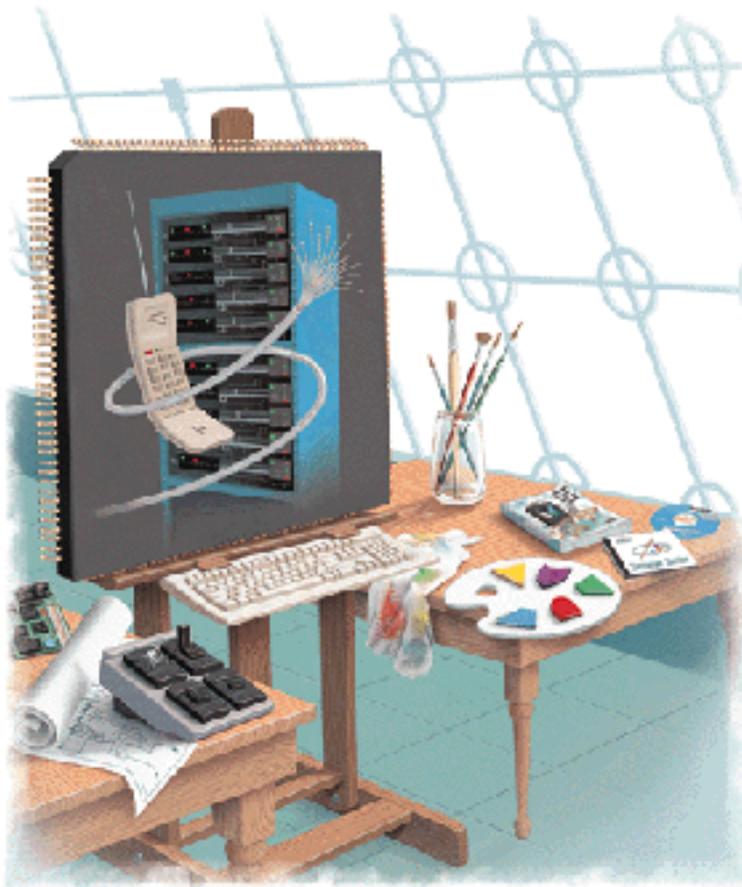

Designer Series Development System

Conversion Guide



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Table of Contents

Introduction	v
Difference Between Designer Versions	v
ObjectStore Software	v
System Requirements	vi
Operating System Patches	vii
1 Converting Designs	1
3.1 and 3.0 Designs	1
Pre-3.0 Designs	1
2 Installing ObjectStore	3
Installation	3
Configuring ObjectStore	8
Making Designer Available for Network Access	11
3 Configuring the Designer Client	13
Environment Variables	13
ObjectStore Cache Manager	17
Permission Problems.	18
4 Information About ObjectStore Server	21
ODI_SERVER_DIR	21
Shutting Down the ObjectStore Server	21
Starting the ObjectStore Server	22
Editing the Locator File	22
5 Troubleshooting	25
ADB Could Not be Opened	25
No Handler For Exception	26
No ObjectStore Server is Available for ODI_SERVER_DIR	32
ObjectStore Server Daemon Fails to Start	33
Server Initialization Failed	35
Server Not Responding Please Restart It.	37

A	Product Support	39
	Actel U.S. Toll-Free Line	39
	Customer Service	39
	Customer Applications Center	40
	Guru Automated Technical Support	40
	Action Facts	40
	Web Site	41
	FTP Site	41
	Electronic Mail	41
	Worldwide Sales Offices	42
	Index	43

Introduction

This manual describes how to convert designs created with Designer versions 3.1 and earlier to the format used by the current version of Designer.

- If you do not need to convert designs created in Designer versions 3.1 or earlier, ***you do not need this manual, and you do not need to install ObjectStore.***
- If you need to convert designs created in Designer versions 3.1 or 3.0, and have not deleted ObjectStore software from your previous installation of Designer, ***you do not need to re-install ObjectStore, and can proceed directly to “Converting Designs” on page 1.***
- If you need to convert designs created in Designer versions 3.1 or 3.0, and do not have ObjectStore software installed, ***you need to re-install ObjectStore as described in “Installing ObjectStore” on page 3.***
- If you need to convert designs created with pre-3.0 versions of Designer, ***you do not need ObjectStore software, and can proceed directly to “Converting Designs” on page 1.***

Difference Between Designer Versions

Designer no longer uses the ObjectStore database software. Designer versions 3.1 and 3.0 used ObjectStore to maintain design integrity and design data. Designer now uses an internal database to maintain design integrity and design data.

Designs created in pre-3.0 versions of Designer did not use ObjectStore software, and do not require ObjectStore for conversion to the current version of Designer.

ObjectStore Software

ObjectStore software is required to convert previous versions of ADB (Actel Database) files created in Designer 3.1 and 3.0. If you have deleted ObjectStore and want to convert designs created with Designer 3.1 or 3.0, you must reinstall ObjectStore before design conversion. See “Installing ObjectStore” on page 3. After your old design files have been converted, you may remove ObjectStore.

System Requirements

Hardware Platform	Operating System
Sun™ SparcStation™	SunOS™ 4.1.3, 4.1.4 SunOS 5.4, 5.5 (Solaris 2.4, 2.5)
HP™ 9000 Series 700	HP-UX 9.0.1, 9.0.3, 9.0.5, 9.0.7, 10.0, 10.2

Resources	Recommended
Memory	32 MB
Disk Space (typical installation)	200 MB to 300 MB
Swap Space	100 MB
Local Temporary Disk-Clients Local Temporary Disk-Servers	10 MB (16 MB on HP) 5 MB each client running

Operating System Patches

The ObjectStore server interacts with a host's operating system at a level lower than many other applications and may be sensitive to operating system level bugs, particularly kernel bugs. Object Design, Inc., the company that created ObjectStore, works closely with hardware vendors to maintain an up-to-date list of required and recommended operating system patches. Patches are available from your hardware or operating system vendor (Sun or Hewlett Packard).

