## Software Installation Guide

## HP 64000-UX for HP-UX, Solaris and SunOS

## What is on the CD-ROM

- HP 64000-UX software products for your HP-UX or Sun workstation.
- To see which products are on the HP9000/400/700 CD-ROM, view the "productrev" file in the directory "400" (for HP 9000 Series 400 workstations) or in the directory " 700 " (for HP 9000 Series 700 workstations).
- To see which products are on the SunOS 4.x, 5.x (Solaris 2.x) CD-ROM, view the "productrev" file in the directory "SOL" (for Solaris) or in the directory "SPARC" (for SunOS).
- An "install" script.
- This document, supplied as an ASCII file named "install.txt".

HP 64000-UX is a collection of emulator and analyzer user interfaces, simulators, debuggers, compilers, and other software tools for UNIX ${ }^{\circledR}$-based operating systems such as Solaris, SunOS and HP-UX.

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## HP-UX Installation

## System Requirements

This software is designed to run on workstations using HP-UX 9.xx or 10.xx.

> If you are installing the HP Connection for Microtec Research M asterW orks XRAY HP ICE
> Install the M icrotec Research XRAY HP ICE softw are before you install the HP connection software. Check that you have set the environment variables according to the M icrotec Research instructions before you proceed: set \$USR_M RI to the installation directory and \$XRAYM ASTER to
> $\$$ SSR M RI/master. If you install the HP connection softw are first, refer to the HP Connection for Microtec Research XRAY HP ICE User's Guide for information on the envinstall script.

## Installation at a Glance

Here is a summary of the steps to follow to install the software. Each step is explained in detail later in this guide.
1 Mount the CD-ROM.
2 Install the software.
3 Re-run the customize script, if necessary.
4 Set the environment variables.

## Step 1: Mount the CD-ROM

1 Mount the CD-ROM drive, if it is not already mounted.
Use a command similar to one of the following examples:

```
mount -rt cdfs /dev/dsk/c201d2s0 /cdrom (HP-UX 9.x)
mount -rt cdfs /dev/dsk/c0t2d2d0 /cdrom (HP-UX 10.x)
```


## Step 2: Install the software

1 Log in as root.
2 Clear the file permissions mask:
umask 0
3 Change to the directory under which you want the software to be installed. For example:
cd /
All of the software will be installed into the directory usr/hp64000 relative to your current directory.
3 Install the software. Type:

```
<cdrom path>/install
```


## Step 3: Re-run the customize script, if necessary

If you are updating an HP graphical emulator/analyzer interface, and you have previously installed the HP B1487 Software Performance Analyzer (SPA) or an HP real-time OS measurement (RTOS) tool, re-run the SPA or RTOS customize script.
This is necessary because the HP B1487 Software Performance Analyzer and HP real-time OS measurement tools need to modify the emulator/analyzer interface files.
1 Set the HP64000 environment variable to usr/hp64000 relative to the directory from which you installed the software. For example:

```
export HP64000=/usr/hp64000
```


## 2 For SPA, enter:

\$HP $64000 /$ system/B1487XUI/customize
For an HP real-time OS measurement tool, enter:
\$HP 64000/system/RTOS_prodnum/customize
where RTOS_prodnum is the product number of the HP real-time OS measurement tool.

## Step 4: Set the environment variables

The HP 64000 software uses environment variables to find files on your system.
Note These environment variables must be set for each user of the software.
Modify your ".vueprofile" (for HP VUE), ".dtprofile" (for CDE), or ".profile" file to set these environment variables when you log in. The following instructions assume that you are using the "ksh" shell.
1 Set the HP64000 environment variable.
If you installed the HP 64000 software relative to the root directory, "/", enter:
export HP $64000=/$ usr/hp64000
If you installed the HP 64000 software relative to "/extra", enter:
export HP $64000=/$ extra/usr/hp64000
To avoid problems with users forgetting to set HP64000, you can use a symbolic link to make the software appear to be under /usr/hp64000. For example, if you installed the software relative to the directory /users/team, enter:

```
ln -s /users/team/usr/hp64000 /usr/hp64000
```

2 Set the PATH environment variable to include the usr/hp64000/bin directory by entering:

```
export PATH=${PATH}:${HP64000}/bin
```

Including \$HP64000/bin in your PATH relieves you from prefixing HP 64700 executables with the directory path.

