

# READ ME FIRST

## Release Notes ObjectCenter Version 2.2.0

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These Release Notes describe ObjectCenter Version 2.2.0. We released Version 2.2.0 to introduce ObjectCenter to newer operating systems, and to provide bug fixes to the previous release.

These Release Notes list ObjectCenter's supported platforms and space requirements, gives an overview of the new features and installation instructions, tells you how to invoke ObjectCenter, and points to more information in hardcopy and online. These Release Notes also contains a section about using the *ObjectCenter Tutorial* on the Solaris 2 platform and an overview of the ObjectCenter directory structure.

**PostScript File**      After you install ObjectCenter, these Release Notes is available as a PostScript file in

.../oc\_2.0.0/docs/ocrelbul.ps

## Supported Platforms

This version of ObjectCenter supports:

- HP 9000 Series 700 workstations -OR- HP Series 800 PA 1.1 workstations running HP-UX 9.x through HP-UX 10.20.
- Sun-4(tm)/SPARCstations(tm) and UltraSPARC machines running SunOS 4.1.x or Solaris 2.3 - 2.6.

**NOTE:** Refer to Solaris 2.x Machines Require Patches section for information about Sun patches that should be installed on Solaris 2.3 or Solaris 2.4 platforms. Refer to HPUX 10.x Machines Require Patches section for information about required HP patches.

The process debugging mode (**pdm**) used in this version of ObjectCenter is based on GNU **gdb** Version 4.12 for the Solaris 2.x operating system and Version 4.13 for the SunOS 4.x and HP-UX operating systems.

To license its software, this version of ObjectCenter uses FLEXlm, Version 5.0a, except that CenterLine-C (**clcc**) uses FLEXlm, version 2.4c.

## Supported Compilers

For a list of the compilers supported on your platform, please refer to the ObjectCenter Platform Guide related to this release. This file is also available online as an appendix to the online *ObjectCenter Reference*, and in this file:

**CenterLine/oc\_2.0.0/<arch>/docs/platform\_guide**

where **CenterLine** is the directory where your CenterLine product is installed, and **<arch>** is a platform-specific directory, such as **pa-hpux8**, **sparc-sunos4**, or **sparc-solaris2**.

## Memory, Swap Space, and Disk Requirements

These are ObjectCenter's requirements for memory, disk space, and swap space:

	Minimum Megabytes	Recommended Megabytes
Random-Access Memory (RAM)	24	32-48
Disk Space	61	---
Swap Space	72	3 times RAM *

\* - Actual swap space depends on the size of your application.

## New Features

This section lists new features in this release. For a description of all new

features added since Version 2.0.0, see [About The ObjectCenter Releases](#) document on CenterLine's website, or in the file:

### **CenterLine/oc\_2.0.0/docs/about\_release\_2.2**

#### **New Sun Platform Support**

This release adds support for the following:

- The Solaris 2.5, 2.5.1 and 2.6 operating systems.
- The SunOS 4.1.4 operating system.
- Sun UltraSPARC workstations

#### **New HP Platform Support**

This release adds support for the following:

- HP-UX 10.01, 10.10 and 10.20 operating systems for HP 9000 Series 700 workstations.

#### **Tools.h++ Version**

The Rogue Wave Tools.h++ class library binary distributed with ObjectCenter Version 2.2.0 is Tools.h++ Version 6.1.

Refer to [About the ObjectCenter Releases](#) document for more information related to ObjectCenter support for later versions of the Rogue Wave Tools.h++ class library binary.

#### **K&R ANSI C libC libraries**

By default, ObjectCenter generates K&R C intermediate code internally in order to interpret C++ source code in the Workspace. At startup, ObjectCenter loads a K&R C version of the C++ library, **libC**.

We now provide an ObjectCenter startup switch, **-backend\_ansi**, that causes ObjectCenter to generate ANSI C intermediate code and load an ANSI C version of **libC** at startup. you may want to use **-backend\_ansi** if you are using object code generated by a compiler that generates ANSI C intermediate code.

The K&R C versions of **libC** are installed in the directory **CenterLine/arch-os/lib/a0**, and the ANSI C versions of **libC** are installed in **CenterLine/arch-os/lib/a1**. For more information, please refer to the **code generation** entry in the *ObjectCenter Reference*.