Getting Patches from the World Wide Web

Vendors of Actel-supported operating systems maintain World Wide Web sites that provide up-to-date information on operating system patches and offer downloads of the software patches. Vendor World Wide Web site URL addresses are shown in the table below.

Vendor	URL
HP	http://us.external.hp.com
Sun	http://www.sun.com/smi/Services.html

HP-UX Patches

For ObjectStore to work properly on HP-UX, you must have installed the HP-UX kernel patches, as shown in the table below.

Note: If you have Sun OS or Solaris, no patches are required.

Patch #	Release	Notes
PHKL_5048	9.01	Kernel Patch - Recommended
PHKL_6759	9.01	Kernel Patch - Required
PHKL_9868	9.03, 9.05, 9.07	Kernel Patch - Required

To obtain these patches from Hewlett Packard's web server, in your web browser, open the following URL:

http://us.external.hp.com/patches/html/ptc_hpux.html

Select **s700-9.X patches**, and enter a patch number from the table above, (for example, **PHKL_5048**), and click the search button. After the system has found the desired patch, read the patch description, and then download and install the patch.

Note: Instructions for installing the patch can be found on the Hewlett Packard web page.

The patch numbers listed in the table above reflect Hewlett Packard's most current patch level when this manual was written. If the patch number is not listed on the web site, do a search query for the patch to determine if it has been superseded by another patch.

You can find out what version of HP-UX is running by entering the following command:

```
# uname -r
```

You can determine which patches are installed by examining the `/etc/filesets` directory. The directory `/etc/filesets` on HP machines contains one file for each patch installed. You can also check for kernel patches by executing the following command:

```
# what /hp-ux | grep <patch_num>
```

Converting Designs

This chapter describes how to convert designs created in Designer versions 3.1 and earlier to the current version of Designer.

You should convert all designs to the new format. Software updates will be available only for the latest version of Designer.

3.1 and 3.0 Designs

To convert designs from Designer versions 3.1 and 3.0, open the old ADB file with the current version of Designer, and save. Once Designer 3.1 and 3.0 designs have been converted, they are no longer compatible with previous versions of Designer.

Note: Designs created with Designer 3.1 and 3.0 require ObjectStore for conversion to the current version of Designer. If you have deleted ObjectStore and need to install it, see “Installing ObjectStore” on page 3.

Pre-3.0 Designs

To convert pre-3.0 designs, open the ALS file in the current version of Designer, and save. Pre-3.0 designs are converted to the current version of Designer. Pre-3.0 ALS files are not deleted.

Note: Pre-3.0 designs do not require ObjectStore for conversion.

Installing ObjectStore

This chapter guides you through the installation procedure for ObjectStore software on SunOS and HP-UX workstations.

Designer 3.1 and 3.0 used the ObjectStore database scheme to keep track of design data. The current version of Designer uses a proprietary database scheme that eliminates the need for ObjectStore.

ObjectStore must be installed to convert 3.1 and 3.0 designs to be compatible with The current version of Designer. Once all designs have been converted, ObjectStore can be removed.

Installation

Install the ObjectStore software in a location other than your Actel Designer installation directory. Installing ObjectStore in a different directory will allow you to delete it later without affecting your Designer Series installation.

Perform the following steps to install the ObjectStore software from the CD-ROM.

- 1. Log in as root.** This should be the machine on which you plan to install the ObjectStore software. If the machine does not have a CD-ROM drive, log onto a machine that has a CD-ROM and that is NFS-accessible from the machine on which you wish to install the Designer Series software.
- 2. Create a mount-point directory for the CD-ROM, if it does not already exist, as follows:**

```
# mkdir /cdrom
```

- 3. Place the Designer Series distribution CD-ROM into the drive.**

Note: On SunOS 5 (Solaris) hosts, the volume manager mounts the CD-ROM automatically, so you can skip the next step.

4. Mount the CD-ROM as follows:

On SunOS 4, execute the following commands:

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

Note: SunOS 5 does not require a command to mount the CD-ROM.

On HP-UX, execute the following commands:

```
# mount -rt cdfs /dev/dsk/c201d2s0 /cdrom
```

Note: CD-ROM device names vary from machine to machine. You may need to adjust the mount command.

If the CD-ROM drive is not on the host on which you plan to install the Designer Series software, use NFS facilities to export the CD-ROM drive's mount point from its host. Then, mount the CD ROM directory on the host on which you plan to install the Designer Series software. For example:

On the host with the CD-ROM drive, execute the following command:

```
# /etc/exportfs -i -o ro /cdrom
```

On the host where you plan to install the ObjectStore software, execute the following command:

```
# mount <drive-host>:/cdrom cdrom
```

5. Run the Designer Series installation script:

On SUN, execute the following commands:

```
# cd /cdrom
# ./install.als
```

On HP-UX, execute the following commands:

```
# cd /cdrom
# ./INSTALL.ALS\;1
```

Note: You must install the software in a location that is accessible to the host or hosts in which you plan to run the ObjectStore server daemon.

6. **Enter the product installation code.** The install.als script will prompt you for the product installation code, as shown:

```
Initializing Designer Series Installation Script....
Please enter the product code. The product code can be
found on the CDROM case:
```

Use the following command as the installation code:

```
OS-WS
```

7. **Select the proper operating system.** The following example shows the installation script, that automatically detects which operating system you are using. You can override the default operating system selection. This feature allows you to install Designer Series software for several different platforms onto a network drive.

```
platforms:
1) SunOS 4.1.x
2) SunOS 5.x (Solaris 2.x)
3) HP-UX 9.x
Please enter a number (1-3) corresponding to the plat-
form on which you plan to run the software. [default
is 1]:
```

Note: The previous example was taken from a SunOS 4.1.x machine. The default value will be based on the platform from which you run *install.als*.

