Using the Solaris 2.4 Motif Toolkit with Solaris Desktops

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Using the Solaris 2.4 Motif Toolkit with Solaris Desktops

The Solaris® 2.4 Motif® toolkit contains significant changes and enhancements over the Solaris 2.3 Software Developers Kit (SDK) Motif toolkit. The Solaris 2.3 Motif toolkit is based on the Motif 1.2.2 toolkit and has some non-standard interfaces. The Solaris 2.4 Motif toolkit is the Motif 1.2.3 toolkit, with enhancements and bug fixes. It will be binary compatible with the Common Desktop Environment 1.0 Motif toolkit.

This paper describes the Solaris 2.4 Motif toolkit and how to install it for Motif application development. It also describes how to enable Independent Software Vendors (ISVs) to package Solaris 2.4 Motif applications, and system administrators for Volume End Users (VEUs) to administer their sites, so that users can run Solaris 2.4 Motif applications on any of these three Solaris desktops:

- Solaris 2.4 environment or later
- Solaris 2.3 environment
- Common Desktop Environment running on Solaris 2.3 (or later) environment

Read this paper if you are:

- An application developer who wants to write a Solaris 2.4 Motif application for customers (either external or internal) that use Solaris 2.3 or later desktops (or the Common Desktop Environment running on Solaris 2.3 or later)

- A system administrator for a VEU whose site contains some combination of the Solaris 2.3 (with or without the Common Desktop Environment) and Solaris 2.4 desktops, and it is not practical to upgrade all your users to the Solaris 2.4 environment

Installing the Solaris 2.4 Motif Toolkit

Table 1 describes the Solaris 2.4 Motif packages and their default installation locations.

Table 1 Solaris 2.4 Motif Packages

Package Title	Package Name	Contents	Default Installation Location	CD-ROM
Motif Runtime Kit	SUNWmfrun	Dynamic libraries, header files, executable file, xmbind man page	/usr/dt	Solaris disc
Motif Development Kit	SUNWmfdev	Dynamic debug libraries	/usr/dt	SDK disc
Development Kit Manuals	SUNWmfman	man pages	/usr/dt	SDK disc
Motif Window Manager	SUNWmfwm	Window manager and man pages	/opt	SDK disc
Motif demos	SUNWfdm	Demo programs	/opt	SDK disc

Installing Motif for Application Development

To install Solaris 2.4 Motif for application development, first install the Motif Runtime Kit from the Solaris 2.4 CD-ROM disc. (Use the `pkgadd` command if you are installing into the Solaris 2.3 environment, since you will not be able to use the Solaris 2.4 GUI Installer in this case.) Then install the Motif developers' packages (`SUNWmfdev`, `SUNWmfman`, `SUNWmfwm`, and `SUNWfdm`) from the Solaris 2.4 SDK CD-ROM disc.

You *must* install the Solaris 2.4 Motif dynamic libraries into the default installation location, `/usr/dt`.

Setting Motif Environment Variables

Follow the instructions in this section to enable your environment to support application development. Edit your `.profile` file (Bourne and Korn shell users) or `.login` file (C shell users) to set or modify Motif environment variables as described below.

Note – If you are distributing your application, your product installation script or program *must* include the steps below, to ensure that the user's environment can run your application.

1. **Add /usr/dt/lib/%T/%N%S to the `XFILESEARCHPATH` environment variable:**

```
%setenv XFILESEARCHPATH $XFILESEARCHPATH:/usr/dt/lib/%T/%N%S
```

If you installed `xmbind`, also follow these three steps:

2. **Set the `XMBINDDIR` environment variable to `$/usr/dt/lib/bindings`:**

```
% setenv XMBINDDIR /usr/dt/lib/bindings
```

3. **Add `/usr/dt/man` to `MANPATH`:**

```
% setenv MANPATH $MANPATH:/usr/dt/man
```

4. **Add /usr/dt/bin to PATH:**

```
% setenv PATH $PATH:/usr/dt/bin
```

If you installed the Motif window manager (`mwm`), follow these two steps:

5. **If you installed `SUNWmfwm`, add `/opt/SUNWmfwm/man` to `MANPATH`:**

```
% setenv MANPATH $MANPATH:/opt/SUNWmfwm/man
```

6. **Add `/opt/SUNWMFWM/bin` to `$PATH`:**

```
% setenv PATH $PATH:/opt/SUNWmfwm/bin
```

Note – If you are using Solaris 2.4 Motif with the Solaris 2.3 release, you should install Patch 101429-03 for Xt.