You can also link with the ANSI C version of **libC** when you compile with CenterLine's C++ compilation system by using the **+a1** switch on the **CC** command line.

#### **Default Backend for C++ Compilation**

ObjectCenter uses the CenterLine-C compiler, **clcc**, as the default backend C compiler in CenterLine's C++ compilation system. If you want to change the backend C compiler, set the environment variable **ccC** to the pathname of the C compiler you choose, for example:

```
% setenv ccC path/bin/clcc
```

-OR-

```
% setenv ccC /usr/bin/cc
```

## Installation

Install ObjectCenter according to the instructions in the manual *Installing and Managing CenterLine Products*. When you install ObjectCenter, the installation script installs the product in a directory called **oc\_2.0.0** under the **CenterLine** directory. If you have other CenterLine products, all the products can be installed under a single CenterLine directory. See [ObjectCenter Directory Structure](#) section for a description of the contents of the **CenterLine** directory.

When installing updates of ObjectCenter or other CenterLine products, note that the installation may update *any* file in the **CenterLine** directory.

**NOTE:** If you do not want to overwrite an existing version of ObjectCenter, install the newer version in a separate CenterLine directory.

If you are installing an evaluation copy of ObjectCenter, refer to the instructions in *Installing CenterLine Evaluations*. As those instructions note, do **not** attempt to start **lmgrd** if you are installing an evaluation copy of ObjectCenter.

**NOTE:** If you do not want to install ObjectCenter as **root**, please contact Technical Support at (781) 444-8000 or via email at [support@centerline.com](mailto:support@centerline.com) for assistance.

## Licensing Information

ObjectCenter Version 2.2.0 is licensed via **FLEXlm(tm) Version 5.0a**. Earlier releases of ObjectCenter were licensed via **FLEXlm(tm) Version 2.40c**. Set up your licenses according to the instructions in *Installing and Managing CenterLine Products*.

## Finding the Host ID of the License Server on HP

To grant you a license, CenterLine needs to know the host ID of the machine on which each license server daemon will run. The host ID is encrypted in the license password on your *Product License Sheet*. The output of the **/etc/lanscan** command distributed with some HP-UX operating systems no longer works with ObjectCenter Version 2.2.0 in providing an accurate host ID for HP-UX license servers. So, users wishing to use an HP-UX system for their license server must determine the host ID required through the **lmhostid** command.

If you have already installed ObjectCenter or have an evaluation copy of a CenterLine product installed, invoke the command by entering:

```
# /path-to/pa-hpux8/admin/lmhostid
```

where *path-to* is the path to your existing CenterLine directory.

When you know the host ID of the server, contact the CenterLine Passwords group at (781) 444-8000 or through email at [passwords@centerline.com](mailto:passwords@centerline.com) to obtain a new *Product License Sheet*.

If this is a new installation, proceed with the installation as described in *Installing and Managing CenterLine Products*. Respond "no" when the **install.sh** script prompts:

**Do you wish to enter licensing information now?**

When the installation completes, you can use the **lmhostid** command to determine the host ID of your license server. Contact the CenterLine Password Group to obtain a *Product License Sheet*, and then invoke the **cladmin** command to enter licensing information when you receive the *License Sheet*. The **cladmin** command is located in the directory: **CenterLine/admin**.

**NOTE:** Although we do not provide a copy of ObjectCenter for IBM AIX systems, CenterLine does provide a copy of **FLEXlm Licensing Software** for AIX systems with every release of ObjectCenter. As such, users are welcomed to use an AIX system as the license server and/or file server (i.e. the system where non-AIX product binaries are physically installed) even if the product itself must be invoked via a network mount and not directly on that system. Like HP-UX license servers, the host ID of an AIX system is also determined through the **lmhostid** command. The licensing daemons, **lmhostid** command, and other licensing utilities for AIX systems are located in the **CenterLine/powerpc-aix/admin** directory found within every ObjectCenter installation.