8. Enter the location where you wish to install the ObjectStore software.

```
Please enter the installation directory or press
return to accept the default [/usr/local/ostore]:
```

After accepting the installation option, the script will begin installing the selected components. A list of installed files is displayed, as shown in the following screen.

```
Installing Designer Advantage : in /usr/local/ostore
Installing Designer Advantage Core : in /usr/local/
ostore
x bin/install.alskey, 2557 bytes, 5 tape blocks
x bin/start_lmgr, 3450 bytes, 7 tape blocks.
```

After the files have been installed, the following script provides you with the values for the environment variables you need to set for each user environment. Be sure to note the values provided for `OS_ROOTDIR`, and (Sun workstation) `LD_LIBRARY_PATH`, or (HP-UX machine) `SHLIB_PATH`. You need these to configure the

ObjectStore server, and you need to include them in each user's environment.

```
Designer Series software has been installed in /usr/
local/ostore
Make sure that you set the following variables before
running Designer software.
ALSDIR = /usr/local/ostore
You have installed ObjectStore, in order to complete
this installation you need to run /usr/local/actel/
bin/osconfig and set
OS_ROOTDIR = /usr/local/ostore
LD_LIBRARY_PATH = [ to include /usr/local/ostore/lib
]
ODI_SERVER_DIR = [ to a local disk ]
Refer to the User Guide for more information about the
various variables to be set in order to run Designer
Software.
```

After you have installed the ObjectStore software, you must run the configuration procedures described in “Configuring ObjectStore” on page 8.

Note: After installing ObjectStore, you will be given the option of installing the Adobe Acrobat Reader software to read the on-line manuals. On-line manuals are included as PDF (Portable Document Format) files in the installation and on the CD-ROM.

If Acrobat Reader has already been installed, select “N.” If you wish to install Acrobat Reader, select “Y” and follow steps for installing Acrobat Reader.

Configuring ObjectStore

Perform the following steps to configure ObjectStore software.

1. **Log in as root on the machine where you plan to run ObjectStore.** ObjectStore configuration should be done as root.
2. **Set OS_ROOTDIR to point to the ObjectStore installation directory:**

```
# setenv OS_ROOTDIR <ObjectStoreDir>
```

3. **Set the dynamic library search path:**

On HP-UX, execute the following command:

```
# setenv SHLIB_PATH ${SHLIB_PATH}:$OS_ROOTDIR/lib
```

On Sun, execute the following command:

```
# setenv LD_LIBRARY_PATH  
${LD_LIBRARY_PATH}:$OS_ROOTDIR/lib
```

4. **Configure ObjectStore.** Run the following command:

```
# $OS_ROOTDIR/bin/osconfig
```

The following screen will appear.

```
The default copy of ObjectStore to configure is in  
/usr/local/ostore.  
Is this the copy that you want to configure? [yes]
```

- 5. Accept the default option if the directory listed is your OS_ROOTDIR (the ObjectStore directory).** If you wish to configure another ObjectStore installation, enter that path.

If you already have another ObjectStore server currently running, you must shut the server down before configuring the current installation, as shown in the following screen.

```
The server must be shut down before continuing with
this installation.
Shut down now? [yes]
```

After you shut down the server, the configuration process will continue.

- 6. Enter location of transaction log file.** The `osconfig` script will then ask you for the location of the transaction log file, as shown in the following screen. This file should reside on a disk that is physically attached (not nfs mounted) to your workstation.

```
Since you are using a file-database configuration,
you must give a pathname for the transaction log file.
Where do you want to put the transaction log
[/tmp/ossvrtxn.log]?
```

A good location for this file is your `$OS_ROOTDIR` directory. In this example a good pathname would be as follows:

```
/usr/local/ostore/ossvrtxn.log.
```

If you specify a remote disk, then that disk must be root accessible by your workstation. The transaction log file should not grow greater than 10 MB. **DO NOT DELETE THIS FILE.** ObjectStore uses this file to keep track of changes to open designs.

After you have specified the location of the transaction log file, the following screen appears.

```
You have configured this machine to run an ObjectStore
server. The server's transaction log is in /usr/local/
ostore/ossvvtxn.log.
Do you want to proceed? [yes]
```

Ostore will now create its configuration files, and the following screen appears.

```
Writing configuration files and initializing the
server, please wait...
960524 104725 ObjectStore Release 4.0.0.C.0 Database
Server
The ObjectStore server is running.
ObjectStore includes a server daemon which must be
running for any application to access an ObjectStore
database. It is recommended that you auto-start the
daemon via commands in your operating system startup
scripts. If you do not configure automatic startup,
you will have to start the server daemon by hand, or
re-run this utility to configure auto-start.
Would you like to configure automatic server startup
and shutdown? [yes]
```

- 7. Start the server.** Actel recommends that you accept the option to start the server automatically. If you accept this option, the `osconfig` script will configure your system to start ObjectStore automatically whenever the system boots.

At this point, your installation is complete for a stand-alone workstation. If you are installing on a network server, continue with the section ““Making Designer Available for Network Access”.”

Note: For more information on how to start and shutdown the ObjectStore server, see “Information About ObjectStore Server” on page 21.

Making Designer Available for Network Access

To allow remote clients to access the Designer Series Software, verify that the following conditions are met.

- The \$ALSDIR directory is visible to the client with read/execute permissions.
- The \$OS_ROOTDIR directory is visible to the client with read/execute permissions.
- A temporary (cache) directory is created on a disk that is physically connected (not nfs mounted) to the machine running the ObjectStore process.

The temporary directory should be visible to your clients and allow universal read/write access to the directory. This directory will be your ODI_SERVER_DIR. For more information on setting up the ODI_SERVER_DIR, see “ODI_SERVER_DIR” on page 21.

Note: For more information on how to start and shut down the ObjectStore server, see “Information About ObjectStore Server” on page 21.

Configuring the Designer Client

This chapter describes how to configure the Designer Series client after installing ObjectStore. Environment variables are listed in “Environment Variables” below, and the ObjectStore cache manager is described in “ObjectStore Cache Manager” on page 17.

