECwindows Motif	OpenVMS Alpha version
Version 1.3	OpenVMS 7.3-1
Version 1.2–6	OpenVMS 7.3-1, 7.3, 7.2-2, 7.2, 6.2
Version 1.2–5	OpenVMS 7.3, 7.2-2, 7.2, 6.2

Note that since the HP DECwindows Motif for HP OpenVMS Alpha Version 1.3 release is based specifically on HP OpenVMS Alpha Version 7.3–1 server and device driver images, the HP DECwindows Motif for HP OpenVMS Alpha Version 1.3 will only install on systems running OpenVMS Alpha Version 7.3–1.

3.1.2 Using Shareable Linkages to Install Images

V1.2–4

On OpenVMS Alpha systems, using shareable linkages to install images on DECwindows Motif software offers the following advantages:

- Enhanced startup performance by decreasing image-activation time
- Conserved memory usage by decreasing the total of memory pages used by the image

V1.3

By default, the following images are installed using shareable linkages on Alpha systems:

- DECW\$XLIBSHR.EXE (Xlib)
- DECW\$XTLIBSHRR5.EXE (Xt Intrinsic)

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3.1 Installation and Upgrade Information

- DECW\$XMLIBSHR12.EXE (Motif Toolkit)
- DECW\$MRMLIBSHR12.EXE (Motif Resource Manager)
- DECW\$DXMLIBSHR12.EXE (DECwindows Extensions to the Motif Toolkit)
- CDE\$UNIX_ROUTINES.EXE (UNIX emulation routines)
- DECW\$TRANSPORT_COMMON.EXE (Transport)
- DECW\$XPORT_SERVICES.EXE (Transport)
- DECW\$LCNLIBSHR.EXE (Logical Connection Number)
- DECW\$SETSHODISSHR.EXE (OpenVMS Display Device)
- DECW\$XAUSHR.EXE
- DECW\$ICELIB.EXE (ICE)
- DECW\$ICELIB_PTHREAD.EXE (ICE)
- DECW\$SMSTR.EXE (X Session Manager Protocol)

These images are installed using the /SHARE=ADDRESS_DATA option. Note that if you accept the default, these images cannot be replaced during a restart of DECwindows Motif software. As a result, when you restart DECwindows, the images are not replaced and the following message is displayed:

```
Shared linkage sections are in use on this system and no images will be
reinstalled. If you are restarting DECwindows to reinstall images then you
must reboot the system.
```

To replace new images installed with this option, reboot the system. Note that you can disable shared-linkage sections by defining the logical name DECW\$IGNORE_SHARE_ADDRESS in the SYSTARTUP_VMS.COM command procedure.

3.1.3 DECW\$COMPARE_VERSIONS Command File Limitation

1.2-4

The DECW\$COMPARE_VERSIONS command file compares version identifications using two-digit years. Therefore, it will not compare version identifiers correctly for images generated in the year 2000 and later with version identifiers for images generated before the year 2000.

3.2 System Tuning and Performance

This section describes important issues and considerations related to the tuning of DECwindows Motif.

3.2.1 System Hangs With Some Graphics Cards

V1.2-5

On systems with Powerstorm 4d20 or ZLXp-E2 graphics cards, the operating system may hang or become extremely sluggish if you have a large number of open application windows or if certain CDA documents are opened. To verify that a system hang is caused by this problem, use the Watch Errors utility in the Desktop Tools drawer of the Application Manager. If the system hang is due to this problem, you will see the following:

```
-> RCV'D (pid nnnnnnnn): RCV'D (pid nnnnnnnn)
%SYSTEM-F-EXBUFOBJLM, exceeded systemwide buffer object page limit (MAXBOBMEM)
```


At the present time, there is no workaround for this problem other than using fewer windows (increasing the MAXBOBMEM value doesn't fix the problem). If you experience this problem, you may want to keep a DECterm window free so that you can perform a graceful system reboot. Otherwise, you will need to perform a hard reboot.

3.2.2 Error Messages Displayed During Startup

V1.2-4

At startup, error messages similar to those shown in Example 3-1 are displayed when:

- Shareable address linkage is being used (the default setting).
- DECwindows is not started as part of system startup but is started later.

These error messages are generated because there is not enough memory in the granularity hints region to install images resident. The images are installed nonresident, without shared address linkage, so DECwindows startup can complete. However, the performance and memory advantages of using shared address linkage are lost.

The amount of memory in the granularity hints region is determined by the system parameter GH_RSRVPGCNT. In DECwindows Motif for OpenVMS Version 1.2-3 and earlier versions, this parameter was set to 512, which allowed DECwindows to start at any time with shared address linkage. However, this also consumed a large amount of physical memory.

To prevent memory from being wasted, OpenVMS temporarily increases the size of the granularity hints region during system startup and releases the unused memory once startup has completed. Starting with DECwindows Motif for OpenVMS Version 1.2-4 DECwindows Motif takes advantage of this by allowing GH_RSRVPGCNT to remain at its default value of zero. DECwindows images can be installed resident and with shared address linkage as long as DECwindows is started during system startup, as it is by default.

Example 3-1 Error Messages Displayed Due to Low Memory in Granularity Hints Region

```
%INSTALL-I-FAIL, failed to create shared linkage entry for DISK$ALPHASYS:<SYS0.  
-INSTALL-E-NOGHREG, insufficient memory in the code or data granularity hint region  
  
%INSTALL-I-NONRES, installed image non-resident with other specified options  
-INSTALL-E-NOGHREG, insufficient memory in the code or data granularity hint re  
  
%RUN-S-PROC_ID, identification of created process is 00000092  
  
%RUN-S-PROC_ID, identification of created process is 00000093  
  
%INSTALL-I-FAIL, failed to create shared linkage entry for DISK$ALPHASYS:<SYS0.  
-INSTALL-E-NOGHREG, insufficient memory in the code or data granularity hint re  
  
%INSTALL-I-NONRES, installed image non-resident with other specified options  
-INSTALL-E-NOGHREG, insufficient memory in the code or data granularity hint re  
  
%INSTALL-I-FAIL, failed to create shared linkage entry for DISK$ALPHASYS:<SYS0.  
-SYSTEM-F-PAGOWNVIO, page owner violation  
-SYSTEM-S-NORMAL, normal successful completion  
-DEBUG-W-NOIOCHAN, no I/O channel available  
  
%INSTALL-I-NONRES, installed image non-resident with other specified options  
-INSTALL-E-NOGHREG, insufficient memory in the code or data granularity hint re
```

(continued on next page)

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3.2 System Tuning and Performance

Example 3–1 (Cont.) Error Messages Displayed Due to Low Memory in Granularity Hints Region

```
%INSTALL-I-FAIL, failed to create shared linkage entry for DISK$ALPHASYS:<SYS0.
-SYSTEM-F-VA_IN_USE, virtual address already in use
-SYSTEM-S-NORMAL, normal successful completion
-DEBUG-W-NOIOCHAN, no I/O channel available

%INSTALL-I-NONRES, installed image non-resident with other specified options
-INSTALL-E-NOGHREG, insufficient memory in the code or data granularity hint re

%INSTALL-I-FAIL, failed to create shared linkage entry for DISK$ALPHASYS:<SYS0.
-SYSTEM-F-VA_IN_USE, virtual address already in use
-SYSTEM-S-NORMAL, normal successful completion
-DEBUG-W-NOIOCHAN, no I/O channel available

%INSTALL-I-NONRES, installed image non-resident with other specified options
-INSTALL-E-NOGHREG, insufficient memory in the code or data granularity hint re

%INSTALL-I-FAIL, failed to create shared linkage entry for DISK$ALPHASYS:<SYS0.
-SYSTEM-F-VA_IN_USE, virtual address already in use
-SYSTEM-S-NORMAL, normal successful completion
-DEBUG-W-NOIOCHAN, no I/O channel available

%INSTALL-I-NONRES, installed image non-resident with other specified options
-INSTALL-E-NOGHREG, insufficient memory in the code or data granularity hint re

%INSTALL-I-FAIL, failed to create shared linkage entry for DISK$ALPHASYS:<SYS0.
-SYSTEM-F-VA_IN_USE, virtual address already in use
-SYSTEM-S-NORMAL, normal successful completion
-DEBUG-W-NOIOCHAN, no I/O channel available

%INSTALL-I-NONRES, installed image non-resident with other specified options
-INSTALL-E-NOGHREG, insufficient memory in the code or data granularity hint re
```

3.2.3 Enhancing Startup Performance

V1.1

Extensive SYLOGIN.COM or LOGIN.COM command procedures slow down application startup. Many of the operations performed in a SYLOGIN.COM or LOGIN.COM are meaningless for DECwindows application startup. Therefore, the SYLOGIN.COM and LOGIN.COM files should be conditionalized for DECwindows application startup performance. When starting a DECwindows application, a minimum of SYLOGIN.COM and LOGIN.COM commands should be executed.

Typically, the commands that should be executed are the redefinition of DECW\$USER_DEFAULTS (if present), and other logical name definitions if the user will be referencing them from within the context of a DECwindows application. The following code segment can be inserted into SYLOGIN.COM and LOGIN.COM immediately following the commands necessary for DECwindows:

```
$ mode = f$mode()
$ tt_devname = f$trnlm("TT")
$ session_mgr_login = (mode .eqs. "INTERACTIVE") .and. -
    (f$locate("WSA",tt_devname) .ne. f$len(tt_devname))
$ session_detached_process = (mode .eqs. "INTERACTIVE") .and. -
    (f$locate("MBA",tt_devname) .ne. f$len(tt_devname))
$ if session_mgr_login .or. session_detached_process then exit
```

Applications continue to run even if these lines are not added to the SYLOGIN.COM and LOGIN.COM files.

3.2.4 System Tuning for Non-VGA Devices

V1.2

The DECwindows server requires specific tuning for graphics-intensive and 3D applications because of greater demand for system resources. You need to make adjustments for server quotas on 3D accelerated systems. These are minimum values suggested for a system with as little as 64 MB of physical memory and for running complex clients.

Use the AUTHORIZE utility to set the following SYSTEM account quotas to the minimum values shown in Table 3–2.

Table 3–2 Recommended Quotas for System Tuning

Parameter	Value
FILLM	400
ENQLM	1024
WSDEF	10240
WSQUO	16384
WSEXTENT ¹	20480
PGFLQUO ^{2 3}	270000

¹This value cannot exceed WSMAX.

²PAGEFILE.SYS must be of the same or greater size.

³Use for 370000 for ZLX–E and ZLXp–E systems.

The server has its own quotas that are set in SYS\$COMMON:[SYSMGR]DECW\$PRIVATE_SERVER_SETUP.COM. If this file does not exist, copy the file SYS\$MANAGER:DECW\$PRIVATE_SERVER_SETUP.TEMPLATE to SYS\$MANAGER:DECW\$PRIVATE_SERVER_SETUP.COM and edit the file to include the following values:

Quota	Value
DECW\$SERVER_FILE_LIMIT	400
DECW\$SERVER_ENQUEUE_LIMIT	1024
DECW\$SERVER_WSDEF	10240
DECW\$SERVER_WSQUOTA	16384
DECW\$SERVER_WSEXTENT	20480
DECW\$SERVER_PAGE_FILE ¹	270000

¹Use for 370000 for ZLX–E and ZLXp–E systems.

If you use larger values, you must also modify the corresponding SYSTEM account quotas that you set with the AUTHORIZE utility.

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3.2 System Tuning and Performance

Tuning for Animation Applications

If your application involves lengthy animation sequences of large models or assemblies, performance may be improved by setting the following working set quotas and values:

Parameter	Value
WSDEF	10240
WSQUO	20480
WSEXTENT	32768

You need to set the corresponding server quotas as follows:

Quota	Value
DECW\$SERVER_WSDEF	10240
DECW\$SERVER_WSQUOTA	20480
DECW\$SERVER_WSEXTENT	32768

Note

The parameters should not be tuned upward unless you have at least 128 MB of physical memory.

Determining Tuning Needs

To determine whether you need to set larger parameters, monitor the server process during the heaviest display usage. If the working set use approaches the maximum WSEXTENT, then you need to adjust the values. However, do not set large values unless it is necessary. If you set these values too high, performance may be degraded. Optimal DECwindows server performance depends on application demands.

MIN_WSMAX must be at least as large as the largest WSEXTENT value set from among your accounts. Please refer to the *OpenVMS System Manager's Manual* for more information. Do not exceed what AUTOGEN gives for WSMAX. See the warning in the AUTOGEN report.

The next time you run AUTOGEN and reboot, the new values will take effect. In addition, you need to increase the size of the page file to accommodate the pagefile quotas of both the server and your clients. Note that pagefile quota for the server is derived from system page files.

If, after initial tuning and considerable use, the server is failing or is unnecessarily unresponsive, the server may have run out of memory or memory may have become fragmented. A particularly demanding application may require that you give the server even larger PGFLQUO value.

If the server error log SYS\$MANAGER:DECW\$SERVER_0_ERROR.LOG contains the statement xxx: Out of memory, increase the pagefile quota for the server. Set this by modifying both system quota PGFLQUO and DECW\$PRIVATE_SERVER_SETUP.COM.

Note that, in multiheaded configurations (for example, ZLX-E1 and ZLX-E2), the PGFLQUO and the DECW\$SERVER_PAGE_FILE parameters should be increased to meet your system requirements.

3.3 Security and Authorization

This section describes important issues and considerations related to system security.

3.3.1 Security Options Referencing Incorrect X Authority File

V1.3

It is possible for changes to be made to the wrong X authority file when using the Session Manager (Traditional DECwindows Desktop) or Style Manager (New Desktop) to set security options, which could prevent subsequent client applications from accessing the X server.

This happens after the following sequence of events:

1. The display device used by the session has its X authority file set.
2. The client access control method is changed.
3. The original X authority file setting is subsequently changed or cleared.
4. The client access control method is changed again.

Under these circumstances, subsequent changes to security options result in changes to the original X authority file (Step 1) instead of the newly specified file (Step 3).

If you are using the Traditional DECwindows Desktop, you can access the Session Manager and reset client access control to use the Authorized Users list. However, if you are using the New Desktop, you may not be able to access the Style Manager and be forced to exit the current session.

In either case, exiting the current session restores the server to its default state.

3.3.2 Unknown Code Error Displayed When Enabling Kerberos

V1.3

If the Kerberos logical (KRB\$ROOT) has not been set properly, the following error is displayed when you attempt to enable Kerberos from either the DECwindows Motif desktop or the DCL command line using KINIT:

```
"Unknown code 6 while initializing krb5"
```

To correct this problem, reconfigure the Kerberos for OpenVMS Security Client software as described in the *Kerberos for OpenVMS Installation Guide and Release Notes* available from the OpenVMS web site (<http://www.openvms.compaq.com>).

3.3.3 Bad Atom Error Displayed When Running Applications Over an Untrusted Connection

V1.3

Many DECwindows Motif applications will not start, or will exit after starting, when trying to run over an untrusted connection without a security policy defined. An untrusted connection is created by granting access to the X server using a cookie generated by the SET DISPLAY/GENERATE command or XAUTH GENERATE command.

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3.3 Security and Authorization

In most cases where this problem occurs, the following error message is displayed:

```
X Error of failed request
BadAtom (invalid Atom parameter)
```

To reduce the likelihood of application errors over untrusted connections, start the server with the default security policy file by setting the symbol `DECW$SECURITY_POLICY` to `DECW$EXAMPLES:DECW$SECURITY_POLICY.TXT`.