## **Solaris 2.x Machines Require Patches**

There is a bug in the linker on Solaris 2.3 that corrupts the debugging information that ObjectCenter uses. There are also bugs in the Solaris 2.3 X Server that affect ObjectCenter. We recommend that you install the following patches on workstations running Solaris 2.3:

- Sun Patch-ID# 101409 (Jumbo linker patch)
- Sun Patch-ID# 101362 (Xsun server jumbo patch)

In addition, we recommend that you install the following patches to properly support threaded debugging:

On Solaris 2.3:

- Sun Patch-ID# 101318
- Sun Patch-ID# 102110

On Solaris 2.4:

- Sun Patch-ID# 101945

On Solaris 2.6, the system include file `/usr/include/stream.h` contains a declaration that causes CenterLine's C++ compiler, `CC`, to issue the following error diagnostic:

**`"/usr/include/sys/stream.h", line 255: sorry not implemented: bit-field as member of union`**

To fix this problem, CenterLine has provided a context diff file named **`misc/sol26/stream.dif`** (**`MISC/SOL26/STREAM.DIF`** on some platforms) on the ObjectCenter Version 2.2.0 CD-ROM. Use this file with the **`patch(1)`** utility, as follows:

```
% su
# cd /usr/include/sys
# /usr/bin/patch < path-to-cd/misc/sol26/stream.dif
```

After running **`patch`**, the original version of **`stream.h`** will be saved in **`stream.h.orig`**.

If you do not have access to the ObjectCenter Version 2.2.0 CD-ROM, CenterLine does provide the **`stream.dif`** file in the form of a ObjectCenter patch. To obtain the patch, contact CenterLine's Technical Support group at (781) 444-8000 or via email at [support@centerline.com](mailto:support@centerline.com).

### OpenWindows 3.0 Requirements

If you are running with OpenWindows 3.0 or earlier, and/or your site is running an OpenWindows X Server, you may experience problems using the *DynaText* viewer.

On systems running SunOS 4.x and either OpenWindows 3.0 or the OpenWindows **xnews** server, we recommend that you install the following patches:

- Sun Patch-ID# 100444-58
- Sun Patch-ID# 100512-04

### Obtaining Sun Patches

Use the **`showrev -p`** command to find out which patches you have installed. Note that the full patch number has a two digit suffix that is incremented when new versions of the patch are released, for example 101362-17.

To obtain patches from Sun, contact Sun Technical Support at 1-800-872-4786.

### Cut and Paste Requirement

For both SunOS 4.x and Solaris 2.x systems, if you want to paste text from your desktop into *Dynatext* text fields, you must have the **X11R5 nls** directory installed in `/usr/lib/X11/nls` in your environment. If the **nls** directory does not exist at that location, you can set the environment

variable **\$XNLSPATH** to its actual location.

## HPUX 10.x Machines Require Patches

We recommend that you install the following patches on workstations running HPUX 10.10:

- libcurses library patch
- 10.10 10.20 patch of milli.a
- ANSI C compiler cumulative patch (if you will be using the HP C compiler)
- ld(1) cumulative patch

We recommend that you install the following patches on workstations running HPUX 10.20:

- libcurses library patch
- ANSI C compiler cumulative patch (if you will be using the HP C compiler)
- ld(1) cumulative patch

On HP 10.20, you will likely encounter warnings and errors that "**long long**" is not supported; These errors are issued by **CC**, **clcc**, and ObjectCenter and CodeCenter's **cdm** when loading source files, because both ObjectCenter and CodeCenter do not support the **long long** type. To fix this problem, we recommend that you edit the following system include file:

```
/usr/include/sys/_inttypes.h
```

We have provided a context diff file named **misc/hp10/inttypes.dif** (**MISC/HP10/INTTYPES.DIF** on some platforms) on the CodeCenter and ObjectCenter CD-ROM. Use this file with the **patch(1)** utility, as follows:

```
% su  
# cd /usr/include/sys  
# /usr/bin/patch < path-to-cd/misc/hp10/inttypes.dif
```

After running **patch**, the original version of **\_inttypes.h** will be saved in **\_inttypes.h.orig**.

## Obtaining HP Patches

To obtain patches from HP, visit their website at <http://us-support.external.hp.com>. We regret that we cannot give you the direct patch numbers, because HP rennumbers their patches often.