Enabling Solaris 2.4 Motif Applications to Run on Various Solaris Platforms

This section tells you how to enable Solaris 2.4 Motif applications to run on the Solaris desktops referred to at the beginning of this paper:

- Solaris 2.4 environment
- Solaris 2.3 environment
- Common Desktop Environment running on Solaris 2.3 environment

Packaging Your Application with Solaris 2.4 Motif (ISVs)

If you are an ISV, SunSoft will allow you to include the Solaris 2.4 Motif dynamic libraries on your application disc, so that they can be installed into your customer's Solaris environment. You can find these libraries in the Solaris 2.4 `SUNWmfrun` package. (Do *not* include the libraries from the SDK CD-ROM disc on your application disc.) The `SUNWmfrun` package also contains header files, `xmbind`, and an `xmbind` man page that you can package with your application.

SunSoft will also allow you to include the Motif Window Manager (`mwm`) from the Solaris 2.4 SDK on your application disc, even if your end-users are using the Solaris 2.3 release. Because the Solaris 2.4 version of `mwm` contains specific enhancements and bug fixes to run well in the Sun environment, SunSoft allows you to distribute the 2.4 version of `mwm` but *not* the version of `mwm` that shipped with the Solaris 2.3 SDK. You can find `mwm` in the Solaris 2.4 `SUNWmfwm` package.

Your product installation script or program *must* include the steps in "Setting Motif Environment Variables," to ensure that the user's environment can run your application.

Installing Motif Libraries and the Motif Window Manager

This section describes how to install the Motif dynamic libraries contained in the Solaris 2.4 `SUNWmfrun` package and the Motif window manager (`mwm`) contained in the Solaris 2.4 SDK `SUNWmfwm` package.

If you are an ISV, you must write an installation script or program that follows all the instructions in this section. If you are a system administrator for a VEU, these instructions tell you how to install `mwm` and the libraries on the various desktops at your site.

Note – ISVs: since your product may be shipping for a long time, write your application's installation script or program so that it does not install Solaris 2.4 Motif into an environment that contains a later version of Motif. For example, if your application ships for more than a year, it might be installed onto a desktop that includes a Motif Runtime Environment from a release *later than* the Solaris 2.4 release, or from the Common Desktop Environment 1.0 release. Your installation script or program must not install Solaris 2.4 Motif libraries on top of those libraries.

Installing Solaris 2.4 Motif Libraries

Install the Motif dynamic libraries in `/usr/dt/lib.` First check the user's environment for the presence of Motif libraries (`libXm.so.3, libUil,so.3, libMrm.so.3`) in `/usr/dt/lib`. Do *not* install the Solaris 2.4 libraries if the user's environment already contains these libraries. The existing versions on the user's system may be later than those contained on the Solaris 2.4 CD-ROM disc.

You can optionally install `xmbind`, and the header files and `xmbind` man page from the `SUNWmfrun` package into the user's environment.

Installing the Solaris 2.4 Motif Window Manager

Installing the Solaris 2.4 Motif Window Manager should *always be optional* to your user. (ISVs: Identify the patch level if you include a patched version of `mwm` on your application disc.)

Since `mwm` is not a part of the Common Desktop Environment, and will be replaced by the Common Desktop Environment Motif window manager, `dtwm`, when it is released, install `mwm` in `/opt/SUNWmfwm`, not in `/usr/dt`.

Note – The Solaris 2.4 version of `mwm` is dynamically linked to the Solaris 2.4 Motif dynamic libraries.

Setting Motif Environment Variables in an Installation Script

Your product installation script or program *must* include the steps in "Setting Motif Environment Variables," to ensure that the user's environment can run your application. Include these steps after any instructions to add the Motif libraries and window manager.

Support Issues

SunSoft will provide direct support to any user of the Motif 2.4 dynamic libraries, whether they are running in the Solaris 2.3 or the 2.4 environment.

SunSoft will provide Motif Window Manager support to Solaris 2.4 SDK purchasers. If you are an ISV and you include `mwm` on your application disc, you must provide `mwm` support to your customers. SunSoft will provide bug fixes and patches to Solaris 2.4 SDK customers. If you are an ISV, you can update your customers as necessary.

SunSoft is providing `mwm` as a transition to the complete Motif desktop provided by the Common Desktop Environment. As noted above, that desktop contains a different Motif window manager, `dtwm`. When the Common Desktop Environment is released, SunSoft expects that users will move to `dtwm`.

Note – Your right to provide this version of `SUNWmfwm` to end users is subject to the restrictions and limitations set forth in the Solaris 2.4 release and in the Object Code License (OCL). This license will continue in full force and effect until three hundred and sixty (360) days after SunSoft makes available, subject to then current licensing terms and conditions, a First Customer Shipment ("FCS") version of the Common Desktop Environment Window Manager ("dtwm") packaged with the Solaris operating environment. Upon expiration of such three hundred and sixty (360) day period, this license shall terminate.

Royalty Reporting

Developers who distribute the Motif dynamic libraries with their applications, either externally or internally, no longer need to report their application volume unit numbers to SunSoft.

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