Note however, that the following applications do not run cleanly over an untrusted connection, even with a security policy file in place:

- Bookreader
- CDA Viewer
- DECterm
- DTPAD
- OpenVMS Debugger
- Paint
- Print Screen
- Style Manager

3.3.4 Applications Running Over an Untrusted Connection May Not Work with XINERAMA and SEC_XAG Extensions

V1.3

Applications connected to the X server using an untrusted, generated cookie may not work when the `SEC_XAG` and `XINERAMA` server extensions are both loaded. The problem is caused by the order in which these two extensions are initialized when the server is started.

To avoid the problem, always define `DECW$SERVER_EXTENSIONS` in `DECW$PRIVATE_SERVER_SETUP.COM` so that if both `XINERAMA` and `SEC_XAG` are loaded, `XINERAMA` is listed before `SEC_XAG`.

For example, define:

```
$ decw$server_extensions == "XINERAMA,SEC_XAG"
```

instead of:

```
$ decw$server_extensions == "SEC_XAG,XINERAMA"
```

3.3.5 Untrusted Clients May Change the Server Access Control

V1.3

Client programs that connect using a generated authentication key with the untrusted property may execute operations that change the server's access control. These operations are `XAddHost(s)`, `XRemoveHost(s)`, `XSetAccessControl`, `XEnableAccessControl`, and `XDisableAccessControl`.

This happens only if the user, node and transport of the client would have been entitled to make these changes if connected without using the authentication key. Normally, the only applications granted this permission are those executing on the local node via the local or DECnet transport by the specific user who has logged into DECwindows Motif.

3.3.6 Kerberos and TCP/IP Cannot Parse a Node Name of 0

V1.3

When using Kerberos with TCP/IP, providing a node name of 0 (to indicate the local host) does not work correctly. The problem occurs only if Kerberos is initialized from the server authority file. For example:

```
$ SET DISPLAY/TRANSPORT=TCPIP/NODE=0
$ RUN DECW$EXAMPLES:ICO

Xlib: krb5_sname_to_principal failed: Hostname cannot be canonicalized
Cannot open display
: non-translatable vms error code: 0x182B2
%rms-e-rnf, record not found
```

Instead, provide the TCP/IP address of the local host explicitly:

```
$ SET DISPLAY/TRANSPORT=TCPIP/NODE=11.22.33.44
```

3.3.7 Do Not Use DECwindows Motif Login When Initializing Kerberos Setup from the Server X Authority File

V1.3

When initializing the Kerberos setup using the server X authority file, the DECwindows Motif login cannot be used. The reason for this is that DECwindows login is a privileged image and the Kerberos runtime image is not an installed image. Moreover, the clients run by login manipulate the Kerberos setup. Therefore, session management is not supported in this configuration.

To prevent the DECwindows login box from coming up, define DECW\$MAINAPP in SYS\$MANAGER:DECW\$PRIVATE_APPS_SETUP.COM as follows:

```
$ DECW$MAINAPP == " "
```

3.3.8 Help on Kerberos Login Box is Incorrect

V1.3

The online help for Revoke Ticket is incorrect. See the *hp DECwindows Motif for hp OpenVMS Alpha New Features* manual for the correct description.

3.3.9 Generating Cookies in the Default X Authority File

V1.3

Inserting cookies in the default X authority file may interfere with the session cookie. It is recommended that users avoid inserting generated cookies into the default X authority file. To avoid inserting a cookie into the default X authority file, do the following. Use the /XAUTH qualifier to specify an X authority file other than the default file.

```
$ SET DISPLAY/GENERATE=NOTIMEOUT/XAUTH=DISK$:[DIR]MYAUTHORITY.DECW$XAUTH
```

If a generated cookie is inserted in the default X authority file, you can restore normal operation by ending the current session.

If you insert a generated cookie into a user's default X authority file, outside of a DECwindows session, you may need to delete the X authority file before that user can login.

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3.3 Security and Authorization

3.3.10 Enabling and Disabling Access Control

V1.0

DECwindows Motif does not enable access control by default. Instead, the product uses access control set by the server. The DECwindows X11 display server enables access control at startup time.

To force the DECwindows Session Manager to enable or disable access control explicitly at login time, you can define one of the following logical names:

```
$ DEFINE/SYSTEM/EXECUTIVE DECW$LOGIN_ACCESS_CONTROL ENABLE
$ DEFINE/SYSTEM/EXECUTIVE DECW$LOGIN_ACCESS_CONTROL DISABLE
```

If the logical name is not defined or if it is defined to some other value, such as “SERVER”, DECwindows login neither enables nor disables access control.

In most cases, it should not be necessary to define the logical name.

3.4 Desktop Management

This section describes important issues and considerations related to managing desktop applications.

3.4.1 Define DECW\$UTILS Global Symbol When Moving DECW\$EXAMPLES Global Symbol

V1.2

DECwindows Motif for OpenVMS Version 1.2 introduced a new symbol, DECW\$UTILS. Normally, this symbol points to a subdirectory of DECW\$EXAMPLES. If you define a DECW\$EXAMPLES global symbol in the DECW\$PRIVATE_APPS_SETUP.COM command procedure to change the directory for DECwindows example programs, you must also define DECW\$UTILS to change the directory for utilities.

For example, to redefine both DECW\$EXAMPLES and DECW\$UTILS, add the following lines to the SYS\$MANAGER:DECW\$PRIVATE_APPS_SETUP.COM procedure:

```
$ DECW$EXAMPLES == "SYS$SYSROOT:[DECWEXAMPLES]
$ DECW$UTILS == "SYS$SYSROOT:[DECWEXAMPLES.UTILS]
```

Note

If the SYS\$MANAGER:DECW\$PRIVATE_APPS_SETUP.COM file does not exist, create it from the SYS\$MANAGER:DECW\$PRIVATE_APPS_SETUP.TEMPLATE file.

Then, restart DECwindows Motif with the following command:

```
$@SYS$MANAGER:DECW$STARTUP RESTART
```


3.4.2 Color Problem in DECwindows Login Screen

V1.2

A problem may occur on systems that have a customized DECW\$LOGIN.DAT file. The Start Session dialog box is the color blue instead of tan. If this condition exists, look for a customized DECW\$LOGIN.DAT file in the directory SYS\$COMMON:[DECW\$DEFAULTS.USER] and move it to SYS\$MANAGER. A DECW\$LOGIN.DAT file in SYS\$COMMON:[DECW\$DEFAULTS.USER] prevents the "*background:" resource from being defined; thus, it will default to the color blue.

HP provides a copy of the DECW\$LOGIN.DAT file in the SYS\$COMMON:[DECW\$DEFAULTS.SYSTEM] directory. Any customized versions of this file should reside only in SYS\$MANAGER.

3.4.3 Displaying Customized Login Logos

V1.1

By default, if there is no DECwindows Motif license registered for the SYSTEM account, DECwindows does not display customized login logos. This is a problem on systems with DECwindows Motif personal-use licenses that do not include SYSTEM on the list of authorized DECwindows users.

To display a customized logo without a DECwindows Motif license for SYSTEM, add the following definition to the SYS\$MANAGER:DECW\$PRIVATE_APPS_SETUP.COM file:

```
$ DECW$LOGINLOGOSUB == "TRUE"
```

Note

If the file does not exist, copy it from the file
SYS\$MANAGER:DECW\$PRIVATE_APPS_SETUP.TEMPLATE.

After editing the setup file, restart DECwindows Motif using the following command:

```
$ @SYS$MANAGER:DECW$STARTUP RESTART
```

DECwindows Motif login starts the logo process as a subprocess instead of as a detached process. The license check sees that the logo process is a child of the login process and that the X connection is opened.

3.5 Font and Keymap Management

The following sections contain release notes pertaining to font and keymap support.

3.5.1 Euro Currency Symbol Restrictions

V1.3

The following limitations exist with DECwindows Motif and its support for the euro currency symbol:

- When the euro symbol is pasted or sent to another X window application on a different platform (such as UNIX) using Compound Text format, the character may not be recognized as the euro symbol on the other platform.

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3.5 Font and Keymap Management

- The euro currency symbol is not included as part of the scalable font sets available with DECwindows Motif. Applications using scalable fonts cannot display the euro symbol.
- Although you can use EDT to type the euro character into a file, the symbol may not display correctly on the screen. For example, typing Compose o x displays the A4 character code.

3.5.2 Cannot Grab Windows with Mouse When Mode_switch is On

V1.3

When traditional keyboard maps that implement Mode_switch are loaded without either having first loaded the X Keyboard server extension or modifying the default DECW\$MWM resource settings, windows can not be grabbed with the mouse while the Mode_switch is on.

For example, with the AUSTRIAN_GERMAN_LK401AG_TW keymap loaded, the compose key is a one-shot lockdown modifier. The first time compose is pressed, Mode_switch is turned on and windows can not be grabbed. If compose is pressed a second time or if another key that is affected by compose being locked is pressed (such as the letter "a"), Mode_switch is turned off and windows can be grabbed.

To prevent this from occurring on the CDE desktop, do one of the following:

- Load the X Keyboard server extension, as described in the *hp DECwindows Motif for hp OpenVMS Alpha New Features* manual and restart the server. This will prevent the problem from occurring in all future CDE sessions.
- After changing the keymap, logout of the CDE session and login again. This will prevent the problem from occurring in the current session.

To prevent this from occurring on the Traditional Desktop, do the following and then exit and restart your DECwindows Motif session:

- Redefine the DECW\$MWM resources to allow window grabbing, by editing the file DECW\$SYSTEM_DEFAULTS:DECW\$MWM.DAT, and setting the value of Mwm*ignoreModKeys and Mwm*ignoreAllModKeys to TRUE.

3.5.3 Performance Problem with Certain Keymaps

V1.2-5

There is a performance problem when using the Austrian-German keymap (AUSTRIAN_GERMAN_LK401AG_TW). The problem can also occur with other keyboard and/or language changes, when the user selects a sequence of keyboard maps/languages which force the Mode_switch modifier into the mod4 or mod5 entry in the keyboard modifier map. This happens in response to the user selecting a keyboard map in the "Keyboard Options" popup that uses the Mode_switch modifier.

To verify the position of the Mode_switch modifier in the keyboard modifier map, use the following commands:

```
$ XMODMAP ::= $DECW$UTILS:XMODMAP.EXE
$ XMODMAP
xmodmap: up to 3 keys per modifier, (keycodes in parentheses):
```

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3.5 Font and Keymap Management

```
shift      Shift_R (0xab),  Shift_L (0xae)
lock       Caps_Lock (0xb0)
control    Control_L (0xaf)
mod1       Alt_L (0xac),   Alt_R (0xb2)
mod2       Mode_switch (0xb1)
mod3       Multi_key (0xad)
mod4       Mode_switch (0x7a)
mod5       Help (0x7c)
```

As a workaround, change the modifier mapping after selecting the keyboard map by using the `DECW$UTILS:XMODMAP.EXE` utility.

1. Create a file, which when passed to XMODMAP, clears the keyboard modifier map and remaps the `Mode_switch` to a lower entry in the keyboard modifier map:

```
clear shift
clear lock
clear control
clear mod1
clear mod2
clear mod3
clear mod4
clear mod5
add shift = Shift_R Shift_L
add lock = Caps_Lock
add control = Control_L
add mod1 = Alt_R Alt_L
add mod2 = Multi_key
add mod3 = Mode_switch
add mod5 = Help
```

2. Pass the file to XMODMAP using the following commands:

```
$ XMODMAP := $DECW$UTILS:XMODMAP.EXE
$ XMODMAP XMODMAPRC.DAT
```

3.6 Proxy Server Management

The following sections contain release notes pertaining to the management of the Low-Bandwidth X (LBX) proxy server and related proxy applications.

3.6.1 Some Applications Do Not Work Reliably with LBX Proxy Server

V1.3

Some applications may experience problems when connected through an LBX Proxy Server to the DECwindows Motif display server. These problems can include hanging the DECwindows server, the proxy server, or the client.

To avoid these problems, disable selected options within the LBX proxy server. Specific cases are:

- Applications, such as X MAG and Print Screen, that do XGetImage calls may hang in systems with XINERAMA. Use the NOIMAGE and NOGRAPHICS options to avoid this.
- Applications that do large requests, such as CDA Viewer, may hang the server. Use the NOCOMP option to avoid this.
- Some applications may return BADWINDOW or BADLENGTH if TAGS is enabled. Use the NOTAGS option to avoid this.

System Management Release Notes

3.6 Proxy Server Management

Use a command similar to the following:

```
$ LBXPROXY /OPTIONS=(NOIMAGE,NOGRAPHICS,NOCOMP,NOTAGS)
```

LBX proxy server options can be disabled in
SYS\$MANAGER:DECW\$LBXPROXY.DECW\$PMCFG.

3.6.2 Proxy Manager Process Does Not Restart Automatically

V1.3

The following problems can occur with the proxy manager when DECwindows Motif is configured to restart the proxy manager process automatically and the DECwindows Motif session is manually restarted:

- If the proxy manager was running, a new process is not invoked when DECwindows Motif is restarted.
- If the proxy manager was not running, a new process is started; however, the owner of the process is the user who enters the startup command and not the SYSTEM account.

Note that these problems do not occur when DECwindows Motif is restarted as part of an ordered system shutdown (reboot).

To manually restart the proxy manager, enter the following command for each active proxy manager process before restarting DECwindows Motif:

```
$ STOP process-name
```

where *process-name* represents the name of an active process, such as DECW\$PROXY.

Note that this command not only stops an active proxy manager process, but also terminates all proxy server connections managed by the process.

To ensure that the owner of the proxy manager process is the SYSTEM account, always log in as SYSTEM when restarting DECwindows Motif.

3.6.3 Proxy Manager Configuration File Restriction

V1.3

The proxy manager does not support specifying more than one managed or unmanaged entry for the same proxy service in the configuration file. If there are multiple entries, only the first one will be processed.

3.7 X Display Server Management

The following sections contain release notes pertaining to the management of the DECwindows X11 Display Server.

3.7.1 Some Combinations of Server Extensions Not Supported

V1.3

Currently, the following combinations of X server extensions are not supported:

```
XINERAMA and D2DX  
DBE and MULTIBUFFERING
```

Note that these extensions may be enabled concurrently on the same DECwindows Motif system. However, due to resource or function conflicts, concurrent use of these extensions on the same system is not supported.

3.7.2 Extraneous Characters Displayed When Running XMAG in a Vertical Multihead Configuration Using XINERAMA

V1.3

When using XMAG to display an image on a multihead system using XINERAMA, a one-pixel line of extraneous characters might appear between the screens when the screens are configured vertically. This problem does not occur when the screens are configured horizontally.

3.7.3 Incorrect Placement of Cascade Menus in Multihead Configurations Using XINERAMA

V1.3

In some cases, DECwindows Motif cascade menus may not appear on the correct screen in a multihead configuration using XINERAMA. The menu is displayed in the correct position on the wrong screen. Currently, there is no workaround.

3.7.4 XINERAMA Supported in 2D Mode Only

V1.3

Using the XINERAMA extension to the X server with 3D applications, such as OpenGL, is not supported. This extension should be used in a 2D environment only.

Programming Release Notes

This chapter contains release notes related to programming in the DECwindows Motif environment.

4.1 General Programming

This section contains release notes pertaining to the general DECwindows Motif programming environment.

4.1.1 OSF/Motif Toolkit Support and Compatibility

V1.3

The following table lists the versions of the OSF/Motif Toolkit and X Window System upon which each release of DECwindows Motif is based.