## CenterLine Automated Help System

CenterLine's Technical Support group has disabled their Automated Help System to make way for an automated technical support area on CenterLine's website. This area was set up to help with licensing or installation issues, amongst other technical help relative to all CenterLine

products. Be sure to refer to CenterLine's website ([www.centerline.com](http://www.centerline.com)) for details, or send an email to [support@centerline.com](mailto:support@centerline.com) for further technical assistance.

## Calling Technical Support

CenterLine's Technical Support group can be contacted by calling 617-621-0060 or through email at [support@centerline.com](mailto:support@centerline.com).

Before calling Technical Support, we suggest that you try to find the answers to your issues via the product manuals or through CenterLine's website ([www.centerline.com](http://www.centerline.com)).

If you still need to contact Technical Support, you will be asked for your **Workgroup ID** and **product version number**.

## Workgroup IDs

A **Workgroup ID** identifies the set of users who are sharing a group of licenses (similar to an account number for the specific pool of licenses being used in a given installation). You can get your Workgroup ID, as well as support telephone numbers and email addresses, from the file:

**CenterLine/configs/support\_defs**

## Product Version Number

To find your product version number, you can do one of two things:

- invoke the **CenterLine/admin/cladmin** command and select option 3
- run the command **CenterLine/bin/clver**

To determine which version number of the license manager, **lmgrd**, is shipped with your product, use the command:

**CenterLine/arch-os/admin/lmgrd -v**

If ObjectCenter is running, you can use one of the following ways to find your **Workgroup ID** and **product version number**:

- In the Main Window, display the **ObjectCenter** menu and select the **About ObjectCenter** item.
- Scroll back to the beginning of the Workspace where the startup banner lists the information.
- Issue the **printopt workgroup\_id** and **printopt version\_number** commands in the Workspace.

## Invoking ObjectCenter

To invoke ObjectCenter, use the **objectcenter** command.

## For More Information

To get more information about ObjectCenter, refer to the "ObjectCenter Documentation" section in *About The ObjectCenter Releases* (formerly called *About This Release*), which lists all hardcopy and online documentation and describes the information each piece of documentation

contains.

*About This Release* is available in this file:

**CenterLine/oc\_2.0.0/docs/about\_release\_2.2**

where **CenterLine** is the directory where your CenterLine product is installed.

Information that applies only to your platform is in the platform-specific directory.

On the HP platform, the directory is:

**CenterLine/oc\_2.0.0/pa-hpux8/docs**

On Sun SunOS 4.x, the directory is:

**CenterLine/oc\_2.0.0/sparc-sunos4/docs**

On Sun Solaris 2, the directory is:

**CenterLine/oc\_2.0.0/sparc-solaris2/docs**

Platform-specific information can be found within the **ObjectCenter Version 2.2.0 Platform Guide** located on the main **ObjectCenter Page** of CenterLine's website.

## Accessing Online Documentation

To open the *DynaText* Library window from within ObjectCenter, select **Manual Browser** from the **Browsers** menu on any primary window or click the "?" button in the **Main Window**. The *DynaText* Library window may take some time to initialize. As it does so, start-up messages are displayed in the **Run Window**. You can also open the *DynaText* Library window outside of ObjectCenter by issuing the following command from a shell:

```
.../bin/cldoc &
```

In the left panel of the Library window are one or more collections of books. Click on the name of a collection to display the names of the books in that collection in the **Books** panel. Open a specific book by double-clicking on its name or by selecting its name and clicking the **Open** button.

To open a specific *Reference* entry from within ObjectCenter, issue the **man** command in the **Workspace** with the name of the command or topic.

Use the **Search** panel in the Library window to conduct a full-text search of all the books in a collection, or use one of the **Search Forms** available from the **Search** menu in each **Book** window to search within a book. You can search on words, patterns, and phrases, and you can conduct Boolean,

context of proximity searches.

For more information about using *DynaText*, select the **doc\_info** collection in the *DynaText* Library window. For a description of the **cldoc** command, see the UNIX manual page.

## Adding a Printer to the List of Printers Available from *DynaText*

To print selections from a book, select **Print** from the **File** menu in the book window. This opens the **Print Dialog** box. If you select **Print to printer** in the **Print Dialog** box, *DynaText* prints to your default printer. You can print to a different printer by selecting its name from the list under the **Options** menu in the **Library Window**.