Environment Variables

Proper operation of the Designer Series software with ObjectStore requires setting a few environment variables. These environment variables should be set in each user’s start-up files. Examples shown are for C-shell.

Required

The following are required environment variables:

ALSDIR

This is the location where the Designer software is loaded.

Example:

```
% setenv ALSDIR <DESIGNER_INSTALL_DIR>
```

LD_LIBRARY_PATH (only on Sun)

This is a colon-separated list of directories used when a program needs to find a dynamic linked library. You must add \$ALSDIR/lib and \$OS_ROOTDIR/lib to this variable. On HP machines, this variable is called SHLIB_PATH.

Example:

```
% setenv LD_LIBRARY_PATH ${LD_LIBRARY_PATH}:$OS_ROOTDIR/lib
```

SHLIB_PATH (only on HP)

This is a colon-separated list of directories used when a program needs to find a dynamic linked library. You must add \$ALSDIR/lib, \$OS_ROOTDIR/lib, and /usr/lib/Motif1.2 to this variable. On Sun machines, this variable is called LD_LIBRARY_PATH.

```
% setenv SHLIB_PATH ${SHLIB_PATH}:$OS_ROOTDIR/lib
```

ODI_SERVER_DIR

This is the temporary disk that is used by the server and the client. Each open design can require up to 5 MB of temporary space on this disk.

Example:

```
% setenv ODI_SERVER_DIR <SERVER'S_LOCAL_DISK>
```

WARNING:

This disk must be physically connected (not nfs mounted) to the host running the ObjectStore server daemon process. This disk must be mounted by the client (auto-mounted is ok). Do not use the server's /tmp directory because the server's /tmp directory is probably different than the clients /tmp directory.

OS_LOCATOR_FILE

This is the file that specifies which Objectstore server you are using. This variable is required for conversion.

Example:

```
% setenv OS_LOCATOR_FILE $OS_ROOTDIR/etc/locator
```

OS_ROOTDIR

This is the location where the ObjectStore software is loaded.

Example:

```
% setenv OS_ROOTDIR <OSTORE_INSTALL_DIR>
```

Optional

The following are optional environment variables:

OS_CACHE_DIR

This is the temporary directory used by the client (defaults to /tmp/ostore). Each client creates a cache file, of a size that is specified by the environment variable OS_CACHE_SIZE, inside this directory. After the client terminates, this file will be re-used by a new client.

Example:

```
% setenv OS_CACHE_DIR <CLIENT'S_LOCAL_DISK>
```

Set the variable if:

- You do not have enough temporary disk space. If this is the problem, then you might want to set OS_CACHE_SIZE instead.
- Your /tmp directory is using Sun's tempfs. Currently, Sun's tempfs does not support memory mapping which is crucial to ObjectStore. You must specify a non-tempfs disk.

WARNING:

If you specify another directory, Actel recommends that you specify a directory that is physically connected (not nfs mounted) to the client. Set the OS_COMMSEG_DIR to the same value as OS_CACHE_DIR. The ObjectStore Cache Manager must have root privileges on the OS_CACHE_DIR. If you use a remote disk, you are likely to have permission problems. For more information, see "Permission Problems" on page 18.

Note: The specified directory must exist.

OS_CACHE_SIZE

This variable sets the size of cache file (defaults to 8 MB) that is created by each client in the directory specified by the environment variable OS_CACHE_DIR. You can set this variable to 2 MB (2146304) if you are short of disk space.

Example:

```
% setenv OS_CACHE_SIZE 2146304
```

OS_COMMSEG_DIR

This is the temporary directory used by the client (defaults to /tmp/ostore). Each client creates a commseg file (approximate size of 256K¹) inside this directory. After the client terminates, this file will be re-used by a new client.

Example:

```
% setenv OS_COMMSEG_DIR <CLIENT'S_LOCAL_DISK>
```

Set the variable if:

- You do not have enough temporary disk space.
- Your /tmp directory is using Sun's tmpfs. Currently, Sun's tmpfs does not support memory mapping which is crucial to ObjectStore. You need to specify a non-tmpfs disk.

WARNING:

If you specify another directory, specify a directory that is physically connected (not nfs mounted) to the client. Set the OS_CACHE_DIR variable accordingly. The ObjectStore Cache Manager must have root privileges on the OS_COMMSEG_DIR. If you use a remote disk, you are likely to have permission problems. For information about possible reasons for permission problems, see "Permission Problems" on page 18.

Note: The specified directory must exist.

ALSTMPDIR

This variable allows you to specify which directory Designer uses for its data caching.

Example:

```
% setenv ALSTMPDIR /tmp
```

Note: Actel recommends that this variable be set to /tmp if you have sufficient disk space (approximately 5 MB) in that directory. Also, if /tmp is a tmpfs drive, Designer will access the data more quickly.

1. The HP version creates an 8 MB file.

Modifying your Path Statement

You must add the location where you installed the Designer software to your path variable. To specify your path, use the following command:

```
% set path = ($ALSDIR/bin $path)
```

ObjectStore Cache Manager

The ObjectStore cache manager is a daemon that services all ObjectStore clients on a given host. The first time an application using ObjectStore is started on a given host, the ObjectStore cache manager daemon is started on that host.

The cache manager creates temporary files, for the client, in the cache directory and the commseg directory. To specify different directories, see “OS_CACHE_DIR” on page 15 and “OS_COMMSEG_DIR” on page 16.

Checking the Status

You can check the cache manager status by typing the following command:

```
# $OS_ROOTDIR/bin/oscmstat
```

Starting

The cache manager is started when the first client using ObjectStore is run; therefore, you do not need to manually start the cache manager.

Shutting Down

You should not need to shutdown the cache manager; however, to shutdown the cache manager, do the following:

- 1. Check if anyone else is using the cache manager using the following command:**

```
# $OS_ROOTDIR/bin/oscmstat
```

- 2. Shut down the cache manager using the following command:**

```
# $OS_ROOTDIR/bin/oscmshtd
```

Removing Unused Files

Since unused cache and commseg files are re-used by new clients, you normally do not need to remove these files. However, if you want to remove unused cache and commseg files, type the following command:

```
% $OS_ROOTDIR/bin/oscmrf
```

Note: This command only works when the cache manager is running.