DECwindows Motif	OSF/Motif Toolkit	X Window System
Version 1.3	CDE Motif 1.0 Toolkit (OSF/Motif Release 1.2.5)	Version 11 Release 6.6 (X11R6.6)
Version 1.2–6	CDE Motif 1.0 Toolkit (OSF/Motif Release 1.2.5)	X11R5
Version 1.2–5	CDE Motif 1.0 Toolkit (OSF/Motif Release 1.2.5)	X11R5
Version 1.2–4	CDE Motif 1.0 Toolkit (OSF/Motif Release 1.2.5)	X11R5
Version 1.2–3	OSF/Motif 1.2.3 Toolkit (with extensions for the Common Desktop Environment (CDE))	X11R5
Version 1.2	OSF/Motif 1.2.2 Toolkit	Version 11 Release 5 (X11R5)
Version 1.1	OSF/Motif 1.1.3 Toolkit	X11R4
Version 1.0	OSF/Motif 1.1.1 Toolkit	Version 11 Release 4 (X11R4)

Programming Release Notes

4.1 General Programming

Note that although DECwindows Motif for OpenVMS Version 1.1 applications will continue to run without modification with current version of DECwindows Motif, only those applications that have been built against the OSF/Motif Release 1.2.2 Toolkit can take advantage of Version 1.2 features, such as drag-and-drop functionality and tear-off menus.

See Appendix B additional information related to the OSF/Motif Toolkit.

4.1.2 Run-Time and Programming Environment Support

V1.3

The following run-time and programming environments are provided with the HP DECwindows Motif for HP OpenVMS Alpha Version 1.3 software:

- Run-time support is provided for the CDE Motif 1.0 Toolkit (OSF/Motif Release 1.2.5), OSF/Motif Release 1.1.3 Toolkit, and the XUI Toolkits.
- Development support is provided for the CDE Motif 1.0 Toolkit only.

However, you can choose during installation to save the OSF/Motif Release 1.1.3 programming files that existed on your system prior to the DECwindows Motif for OpenVMS Version 1.2–4 product. Refer to the *Compaq DECwindows Motif for OpenVMS Installation Guide* for details about saving the OSF/Motif Release 1.1.3 programming environment.

- If you install the software using the POLYCENTER Software Installation utility and if programming support for the OSF/Motif Release 1.1.3 Toolkit is present, then you can choose to save the header files and UIL compiler that were used to develop OSF/Motif Release 1.1.3 applications. If selected, the installation procedure creates a subdirectory called [.DECW\$113], and the previous programming files are moved into the new subdirectory.

See the *hp DECwindows Motif for hp OpenVMS Alpha Installation Guide* for additional information about saving the Release 1.1.3 programming environment.

- Application development with the HP DECwindows Motif for HP OpenVMS Alpha product is supported for C++ as well as for updated Motif language bindings for Ada, Pascal, Fortran, and C. Language bindings for Ada are available in the Ada Version 3.5A for OpenVMS (VAX and Alpha) layered products. Note, however, that these binding do not include enhancements added with HP DECwindows Motif for HP OpenVMS Alpha Version 1.3.

4.1.3 Increased Stack Requirements

V1.3

The addition of significant new functionality in the DECwindows Motif client libraries may increase the stack space used by DECwindows Motif at run time. Client applications that call DECwindows Motif functions from threads other than the main thread may experience a stack overflow.

If an overflow occurs, rebuild the application using a larger stack size for created threads.

Note that this problem does not occur with single-threaded applications or those multithreaded applications that make all their calls to DECwindows Motif from the main application thread.

4.1.4 Privileges Required for ICE, Proxy Manager, and LBX Server Processes

V1.3

The Inter-Client Exchange (ICE), proxy manager, and Low-Bandwidth X (LBX) proxy server each provide functions that can establish separate server processes. These server processes may require certain system resources to gain access to one or more transport interfaces and to manage client connections.

The following table shows the minimum privileges required, according to network transport, to gain access to the appropriate resources:

Transport	Privilege
TCPIP	NETMBX
DECNET	TMPMBX, NETMBX, and SYSNAM
LOCAL	PRMMBX and SYSGBL

4.1.5 Support for Display PostScript Removed

V1.2-6

Starting August 1, 1998, support was discontinued for the Display PostScript software licensed by Adobe Systems Incorporated. This action resulted from Adobe ending their former ongoing support of Display PostScript.

Due to this decision, HP is contractually obligated to remove all Display PostScript capability from the DECwindows Motif software. This includes all related translated-image support and any functionality described in the following programming reference manuals:

- *VMS DECwindows Display PostScript System Programming Supplement*
- *Display PostScript System: Perspective for Software Developers*
- *Display PostScript System: Client Library Reference Manual*
- *Display PostScript System: Color Extensions*
- *Display PostScript System: pswrap Reference Manual*
- *PostScript Document Structuring Conventions Specification Version 2.1*

Currently, there is no workaround. See the following sections for more information on the potential impact to applications in the DECwindows Motif environment.

4.1.5.1 Impact on DECwindows Motif Applications

Removing Display PostScript from DECwindows Motif impacts any application that relies on its capabilities to present and display graphics and documents in PostScript format.

Unfortunately, this includes not only those applications developed by HP, such as the CDA Viewer, but also any third-party, user-written, or translated VAX applications that depend on one or more of the following files and libraries. These items are no longer a part the product kit and are removed from your system when upgrading from a previous version of DECwindows Motif client software.

- PSWRAP command (DCL)
- Display PostScript (XDPS) libraries

[SYSLIB]XDPS\$DPSBINDINGSSHR.EXE

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4.1 General Programming

[SYSLIB]XDPS\$DPSCLIENTSHR.EXE
[SYSLIB]XDPS\$DPSLIBSHR.EXE

- Display PostScript header files and sample programs
- Translated-Image Support (TIS) files

[SYSLIB]XDPS\$DPSBINDINGSSHR_TV_SUPPORT.EXE
[SYSLIB]XDPS\$DPSCLIENTSHR_TV_SUPPORT.EXE
[SYSLIB]XDPS\$DPSLIBSHR_TV_SUPPORT.EXE
[SYSLIB]CDA\$ACCESS_TV_SUPPORT.EXE
[SYSLIB]DDIF\$VIEWSHR_TV_SUPPORT.EXE
[SYSLIB]DECW\$BKRSHR_TV_SUPPORT.EXE
[SYSLIB]DECW\$MAILSHR_TV_SUPPORT.EXE

The actual effect of removing Display PostScript depends on the extent to which it was implemented in the application. Applications that call the PSWRAP command, may fail only at the point where the command is invoked. However, applications that link against one or more of the XDPS libraries or TIS images will fail to function entirely due to unresolved links at run time.

As a result, you may need to modify those portions of DECwindows Motif applications that rely on these files to run successfully in the HP DECwindows Motif for HP OpenVMS Alpha Version 1.3 environment.

4.1.5.2 Impact on Java Applications

The Java Development Kit (JDK) for OpenVMS Version 1.2.2-1 contains two shareable images (JAVA\$FONT_MANAGER_SHR.EXE and JAVA\$FONT_MANAGER_G_SHR.EXE) that link against the Display PostScript (XPDS) libraries. As a result, all Java applications built with this kit that use Display PostScript capabilities will fail in the DECwindows Motif for OpenVMS Version 1.2-6 environment.

Note that this restriction only applies to the Version 1.2.2-1 kit. The Java machine for the 1.1* series, as well as all releases of the JDK subsequent to Version 1.2.2-1, are not dependent on the Adobe Display PostScript software or its libraries.

4.1.6 Problems Using the DECW\$INCLUDE:INTRINSIC.H File

V1.2-5

The DECwindows header file, DECW\$INCLUDE:INTRINSIC.H, redefines the `globalref` macro to be `extern` when using the DEC C compiler, even when the `/STANDARD=VAXC` compiler switch is specified. This could have a wide impact on user applications.

This redefinition in INTRINSIC.H is required because DECwindows needs to ensure that references to data located in the DECwindows shared images by user-written applications use the same `extern` model that was used when the DECwindows shared images were compiled.

To workaroud this problem, rather than having your application use `globalref` and `globaldef` for its own variables, use the following preprocessor directive:

```
#pragma extern_model strict_refdef
```

This workaroud has the advantage of being strictly ANSI compliant. This `pragma` directive is described in the *DEC C User's Guide for OpenVMS Systems* manual.

4.1.7 DECW\$WML.EXE Looks in Current Directory For DECW\$WML_TOKENS.DAT

1.2-4

The program SYS\$SYSTEM:DECW\$WML.EXE can be used to customize the parsing of UIL files. It reads a list of tokens from the file DECW\$WML_TOKENS.DAT. In previous versions of DECwindows Motif, this tokens file was always read from SYS\$LIBRARY. However, starting with DECwindows Motif for OpenVMS Version 1.2-4, DECW\$WML.EXE first looks for this file in the current directory before looking for it in SYS\$LIBRARY. This allows a customized tokens file to be used.

4.1.8 Use of _Xm Routines

V1.2

The OSF/Motif Toolkit libraries contain many undocumented routines, which are prefixed with _Xm. These routines are intended to be used only by the standard Motif widgets. OSF reserves the right to modify the API or functionality of these routines, or to delete them altogether in future releases.

Caution

HP supplies access to the _Xm routines by copying them into the shareable image transfer vector for the OSF/Motif Release 1.2.2 Toolkit. HP does not document or support these routines or guarantee their continued existence in future releases. Application developers who use these routines do so at their own risk.

4.1.9 Compiling Applications Written in Fortran

V1.1

On OpenVMS Alpha systems, some of the include files used for writing DECwindows Motif applications in Fortran, such as the DECW\$MOTIF.FOR file, contain structure definitions that cause memory layout changes, depending on the compiler switches used.

You can do one of the following:

- Use the CDEC\$ OPTIONS in the source code so that your Fortran programs work correctly with the DECwindows Motif run-time libraries:

- Before you include files in your program, add the following statement:

```
CDEC$ OPTIONS /ALIGN=RECORDS=NATURAL
```

- Following the INCLUDE statement, add the following statement:

```
CDEC$ END OPTIONS
```

For example:

```
CDEC$ OPTIONS /ALIGN=RECORDS=NATURAL  
INCLUDE "DECW$MOTIF.FOR"  
CDEC$ END OPTIONS
```

- Use the Fortran compiler switch, /ALIGN=RECORDS=NATURAL, when you compile your programs.

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4.1 General Programming

4.1.10 Compiling Applications Written in C

V1.0

During the VAX C layered-product installation procedure, you have the option of extracting the VAX C definition files (.h files) or leaving the .h files in the text library. If you extract the definition files, you can use #include control lines of the following form:

```
#include <filename.h>
```

The DECwindows header files assume that the .h files were extracted. They contain #include <module_name.h> notation for the included files. The DECwindows Motif programming documentation also makes this assumption.

VAX C should, therefore, be installed using the option to extract the library modules.

If you have already installed VAX C and you did not extract the .h files, the DECwindows sample C programs do not work. To correct this problem, reinstall VAX C and extract the .h files.

With DEC C, the header files do not need to be extracted from the text library if you define the DECC\$TEXT_LIBRARY logical name as follows:

```
$ DEFINE DECC$TEXT_LIBRARY SYS$LIBRARY:DECC$RTLDEF.TLB
```

4.2 Transport Programming

This section contains information about the Transport interface.

4.2.1 Local Area Transport (LAT) and User-Written Transports Not Supported in the Version 1.3 Environment

V1.3

With HP DECwindows Motif for HP OpenVMS Alpha Version 1.3, significant changes were made to the DECwindows Motif transport library to accommodate multithreading and the communication needs of the Inter-Client Exchange (ICE) protocol, Low-Bandwidth X (LBX) proxy server, and Input Method servers. In particular, support for an alternate method of assigning numbers to server connections was added, as described in *hp DECwindows Motif for hp OpenVMS Alpha New Features*. Support for the logical connection number (LCN) interface is the only transport-related feature that will be published for external use.

The DECnet, TCP/IP, and local network transport interfaces have been updated, remain available, function as expected in the Version 1.3 environment, and are compatible with the previous version of the client libraries. However, the DECwindows Motif interface to the Local Area Transport (LAT), as well as any custom, user-written transports built against previous versions of DECwindows Motif, will not function as expected and are expressly not supported in the DECwindows Motif Version 1.3 environment. This includes transports built and linked against the following files:

```
SYS$LIBRARY:DECW$XPORTCOM.H  
SYS$LIBRARY:DECW$XPORTCOM.MAR  
SYS$LIBRARY:DECW$XPORTCOM.R32  
SYS$LIBRARY:DECW$XPORTDEF.H  
SYS$LIBRARY:DECW$XPORTDEF.MAR  
SYS$LIBRARY:DECW$XPORTDEF.R32
```

The *VMS DECwindows Transport Manual* will be archived and the new libraries will not be documented or made available publicly.

If you currently use any X terminal applications that rely on the DECwindows Motif interface to the LAT transport, HP strongly recommends that you remain with DECwindows Motif Version 1.2–6 or earlier.

If you have implemented a custom transport and want to migrate that transport to the HP DECwindows Motif for HP OpenVMS Alpha Version 1.3 environment, contact your HP customer representative to develop a migration strategy.

4.3 X Window System Library (Xlib)

This section contains information about the X Window System library (Xlib).

4.3.1 Retired and Changed Entry Points

V1.3

The following unsupported Xlib entry points have been removed from the DECW\$XLIBSHR image:

```
XCMSCIELAB_VALIDSPEC  
XCMSCIELUV_VALIDSPEC  
XCMSCIUVY_VALIDSPEC  
XCMSCIEXYY_VALIDSPEC  
XCMSCIEXYZ_VALIDSPEC  
XCMSLRGB_RGBI_PARSESTRING  
XCMSLRGB_RGB_PARSESTRING  
XCMSTEKHVC_VALIDSPEC
```

Any application using these functions will need to be modified.

4.3.2 Meaning of XConnectionNumber and ConnectionNumber Changed

V1.3

The meaning of the XConnectionNumber function and ConnectionNumber macro has changed on HP DECwindows Motif for HP OpenVMS Alpha Version 1.3 systems.

For previous versions of DECwindows Motif, both the function and macro returned an event flag number (EFN). The event flag was set when input arrived, with calls typically implemented as follows:

```
sys$clref (ConnectionNumber (dpy));  
while (XPending (dpy) != 0) XNextEvent (dpy);  
sys$waitfr (ConnectionNumber (dpy));
```

For HP DECwindows Motif for HP OpenVMS Alpha Version 1.3, a change has been made so that these items behave differently when support for multithreading has been enabled by a call to XInitThreads. With multithreading enabled, these items now return a logical connection number (LCN).

The LCN is in the read set state whenever there is input available from the server. It is in the write set state unless all output buffers are in use. The except state is reserved for use by HP.

To use an LCN instead of an EFN, replace the above implementation with the following:

Programming Release Notes

4.3 X Window System Library (Xlib)

```
int readState;
while (XPending (dpy) != 0) XNextEvent (dpy);
decw$lc_n_select_one (ConnectionNumber (dpy), &readState);
```

Note that you must make the select call after the event queue has been cleared, since the LCN state reflects input from the server and does not include any events that might have been queued while handling replies.

You can force the ConnectionNumber macro to get the LCN value (which is always available) by including XLIB.H with the DECW_CONNECTIONNUMBER_IS_LCN macro set to true (1), for example:

```
#define DECW_CONNECTIONNUMBER_IS_LCN 1
#include <X11/Xlib.h>
.
.
.
```

This is useful when using this macro in a shared image or object library where the application must function the same whether or not threads have been initialized.

For more information on the LCN interface, see the *hp DECwindows Motif for hp OpenVMS Alpha New Features*.

4.3.3 Locale Support in OpenVMS Systems

V1.2-4

The locale support provided in DECwindows Motif for OpenVMS Version 1.2-4 is compatible with the locale support in the DEC C Run-Time Library. If you write internationalized applications using these functions in the locale environment, do the following:

- For Xlib applications, include <X11/Xlocale.h>. If you include <stdlib.h>, you must do so before <X11/Xlocale.h>.
- For Motif applications, <X11/Xlocale.h> is automatically included.
- Turn on the following compilation flags:

```
/define=(X_LOCALE,X_WCHAR,_WCHAR_T_,XLIB_XPG4_FUNCS)
```

4.3.4 XSelectAsyncEvent and XSelectAsyncInput Routines

V1.1

The XSelectAsyncEvent and XSelectAsyncInput routines allocate memory for the storage of AST delivery information. This memory is freed in the following ways:

- If you close a display (XCloseDisplay), all the AST delivery information associated with all windows on that display is freed.
- If you destroy a window (XDestroyWindow), the AST delivery information for that window is freed.