To add a printer to the list, add a line like the following to the **CenterLine/doc/data/ps/config.dat** file:

```
MyPrinter 612 792 lpr -Pmyprinter
```

where **MyPrinter** is the name as you want it to appear in the menu, **612** and **792** are the number of points that fit on the page (width and height) for the given printer type, and **lpr -Pmyprinter** is the UNIX command line needed to print to such a printer. There are 72 points in an inch. In this example, the width and height are appropriate for a paper size of 8.5 inches by 11 inches. For A4 paper, use 597 and 845 instead.

## Setting up the Annotation Facility in Online Documentation

If you plan to use the annotation facility in the online documentation provided with ObjectCenter Version 2.2.0, edit the **CenterLine/doc/ebtrc** file to add pointers to the locations where the annotations should be stored.

Annotations can be *public* or *private*, so you need to add locations for both types of annotations. Each user's private annotations can reside in the user's home directory, but public annotations should be stored in a location that is accessible to, and writable by, all.

The following sample **ebtrc** file shows the format of the lines that must be added:

```
# .ebtrc configuration file
#####
X_DIR          $CENTERLINE_EBT_XDIR
DATA_DIR       $CENTERLINE_EBT_DATA
#
COLLECTION     $CENTERLINE_COLLECTIONS
DTEXT_AUTH     $TEST_AUTH_SERVER
#
# The following line specifies the location of
# private annotations.
PRIVATE_DIR    $HOME/cldocpriv
#
# Edit the following line to point to the location
# for all public annotations. Directory must be
# writable by all.
PUBLIC_DIR     path_to/cldocpub
```

If you do not add these lines to the **CenterLine/doc/ebtrc** file, annotations will be located in **/tmp/annots**, as the default.

## Saving Annotations Across Versions

When you install a new version of ObjectCenter with updated documentation, annotations may not point to the correct location in the new version of the book. Annotations are stored in a user- and book-specific directory:

*dir\_name/annots/user\_name/book\_name*

where *dir\_name* is the public or private directory specified in the **ebtrc** file.

When you create an annotation, the **index.cat** file in this directory is updated with information including the name, location and type of the new annotation. The text of the annotation is stored in a text file whose name is formed by taking the first eight characters of the annotation name and adding a numeric suffix to distinguish between non-unique leaf names.

If you want to reuse your annotations, first move your existing annotations to a temporary directory. Recreate the **index.cat** file by creating new annotations in the book, then copy the existing annotation text files to the new filenames.

## Using the Tutorial

To use the ObjectCenter Tutorial on Solaris 2 platforms, you must set the following environment variables:

```
setenv OPENWINHOME /usr/openwin
setenv LD_LIBRARY_PATH \
/usr/openwin/lib:/usr/lib:$LD_LIBRARY_PATH
```

The tutorial assumes the X11 header files are installed in **/usr/include**. If they are not, contact your system administrator to put a copy or symbolic link to the location of the X11 header files into **/usr/include**, or add **-Ipathname** to the **CL\_INCS** line in the tutorial Makefile, where *pathname* is the path to the directory containing the X11 header files.

If you use the X11R5 libraries instead of the openwin libraries, you must explicitly load **-lnsl** and **-lsocket** into the Workspace to run the tutorial. These dependencies are not automatically included in the X11R5 libraries, whereas they are included in the openwin libraries.

## Using pdm on the HP Platform

On the HP 9000 Series 700 platform, you may experience problems linking your application and debugging it with **pdm** if two components distributed with **xdb**, the HP debugger, are not installed on your system.

On HP-UX 10.x, to debug the shared libraries that an executable depends

on, **pdm** requires that the file **/opt/langtools/lib/end.o** be linked into the executable.

On HP-UX 9.x, **pdm** will require that the file **/usr/lib/end.o** be linked into the executable. HP relocated this file once HP-UX 10.x was built.