Permission Problems

In order to understand permission problems, you must first learn the role of the cache manager. The role of the cache manager is best illustrated by the following steps:

1. When the client first attempts to access persistent data, requests are made for a cache and commseg file from the cache manager.
2. The cache manager attempts to use existing files, but creates new files if needed.
3. The cache manager attempts to change the ownership of these files to the client application's owner.

The following sections describe specific permission problems and steps explaining how to correct the problems.

Local Cache and Commseg Directory

If you are using a cache and commseg directory that is physically connected (not nfs mounted) to the host that is running the *Designer* executable, then the only permission problem you could have is if the cache manager is not running as root. The following is a list of reasons why the cache manager would not be running as root and the options you have available.

- The `$OS_ROOTDIR/lib/oscmgr4` file is not owned by root or it's SUID bit is not set.

To check who owns cache manager and ensure that its SUID bit is set as follows:

```
% ls -lt $OS_ROOTDIR/lib/oscmgr4
% ls -lt $OS_ROOTDIR/lib/oscmnit
```

If the cache manager is owned by root and it's SUID bit is set, then the output from the above command should be similar to the following:

```
-r-sr-xr-x ... root ... oscmgr4
-r-sr-xr-x ... root ... oscmnit
```

To change ownership to root, set the following:

```
# chown root $OS_ROOTDIR/lib/oscmgr4
# chown root $OS_ROOTDIR/lib/oscmnit
```

To add the SUID bit, set the following:

```
# chmod u+s $OS_ROOTDIR/lib/oscmgr4
# chmod u+s $OS_ROOTDIR/lib/oscmnit
```

- The \$OS_ROOTDIR is on a remote (nfs mounted) disk that was nfs mounted with the non-default nosuid option. If this is the problem, the easiest way to solve the problem is to remove the nosuid option when mounting this disk.

\$ALSDIR/ADM/ CMGR3 (HP and SunOS 4 Only)

If you are using ObjectStore from Designer 3.1 and are converting Designer 3.0 designs, you must copy \$ALSDIR/adm/oslib/cmgr3 to \$OS_ROOTDIR/lib/cmgr3. Make sure it is owned by root and have the setuid bit set.

Remote (Mounted) Cache and Commseg Directory

If possible, you should use a local (not-mounted) disk for your cache and commseg directories. Although you can use a remote disk for the cache and commseg directories, it is not recommended for the following reasons:

- It defeats the purpose of a cache.

- There are potential memory mapping problems over NFS.
- The cache manager will attempt to change ownerships of the cache file. If the machine running the cache manager does not have root privileges on the cache directory, you will receive a permission error.

To give root permissions to another machine you can do the following:

- Give root access to specified host when exporting the disk. To do this, use the option “root=hostname[:hostname]...”.
- Use the option “anon=0” when exporting the disk.

Note: Both of these options create security risks.

Information About ObjectStore Server

This section gives you additional information on the following aspects of the ObjectStore Server, including:

1. The requirements for setting up the ODI_SERVER_DIR directory.
2. Starting and shutting down the server.
3. The information that is in the locator file and how to edit it.

ODI_SERVER_DIR

The Designer Series software requires a temporary disk area that is used by both the server and the client. Each open design can require up to 5 MB's of temporary space on this disk.

This disk should be physically connected (not mounted) to the machine running the ObjectStore server daemon process. This disk must be mounted by the client (auto-mounted is ok). In general, do not use "/tmp" because the servers "/tmp" is probably different than the clients' "/tmp". The absolute path on all the clients and the server must be exactly the same.

Once you determine which disk will be used, you need to make sure it is visible to all clients. This might require you to export the disk. The client will then use the ODI_SERVER_DIR variable to specify a directory on this disk.

Shutting Down the ObjectStore Server

To shut down the ObjectStore server, perform the following steps:

1. **Log in, as root, to the machine on which the ObjectStore server daemon you plan to shut down is running.**
2. **Use the following command to determine if anyone is currently using the ObjectStore server, and if so, notify them to exit:**

```
# $OS_ROOTDIR/bin/ossvrstat <host>
```

3. Checkpoint the ObjectStore server:

```
# $OS_ROOTDIR/bin/ossvrchkpt <host>
```

4. Shutdown the ObjectStore server:

```
# $OS_ROOTDIR/bin/ossvrshtd <host>
```

Starting the ObjectStore Server

Before starting the ObjectStore Server on a given host, you must have configured ObjectStore for that host. See “Configuring ObjectStore” on page 8.

- 1. Log in as root to the machine on which you want to start the ObjectStore server daemon.**
- 2. Start the ObjectStore server.**

```
# $OS_ROOTDIR/etc/start_servers
```

If the server does not start, see “Troubleshooting” on page 25.

Editing the Locator File

The locator file in `$OS_ROOTDIR/etc` stores network configuration information used by the ObjectStore server. If this file becomes corrupt it may be necessary to edit the locator file.

Note: In Designer 3.0 the locator file could become corrupted if `osconfig` is run multiple times. This is not a problem in Designer 3.1.1.

The following is a sample locator file:

Declaration of host machines.

Rule 1: Tells ObjectStore that if a file database is accessed on host "actel-oss-host" in the path "." (a wildcard), use the server-host "dilbert."

Rule 2: Tells ObjectStore that if a file database is accessed on the local machine, use the local server.

```
HOST dilbert unix
HOST actel-oss-host unix

FILE_HOST actel-oss-host
FILE_PATHNAME .+
SERVER_HOST dilbert
END

FILE_HOST @localhost
FILE_PATHNAME .+
SERVER_HOST @localhost
END
```

In the above example, the first few lines declare "hosts" which are machines that the locator mechanism will recognize.