The AST delivery information for subwindows is not freed by XDestroyWindow.

If you want to turn off AST notification for all event types within a given window and also free the AST delivery information, the client application can call XSelectAsyncEvent or XSelectAsyncInput passing the **event_mask** argument equal to minus one (all bits set) and the **ast_routine** argument equal to zero.

4.3.5 Command Procedure Builds .PEN Files

V1.0

To allow Pascal programs to inherit environment files for Xlib and Motif, execute the command procedure `SYS$LIBRARY:DECW$PEN_BUILD.COM`. This command procedure generates the `DECW$XLIBDEF.PEN` and `DECW$MOTIF.PEN` files. The .PEN files compile into Pascal programs faster than the provided .PAS files.

4.3.6 Parameter/Protocol Datasize Mismatches

V1.0

Several Xlib routines accept longword parameters that are not sent in their entirety in the X Protocol message to the server. In each case, the Xlib routine sends out only the least significant 16 bits of the parameter value. This is a constraint of the field size within the X Protocol message.

Table 4–1 lists routine names and the longword arguments that are sent only as 16-bit values.

Table 4–1 Routine Names and Arguments Sent as 16-Bit Values

Routine Name	Routine Arguments
XAllocColorCells/ALLOC_COLOR_CELLS	nplanes,npixels
XDrawArc/DRAW_ARC	x,y,width,height, angle1,angle2
XDrawLine/DRAW_LINE	x1,x2,x3,x4
XDrawPoint/DRAW_POINT	x,y
XDrawRectangle/DRAW_RECTANGLE	x,y,width,height
XDrawString/DRAW_STRING	x,y
XDrawString16/DRAW_STRING16	x,y
XDrawText/DRAW_TEXT	x,y
XDrawText16/DRAW_TEXT16	x,y
XFillArc/FILL_ARC	x,y,width, height,angle1,angle2
XFillRectangle/FILL_RECTANGLE	x,y,width,height

4.4 X Window System Toolkit (Xt)

This section contains release notes pertaining to the X Window System Toolkit (Xt).

4.4.1 Composite Class Extension Record Run-Time Warning

V1.3

With X11R6.6, a new boolean option (`allows_change_managed_set`) was added to `CompositeClassExtensionRec`. As a result of this change to the data structure, applications built with a previous version of `CompositeClassExtensionRec` may display a warning message at run time similar to the following:

```
X Toolkit Warning: widget class Calc has invalid CompositeClassExtension record.
```

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4.4 X Window System Toolkit (Xt)

To prevent this message from displaying, rebuild the application with the updated version of the CompositeP.h file included with HP DECwindows Motif for HP OpenVMS Alpha Version 1.3. Check that the value of the new option is as you desire. If the memory is initialized to zero, then it will have the same behavior as before. If uninitialized the behavior could be unpredictable.

4.4.2 XtOpenDisplay Routine and Case Sensitivity

V1.2-6

In some cases the application name in XtOpenDisplay comes from **argv[0]**, which represents the name of the application on the command line.

This could be an issue in environments where case sensitivity must be preserved (such as when referencing ODS-5 system with case preservation enabled or when passing a user-defined argv list).

4.5 X Window System Extensions and Protocols

This section contains release notes pertaining to the X Window System extensions to the display server.

4.5.1 EVI Extension and Colormap Conflicts

V1.3

The DECwindows Motif display server does not return colormap conflict information when the Extended Visual Information (EVI) extension is used to request information about available visuals. The data returned always indicates that no colormap conflicts exist, even if there are some.

4.5.2 Dead Mouse Support

V1.3

With HP DECwindows Motif for HP OpenVMS Alpha Version 1.3, the Dead Mouse capabilities previously available with the AccessX extension have been incorporated into the subset of features available with the X Keyboard extension (XKB). These capabilities are now collectively referred to as Mouse Keys.

Note that since the Dead Mouse functions were also made part of the core the X server in a previous version of DECwindows Motif, they remain available even when the XKB extension is not enabled.

4.5.3 AccessX Extension No Longer Supported

V1.3

Support for the AccessX keyboard extension has been removed. All functions provided by this extension (such as sticky keys) are available with the X Keyboard extension (XKB). See the *hp DECwindows Motif for hp OpenVMS Alpha New Features* for more information on this extension.

4.5.4 Group Validation Not Performed by Security and Application Group Extensions

V1.3

The validation of groups is not being performed by the Security (SECURITY) and Application Group (XC-APPGROUP) extensions. Although a group ID can be passed to XSecurityGenerateAuthorization, it is not being checked. Authorization is provided regardless of the group ID.

4.5.5 Removing Watch Procedures from Open ICE Connections

V1.3

Avoid removing ICE watch procedures while an ICE connection remains open. If a watch procedure allocates memory to an open connection, and the procedure is removed, the memory cannot be freed since the proper callback is not made to the watch procedure.

4.5.6 BAD_LOCAL_NODE Error When Using ICE

V1.3

The original transport implemented by DECwindows Motif ignored the node specification when using LOCAL as the network transport. With the ICE protocol, the node name must always either be a value of 0 or a string consisting of the system name. Since ICE uses the LOCAL transport, the BAD_LOCAL_NODE warning message is displayed when ICE attempts to verify the node specification.

4.5.7 SmsGenerateClientId Does Not Generate an ID

V1.3

The XSMP request `SmsGenerateClientId` fails to generate a client ID on any system that has neither an assigned DECnet nor TCP/IP address.

4.5.8 Specifying Extension Include Files

V1.2

To ensure that programs that contain extension include files compile properly, add the logical name `DECW$INCLUDE` to the C include directory search list.

To add the logical name, enter the following command:

```
$ DEFINE DECC$USER_INCLUDE DECW$INCLUDE
```

4.6 X Window System Internationalization Library (XNL)

This section contains information about the XNL library.

4.6.1 xnl_parsedatetime

V1.2-5

`xnl_parsedatetime` (and its VAX binding, `XNL$PARSE_DATE_TIME`) accepts two-digit or four-digit years in the input argument *XmString s* (which is the date-time string to be parsed). Valid years in the two-digit format are in the range 70 to 99, which mean the years from 1970 to 1999. Values from 00 to 69 are invalid. Year 2000 and later must be specified in the four-digit format.

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4.6 X Window System Internationalization Library (XNL)

4.6.2 xnl_langinfo

V1.2-5

xnl_langinfo (and its VAX binding, XNL\$LANGINFO) returns a string for date-time formatting when D_FMT or D_T_FMT is specified in the *item* argument. In the locales listed below, this function returns a formatting string containing %y. This formatting string should be used carefully after the year 2000, as %y indicates the two-digit year format.

- es_ES Spanish
- fr_BE French Belgium
- fr_CA French Canada
- iw_IL Hebrew
- no_NO Norwegian

4.7 DECwindows Extensions to Motif (DXm)

This section contains information about the DECwindows extensions to the Motif Toolkit.

4.7.1 Corrected List of DXmNlayoutDirection Resource Constants

V1.2-3

In the *DECwindows Extensions to Motif*, the section on *DXmNlayoutDirection Resource* in Chapter 2 lists the following constants:

- DXmLAYOUT_LEFT_DOWN
- DXmLAYOUT_LEFT_UP
- DXmLAYOUT_RIGHT_DOWN
- DXmLAYOUT_RIGHT_UP

Note that the following constants are not currently available for the DXmNlayoutDirection resource:

- DXmLAYOUT_LEFT_UP
- DXmLAYOUT_RIGHT_UP

Also note that the introduction to Table 2-1 is incorrect. Table 2-1 describes the effect of the constants DXmLAYOUT_LEFT_DOWN and DXmLAYOUT_RIGHT_DOWN on the functions.

V1.2

In Section 2.2 of the *DECwindows Extensions to Motif* manual, the description of DXmChildren indicates that the routine can be used to learn the length of widget_list.

The documentation is incorrect. The sentence should read, “You can use the DXmNumChildren routine to learn the length of the widget list returned by DXmChildren.”

4.7.2 DXmFormSpaceButtonsEqually Restriction

V1.1

The convenience routine `DXmFormSpaceButtonsEqually` sizes and spaces all widgets or gadgets equally if they have a subclass of `XmLabel` or `XmLabelGadget`. The results are undefined if a widget or gadget is not a subclass of `XmLabel` or `XmLabelGadget`.

4.7.3 SVN Widget Does Not Support Horizontal Live Scrolling

V1.0

Horizontal live scrolling is not supported in the SVN widget.

4.8 Application Programming

This section contains release notes pertaining to developing applications for the DECwindows Motif environment.

4.8.1 CDA Viewer Programming

This section contains programming information about the CDA application and run-time services.

4.8.1.1 Corrected Image Ident for SYS\$LIBRARY:DDIF\$VIEWSHR.EXE

V1.3

The `SYS$LIBRARY:DDIF$VIEWSHR.EXE` image supplied with DECwindows Motif for OpenVMS Alpha Version 1.2–6 included the wrong image ident. Programs linked against the Version 1.2–6 image could not load and would report `SHRIDMISMATCH` error. This has been corrected, and the image ident restored to its original value.

Applications linked against the image supplied with Version 1.2–6 of DECwindows Motif will need to be relinked against the corrected image. Note that this only impacts images linked against the V1.1–3 compatibility version of `DDIF` (such as, DECwindows interface to Notes for OpenVMS) and not images using the current `DDIF$VIEWSHR12` image.

4.8.1.2 Message for Style Guide Fallback

V1.2

The following message is displayed when a local style guide cannot be found:

STYGDEFBK, Fallback to nonlocale-specific style guide: *file-spec*

Level: Informational

Explanation: Since the locale-specific style guide cannot be found, the nonlocale-specific version of the style guide is used.

4.8.1.3 Using Logical Names with CONVERT Commands

V1.2

During a document conversion, if a logical name is used to specify the directory of the primary document and the document file extension is omitted, external references that contain relative file specifications cause the conversion to fail.

Programming Release Notes

4.8 Application Programming

This failure occurs because the back-end converter examines the converter processing options, although the front-end converter opens the input file. Because the converter software cannot predict what default file extension the front-end converter might apply, it uses the OpenVMS file services to resolve the logical name and to find the actual file specification so that the directory can be parsed and extended with a relative specification.

The conversion fails only when the external reference uses a format such as the following:

```
sys$login:mydoc
```

In this case, the reference will not be resolved. The reference is resolved in all other cases. For example:

```
sys$login:mydoc.doc  
disk$:[smith]mydoc  
disk$:[smith]mydoc.doc
```

4.8.2 DECterm Programming

This section contains programming information about the DECterm application and run-time services.

4.8.2.1 DECCRA Sequence

V1.2

DECterm supports the DECCRA (Copy Rectangular Area) sequence in a limited way. The entire page needs to be copied at once, and either the source or the destination page must be the current page (for example, you cannot copy from one off-screen page to another).

4.8.2.2 DECLFKC Sequence

V1.2

Since DECterm does not have a user interface to redefine the F5 (Break) key, the DECLFKC (Local Function Key Control) sequence redefines the F5 key when "0" (all keys) is used to select which key is to be modified.

Documentation Release Notes

This chapter briefly describes corrections to the DECwindows Motif documentation. For a complete listing of additions and changes to the DECwindows Motif documentation set, see the *hp DECwindows Motif for hp OpenVMS Alpha Documentation Overview*.

5.1 Getting Started With the New Desktop

This section contains documentation corrections to the *Getting Started With the New Desktop* manual.

5.1.1 Corrected File Specification

V1.2-5

A file specification for a command procedure in *Getting Started With the New Desktop* (part number AA-QUW1A-TE) is incorrect. The file specification appears in Section 3.4.9, paragraph 5, as follows:

"Optional DECwindows applications, such as DECwindows Notes, may not provide any information and therefore are not restarted. For such cases, there is a command procedure called *disk\$:[user.DT]SESSIONETC.COM* that you can use to start any applications that cannot be restarted automatically. This procedure is analogous to the *DECW\$LOGIN.COM* procedure in the traditional DECwindows environment."

The correct file specification is:

disk\$:[user.DT.SESIONS]SESSIONETC.COM

5.2 DECwindows Motif for OpenVMS Applications Guide

This section contains documentation corrections to the *DECwindows Motif for OpenVMS Applications Guide* manual.

5.2.1 Corrections to the Example for Changing a Logo

V1.2

The example "Changing Your Logo" in the *DECwindows Motif for OpenVMS Applications Guide* is incorrect. To correct the problem, change the following code example in step one:

```
$ COPY SYS$COMMON: [SYSMGR]DECW$PRIVATE_APPS_SETUP.TEMPLATE -
_ $ SYS$SPECIFIC: [SYSMANAGER]DECW$PRIVATE_APPS_SETUP.COM/LOG
```

The code example should read as follows:

```
$ COPY SYS$COMMON: [SYSMGR]DECW$PRIVATE_APPS_SETUP.TEMPLATE -
_ $ SYS$SPECIFIC: [SYSMGR]DECW$PRIVATE_APPS_SETUP.COM/LOG
```

Documentation Release Notes

5.3 Using DECwindows Motif for OpenVMS

5.3 Using DECwindows Motif for OpenVMS

This section contains documentation corrections and enhancements to the *Using DECwindows Motif for OpenVMS* manual.

5.3.1 Clarifications to the Finish Printing Option

V1.2-3

In *Using DECwindows Motif for OpenVMS*, the section called “Printing Information” in the chapter on DECterm provides information about the Print menu. To further clarify the information in the *Finish Printing* section, note the following:

Selecting the Finish Printing option on the Print menu closes the print job and toggles Auto Print mode back to Normal Print mode.

5.3.2 Correction to Adding Target Screen Options to Application Menu Items Example

V1.2

The example “Adding Target Screen Options to Application Menu Items” in *Using DECwindows Motif for OpenVMS* is incorrect. To correct the problem, remove the first occurrence of the following line:

```
$ select_qualifiers:
```

5.4 DECwindows Motif for OpenVMS Guide to Non-C Bindings

This section contains documentation enhancements and corrections to the *DECwindows Motif for OpenVMS Guide to Non-C Bindings* manual.

5.4.1 Access to GET_CHAR_STRUCT Function Correction

V1.2-3

The access related to the char_struct argument for the XLIB GET_CHAR_STRUCT function is incorrectly documented in the *DECwindows Motif for OpenVMS Guide to Non-C Bindings*. The correct access is *write*.

5.5 DECwindows Motif Guide to Application Programming

This section contains documentation corrections to the *DECwindows Motif Guide to Application Programming* manual.

5.5.1 Location of UIL Source Code for the OpenVMS DECburger Sample Application

V1.2-3

In the *DECwindows Motif Guide to Application Programming* manual, the introduction to the section in Chapter 4 called “Creating the Help Widget with UIL” does not clearly state that the complete UIL source code for the OpenVMS DECburger application is included in DECW\$EXAMPLES on OpenVMS systems.

5.5.2 Corrections to the Help Widget Documentation

V1.2-3

In the *DECwindows Motif Guide to Application Programming* manual, the following corrections should be noted:

- The title of Example 4-7, “Help Widget Implementation—C Language Module”, DECBURGER.C should be added to the title as follows:
“Help Widget Implementation—C Language Module (DECburger.C)”
- The title of Example 4-8 should read as follows:
“Help Widget Implementation—Callbacks (DECburger.C continued)”
- The title of Section 4.10, “Using the Toolkit Help Widget Creation Routine,” does not accurately reflect the contents of this section. The title should read, “Using UIL to Create the Help Widget”.
- The introductory paragraph to Example 4-9 in the section called “Using the Toolkit Help Widget Creation Routine” is incomplete. The information should state the following:
“The code in Example 4-9 is included in DECBurger.C but is commented and will not be compiled when the example program is built.”