The **clcc** compiler links the **end.o** file in automatically when you compile with **-g**. If **end.o** is not available, you may receive a message like one of the following from the linker (or **clcc**):

**/bin/ld: Can't open /usr/lib/end.o**

**-OR-**

**/bin/ld: Can't open /opt/langtools/lib/end.o**

**-OR-**

**(clcc:) end.o not found, so link not possible**

Without **end.o**, you will not be able to debug shared libraries with **pdm**. **pdm** will issue a message such as:

- On HP-UX 9.x:

**warning: Can't access shared libraries. /usr/lib/end.o is required but is not linked into <path>/test.**

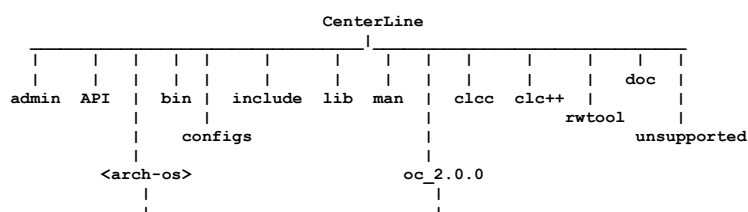
- On HP-UX 10.x:

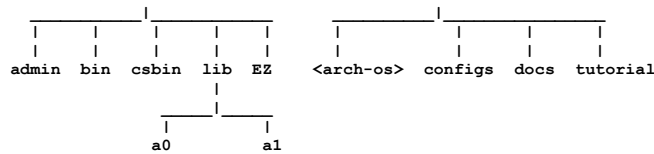
**warning: Can't access shared libraries. /opt/langtools/lib/end.o is required but is not linked into the <path>/test.**

In addition, if the HP **xdb** preprocessor, **/usr/bin/pxdb** (on HP-UX 9.x) and/or **/opt/langtools/bin/pxdb** (on HP-UX 10.x), is not available when your application is linked, debugging information required by **pdm** may be corrupted. Execution may stop at the wrong line when you set breakpoints, and using **step** or **next** from a breakpoint may cause the application to hang.

## ObjectCenter Directory Structure

When you install ObjectCenter, the installation script installs the product in a directory called **oc\_2.0.0** under the **CenterLine** directory.





**CenterLine/** : Directory to contain all CenterLine products.

- **admin/** : Directory containing the CenterLine installation and management scripts such as **RUN\_ME** and **cladmin**.
- **API/** : Directory containing information about CenterLine's programming interface (API) for integrating tools into our programming environment.
- **<arch-os>/** : Platform specific directories (**sparc-sunos4**, **sparc-solaris2**, **pa-hpux8**, **powerpc-aix**, etc.) for commands and libraries common to all CenterLine products.
  - **admin/** : Commands for starting and managing the CenterLine license daemons such as **lmgrd**, **lmdown**, **lmrread**, etc. You can run your license server on any supported CenterLine platform, regardless of whether the current product is supported on that platform.
  - **bin/** : Executables common to several CenterLine products.
  - **csbin/** : Wrapper programs for common compiler names.
  - **lib/** : Libraries common to several CenterLine products. K&R C versions of the C++ library, **libC**, are installed in **lib/a0** and ANSI C versions are in **lib/a1**.
  - **EZ/** : Directory containing information and binaries for CenterLine's EZSTART utility for importing programs into the CenterLine environment.
- **bin/** : CenterLine commands (such as **objectcenter**, **c++tutor**, **cldoc**, and **license\_status**).
- **configs/** : Configuration and licensing files (such as **license.dat**, **license.opt**, and **support\_defs**).
- **docs/** : Directory containing files for the *DynaText* Manual Browser.
- **man/** : Directory containing the manual pages for the product.
  - **man1/** : Contains descriptions of user commands.

- **man3/** : Contains descriptions of library routines.
- **man5/** : Contains descriptions of files.
- **oc\_2.0.0** : Directory containing the ObjectCenter product.
  - **<arch-os>/** : Directory containing platform-specific files. The **bin** directory contains binaries, the **docs** directory contains the platform guide, the **bugs.open** and **bugs.fixed**, and the **lib** directory contains application defaults and bitmaps for the GUI.
  - **configs/** : Configuration files for ObjectCenter.
  - **tutorial/** : Source files and a make file to use with the ObjectCenter tutorial.
- **clcc/** : Directory containing executables, header files, and libraries for CenterLine's C compiler.
- **clc++/** : Directory containing executables, header files, and libraries for CenterLine's C++ Compiler.
- **rwtool/** : Directory containing the Tools.h++ foundation class library and header files from Rogue Wave.
- **unsupported/** : Contains unsupported tools.