A rule is essentially a mapping from a file name to an ObjectStore server. It maps the FILE_HOST and FILE_PATHNAME to the SERVER_HOST you specify.

The FILE_HOST is the machine that exports the disk partition you are using. FILE_PATHNAME is the name of the particular partition. "." is a wildcard, much like "?" on Unix, while the "+" means repeat the previous character 0 or more times. Consequently "."+ is the same as "*" on Unix.

SERVER_HOST informs ObjectStore which server is responsible for the particular file databases that match the FILE_HOST and FILE_PATHNAME pattern.

The second rule is essentially a classic client-server configuration. In this rule, the keyword "@localhost" is being used to specify that for any disk which is local to any machine, use that local machine as the server.

If multiple rules apply to a file-path, then the first possible matching rule is used.

In the above locator file, there is a FILE_HOST "actel-oss-host" that is a non-existing dummy name used to force the locator mapping of the first rule for Designer's file databases.

By using the dummy name “actel-oss-host,” we can make sure a centralized server is used for our application, overriding any analysis.

ObjectStore can make based on operating-system level calls to disk partitions to figure out the true host.

A locator file can be specified in several ways. It can be `$OS_ROOTDIR/etc/locator`, or you can explicitly set the variable `OS_LOCATOR_FILE` to point to the locator file to use.

Troubleshooting

This chapter describes various problems that may occur during installation of Designer, with descriptions of how to correct the problem.

ADB Could Not be Opened

The following error message may appear when converting a design from Designer version 3.1 or 3.0 if the conversion utility fails to recognize which version of Designer created the design. (This usually occurs with designs that were created with a beta version of Designer 3.1 or with designs which were converted to Designer 3.1 from Designer 3.0):

```
"<design>.adb" could not be opened, CvdbConvert returned
error: "<AdbSYS_Cannot_Convert_CvdbConvert_Failed:
AdbDesign:OpenDesign failed: CvdbConvert Failed, Error
Code: Cvdb_Rv_Cannot_Determine_Adb_Ver>".
```

To correct this problem, force Designer to recognize the design as a version 3.1 design by typing the following command:

```
% designer cvdb_force_version:adb_31 <design>.adb
```

If Designer returns the same error message, type the following command:

```
% designer cvdb_force_version:adb_30 <design>.adb
```

No Handler For Exception

The following are “No Handler for Exception” error messages:

File is not Local to this Server

The following error message appears if the “Allow Remote Database Access: Yes” does not appear in your server parameters file.

```
No handler for exception:
The file is not local to this server
re Database... while looking up file database...
```

To correct this problem, make sure that the line “Allow Remote Database Access: Yes” is in your server parameters file. If `$OS_ROOTDIR/etc/servername_server_parameters` does not exist in the servers parameters file, then the `$OS_ROOTDIR/etc/server_parameters` file is used instead.

Miscellaneous ObjectStore Error

The following are “No Handler for Exception - Miscellaneous ObjectStore Error” error messages:

Error During Initialization No Space Left on the Device

The following error message appears if the disk used by the cache manager does not have enough free space.

```
No handler for exception:
Miscellaneous ObjectStore error
<err-0025-0208> Error during initialization (from Cache
manager):...No space left on the device
```

To correct this problem, you can either free up disk space, instruct ObjectStore to use less disk space, or specify an alternate disk. To instruct ObjectStore to use less disk space or to specify an alternate disk, see “ObjectStore Cache Manager” on page 17.

**Error During Initialization
Not Owner**

The following error message appears if the cache manager, running as root, does not have root permission on the disk specified by the environment variables OS_CACHE_DIR and OS_COMMSEG_DIR.

```
No handler for exception:
Miscellaneous ObjectStore error
<err-0025-0208> Error during initialization (from Cache
manager):... Not Owner (errno = 1)...
```

To correct this problem, see “Remote (Mounted) Cache and Commseg Directory” on page 19.

Timeout (30 Secs) Waiting for Cache Manager Connection

The following error message appears if the cache manager is no longer listening for connections. This happens when one or more of its cache files are deleted while in use.

```
No handler for exception:
Miscellaneous ObjectStore error
<err-0025-0204> Timeout (30 secs) waiting for cache manager
connection. (err_misc)
```

To correct this problem, kill the cache manager process and restart Designer. To kill the cache manager process, first find its process number then kill that process number.

- 1. Find the process number.** Type the following command:

For HP-UX

```
% ps -elf | grep oscmgr
```

For Sun (Sun OS 4.1.x)

```
% ps -auxw | grep oscmgr
root      533  0.0  6.9 3420 2144 ?        S    May 24  0:03
/usr/actel/lib/oscmgr4 7
```

- 2. Kill the process using the process number from the above step (533 in this example).** Type the following command:

```
kill -9 <process #>
```

- 3. Re-invoke Designer.**

ObjectStore Internal Error

The following are “No Handler for Exception - ObjectStore Internal Error” error messages:

Fatal Error. Invalid Argument Error During fcntl to Lock File

The following error message appears if the ObjectStore cache manager is trying to use a “tmpfs” disk. ObjectStore cannot work on a “tmpfs” disk.

```
No handler for exception:
ObjectStore internal error
Fatal error. Invalid argument (errno = 22)
<main-0012-0092>Error during fcntl to lock file...
```

To correct this problem, use another disk. To use another disk, see “OS_CACHE_DIR” on page 15 and “OS_COMMSEG_DIR” on page 16.

Fatal Error. Not Enough Free Space mmap Failed

The following error message appears if you have not installed an operating system patch.

```
No handler for exception:
ObjectStore internal error
Fatal error. Not enough space (errno = 12)
mmap failed:... (err-internal)
```

To correct this problem, see “Operating System Patches” on page vii.