The implementation in this example is not complete; it requires some sections from Examples 4-7 and 4-8.

OSF/Motif Release 1.2 Release Notes

The release notes in this document are based on Chapter 3 of the OSF/Motif Release Notes for Release 1.2 and include a few other notes relevant to programmers developing OSF/Motif applications. Most of the notes describe changes made for OSF/Motif Release 1.2. The first two notes discuss performance improvements and information about backward compatibility.

These release notes support the OSF/Motif software currently provided with the HP DECwindows Motif for HP OpenVMS Alpha product.

A.1 Performance Improvements

The Open Software Foundation set as its goal for OSF/Motif Release 1.2 to improve performance where possible and, at a minimum, to not allow it to degrade below the performance of OSF/Motif Release 1.1.

Performance testing was done in three areas:

- Aspects obvious to end users
- Data space usage
- Memory leakage

The performance of user-perceptible events such as posting and unposting dialog boxes and pop-up menus are comparable or better than the performance for OSF/Motif Release 1.1.4. A significant improvement was made for scrolling inside a Scrolled Text region that contains a large amount of text.

Data space usage has improved throughout the OSF/Motif Toolkit, particularly for the Text widget. In some cases, data space usage has been reduced by as much as 40%. Also, the memory used for the text in a Text widget is now correctly reduced when that text is replaced by a smaller amount of text.

Memory leakage has been reduced to a minimum for multiple creates and destroys of all Toolkit widgets. Although the Motif tests showed small memory leaks, the OSF believes that this amount of memory is required as part of the startup overhead and is not a true memory leak.

The OSF did find some memory leaks that they plan to fix in a future release. Three widgets—File Selection Box, Command, and Drawn Button - leak approximately 500 bytes of memory per instance.

A.2 Backward Compatibility

The OSF tested OSF/Motif Release 1.2 for both link-time compatibility as well as visual and behavioral compatibility.

OSF/Motif Release 1.2 Release Notes

A.2 Backward Compatibility

A.2.1 Visual and Behavioral Compatibility

The OSF ran automated tests that compared current visuals with those recorded using OSF/Motif Release 1.1.4 libraries. Once all differences between the Release 1.2 and Release 1.1.4 versions were accounted for, the visuals were rerecorded using Release 1.2 visuals. These new recorded visuals were used in all subsequent tests.

The OSF believes that Motif Release 1.2 is visually and behaviorally compatible with Release 1.1.4. However, they have made extensive improvements to the Traversal and Geometry Management algorithms that result in some differences between those versions. These differences reflect efforts to fix defects in the earlier release.

For example, one such modification involves the new policy in which an initial size set for a manager widget in an application is now honored by the Toolkit. In OSF/Motif Release 1.1, applications set the initial size for a manager widget, but did not, in fact, use that size. In Release 1.2, Motif now uses that size setting and the initial layout is changed accordingly.

A.3 Changes and New Features for OSF/Motif Release 1.2

This section summarizes changes and new features that the OSF has made to OSF/Motif Release 1.2. Detailed information about these modifications is contained in the Motif reference pages and the Motif Release 1.2 revisions of following books:

- *OSF/Motif Style Guide*
- *OSF/Motif Programmer's Guide*

The following sections discuss the OSF/Motif Release 1.2 enhancements.

A.3.1 General Toolkit Changes

This section discusses the changes made to the overall OSF/Motif Release 1.2 Toolkit.

A.3.1.1 Include File Changes

The following header files that were in OSF/Motif Release 1.1 are obsolete in Release 1.2:

```
ExtObject.h
Traversal.h
VaSimple.h
VendorE.h
VendorEP.h
```

A new public header file, `XmAll.h`, has been added to OSF/Motif Release 1.2. This header file includes all the documented header files.

A.3.2 Change in XT Translations

As a result of fixing a problem in the XT translation code (Patch 25 for X11 R5), the translations in Xt are now handled strictly and no longer accept any possible match as they did before. This change has caused a change in the behavior of the QATS and Motif VTS test suites, which now make incorrect assumptions for certain keyboards, such as those that have the arrow keys defined in the keypad. Other Motif applications might be affected as well.

OSF/Motif Release 1.2 Release Notes

A.3 Changes and New Features for OSF/Motif Release 1.2

You can avoid this problem by creating a file to redefine the bindings for the keys in question and then passing that file to the `xmodmap` utility.

The following example changes the bindings for the keypad keys that match the arrow keys so that only the arrow keys are produced, not the keypad numbers. The new definitions allow the application to use modifiers with the arrow keys.

```
!  
! Always force:  
! KP_2 = Down  
! KP_8 = Up  
! KP_4 = Left  
! KP_6 = Right  
keycode 120 = Down  
keycode 76 = Up  
keycode 98 = Left  
keycode 100 = Right
```

A.3.3 ANSI C Compliance

All references to `caddr_t` have been changed to `XtPointer`. This change affects all callback routines and any other routines that reference `caddr_t`. The OSF made this change so that OSF/Motif Release 1.2 would be compliant with the ANSI C specification.

A.3.4 Display and Screen Specific Data

Motif now has an `XmDisplay` object that supports per-display data and resources. An `XmScreen` object has been added that supports per-screen data and resources.

A.3.5 Drag and Drop

OSF/Motif Release 1.2 supports the drag and drop metaphor for data interchange. The drag-and-drop specification has been fully implemented. See the Release 1.2 version of the OSF/Motif Programmer's Guide for information on the drag and drop interface.

Note

If you want to use `Btn2` to have pop-up menus pop up, drag and drop will not function properly. You need to disable drag and drop in such instances.

A.3.6 Tear-Off Menus

With tear-off menus, the user can retain menus on the display area for subsequent selections. Each tearable menupane is a tear-off button. When the mouse drag button is pressed on the tear-off button, the pane tears off and can be dragged and then placed by releasing the mouse drag button. The window manager surrounds the tear-off menupane with a menu button and a title. Shifting focus to a torn-off menu's windowpane follows the standard window manager policy.

Tear-off behavior is enabled by setting the `XmNtearOffModel` resource to `XmTEAR_OFF_ENABLED`. (The default is `XmTEAR_OFF_DISABLED`).

Note that there is no resource converter preregistered by `XmNtearOffModel`. To allow the tear-off function to be enabled through the resource database, an application must register its own resource converter for the `XmNtearOffModel` resource using the `XmRepTypeInstallTearOffModelConverter` function.

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A.3 Changes and New Features for OSF/Motif Release 1.2

The converter is not automatically installed because many applications use map or cascading callbacks to dynamically set the sensitivity of items within their menus. However, if a tear-off menu is mapped, the sensitivity of its menu items must be changed immediately to reflect changes in other application states. Existing applications are unlikely to change menu item sensitivity in this manner. Thus, allowing their menus to be torn off could result in operations being enabled at unexpected times. If a user activates one of these menu items, the application can crash or the persistent data can be corrupted.

A.3.7 Insensitive Visuals

Motif provides visual indications to show whether a component can respond to input from users. Labels and buttons have had this behavior in previous Motif releases. In OSF/Motif Release 1.2, this behavior has been extended to the following widgets:

```
XmArrowButton
XmList
XmScrollBar
XmText
XmTextField
```

A.3.8 Other Visual Changes

OSF/Motif Release 1.2 has made other visual changes as follows:

- Several pixels have changed in the three-dimensional beveled look.
- Minor changes have been made to the color generation routines. In particular, the new `XmScreen` object contains resources that allow for tailoring the generation of default colors. Some of the default values for thresholds have been adjusted to produce more contrast on color monitors.
- Motif now adds a location cursor to surround all items in a List whenever a List widget has the focus and the current keyboard item is not visible.
- There are minor layout differences because of fixes in geometry management.

A.3.9 Titles for Frames

In OSF/Motif Release 1.2, you can specify a Title widget in a Frame widget. The release has added the following new constraint resources for specifying the position and alignment of the title in the Frame:

```
XmNchildHorizontalAlignment
XmNchildHorizontalSpacing
XmNchildType
XmNchildVerticalAlignment
```

A.3.10 Audible Warning

The VendorShell has a new resource, `XmNaudibleWarning`, that can specify whether an audible cue should accompany a warning message. Text widgets determine the value for this resource from the value of `XmNaudibleWarning`.

OSF/Motif Release 1.2 Release Notes

A.3 Changes and New Features for OSF/Motif Release 1.2

A.3.11 Color Enhancements

The following three resources have been added to the `XmScreen` widget so that users can specify the default background color and thresholds for shadow calculation:

```
XmNlightThreshold  
XmNdarkThreshold  
XmNforegroundThreshold
```

Motif has added the `XmChangeColor` function that changes the background and other colors for a specified widget.

A.3.12 Baseline Alignment

Motif has added two functions for baseline alignment. The `XmWidgetGetBaselines` function determines the position of the widget's text baseline. The `XmWidgetGetDisplayRect` function determines the size and position of the bounding box for the widget's character string.

A.3.13 Expanded Traversal Set

In OSF/Motif Release 1.2, you can use more widgets to support traversal using the keyboard. For example, inside a tab group, users can now use the arrow keys to traverse to all control descendants that are not contained within a nested tab group and that are eligible to receive focus, even if the controls are not direct children of the tab group.

A.3.14 Two-Dimensional Menu Traversal

With OSF/Motif Release 1.2, the left, right, up, and down traversal arrows now navigate within a menupane. The up and down arrow keys wrap between columns. The right and left arrow keys post the previous or next menupane when they are pressed in the rightmost and leftmost column of the menupane, respectively.

A.3.15 Input Focus

OSF/Motif Release 1.2 has added the `XmNinitialFocus` resource to the `Manager` class. This resource specifies the first widget to receive input focus. This resource can only specify a widget; it is ignored for all pop-up menus, menubars, option menus, and pull-down menus.

A.3.16 Traversal Access Functions

OSF/Motif Release 1.2 has added the following new functions to support better interaction with keyboard traversal:

```
XmGetFocusWidget  
XmGetTabGroup  
XmGetVisibility  
XmIsTraversable  
XmIsVisible
```

The `XmTrackingLocate` function has been modified to do the following:

- Field all events, not just a button press.
- Return on any keystroke or button press.
- Be called for nonsensitive widgets.

OSF/Motif Release 1.2 Release Notes

A.3 Changes and New Features for OSF/Motif Release 1.2

In addition, the `XmTrackingEvent` function has been added. This function is similar to `XmTrackingLocate`, except that it returns a pointer to the X event.

A.3.17 Virtual Keys

OSF/Motif Release 1.2 has added the `XmTranslateKey` function that allows applications to override the default `XtKeyProc` to handle Motif virtual keys.

Motif defines two new virtual keysyms:

```
osfPageLeft
osfPageRight
```

You must have the X11 Release 5 `XKeysymDB` installed in `/usr/lib/X11` to use these new virtual keys. Otherwise you get a warning message on application startup. Specify the following information in the `XKeysymDB` file:

```
osfPageLeft      :1004FF40
osfPageUp        :1004FF41
osfPageDown      :1004FF42
osfPageRight     :1004FF43
```

To comply with the OSF/Motif Style Guide, the default binding for `osfMenu` has been changed from `<key>F4` to `Shift<key>F10`.

In X11 Release 5, the HP keysyms in the `XKeysymDB` file have the prefix `hp`. This prefix is not reflected in the HP bindings file in the `/bindings` directory. If you are using an X11 Release 5 `XKeysymDB` file, you might see warning messages at application startup. To eliminate these warning messages, add the `hp` prefix as follows to the appropriate lines in the file:

```
osfDelete :          <key>hpDeleteChar
osfInsert :          <key>hpInsertChar
osfPrimaryPaste :    <key>hpInsertLine
osfQuickPaste :      <key>hpDeleteLine
```

OSF/Motif Release 1.2 has a new client, `xmbind`, that sets up the virtual bindings for use by Motif applications. Since virtual binding is automatically set up at Motif Window Manager (MWM) startup, you only need to use `xmbind` if MWM is not used or if you need to change the virtual bindings without restarting MWM.

Virtual bindings can now be specified by individual vendors. If there is no `.motifbind` file in the home directory, you can use the `xmbind.alias` file to provide a mapping from the server vendor name to the bindings file. You can set up user vendor bindings as well as system-wide vendor bindings.

A.3.18 Resource Management

OSF/Motif Release 1.2 has the following new functions for managing representation types:

```
XmRepTypeRegister
XmRepTypeAddReverse
XmRepTypeValidValue
XmRepTypeGetRegistered
XmRepTypeGetId
XmRepTypeGetNameList
XmRepTypeGetRecord
```

OSF/Motif Release 1.2 Release Notes

A.3 Changes and New Features for OSF/Motif Release 1.2

These functions are useful for developers who want to define new resource converters that use an enumerated set of values.

A.3.19 Changes for CUA and Windows Compliance

In OSF/Motif Release 1.2, pressing the Return key or using the key bound to `osfActivate` (usually the Enter key on the numeric keypad) no longer activates a button that is outside a menu. For example, pressing such a key no longer pops up an `OptionMenu` or activates a `ToggleButton` in a dialog box.

If your application has a default button associated with an `XmBulletinBoard`, pressing Return (except in a multiline `XmText`), `Ctrl/Return`, or the key bound to `osfActivate` while the focus is in the `XmBulletinBoard` now activates the default button.

A.4 Changes and Enhancements to Specific Widgets

This section summarizes the changes to specific widgets that were made in OSF/Motif Release 1.2.

A.4.1 XmClipboard

OSF made several corrections to the `XmClipboard` function parameters. These changes are binary compatible with earlier releases of Motif. However, in some instances, you might see warning messages when you recompile your applications. The modifications involved changing `(char *)` to `XtPointer`, `int` to `long`, and `(int *)` to `(long *)`. The related functions affected by these modifications are:

- `XmClipboardCopy`
- `XmClipboardCopyByName`
- `XmClipboardInquireCount`
- `XmClipboardInquireFormat`
- `XmClipboardRegisterFormat`
- `XmClipboardRetrieve`
- `XmClipboardStartCopy`
- `XmClipboardWithdrawFormat`

A.4.2 XmCommand

In OSF/Motif Release 1.2, a correction was made to `XmCommandGetChild` so that it now accepts `XmDIALOG_WORK_AREA` as a value for the child argument.

A.4.3 XmList

To enhance its capabilities for managing lists, OSF/Motif Release 1.2 includes the following new functions:

- `XmListAddItemsUnselected`
- `XmListDeletePositions`
- `XmListGetKbdItemPos`
- `XmListIsPosSelected`
- `XmListPosToBounds`
- `XmListReplaceItemsUnselected`

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A.4 Changes and Enhancements to Specific Widgets

- `XmListReplaceItemsPosUnselected`
- `XmListReplacePositions`
- `XmListSetKbdItemPos`
- `XmListUpdateSelectedList`
- `XmListYToPos`

The `XmList` widget includes a new translation:

- `<Copy>`
Copies the selection to the clipboard.

`XmList` includes a new action:

- `ListScrollCursorVertically()`
Scrolls the cursor vertically based on an input percentage or a y position.

Note

This action was mistakenly named `ListScrollCursorVisible` in OSF/Motif Release 1.2. The name will be corrected in a later release of Motif.

The `XmNvisibleItemCount` resource has been modified so that the default value is dynamic, and is based on the item count and the height.