## 3 Set the MANPATH environment variable to include the

 \$HP64000/man and \$HP64000/contrib/man directories by entering:```
export MANPATH= \
    ${MANPATH}:${HP64000}/man:${HP64000}/contrib/man
```

Including these directories in your MANPATH variable lets you access the on-line "man page" information included with the software.
5 If the software will be run on a read-only NFS mounted file system, then you must set the HP64TMPDIR environment variable to a writable path.
For example, you could enter:
export HP64TMPDIR=/usr/tmp/hp64000
The HP 64000 software will use the HP64TMPDIR directory to store temporary files. It is recommended that all users share the same temporary directory.
6 Look for product-specific configuration instructions.
Some products may require additional installation or configuration steps.
Look for this information in the following places:

- The HP 64700 Series Installation/Service manual (if you are installing an emulator interface).
- The Installation Notice for the product.
- The Operating Notice for the product.
- The User's Guide for the product.


## Solaris Installation

## System Requirements

This software is designed to run on a Sun SPARCsystem with Solaris version 2.3 (SunOS 5.3), Solaris version 2.4 (SunOS 5.4) or Solaris version 2.5 (SunOS 5.5).
If you will be using a Motif (graphical) interface, you must have installed:

- OpenWindows version 3.0 or higher
- OpenWindows nonessential MIT core clients (package SUNWowMIT)
- OpenWindows optional fonts (package SUNWowoft)
- SunSoft OSF/Motif (version 1.2.2 or higher) or IXI OSF/Motif (version 1.2.1 or higher)

> If you are installing the HP Connection for Microtec Research M asterW orks XRAY HP ICE
> Install the M icrotec Research XRAY HP ICE softw are before you install the HP connection software. Check that you have set the environment variables according to the M icrotec Research instructions before you proceed: set \$USR_M RI to the installation directory and \$XRAYM ASTER to \$USR_M RI/master. If you install the HP connection softw are first, refer to the HP Connection for M icrotec Research XRAY HP ICE User's Guide for information on the envinstall script.

## Installation at a Glance

Here is a summary of the steps to follow to install the software. Each step is explained in detail later in this guide.
1 Mount the CD-ROM.
2 Install the software.
3 Re-run the customize script, if necessary.
4 Run the envinstall script, if necessary.
5 Set the necessary environment variables.

## Step 1: Mount the CD-ROM

1 Mount the CD-ROM drive, if it is not already mounted.
Use a command similar to the following example:
mount -rt hsfs /dev/dsk/c0t6d0s2 /cdrom

## Step 2: Install the software

1 Log in as root.
2 Clear the file permissions mask:
umask 0
3 Change to the directory under which you want the software to be installed. For example:

```
cd /
```

All of the software will be installed into the directory opt/hp64000 relative to your current directory.
3 Install the software. Type:

```
<cdrom path>/install
```


## Step 3: Re-run the customize script, if necessary

If you are updating an HP graphical emulator/analyzer interface, and you have previously installed the HP B1487 Software Performance Analyzer (SPA) or an HP real-time OS measurement (RTOS) tool, re-run the SPA or RTOS customize script.
This is necessary because the HP B1487 Software Performance Analyzer and HP real-time OS measurement tools need to modify the emulator/analyzer interface files.
1 Set the HP64000 environment variable to opt/hp64000 relative to the directory from which you installed the software. For example:
export HP $64000=/$ opt/hp64000
or