Fatal Error. Permission Denied Failed to Open the commseg File

The following error message appears if the ObjectStore cache manager is not running as root.

```
No handler for exception:
ObjectStore internal error
Fatal error. Permission denied (errno = 13)
Failed to open the commseg file,... (err-internal)
```

To correct this problem, you can either setup the ObjectStore cache manager to SUID to root or you can execute the cache manager as non-root with certain restrictions. For more information, see “Local Cache and Commseg Directory” on page 18.

Syntax Error in Locator File

The following error message appears if information in the locator file is incorrect.

```
No handler for exception.
Syntax error in locator file.
Error ERR-0025-0032 unexpected data at end of locator file
(ER_LOCATOR-SYNTAX)
```

To correct this problem, edit the `$OS_ROOTDIR/etc/locator` file. Keep the first three sections and remove the rest of the locator file. For information, see “Editing the Locator File” on page 22.

***Usual Error
Reported by
the Server
Host's File
System***

The following error message appears when Designer or ObjectStore is installed on an Auspex disk:

```
No handler for exception:  
Unusual error reported by the server host's file system  
(err = 0025-0191>  
re lseek cvdb31.sch=I/O error while looking up database  
cvdb31.sch  
(err-file-error)
```

To correct this problem, install the software on a non-Auspex disk.

No ObjectStore Server is Available for ODI_SERVER_DIR

The following error message appears if the ODI_SERVER_DIR environment variable does not specify a disk local to a host running the ObjectStore server.

```
ERROR: No ObjectStore server is available for
ODI_SERVER_DIR...
(code 103)
```

To correct this problem, make sure the ODI_SERVER_DIR is set to a disk local to a host running the server and that the server process is running. The local disk specified by ODI_SERVER_DIR must be physically attached to the machine which is running the ObjectStore process. Hard mounts are not considered local.

If ODI_SERVER_DIR is on a machine that is unable to run the server process (such as a fileserver machine), it is possible to reconfigure your \$OS_ROOTDIR/etc/locator file to support this situation. Before doing this, read the explanation of data propagation in “Reallocate the ObjectStore server transaction log” of the “*Cannot Start the ObjectStore Server with No Error Message*” section above. For more details on running a remote server for your ODI_SERVER_DIR, contact Actel Customer Applications Center. Refer to “Product Support” on page 39.

ObjectStore Server Daemon Fails to Start

If you are not able to start an ObjectStore server daemon on a given host, try the following:

1. **Ping the server.** Enter the following:

```
# $OS_ROOTDIR/bin/ossvrping <host>
```

If you receive the message that the ObjectStore server is alive, then the server is already started.

2. **Verify that the server is not running.** Enter the following:

For System V:

```
# ps -elf | grep osserver
```

For BSD Systems:

```
# ps -aux | grep osserver
```

If the server is running, then the server must be in a hung state. You must attempt to kill the server. You can try the following:

- Kill the server through ObjectStore. The command is:

```
# $OS_ROOTDIR/bin/ossvrshtd <host>
```

- Kill the server with the kill command. The command is:

```
# kill -9 <pid>
```

Once the server has been killed, you should then be able to start the server.

3. **Reallocate the ObjectStore server transaction log.** During normal operation, any data that is written to a file database may be cached into the server transaction log. This file acts both as a temporary cache as well as a recovery mechanism during server failure. If the ObjectStore server fails, upon restart, the server attempts to propagate the data from the transaction log to the file database(s).

On restart, the ObjectStore server is unable to associate a user-id with any data it has in the log, consequently it attempts to write data to file database as *root* on the host machine running the ObjectStore server. If this host machine does not have trusted-root access, the server may not be able to propagate the data. If this happens, the server will not recover and start-up successfully.

If this happens, you must reallocate the server transaction log. Any information inside the current transaction log will be lost.

Note: This will not occur if the `ODI_SERVER_DIR` variable points to a disk that is local to the host running the ObjectStore server.

To reallocate the log:

- Log in, as root, to the host in which you want to run the ObjectStore server daemon.
- Reallocate the log by entering the following:

```
# $OS_ROOTDIR/lib/osservr -ReallocateLog
```

You can do the following to prevent this from happening:

- Always set `ODI_SERVER_DIR` to a disk that is local to the host running the ObjectStore server daemon.
- Set `ODI_SERVER_DIR` to a remote disk which is on a host that gives the ObjectStore server host, as root, free reign to modify files regardless of who owns them.
- Make sure that `ODI_SERVER_DIR` is set to a remote disk that is exported from it's host machine with the `-o anon` flag to specify that a remote root is allowed root permissions on the exported disk.

Server Initialization Failed

The following “Server Initialization Failed” error messages may appear when you start the ObjectStore server.

Failed to Find a Server Parameter File

The following error message appears if the environment variable OS_ROOTDIR is not set to the location in which you installed the ObjectStore software.

```
Server initialization failed.  
Failed to find a server parameter file.  
...  
The required parameter file was not found; server startup  
abandoned.
```

To correct this problem, set the environment variable OS_ROOTDIR to the location in which you installed the ObjectStore software. See “Environment Variables” on page 13 for environment variable setups.

Log File Does Not Exist

The following error message appears if the ObjectStore server transaction log has been deleted.

```
Server initialization failed.  
The log file... does not exist.  
You need to create a new log file.
```

To correct this problem, use the following procedure to create an ObjectStore server transaction log:

1. **Log in, as *root*, to the host in which you are trying to start-up the ObjectStore server.**

2. **(optional)Set the dynamic library search path:**

For HP-UX:

```
# setenv SHLIB_PATH $SHLIB_PATH:$OS_ROOTDIR/lib
```

For Sun:

```
# setenv LD_LIBRARY_PATH $LD_LIBRARY_PATH:$OS_ROOTDIR/lib
```

3. **Reallocate the ObjectStore server transaction log.**

```
# $OS_ROOTDIR/lib/osservr -ReallocateLog
```

Note: Reallocating the log does not automatically start up the server process.