In OSF/Motif Release 1.2, if the `selectedItems` and `selectedItemCount` resources for a list are set in a resource file, the location cursor appears over the last item in the `selectedItems` list, not the first selected item.

A.4.4 `XmMessageBox`

In OSF/Motif Release 1.2, `MessageBox` supports the addition of one `MenuBar`, one work area, and multiple `PushButton` children.

A new dialog type, `XmDIALOG_TEMPLATE`, creates a `MessageBox` that contains only a `Separator`. The application provides additional children.

`XmCreateTemplateDialog` creates an `XmDIALOG_TEMPLATE` `XmMessageBox` inside a `DialogShell`.

A.4.5 `XmRowColumn` and Menus

OSF/Motif Release 1.2 adds a new resource, `XmNentryVerticalAlignment`, that specifies the vertical alignment style.

Another resource, `XmNunpostBehavior` has been added to the `XmScreen` object. This resource can be set to enable external button events to be replayed after a menu is unposted.

A.4.6 `XmScrollBar`

In OSF/Motif Release 1.2, `XmScrollBar` includes a new translation:

- `<Cancel>`
Cancels the current slider drag.

OSF/Motif Release 1.2 Release Notes

A.4 Changes and Enhancements to Specific Widgets

A.4.7 XmScrolledWindow

OSF/Motif Release 1.2 adds the function, `XmScrollVisible`, that scrolls an automatic scrolled window to make a partially or completely obscured widget visible.

Another resource, `XmNtraverseObscuredCallback`, has been added that specifies a list of callbacks that are called when a traversal event is requested to a nonvisible widget. A new callback structure, `XmTraverseObscuredCallbackStruct`, has been added to support this callback.

A.4.8 XmSelectionBox, XmFileSelectionBox

In OSF/Motif Release 1.2, the `XmSelectionBox` and `XmFileSelectionBox` widgets support the addition of `MenuBar` and `PushButton` children, as well as a work area child.

A new resource, `XmNchildPlacement`, controls the location of the work area child.

The value, `XmDIALOG_TEMPLATE`, has been added to the `XmNdialogType` resource.

By default, `XmSelectionBoxDialog` and its subclasses use `XmTextField` instead of `XmText`. You can revert to the earlier behavior by defining `USE_TEXT_IN_DIALOGS` when your application builds `XmSelectionBox` or any of its subclasses.

A.4.9 XmText

OSF/Motif Release 1.2 has added two functions to `XmText` for making update changes to the widget: `XmTextDisableRedisplay` and `XmTextEnableRedisplay`.

Two other functions facilitate string manipulation: `XmTextFindString` and `XmTextGetSubstring`.

In Release 1.2, the destination cursor now follows the insert cursor and is no longer independently drawn.

`XmText` includes three new translations:

- `<Backspace>`
Deletes any non-null primary selection.
- `<Delete>`
Deletes any non-null primary selection.
- `<LeaveWindow>`
Continues a selection action by scrolling after a time delay.

`XmText` includes two new actions:

- `scroll-cursor-vertically()`
Scrolls the cursor vertically based on a y position.
- `toggle-overstrike()`
Switches between insert and overstrike modes.

Note

There is a potential problem in both `XmText` and `XmTextField` with rendering strings in fonts or font sets that contain characters whose ascenders can rise above the font ascent. If the text containing these

OSF/Motif Release 1.2 Release Notes

A.4 Changes and Enhancements to Specific Widgets

characters is highlighted, any overlapping descenders in the previous line may be overwritten by the ascenders in the succeeding line.

A.4.10 XmTextField

OSF/Motif Release 1.2, the `XmTextField` widget has a new resource, `XmNfocusCallback`, that specifies the callbacks to be called when the widget accepts input focus.

Another new function, `XmTextFieldGetSubstring`, gets a substring by length from a widget.

In Release 1.2, the destination cursor now follows the insert cursor and is no longer independently drawn.

`XmTextField` includes two new translations:

- `<Backspace>`
Deletes any non-null primary selection.
- `<Delete>`
Deletes any non-null primary selection.

A.4.11 XmToggleButton, XmToggleButtonGadget

In OSF/Motif Release 1.2, setting `XmNfillOnSelect` to be true when `XmNindicatorOn` is false now causes the background of a set `XmToggleButton` to be filled with `XmNselectColor`.

The default value for `XmNfillOnSelect` is dynamic so that it matches the state of `XmNindicatorOn`.

A.5 Motif Window Manager Enhancements

This section highlights the enhancements to the Motif Window Manager (MWM).

A.5.1 Changes to MWM

OSF/Motif Release 1.2 incorporates the following enhancements to MWM:

- An internationalized `.mwmrc` file
- Internationalized dialog messages
- A built-in default root menu
- Support for the `<Return>` continuation character (`\`) in the `.mwmrc` file
- Search capability with `XBMLANGPATH` for bitmap files
- Support for pop-down and replay event behavior in `mwm` menus
- Documentation of the widget names used by `mwm`
- Support for scrolled window traversal to scrolled-off children in the icon box
- Support for treating the `<Alt>` and `<Meta>` key modifiers as two distinct modifiers
- Support for the `SHAPE` nonrectangular window extension

A.5.2 New and Enhanced MWM Resources

The OSF/Motif Release 1.2 window manager includes the following new or enhanced resources:

- `feedbackGeometry`
Sets the position of the move/resize feedback window. The default position is the center of the screen.
- `frameBorderWidth`
Now bases its default value on the size and resolution of the screen.
- `iconPlacement`
Now takes the addition value, `tight`, which specifies automatic icon placement with no gaps between icons.
- `maximumClientSize`
Can now take the values `vertical` and `horizontal`.
- `moveOpaque`
Controls whether an image of the window or just an outline of the window is moved.
- `resizeBorderWidth`
Now bases its default value on the size and resolution of the screen.
- `usePPosition`
Uses the values of `on`, `off`, or `nonzero` to control whether program-specified positions are used.

A.5.3 New and Enhanced MWM Functions

OSF/Motif Release 1.2 has the following new and enhanced MWM functions:

- `f.lower`
Includes a `within` argument to move the window within the application stacking order, but retains the parent window below the children rule. The function also includes a `freeFamily` argument to move the window absolutely without regard to its local family stack. Both modifiers move the window within the local family stack, but do not move the family stack.
- `f.minimize`
Can now be used from an icon in an icon box.
- `f.raise`
Includes a `within` argument to move the window within the application stacking order, but retains the parent window below the children rule. The function also includes a `freeFamily` argument to move the window absolutely without regard to its local family stack. Both modifiers move the window within the local family stack, but do not move the family stack.
- `f.raise_lower`
Includes a `within` argument to move the window within the application stacking order, but retains the parent window below the children rule. The function also includes a `freeFamily` argument to move the window absolutely without regard to its local family stack. Both modifiers move the window within the local family stack, but do not move the family stack.

OSF/Motif Release 1.2 Release Notes

A.5 Motif Window Manager Enhancements

- `f.restore`
Restores a window to its previous state. Double clicking on a root icon is bound to this function rather than to `f.normalize`.
- `f.restore_and_raise`
Restores a window to its previous state and raises it to the top of the window stack. Double clicking on an icon in an icon box is bound to this function rather than to `f.normalize`.
- `f.screen`
Traverses to the screen specified by `arg`. Legal values for `arg` are: `next`, `prev`, `last`, or a specific screen number.

A.5.4 New MWM Action

OSF/Motif Release 1.2 has one new MWM action:

- `<Alt> <Esc>`
This key combination behaves similarly to `f.next_key`, except that the window is always raised, regardless of the value of `focusAutoRaise`.

A.6 Changes to the User Interface Language

OSF/Motif Release 1.2 has the following changes in the User Interface Language (UIL):

- There is a new command flag, `-s`, that enables the use of `setlocale` and the creation of localized Compound Strings.

Note

There is a serious problem in parsing double quoted strings with the `-s` flag. If you need to use this flag for parsing double quoted strings, you must obtain a patch from the OSF.

- New UIL syntax now supports font sets and font tables.
- New UIL syntax now supports wide character strings.
- Support has been added for using widget references as callback tags.
- New UIL syntax specifies the resources of automatically created children.
- Syntax changes to the Widget Meta-Language (WML) allow for the definition of automatically created children of composite widgets.
- UIL can now use the `-wmd` file flag to read binary databases (WML files) that contain WML information.
- `Mrm` includes two new functions:
 - `MrmOpenHierarchyPerDisplay`
This function is the same as the old `MrmOpenHierarchy` function, except that in the new function, the `display` is passed as an explicit argument. This function replaces `MrmOpenHierarchy`.
 - `MrmFetchBitmapLiteral`
This function fetches a bitmap literal with a depth of 1.

OSF/Motif Toolkit Information

This appendix contains information about notes, restrictions, and corrections related to the OSF/Motif and DECwindows OSF/Motif Toolkits.

B.1 OSF/Motif Release 1.2.2 and X11 Release 5 and Greater Shareable Libraries

V1.2

Because the OSF/Motif Release 1.2.2 Toolkit and the OSF/Motif Release 1.1.3 Toolkit are not binary compatible, applications must link with one toolkit or the other. Applications based on OSF/Motif Release 1.2.2 can only link against OSF/Motif 1.2.2-based and X11 R5-based shareable libraries. Applications based on OSF/Motif Release 1.1.3 can only link against OSF/Motif 1.1.3-based and X11 R4-based shareable libraries.

To provide both OSF/Motif Release 1.2.2-based and OSF/Motif Release 1.1.3-based shareable libraries, the Release 1.1.3-based libraries have the same file names as in DECwindows Motif Version 1.1, and the Release 1.2.2-based libraries contain a suffix of either "R5" or "12".

Shareable libraries that work with either the OSF/Motif Release 1.1.3 Toolkit or the OSF/Motif Release 1.2.2 Toolkit do not have a suffix. These libraries are as follows:

V1.2-6

- CDA\$ACCESS.EXE
- DECW\$D2DXLIBSHR.EXE
- DECW\$XEXTLIBSHR.EXE
- DECW\$XLIBSHR.EXE
- XIE\$SHRLIB.EXE

Shareable libraries that are linked with Release 5 and greater of the Xt Toolkit have a suffix of "R5". Libraries based on the XUI Toolkit have no R5 equivalent libraries and should not be included in a linker options file based on X11R5, X11R6.6, or OSF/Motif Release 1.2.2. Table B-1 lists these file names.

Note

The DECW\$XLIBSHR.EXE file is the X11R5 version, not the X11R4 version of Xlib.

OSF/Motif Toolkit Information

B.1 OSF/Motif Release 1.2.2 and X11 Release 5 and Greater Shareable Libraries

Table B–1 Names of Shareable Libraries Based on X11R5 or Greater

Names of Files Based on R4	Names of Files Based on R5 or Greater
DECW\$DWTLIBSHR.EXE	(None)
DECW\$DWTSHR.EXE	(None)
DECW\$XMULIBSHR.EXE	DECW\$XMULIBSHRR5.EXE
DECW\$XTRAPLIBSHR.EXE	DECW\$XTRAPLIBSHRR5.EXE
DECW\$XTSHR.EXE	DECW\$XTLIBSHRR5.EXE

Releases 5 and greater do not provide an equivalent file for DECW\$DWTLIBSHR.EXE or DECW\$DWTSHR.EXE. Applications that are built for Releases 5 and beyond cannot link against these files.

Shareable libraries that are linked with OSF/Motif Release 1.2.2 have a suffix of "12". They should be linked only with libraries compatible with X11R5 or X11R6.6, and OSF/Motif Release 1.2.2. Table B–2 lists these file names.

Table B–2 Names of Shareable Libraries Based on OSF/Motif Release 1.2.2

Names of Files Based on Release 1.1.3	Names of Files Based on Release 1.2.2
DDIF\$VIEWSHR.EXE	DDIF\$VIEWSHR12.EXE
DECW\$BKRSRSHR.EXE	DECW\$BKRSRSHR12.EXE
DECW\$DXMLIBSHR.EXE	DECW\$DXMLIBSHR12.EXE
DECW\$MAILSHR.EXE	DECW\$MAILSHR12.EXE
(None)	DECW\$MRMLIBSHR12.EXE
DECW\$PRINTWGTSHR.EXE	(None)
DECW\$TERMINALSHR.EXE	DECW\$TERMINALSHR12.EXE
DECW\$XMLIBSHR.EXE	DECW\$XMLIBSHR12.EXE
DGIT\$LIBSHR.EXE	DGIT\$LIBSHR12.EXE
IMG\$SHRLIB.EXE	IMG\$SHRLIB12.EXE
LWK\$DXMSHR.EXE	LWK\$DXMSHR12.EXE
XNL\$SHR.EXE	XNL\$SHR12.EXE

There is no DECW\$PRINTWGTSHR12.EXE file; the Print Widget is part of the DECW\$DXMLIBSHR12.EXE file.

The DECW\$MRMLIBSHR12.EXE file is a new image that includes Motif Resource Manager (Mrm) routines that were formerly part of the DECW\$XMLIBSHR.EXE file. Any program based on OSF/Motif Release 1.2.2 that calls Mrm routines to access .UID files should link with this library.

For example, a typical linker options file for a program based on OSF/Motif Release 1.1.3 might be as follows:

```
SYS$SHARE:DECW$XLIBSHR/SHARE
SYS$SHARE:DECW$XTSHR/SHARE
SYS$SHARE:DECW$DWTLIBSHR/SHARE
SYS$SHARE:DECW$XMLIBSHR/SHARE
SYS$SHARE:DECW$DXMLIBSHR/SHARE
```

B.1 OSF/Motif Release 1.2.2 and X11 Release 5 and Greater Shareable Libraries

To link this program with OSF/Motif Release 1.2.2, the linker options file should be changed to:

```
SYS$SHARE:DECW$XLIBSHR/SHARE  
SYS$SHARE:DECW$XTLIBSHR5/SHARE  
SYS$SHARE:DECW$XMLIBSHR12/SHARE  
SYS$SHARE:DECW$MRMLIBSHR12/SHARE  
SYS$SHARE:DECW$DXMLIBSHR12/SHARE
```

These changes eliminate the reference to the XUI Toolkit (DECW\$DWTLIBSHR.EXE) and links with the Motif Resource Manager (DECW\$MRMLIBSHR12.EXE).

B.2 OSF/Motif Release 1.1.3 Programming Support and XUI

V1.2-3

Restrictions

- Problem:

You will encounter problems if you save the previous (Release 1.1.3) programming environment and attempt to run an OSF/Motif Release 1.1.3 (Xlib Release 4) program that is created on a DECwindows Motif Version 1.2 or Version 1.2-3 system by running the executable on a DECwindows Motif Version 1.1 target system. That is, if you build an application on a DECwindows Motif Version 1.2 or Version 1.2-3 for OpenVMS system, the image is linked with Xlib Release 5, by default. If you attempt to run that executable on a system where OSF/Motif Release 1.1.3 is installed, the result is an ident mismatch fatal error.

In addition, the OSF/Motif Release 1.1.3 and the Release 1.2.2 UIL compilers produce different output; they have different structures and are therefore not compatible. Use the appropriate UIL compiler to produce the correct UID file.

- Resolution:

1. Rename the DECwindows Motif Version 1.1 executable compiler, DECW\$UILMOTIF.EXE, to DECW\$UILMOTIF113.EXE and keep the file in the SYS\$COMMON directory. By doing this, the name of the new Version 1.2-3 compiler, DECW\$UILMOTIF.EXE, does not conflict with the previous compiler.
2. Copy the DECW\$XLIBSHR.EXE file (Xlib Release 4) to the SYS\$COMMON:[SYSEXE.DECW\$113] directory.