```
export HP64000=/somepath/opt/hp64000
```

2 For SPA, enter: \$HP 64000 /system/B1487XUI / customize
For an HP real-time OS measurment tool, enter:
\$HP $64000 /$ system/RTOS_prodnum/customize
where RTOS_prodnum is the product number of the HP real-time OS measurement tool.

## Step 4: Run the envinstall script, if necessary

1 If the server file system is not completely shared by individual clients and standalone workstations (that is, they have local file systems), run the script $\mathbf{\$ H P 6 4 0 0 0 / b i n} /$ envinstall on each client or standalone workstation.
This stand alone script may be run as root at any time to verify that the Motif files required by the HP 64000 software are in place in the file system.
The customize script runs envinstall only for the file system on which you originally installed the software.
The envinstall script does the following:
1 Verifies that the SUNWowMIT package is installed.
2 Verifies that the LD_LIBRARY_PATH environment variable includes the required paths.
3 Verifies that libXm.so. 2 exists.
2 Follow the instructions printed by the envinstall script and keep re-running it until it succeeds.

## Example

Assume the HP 64000 products were installed on the file server snow_white in the root directory/home/snow_white. There are seven workstations who want to share snow_white's \$HP64000 install directory. To share this directory, you must do the following for each dwarf workstation:
1 Log in to the dwarf's system as root.
2 Mount snow_white's \$HP64000 install directory:
mount snow_white:/home/snow_white/opt/hp64000 /opt/hp64000
3 Set the HP64000 variable to /opt/hp64000
setenv HP64000 /opt/hp64000

Run the envinstall script. This script is verbose and will print which files failed to install. Follow the instructions printed by this script and keep re-running it until it succeeds.
\$HP $64000 /$ bin/envinstall

## Step 5: Set the environment variables

The HP 64000 software uses environment variables to find files on your system. The following instructions show you how to set these variables at the UNIX prompt.
Note These environment variables must be set for each user of the software.
Modify your ".cshrc" file to set these environment variables when you log in. The following instructions assume that you are using "csh"; if you are using "sh", set the environment variables using the "<VARIABLE>=<value>; export $<V A R I A B L E>$ " syntax in your ".profile" or ".login" file.
1 Set the HP64000 environment variable.
If you installed the HP 64000 software relative to the root directory, "/", enter:
setenv HP64000 /opt/hp64000
If you installed the HP 64000 software relative to "/extra", enter:
setenv HP64000 /extra/opt/hp64000
To avoid problems with users forgetting to set HP64000, you can use a symbolic link to make the software appear to be under /opt/hp64000. For example, if you installed the software relative to the directory /users/team, enter:
ln -s /users/team/opt/hp64000 /opt/hp64000
2 Set the PATH environment variable to include the opt/hp64000/bin directory by entering:

```
setenv PATH ${PATH}:${HP64000}/bin
```

Including /opt/hp64000/bin in your PATH relieves you from prefixing the executables with the directory path.
3 Set the LD_LIBRARY_PATH environment variable to include the path for the shared run-time library files.
If you are using Sun Motif and Solaris 2.3, enter:

```
setenv LD_LIBRARY_PATH
    ${LD_LIBRARY_PATH}:/usr/openwin/lib:/opt/SUNWmotif/lib
```

If you are using Sun Motif and Solaris 2.4, enter:

```
setenv LD_LIBRARY_PATH
    ${LD_LIBRARY_PATH}:/usr/openwin/lib:/usr/dt/lib
```

If you are using IXI Motif, enter:

```
setenv LD_LIBRARY_PATH
    $ {LD_LIBRARY_PATH}:/usr/openwin/lib:/Motif1.2/usr/lib
```

If you installed the Motif run-time libraries in a directory other than the default, substitute the appropriate path. If LD_LIBRARY_PATH was not already defined, you will see an "Undefined variable" error; in this case, omit the "\$\{LD_LIBRARY_PATH\}:" from the command.
4 Set the MANPATH environment variable to include the /opt/hp64000/man and /opt/hp64000/contrib/man directories by entering:

```
setenv MANPATH
    /usr/share/man: ${HP64000}/man:${HP64000 } /contrib/man
```

Including these directories in your MANPATH variable lets you access the on-line "man page" information included with the software.
5 If the software will be run on a read-only NFS mounted file system, then you must set the HP64TMPDIR environment variable to a writable path.
For example, you could enter:

```
setenv HP64TMPDIR /usr/tmp/hp64000
```

The HP 64000 software will use the HP64TMPDIR directory to store temporary files. It is recommended that all users share the same temporary directory.

## 6 Look for product-specific configuration instructions.

Some products may require additional installation or configuration steps.
Look for this information in the following places:

- The HP 64700 Series Installation/Service manual (if you are installing an emulator interface).
- The Installation Notice for the product.
- The Operating Notice for the product.
- The User's Guide for the product.


## SunOS Installation

## System Requirements

This software is designed to run on a Sun SPARCsystem with SunOS version 4.1 or 4.1.1.

## If you are installing the HP Connection for Microtec Research M asterW orks XRAY HP ICE

This product requires SunOS version 4.1.3 or later.
Install the M icrotec Research XRAY HP ICE softw are before you install the HP connection software. Check that you have set the environment variables according to the Microtec Research instructions before you proceed: set \$USR_M RI to the installation directory and \$XRAYM ASTER to
$\$ U^{-}{ }^{-} M R 1 /$ master. If you install the HP connection softw are first, refer to the HP Cönnection for M icrotec Research XRAY HP ICE User's Guide for information on the envinstall script.

## Installation at a Glance

Here is a summary of the steps to follow to install the software. Each step is explained in detail later in this guide.
1 Link the library files.
2 Install the System V software.
3 Install the IPC facilities.
4 Mount the CD-ROM.
5 Install the software.
6 Re-run the customize script, if necessary.
7 Run the envinstall script, if necessary.
8 Set the necessary environment variables.

## Step 1: Link the library files

If your system is using SunOS 4.1, continue with the following steps. If your system is using SunOS 4.1.1 or later, skip to Step 2.
This step needs to be performed only once. If you have done this before, skip to Step 2.

## 1 Log in as root.

2 Clear the file permissions mask:
umask 0
3 Enter the following commands:

```
ln -s /usr/5lib/libc.so.2.5 /usr/5lib/libc.so.2.6
ln -s /usr/5lib/libc.sa.2.5 /usr/5lib/libc.sa.2.6
ln -s /lib/libc.so.1.5 /lib/libc.so.1.6
ln -s /lib/libc.sa.1.5 /lib/libc.sa.1.6
```

4 Enter the following command:

```
ldconfig
```

The HP 64000-UX executable files were built under SunOS 4.1.1 or later. Creating the links avoids warning messages from the Sun's dynamic loader.

## Step 2: Install the System V software

The HP 64000-UX software will use some of the System V features. To find out whether the System $V$ environment is already installed on your system, check that the directory /usr/5bin exists. For instructions on installing System V, see the Sun Installing SunOS manual.

## Step 3: Install the IPC facilities

If you intend to use the Softkey Interface or the Graphical User Interface, you must have the System V IPC facilities (semaphores) installed on your system.
1 To determine whether the IPC facilities are already installed, type:
ipcs
If the IPC facilities are not installed, you will see messages like the following:

```
Message Queue facility not installed.
Shared Memory facility not installed.
Semaphore facility not installed.
```

If you see these messages you will have to install the System V IPC facilities in your kernel.
2 To install the IPC facilities, you must reconfigure the kernel.
For information on how to install the IPC facilities, see the Sun System and Network Administration manual.
For a typical installation, the following commands are needed to reconfigure the kernel:

```
cd /usr/kvm/sys/sun4c/conf
cp GENERIC <sys_name>
chmod +w <sys_name>
config <sys_name>
cd ../<sys_name>
make
mv /vmunix /vmunix.org
cp vmunix /vmunix
```

where <sys_name> is the name of your computer.

## Step 4: Mount the CD-ROM

1 Mount the CD-ROM drive, if it is not already mounted.
Use a command similar to the following example:

```
mount -rt hsfs /dev/sr0 /cdrom
```


## Step 5: Install the software.

1 Log in as root.
2 Clear the file permissions mask:

```
umask 0
```

3 Change to the directory under which you want the software to be installed. For example:

```
cd /
```

All of the software will be installed into the directory usr/hp64000 relative to your current directory.
3 Install the software. Type:
<cdrom path>/install

## Step 6: Re-run the customize script, if necessary

If you are updating an HP graphical emulator/analyzer interface, and you have previously installed the HP B1487 Software Performance Analyzer (SPA) or an HP real-time OS measurement (RTOS) tool, re-run the SPA or RTOS customize script.
This is necessary because the HP B1487 Software Performance Analyzer and HP real-time OS measurement tools need to modify the emulator/analyzer interface files.
1 Set the HP64000 environment variable to usr/hp64000 relative to the directory from which you installed the software. For example:

```
export HP64000=/usr/hp64000
```

or
export HP64000=/somepath/usr/hp64000
2 For SPA, enter:
\$HP64000/system/B1487XUI/customize
For an HP real-time OS measurment tool, enter:
\$HP64000/system/RTOS_prodnum/customize
where RTOS_prodnum is the product number of the HP real-time OS measurement tool.

## Step 7: Run the envinstall script, if necessary

- If the server file system is not completely shared by individual clients and standalone workstations (that is, they have local file systems), run the script $\mathbf{\$ H P 6 4 0 0 0 / b i n} /$ envinstall on each client or standalone workstation.
This stand alone script may be run as root at any time to verify that all files required by the HP 64000 software are in place in the file system.
Due to the complexity of installing on NFS mounted file systems, you may need to run this script several times.
If the required HP 64000 files are not found, this script will attempt to symbolically link them from the \$HP64000 install directory to their proper locations.
The customize script runs envinstall only for the file system on which you originally installed the software. If the server file system is not completely shared by individual clients and standalone workstations (that is, they have local file systems) then you must run envinstall on each client or standalone workstation. This will symbolically link the HP 64000 files to absolute locations on the local file system.
The envinstall script does the following:
1 Verifies that the LD_LIBRARY_PATH environment variable has the required components set.
2 Installs the ITO/SAIC Motif run-time libraries (shipped with the HP software) into /usr/lib/libXvX*.
3 Installs the HP 64000 application-specific scheme files into \$OPENWINHOME/lib/X11/app-defaults/HP64*.
4 Installs the XKeysymDB file if the required OSF keymappings do not exist in \$OPENWINHOME//lib/XKeysymDBfile.
5 Verifies that the Optional MIT Release Package is installed.
\$OPENWINHOME is /usr/openwin by default.


## Example

Assume the HP 64000 products were installed on the file server snow_white in the root directory /home/snow_white.

There are seven workstations who want to share snow_white's $\$ H P 64000$ install directory. To share this directory, you must do the following for each dwarf workstation:

1 Log in to the dwarf's system as root.
2 Mount snow_white's \$HP64000 install directory:

```
mount snow_white:/home/snow_white/usr/hp64000 /usr/hp64000
```

3 Set the HP64000 variable to /ust/hp64000
setenv HP64000 /usr/hp64000
4 Run the envinstall script to install files outside of \$HP64000. This script will print which files failed to install. Follow the instructions printed by this script and keep re-running it until it succeeds.

```
$HP64000/bin/envinstall
```


## Step 8: Set the environment variables

The HP 64000 software uses environment variables to find files on your system. The following instructions show you how to set these variables at the UNIX prompt.

## Note

These environment variables must be set for each user of the software.
Modify your ".cshrc" file to set these environment variables when you log in. The following instructions assume that you are using "csh"; if you are using "sh", set the environment variables using the "<VARIABLE>=<value>; export $<V A R I A B L E>$ " syntax in your ".profile" or ".login" file.
1 Set the HP64000 environment variable.
If you installed the HP 64000 software relative to the root directory, "/", enter:

```
setenv HP64000 /usr/hp64000
```

If you installed the software relative to a directory other than the root directory, it is strongly recommended that you use a symbolic link to make the software appear to be under /usr/hp64000. For example, if you installed the software relative to the directory /users/team, enter:
ln -s /users/team/usr/hp64000 /usr/hp64000
2 Set the PATH environment variable to include the usr/hp64000/bin directory by entering:

```
setenv PATH ${PATH}:${HP64000}/bin
```

Including /usr/hp64000/bin in your PATH relieves you from prefixing HP 64700 executables with the directory path.
3 Set the MANPATH environment variable to include the /usr/hp64000/man and /usr/hp64000/contrib/man directories by entering:

```
setenv MANPATH
    ${MANPATH}:${HP64000}/man:${HP64000}/contrib/man
```

Including these directories in your MANPATH variable lets you access the on-line "man page" information included with the software.
4 Look for product-specific configuration instructions.
Some products may require additional installation or configuration steps. Look for this information in the following places:

- The HP 64700 Series Installation/Service manual (if you are installing an emulator interface).
- The Installation Notice for the product.
- The Operating Notice for the product.
- The User's Guide for the product.


## If you have problems

## If files or directories are missing

Check for the existence of $\$$ HP64000/etc/install.log. This file is written to by the installation process. The install.log file can be scanned for installation errors. If the installation was successful there will be a corresponding message in install.log. If the installation did not complete, there may have been an error.
## If you see the message: emul700dmn failed to start

This message is printed if $\$$ HP64000/inst/emul/runtime is not writable or there is insufficient disk space.HP-UX or Solaris: Ensure that \$HP64000/inst/emul/runtime has sufficient disk space and is writable. If not, set $\$ H P 64 T M P D I R ~ t o ~ a ~ w r i t a b l e ~ p a t h . ~$SunOS: Remount the disk with write permission.

## If you see a "file not found" message when you try to run the software

Check that the HP64000 environment variable is set.Check that the HP64000 environment variable ends with "opt/hp64000" (Solaris) or "/usr/hp64000" (SunOS or HP-UX).

A example of a valid value for $\$$ HP64000:
/mypath/opt/hp64000

Examples of invalid values for \$HP64000:
/mypath/opt/something/hp64000
/mypath/usr/something/hp64000
/mypath
/mypath/hp64000

## If dynamic loader references are not resolved

$\square$ Solaris: Check that the LD_LIBRARY_PATH environment variable is set correctly, as described on agellu
If this variable is not set correctly, the run-time dynamic loader (ld.so.1) will not be able to open or resolve Motif and X11 library references. This can produce error messages like the following:

```
ld.so.1: /opt/hp64000/inst/emul/64742A/xui-xemul:fatal:libXm.so.2
can't open file: errno=2
```

Check that libXm.so. 2 exists in the library path. You may need to link libXm.so. 2 to an appropriate Motif library (such as libXm.so.3). To create such a link, use a command like:
ln -s libXm.so. 3 libXm.so. 2
$\square$ SunOS: Run the envinstall script again.

## If fonts are not found

If you see error messages about missing fonts when you start a graphical user interface:Install the Open Windows optional fonts (package SUNWowoft).

## If you see key symbol mapping errors

If you see several pages of key symbol mapping errors when you start an interface under SunOS:
Run envinstall, orManually merge the following two files:

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- \$HP64000/lib/X1/XKeySymDB
- \$OPENWINHOME/lib/XKeysymDB


## If no softkeys appear in an xterm window

Some non-graphical user interfaces use softkeys. If you are using an xterm window and the softkeys don't appear:Start the xterm window with the -sf option. Look at the file $\$ H P 64000 / \mathrm{bin} / \mathrm{hp} 64$ term to see which options we recommend.

## If you seem to have terminal configuration problems

For SunOS or Solaris:Use TERM=sun or TERM=sun-cmd and TERMINFO=\$HP64000/lib/terminfo to get a proper terminal and keyboard from a Sun shelltool or command tool.

Start a window via $\$$ HP64000/bin/hp64term to verify the emulation installation. This file is a script which can be used as a guide in setting TERM values.

## To remove the software

## 1 Find the fileset name of the product you wish to remove.

To see a list of the fileset names which you can remove, type:
1s \$HP64000/etc/filesets
Each file in this directory contains a list of files which were installed for that fileset.
2 Log in as root.
3 At the operating system prompt, type:
sysrm <product_number>
Sometimes you may wish to remove all of the files which were installed for a certain product. For example, maybe you have finished a software development project and you need to make more free space on your hard disk.
To make removing software easier, the installation script creates two files. The first file is a list of all of the files installed for a certain product. The list is stored by product number in the $\$$ HP64000/etc/filesets directory. The second file is the sysrm script, which is stored in the \$HP64000/opt/hp64000/bin directory (\$HP64000/opt/hp64000/bin for SunOS). The sysrm script removes the files listed in \$HP64000/etc/filesets for the specified product.

## Example

If you wish to remove all of the files which were installed for the B1460 product, type:

```
$HP64000/bin/sysrm B1460
```

If you wish to remove all HP 64000-UX products from your system, use the following command:

```
rm -r $HP64000
```

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To remove the software

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