Unhandled Exception in Main

The following error message appears if you are not configuring the ObjectStore server on the host in which you are running ObjectStore.

```
Server initialization failed.  
Unhandled exception in main  
Exception message: Server password problem  
<err-0012-0024>...  
hostname_server_password to read server password(s): No  
such file or directory (err_server_password)
```

To correct this problem, configure the ObjectStore server on the host in which you are trying to run ObjectStore. For more information, see “Configuring ObjectStore” on page 8.

Server Not Responding Please Restart It

The following “Server Not Responding Please Restart It” error messages may appear when you start ObjectStore:

The Server Refused the Connection

The following error message appears if Designer cannot connect to the ObjectStore server.

```
Server not responding. Please restart it.  
The server refused the connection  
Attempted to connect to server on host,...  
(err_server_refused_connection)
```

To correct this problem, make sure that the server is running. Type the following command to check if the server is running:

```
# $OS_ROOTDIR/bin/ossvrping <host>
```

If server is not running, you need to start the server on the requested host. See “Starting the ObjectStore Server” on page 22.

The Specified Network Host Name Could Not be Resolved

The following error message appears if the OS_ROOTDIR environment variable is not set correctly.

```
Server not responding. Please restart it.  
The specified network host name could not be resolved to an  
address...
```

To correct this problem, make sure the OS_ROOTDIR environment variable is properly set. The command is:

```
# printenv OS_ROOTDIR
```

Verify that \$OS_ROOTDIR/etc/locator file exists and that this file contains the following text, with “servername” being the name of the server host you are using:

```
HOST servername  
FILE_HOST actel-oss-host  
FILE_PATHNAME.+  
SERVER_HOST servername  
END
```

Product Support

Actel backs its products with various support services including Customer Service, a Customer Applications Center, a fax back service, a Web and FTP site, electronic mail, and worldwide sales offices. This appendix contains information about using these services and contacting Actel for service and support.

Actel U.S. Toll-Free Line

Use the Actel toll-free line to contact Actel for sales information, technical support, requests for literature about Actel and Actel products, Customer Service, investor information, and using the Action Facts service.

The Actel Toll-Free Line is (888) 99-ACTEL.

Customer Service

Contact Customer Service for non-technical product support, such as product pricing, product upgrades, update information, order status, and authorization.

From Northeast and North Central U.S.A., call (408) 522-4480.

From Southeast and Southwest U.S.A., call (408) 522-4480.

From South Central U.S.A., call (408) 522-4474.

From Northwest U.S.A., call (408) 522-4434.

From Canada, call (408) 522-4480.

From Europe, call (408) 522-4474 or +44 (0) 1256 305600.

From Japan, call (408) 522-4252.

From the rest of the world, call (408) 522-4252.

Fax, from anywhere in the world (408) 522-8044.

Customer Applications Center

The Customer Applications Center is staffed by applications engineers who can answer your hardware, software, and design questions.

All calls are answered by our Technical Message Center. The center retrieves information, such as your name, company name, phone number and your question, and then issues a case number. The Center then forwards the information to a queue where the first available application engineer receives the data and returns your call. The phone hours are from 7:30 a.m. to 5 p.m., Pacific Standard Time, Monday through Friday.

The Customer Applications Center number is (800) 262-1060.

European customers can call +44 (0) 1256 305600.

Guru Automated Technical Support

Guru is a Web based automated technical support system accessible through the Actel home page (<http://www.actel.com>). Guru provides answers to technical questions about Actel products. Many answers include diagrams, illustrations and links to other resources on the Actel Web site. Guru is available 24 hours a day, seven days a week.

Action Facts

Action Facts is a 24-hour fax-back service that allows you to have technical literature faxed directly to you. The literature includes current applications notes, device diagrams, radiation testing reports, CAE-related documents, training release schedules, and much more.

To receive your free copy of the catalog or any of our literature, contact us at (800) 262-1062 or (408) 739-1588.

Web Site

Actel has a World Wide Web home page where you can browse a variety of technical and non-technical information. Use a Net browser (Netscape recommended) to access Actel's home page.

The URL is <http://www.actel.com>. You are welcome to share the resources we have provided on the net.

Be sure to visit the "Actel User Area" on our Web site, which contains information regarding: products, technical services, current manuals, and release notes.

FTP Site

Actel has an anonymous FTP site located at <ftp://ftp.actel.com>. You can directly obtain library updates, software patches, design files, and data sheets.

Electronic Mail

You can communicate your technical questions to our e-mail address and receive answers back by e-mail, fax, or phone. Also, if you have design problems, you can e-mail your design files to receive assistance. The e-mail account is monitored several times per day.

The technical support e-mail address is tech@actel.com.

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Index

A

Actel

- FTP Site 41
- Web Based Technical Support 40
- Web Site 41

Action Facts 40

C

Configuring the Designer Client 13

Contacting Actel

- Customer Service 39
- Electronic Mail 41
- Technical Support 40
- Toll-Free 39
- Web Based Technical Support 40

Converting

- 3.0 and 3.1 Designs 1
- Pre-3.0 Designs 1

Converting Databases 1

Customer Service 39

E

Electronic Mail 41

Environmental Variables

- ALSDIR 13
- LD_LIBRARY_PATH (only on Sun) 13
- ODI_SERVER_DIR 14
- OS_ROOTDIR 14
- SHLIB_PATH (only on HP) 14

Environmental Variables, Optional

- OS_CACHE_DIR 15
- OS_CACHE_SIZE 15
- OS_COMMSEG_DIR 16

I

Installing ObjectStore Server 3

Introduction v

N

Network Access, Making Designer Available for 11

O

ObjectStore Cache Manager 17

ObjectStore Server, information about 21

P

Patches

- Getting from the World Wide Web vii
- HP-UX viii

Path Statement, Modifying 17

Product Support 39–42

- Action Facts 40
- Customer Applications Center 40
- Customer Service 39
- Electronic Mail 41
- FTP Site 41
- Technical Support 40
- Toll-Free Line 39
- Web Site 41

T

Technical Support 40

Toll-Free Line 39

W

Web Based Technical Support 40