The Xlib Release 5 or greater versions of Xlib have the same name; however, a logical name is defined to use the Release 4 version when the programs are linked. The changes in minor ident of DECW\$XLIBSHR.EXE between DECwindows Motif Version 1.1 and DECwindows Motif Version 1.2 for OpenVMS caused a loss of backward compatibility with DECwindows Motif Version 1.1 systems.

OSF/Motif Toolkit Information

B.2 OSF/Motif Release 1.1.3 Programming Support and XUI

3. If you save the previous programming environment during installation, create the following two files and copy them to the SYS\$COMMON:[SYSEXEC.DECW\$113] directory:
 - DECW\$UILCOMPILER113.CLD
This file enables UIL/OSF Motif and UIL/XUI to function for either XUI or OSF/Motif Release 1.1.3 if you select DECW\$UILMOTIF113.EXE for OSF/Motif Release 1.1.3 or DECW\$UILCOMPILER.EXE for XUI.
 - DECW\$DEFINE113_LOGICALS.COM
This file points to the saved header files, which in turn point to the Xlib Release 4 version of the DECW\$XLIBSHR.EXE file.
4. An application must be run on the same version (or higher) of the operating system as the version where it is linked. For example, an application that is linked on a VMS Version 5.4–3 system must be run on a VMS Version 5.4–3 (or higher) system.

DECwindows Motif Version 1.1 applications that are compiled for OpenVMS Version 6.1 systems will run only on OpenVMS Version 6.1 systems and not on systems prior to Version 6.1.

V1.2

The X Window and OSF/Motif libraries that are shipped with DECwindows Motif Version 1.2 for OpenVMS software are incompatible with those shipped with previous versions. Run-time compatibility has been preserved, but the programming environment is not compatible.

Programming in the XUI or Motif Release 1.1.3 environment that is provided in previous versions of DECwindows Motif is no longer supported in DECwindows Motif Version 1.2 for OpenVMS. However, the installation procedure gives you the option of saving the programming files that already exist on your system. If you choose to save these programming files, they are moved to subdirectories where you can access them for programming. Specifically, the installation creates a subdirectory called [.DECW\$113] in each of the directories listed in Table B–3 and moves the previous files into the new subdirectory.

For more information about saving the programming files, see the *hp DECwindows Motif for hp OpenVMS Alpha Installation Guide*.

Table B–3 Directories for Previous XUI or Motif Programming Environment

Directory	Contents	New Location
DECW\$INCLUDE	C header files	SYS\$SYSROOT:[DECW\$INCLUDE.DECW\$113]
SYS\$SYSTEM	UIL compiler	SYS\$SYSROOT:[SYSEXEC.DECW\$113]
SYS\$LIBRARY	Non-C language bindings	SYS\$SYSROOT:[SYSLIB.DECW\$113]

To program with these files, include the new [.DECW\$113] subdirectories in the search path for each of the logical names. For example, perform the following:

- Change the definition of DECW\$INCLUDE as follows:

OSF/Motif Toolkit Information

B.2 OSF/Motif Release 1.1.3 Programming Support and XUI

```
$ SHOW LOGICAL DECW$INCLUDE
  "DECW$INCLUDE" = "SYS$SYSROOT:[DECW$INCLUDE]" (DECW$LOGICAL_NAMES)
  = "SYS$SYSROOT:[DECW$INCLUDE.EXTENSIONS]"

$ DEFINE/EXECUTIVE/TABLE=DECW$LOGICAL_NAMES DECW$INCLUDE -
  SYS$SYSROOT:[DECW$INCLUDE.DECW$113], -
  SYS$SYSROOT:[DECW$INCLUDE], -
  SYS$SYSROOT:[DECW$INCLUDE.EXTENSIONS]
```

Place the new [.DECW\$113] subdirectory first in the search list, since many of the files that have been updated for this release have the same name as the files that were moved to the [.DECW\$113] subdirectory. Thus, the files in [.DECW\$113] are used for software development.

If DECW\$INCLUDE is redefined in the SYS\$MANAGER:DECW\$PRIVATE_APPS_SETUP.COM command procedure, then modify the previous instructions accordingly.

To use the UIL compiler for XUI or OSF/Motif Release 1.1.3, perform the following steps:

1. Create a file called
SYS\$SYSROOT:[SYSEXE.DECW\$113]DECW\$UILCOMPILER.CLD that
contains the following text:

```
define type trace_keywords
  keyword tokens
  keyword symbols

define type warning_keywords
  keyword nowarnings
  keyword noinformationals

define type version_keywords
  keyword V1, syntax=xui_uil
  keyword V2, syntax=xui_uil, default
  keyword MOTIF11, syntax=motif_uil

define syntax xui_uil
  image decw$uilcompiler

define syntax motif_uil
  image decw$uilmotif

define verb uil
  image decw$uilcompiler
  parameter p1, label=source_file,
    prompt="File", value(required,noconcatenate,type=$infile)
  qualifier trace, label=trace_qual,
    value(list,noconcatenate,type=trace_keywords), nonnegatable
  qualifier warnings, label=warnings_qual,
    value(list,noconcatenate,type=warning_keywords)
  qualifier list, label=listing_file,
    batch, value(type=$outfile)
  qualifier machine, label=machine_qual,
  qualifier output, label=resource_file,
    default, value(type=$outfile)
  qualifier version, label=version_qual, default,
    value(type=version_keywords),
    nonnegatable
  qualifier XUI, default, nonnegatable, syntax=xui_uil
  qualifier MOTIF, nonnegatable, syntax=motif_uil

  qualifier widget_meta_description, label=widget_qual,
    value(required, noconcatenate, type=$infile)

disallow XUI and MOTIF
```

OSF/Motif Toolkit Information

B.2 OSF/Motif Release 1.1.3 Programming Support and XUI

2. Set the DCL command table to use the XUI UIL compiler as follows:

```
$ SET COMMAND SYS$SYSROOT:[SYSEXE.DECW$113]DECW$UILCOMPILER.CLD
```

Note

If you want to revert back to the previous UIL command definition, execute the following command:

```
$ SET COMMAND SYS$LIBRARY:DECW$UILCOMPILER.CLD
```

B.3 DECwindows OSF/Motif Toolkit

This section contains information about notes, restrictions, and corrections for the DECwindows OSF/Motif Toolkit.

B.3.1 Callable OSF/Motif UIL Compiler

V1.2-6

The OSF/Motif Release 1.2.2 Toolkit contains a callable User Interface Language (UIL) compiler. You can now link against this image by including the following in your link options:

```
SYS$SHARE:DECW$UILSHR/SHARE
```

For information about the callable interface, see the *OSF/Motif Programmer's Guide* published by Prentice Hall.

B.3.2 Motif Text Widget Translations

V1.0

To implement virtual bindings, it is necessary for HP to modify the default XmText and XmTextField translation manager syntax. Specifically, the following syntax line is removed:

```
Shift ~Ctrl ~Meta ~Alt <Key>osfDelete: cut-clipboard()
```

If you use virtual bindings in which the osfCut virtual keysym is not bound, no key sequence is bound to the cut-clipboard action by default. To work around this limitation, override the XmText and XmTextField translations in your DECW\$XDEFAULTS.DAT file.

B.3.3 Upward Compatibility

V1.0

The combination of DECW\$DWTLIBSHR, DECW\$DWTSHR, and DECW\$XTSHR shareable images is intended to be binary and upwardly compatible with the previous DECW\$DWTLIBSHR shareable image. A possible exception is applications that dynamically activate the image DECW\$DWTLIBSHR using LIB\$FIND_IMAGE_SYMBOL. The problem with dynamic image activation is that the semantics of the Intrinsics have changed in places between the X Toolkit Intrinsics Release 3 to the MIT X11 Release 4 Intrinsics. A previously linked XUI application calls through entries in the XUI transfer vector that use the X Toolkit Intrinsics Release 3 semantics of the Intrinsics. However, as soon as that application relinks (or dynamically activates DECW\$DWTLIBSHR), it uses the MIT X Toolkit Intrinsics Release 4 semantics of the Intrinsics.

Applications that dynamically activate DECW\$DWTLIBSHR should be changed to link directly against DECW\$DWTLIBSHR. DECW\$DWTLIBSHR is now a small, thin-layer, shareable image that dynamically activates automatically the majority of the toolkit code only when necessary. There is no reason for applications to continue to dynamically activate DECW\$DWTLIBSHR.

In addition, HP cannot guarantee binary upward compatibility in the future for applications that dynamically activate the toolkit shareable images. DECwindows toolkits (XUI and Motif) are based upon standards that HP does not control. When the standards make an incompatible change, HP will change the toolkit to follow it. However, the intent is to add code that allows existing executable images to run unchanged.

B.3.3.1 Restrictions on Mixing Motif and XUI Widgets

V1.0

Mixing Motif and XUI widgets is restricted. The problem results from the fact that both XUI and Motif have their own Vendor Shell widget class. If an application is linked against XUI and not Motif, the XUI Vendor Shell widget class is used in order to maintain compatibility with DECwindows XUI. If an application is linked against Motif, the Motif Vendor Shell widget class is used. Motif widgets require the Motif Vendor Shell; XUI widgets are compatible with the Motif Vendor Shell. The problem occurs when an XUI-only application dynamically activates (using LIB\$FIND_IMAGE_SYMBOL) a shareable image that uses Motif. The toolkit makes the decision to use the XUI Vendor Shell when the toolkit is initialized and the Motif widgets in the dynamically activated shareable image do not work.

The workaround is to add the application image name to the DECW\$USE_XM_VENDOR_SHELL logical name. This logical name contains a comma-separated list of image names for which the toolkit is to use the Motif Vendor Shell. The value of DECW\$USE_XM_VENDOR_SHELL logical name defaults to NOTES\$MAIN. To add additional image names to this logical name, enter the following:

```
$ DEFINE DECW$USE_XM_VENDOR_SHELL "NOTES$MAIN, -  
_ $ yourimage1,yourimage2,..."
```

Note that DECW\$USE_XM_VENDOR_SHELL does not affect applications that use Motif since they are already using the Motif Vendor Shell.

B.3.4 Compile-Time Incompatibilities in Motif Header Files

V1.2-3

Several macro definitions are removed from the Motif header files in the OSF/Motif programming support. The changes affect the following header files:

- DECW\$INCLUDE:XMP.H

The following definitions are removed:

- #define XmLONGBITS sizeof(Cardinal)*8
- #define XmHALFLONGBITS (XmLONGBITS/2)

These macros are replaced in the same header file with the following macro:

- XmOFFSETBITS

Update the code to call the XmOFFSETBITS macro.

OSF/Motif Toolkit Information

B.3 DECwindows OSF/Motif Toolkit

- `DECW$INCLUDE:TEXT.P.H`

The following definitions are removed:

- `#define MAXINT 2147483647`
`/* Biggest number that can fit in long */`
- `#define NODELTA MAXINT`

The definition of `MAXINT` is operating-system dependent. Include this definition in applications in one of the following ways:

- Include the appropriate system-header file
- Define the constant

B.4 OSF/Motif Example Programs

This section describes example programs from the Open Software Foundation (OSF) that are included in the DECwindows Motif for OpenVMS Version 1.2 software.

B.4.1 Cut and Paste Example Program

V1.2

This example demonstrates the use of the Motif Clipboard. You can cut and paste application-defined data formats using the `XmClipboard` API.

Run two cut/paste clients and transfer graph values using the pull-down and pop-up menus.

B.4.2 DNDDemo Example Program

V1.2

This example illustrates a typical use of the drag-and-drop feature.

When the example starts, it does not have any valid drop sites. It starts with different color rectangles that act as drag sources for dragging the colors around. Create the drop sites as follows:

- Move the pointer into the drawing area (with white background).
- Press `MB1` and drag. You see the “rubber-banding” effect.
- Release `MB1` after dragging a desired distance.

A black rectangle appears. You can create as many rectangles as you like.

The rectangles inside the drawing area that you created act as valid drop sites for colors. You can test this by initiating the drag from the yellow color rectangle and dragging over to one of the rectangles inside the drawing area and releasing `MB2`.

To initiate a drag, move the pointer over to the drag source, press `BTransfer` (which is `MB2` by default), and start to drag. Notice that the cursor changes to a painter’s palette in the same color as the color rectangle from which the drag is initiated.

While you are dragging, notice the following:

- When dragging over the root window, the drag icon consists of only the painter’s palette.

- When dragging over parts of the drawing area where there are no rectangles, the drag icon changes to include a "DO NOT ENTER!" sign on top of the painter's palette.
- When dragging over any of the rectangles inside the drawing area, the "DO NOT ENTER!" sign is replaced with a painter's brush.

To perform a drop, release MB2. If you release MB2 with the pointer over any part of the drawing area outside of the rectangles, or anywhere on the root window, the drag icon snaps back to the point of drag initiation and disappears. This is an indication that the drop you attempted failed. If you release MB2 with the pointer over any of the rectangles inside the drawing area, the drag icon disappears into the background; this indicates that the drop was a success. The rectangle on which the drop was attempted, becomes filled in with the color that was dragged.

The rectangles inside the drawing area act as drag sources. Initiate the drag with the pointer on any rectangle, and the cursor changes to a rectangle (either of the same size or a smaller size depending on the X cursor size constraints). Drag the rectangle from one place and drop it onto a new place inside the drawing area. The rectangle is physically moved to the new position.

If you want to copy the rectangle to a new position, use the appropriate modifier key while dragging, or at the time you attempt the drop (Ctrl is the modifier key for copy in the current implementation). When you drag a rectangle with no modifier key pressed or with the Shift key pressed, the solid rectangle from where the drag was initiated is replaced by a hollow rectangle with dotted-line borders. It continues this way for the duration of the drag or until you press the Ctrl key, which changes the operation to Copy. At that time it regains its original solid form.

Note

During dragging you can cancel the drag by pressing the Cancel key (F11). Also, you can press the Help key to get information about whether the drop will succeed and possible drop operations.

B.4.3 Dogs Example Program

V1.1

This example uses the dog and square widgets. It shows how to incorporate new widgets into the UIL source by using the user-defined function.

The dogs example program allows you to change the DogNwagTime and SquareNmakeSquare resources dynamically.

If you have a system with sound generation features, you might want to change the bark callback to something other than XBell().

B.4.3.1 Dog Widget

V1.1

The dog widget (DogWidget) demonstrates how to subclassify a primitive widget that remains binary compatible with future versions of Motif. It uses XmResolvePartOffsets() and associated macros and implements all the recommendations in the XmResolvePartOffsets manpage.

OSF/Motif Toolkit Information

B.4 OSF/Motif Example Programs

The dog widget is a subclass of `XmPrimitive`. It can bark and wag its tail. If you want more advanced tricks, you must subclassify it, or replace `up.bm`, `down.bm`, and `bark.bm` with more advanced bitmaps.

The dog widget has the following resources:

- `DogNwagTime`: Time in milliseconds between each wag
- `DogNbarkTime`: Time in milliseconds the bark graphic is displayed
- `DogNbarkCallback`: Callback called by the bark action

The dog widget has the following translations:

- `osfActivate/Return/Space/MB1` = Bark
- `W/MB2` = Wag tail
- `S/Shift-MB2` = Stop wagging tail
- `osfHelp` = Help

B.4.3.2 Square Widget

V1.1

The square widget (`SquareWidget`) demonstrates how to subclassify a constraint widget that remains binary compatible with future versions of Motif. It uses `XmResolveAllPartOffsets()` and associated macros and implements all the recommendations in the `XmResolveAllPartOffsets` manpage.

The square Widget is a subclass of `XmBulletinBoard`. It forces its children to be square using a constraint resource.

The square widget has the resource `SquareNmajorDimension`. This resource determines which dimension is used for the new size of the child. Values are `SquareWIDTH` or `SquareHEIGHT`.

The square widget has the constraint resource `SquareNmakeSquare`. This resource determines whether the child is forced to be square or set to its preferred shape.

B.4.4 Helloint Example Program

V1.2

This example is a simple UIL/Xm program with a label and a push button.

With this version, you can choose a Kanji, Hebrew, French, or English interface at run time.

The program uses the file `LOCALSTRINGS.UID` for all language-specific interfaces. To change languages, copy one of the `LOCALSTRINGS_*.UID` files to `DECW$USER_DEFAULTS:LOCALSTRINGS.UID`. Then, use the logical name `LANG` or the `xnlLanguage` resource to set the locale. Set the `LOCALSTRINGS` suffix and the locale name to one of the following:

Locale	Interface Type
Japan	Kanji
Hebrew	Hebrew
French	French
English	Standard English

OSF/Motif Toolkit Information

B.4 OSF/Motif Example Programs

To define the `xnlLanguage` resource, add the following line to your `DECW$XDEFAULTS.DAT` file:

```
*xnlLanguage:locale
```

The following fonts are needed for the `helloint` example program:

Locale	Font Name
French	-adobe-helvetica-medium-r-normal-12-120-75-75-p-67-iso8859-1
English	-adobe-times-medium-r-normal-14-100-100-100-p-74-iso8859-1
Hebrew	-Misc-Fixed-Medium-R-Normal-13-120-75-75-C-80-ISO8859-8
Japan	.*-JISX0208.1983-1
	.*-JISX0201.1976-0

If you do not have these fonts installed on your system, either change the UIL files to reference other fonts or install the `*.DECW$BDF` fonts provided in the `DECW$EXAMPLES` directory. See *Managing DECwindows Motif for OpenVMS Systems* for instructions on how to install new fonts.

B.4.5 Hellomotif Example Program

V1.2

This example is a simple UIL/Xm program with a label and a push button.

B.4.6 Motifanim Example Program

V1.1

The `motifanim` program demonstrates the following OSF/Motif features:

- Declaration of icon/bitmap using UIL for portability across visuals
- Exchange of value between UIL and C using `Mrm`
- Use of the Motif form widget
- Background procedure running while the client process is waiting for input (Xt intrinsics feature)

This example lets you animate a set of pixmaps in an X window. The pixmaps are not fixed by `motifanim` but are read at startup from existing UID files.

The syntax of all the `animation.uid` files can add a new set of pixmaps to be animated using `motifanim`. Some tree examples of animation data files include:

```
dog.uid  
plane.uid
```

The default animation is `dog`. To run the example with the other animations, use the following commands:

```
$ SET DEFAULT DECW$EXAMPLES  
$ motifanim := "$DECW$EXAMPLES:motifanim"  
$ motifanim -anim plane
```

The files `motiflogo.uid`, `motifanim.uid`, and `motifanim.c` are the core components of the program.

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B.4 OSF/Motif Example Programs

B.4.7 Motifgif and Pict Viewing Programs

V1.2

The following .gif files are provided:

- TOUCAN.GIF, which is a picture of a tropical bird.
- CHALLENGER.GIF, which is a picture of the space shuttle Challenger.

V1.1

The motifgif and pict programs work together to display a .gif formatted picture. The motifgif program displays a .gif file within Motif constructs. The motifgif program looks for .gif files in the current directory.

The motifgif program has three significant components:

- motifgif
The source and executable code in this directory is a Motif program driving the display of a .gif picture.
- pict
The program called by motifgif that displays a bitmap of a .gif picture file. This program used to be xgif but has since been converted to Motif.

The following problems exist with motifgif:

- Resizing a picture does not work.
- The -d option is not used when calling pict, so remote displays must set the DISPLAY environment variable.

B.4.8 Motifshell Example Program

V1.2

The motifshell program is an example of an environment created using Motif. The purpose of the example is to show how Motif may be used as a standalone environment for dispatching other programs and utilities.

The motifshell program is written in C code. There are no UIL references.

Note

Displaying a file listing or process status takes some time. These operations are accomplished by spawning a DCL command, capturing the output in a file, and then reading the file.

The default font is proportionally spaced. Some listings are more readable if a fixed space font is used, such as Courier. Use the Font option to select a different font.

B.4.9 Periodic Example Program

V1.2

The periodic example is a demonstration of the displayable widgets in Motif. The program displays Motif widgets in a periodic chart format.

B.4.10 Textedit Example Program

V1.2

The textedit program is a primitive text editor based on the Motif XmText widget that makes use of its XmNsource resource to allow multiple views of the same underlying text.

Table B-4 describes the View menu options.

Table B-4 View Menu Options

Option	Description
Split Pane	Adds a new independently scrollable view of the text.
Remove Pane	Removes a designated pane.
One Pane	Removes all panes except the designated pane.

The designated pane is determined in the following way:

- If using an explicit focus policy, it is the last view which had focus.
- If using a pointer focus policy, it is the last view with which the user interacted.

The designated pane is also the one whose clipboard contents are pasted when Paste is selected from the Edit Menu.

The textedit sources are separated into independent layers. Textedit contains the source files listed in Table B-5.

Table B-5 Textedit Source Files

File Name	Description
tfile.c	The code to read, write, and remove files. Hides any operating system or filesystem dependencies.
app.c	Uses tfile.c to provide all the code to manipulate files and their related buffers. This is toolkit-dependent.
tk.c	Isolates dependencies on the Xm Toolkit. The first half of the file provides utility routines and a toolkit-independent (but application-specific) interface that can be used by the toolkit-independent dialog layer of the application. The second half of the file defines all the callback routines. Many of these update state internal to this layer; others perform additional actions. Those actions unambiguously correspond to toolkit-specific action routines defined in the first half of the file. Otherwise, an upcall is made to the toolkit-independent dialog layer to decide what to do.
dlg.c	Uses tk.c to manage dialog with the user. The code is toolkit-independent.
textedit.c	Initializes the application and instantiates widget hierarchies. The code hides the use of UIL and Mrm from the rest of the application.

Note

Moving and removing files is not currently implemented.

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B.4 OSF/Motif Example Programs

B.4.10.1 Additional Translations

V1.2

Users familiar with emacs may want to add the following translations to their DECW\$XDEFAULTS.DAT files:

```
*XmText.translations:      Mod1<Btn3Down>: scroll-cursor-vertically()\n\
  Mod1<Btn3Motion>: scroll-cursor-vertically()\n\
  Ctrl<key>a: beginning-of-line()\n\
  Ctrl<key>b: backward-character()\n\
  Ctrl<key>d: delete-next-character()\n\
  Ctrl<key>e: end-of-line()\n\
  Ctrl<key>f: forward-character()\n\
  Ctrl<key>g: beep()\n\
  Ctrl<key>h: delete-previous-character()\n\
  Ctrl<key>i: cut-primary()\n\
  Ctrl<key>j: newline-and-indent()\n\
  Ctrl<key>k: set-anchor() end-of-line() key-select() cut-clipboard()\n\
  Ctrl<key>l: redraw-display()\n\
  Ctrl<key>m: newline()\n\
  Ctrl<key>n: next-line()\n\
  Ctrl<key>o: newline-and-backup()\n\
  Ctrl<key>p: previous-line()\n\
  Ctrl<key>v: next-page()\n\
  Ctrl<key>w: cut-clipboard()\n\
  Ctrl<key>y: paste-clipboard()\n\
  Ctrl<key>z: scroll-one-line-up()\n\
  Mod1<key>b: backward-word()\n\
  Mod1<key>d: delete-next-word()\n\
  Mod1<key>f: forward-word()\n\
  Mod1<key>h: delete-previous-word()\n\
  Mod1<key>i: copy-primary()\n\
  Mod1<key>k: delete-to-end-of-line()\n\
  Mod1<key>v: previous-page()\n\
  Mod1<key>w: copy-clipboard()\n\
  Mod1<key>z: scroll-one-line-down()\n\
  Mod1 Shift<key>greater: end-of-file()\n\
  Mod1<key>less: beginning-of-file()\n\
  Mod1<key>]: forward-paragraph()\n\
  Mod1<key>[: backward-paragraph()
```

B.4.11 View Example Program

V1.2

The view program is similar to the DCL command TYPE/PAGE using Motif with internationalization support. It allows you to view files in several languages.

The command file DECW\$EXAMPLES:FILEVIEW.COM is provided, which allows you to select a language. Valid languages are French, English, and German. To select a language, perform the following commands:

```
$ SET DEFAULT DECW$USER_DEFAULTS
$ @DECW$EXAMPLES:FILEVIEW language
```

This command file copies the .UID and .DAT files to the current directory. It sets the appropriate locale and executes the file viewing example program.

When the application is started, a primary top-level shell is created. From the primary top-level shell, you can create secondary shells.

Each top-level shell is a parent of a Main Window, the work area of which is a PanedWindow.

The menu bar has the following entries:

- File—opening and closing files, creating new shells, and exiting
- View—controlling the panes in the pane window

File Menu

The file menu contains the following options:

- Open New File
A file selection box is mapped to choose the file. If OpenFile is successful, the current file is closed, all existing panes are destroyed, and the new file is displayed.
- Open New Shell
Creates a secondary shell similar to the primary shell. Files can be viewed in each shell independently.
- Close
This entry only exists on the secondary windows. It destroys the top-level shell and closes the file.
- Exit
This entry only exists on the primary shell; it closes the file and the shell.

View Menu

The view menu contains the following options:

- New Pane
Creates a new pane in the paned window.
- Delete Pane
Deletes the current pane.
- Search
Causes a dialog box to pop up for searching text in the file. The OK callback of the dialog box searches the string. If the string is found, it is displayed in the current pane. If the string is not found, then the dialog box pops up.

Opening a second file in a window causes the application to end abruptly. The View options do not work correctly.

B.4.12 Xmpiano Example Program

V1.2

The xmpiano program shows how to write a Motif Interface to Dumb Instruments (MIDI) application. Both a staff, for writing music, and keyboard are provided.

At the bottom of the window is a set of notes that may be used on the staff. Selecting one of these note buttons changes the active note accordingly. The selected note is also displayed as the new mouse cursor.

Though the note selection is limited, it is possible to play sharps as well as naturals. The program interface has not been written to play flats. The staff automatically resizes larger as notes are added past the right side of the staff. To see these notes, scroll the score window as needed.

To use this application, press the right mouse button on a staff that is visible. The following menu items are displayed:

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- **Add Voice**
Connects another display to a new staff. After selecting this command, you are prompted for the display to connect. Any music written in the new staff plays to this display. Note that pressing the right mouse button on the new staff shows the name of the display in the menu title. In addition, the menu commands in the menu bar relate to the staff that is being displayed.
- **Remove Voice**
Removes the staff as well as the connection to the corresponding display. There is no undo for this command—all music written in this staff is deleted.
- **Clear Voice**
Erases all notes on the staff. This does not affect the display connection.
- **Play Voice**
Plays the voice of the staff in which the right mouse was pressed. If the voice is the same as the local host, the keys on the keyboard that correspond to the notes appear as though they are being pressed as the notes are played. It is possible to make the keyboard play along with all voices at the same time; however, the code must be compiled with the `-DCHORDS` option. Note that this can slow down the application significantly on many servers.
- **Play All**
Plays all voices at the same time on each of the specified displays.
- **Save Voice**
Saves the corresponding voice to a file. A `FileSelectionDialog` is displayed to prompt for the name of the file in which to save the voice. The display connection information is not saved.
- **Load Voice**
Loads (appends) a previously saved voice to the corresponding staff.
- **Quit**
Exits the example program.

This version does not allow editing of notes. To edit, clear the staff and start again, or read the data from a saved file.

To set the color of the notes, change the foreground color of the application. To do this, use the `-fg` option on the command line. For example:

```
$ xmpiano := $DECW$EXAMPLES:xmpiano
$ xmpiano -fg blue
```

B.4.13 Motif Sample Programs

V1.2

Table B–6 lists sample programs showing various Motif Toolkit functionality.

Table B–6 Motif Sample Programs

File Name	Description
xmdialogs.c	dialog sampler
xmfonts.c	font browser
xmeditor.c	text editor
xmlist.c	list example
xmprotocol.c	window manager protocols example
xmter.c	shape & animation example
xmform.c	form attachment example
xmforc.c	form attachment + rowcolumn example
xmmap.c	drawingarea + scrolledwindow example
xmgetres.c	resource fetching example
xmapdef.c	app defined scrolled window example

The following notes apply to these sample programs:

1. The xmfonts program defaults to displaying the fonts whose name length are less than 10 characters. On some systems, the font path contains only long XLFD font names. It may be necessary either to set the resource XMFONTS*maxLen to a larger number (80), or to specify a numColumns resource of 1.
2. If you run the program xmter with a window manager other than Motif Window Manager, that window manager has to remove all the window decorations (for example, borders). The program xmter directs Motif Window Manager to remove the window decorations.
3. The xmform program displays a string made of Motif widgets embedded in a Form. Use the following commands:

```
$ xmform ::= $DECW$EXAMPLES:xmform
$ xmform string
```

The variable *string* is optional. If *string* is supplied, the available letters for *string* are F,I,M,O,T. The string of letters that you use must be in uppercase and enclosed in quotation marks. If *string* is omitted, xmform returns "MOTIF".

4. The xmgetres program is an example of how to use XmGetSecondaryResourceData. Use the following commands to invoke xmgetres:

```
$ xmgetres ::= $DECW$EXAMPLES:xmgetres
$ xmgetres WidgetClass
```

The variable *WidgetClass* is optional. If *WidgetClass* is omitted, it defaults to a class named "Widget". You can also use the class "All", which displays the resources for all the Xt and the Motif widgets. See the *OSF/Motif Programmer's Reference* manual for a list of available widget classes.

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B.4 OSF/Motif Example Programs

B.4.14 Xmtravel Example Program

V1.2

The xmtravel example is a front end to a travel agent client and flight database. The program is designed to illustrate various user-interface design concepts as well as be compliant with the OSF/Motif Style Guide.

The program is just an example, many of the functions are either not implemented or use predefined settings.

B.4.15 Resource Files for Example Programs

V1.2

Many of the example programs have associated resource files for defining various display attributes. To use these files, either copy them from the directory DECW\$EXAMPLES to your DECW\$USER_DEFAULTS directory, or add their contents to your DECW\$XDEFAULTS.DAT file.

The list of example programs and the resource files associated with them is as follows:

Example Program	Resource File
DECW\$CDPLAYER.EXE	DECW\$CDPLAYER.DAT
FILEVIEW.EXE	FILEVIEW.DAT
PERIODIC.EXE	PERIODIC.DAT
MOTIFANM.EXE	MOTIFANIM.DAT
XMAPDEF.EXE	XMDEMOS.DAT
XMDIALOGS.EXE	XMDEMOS.DAT
XMEDITOR.EXE	XMDEMOS.DAT
XMFONTS.EXE	XMDEMOS.DAT
XMFORC.EXE	XMDEMOS.DAT
XMFORM.EXE	XMDEMOS.DAT
XMGETRES.EXE	XMDEMOS.DAT
XMLIST.EXE	XMDEMOS.DAT
XMMAP.EXE	XMDEMOS.DAT
XMPROTOCOL.EXE	XMDEMOS.DAT
XMTER.EXE	XMDEMOS.DAT
XMTRAVEL.EXE	XMTRAVEL.DAT

If a resource file is not found, the example programs run, but some of the display attributes may be incorrect.

B.4.16 UID Files for Example Programs

V1.2

The UID files used by the example programs must be located in either the current directory or your DECW\$USER_DEFAULTS directory. If they are not found, the application fails to start. The UID files can be copied from the DECW\$EXAMPLES directory.

B.5 OSF/Motif List of Known Problems

Included in the DECwindows Motif software is an OSF file that contains the OSF/Motif known problems. During the installation this file is copied from the kit to SYS\$HELP:DECW\$MOTIF_OSF_BUGLIST_V12.TXT.

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