Chapter 8

Managing cadmin

Administering the CADMIN Object System

This chapter describes the administration of the *cadmin* object system. This object system provides utilities for system administration in the Indigo Magic user environment, which is available only on graphics workstations. If you do not have a graphics workstation, or if you do not have this environment enabled on your workstation, you cannot use this system.

The *cadmin* object system should be considered distinct from the *cadmin* tools it supports. Your primary resource for using the *cadmin* system administration tools is the *Personal System Administration Guide*. This chapter describes only the administration that can be performed on the *cadmin* software itself, not the use of the *cadmin* software to administer your system. Information about the *cadmin* system is also available in the *release notes* that came with your system (or your most recent system software upgrade) and through the *desktop help* utilities on your system.

Topics covered in this chapter include:

- A system overview of *cadmin*. See “The cadmin Object System” on page 132.
- Information on manipulating the cadmin system. See “Starting the cadmin Daemons” on page 133, and “Stopping the cadmin Daemons” on page 135.
- Troubleshooting the objectserver daemon. See “Troubleshooting the Objectserver” on page 138.
- Troubleshooting the directoryserver daemon. See “Troubleshooting the Directoryserver” on page 140.

The cadmin Object System

The *cadmin* system has been designed to provide useful system administration tools to the majority of system administrators using IRIX. The *cadmin* object system is a collection of daemon programs, which run in the background and provide software services to the tool utilities that the user sees. The *cadmin* object system includes the following major parts:

- "The Objectserver"
- "The Directoryserver"
- "The File Manager"
- "The Desks Overview"
- "The Media Daemon"
- "The Soundscheme Audio Server"

The Objectserver

The *objectserver* daemon handles requests for system resources such as disk drives, tape drives, and user accounts. The *objectserver* also modifies system files in response to adminstrator requests, such as for adding new users. See the *objectserver*(1M) reference page for complete information.

The Directoryserver

The *directoryserver* daemon maintains a database of all the managed objects (such as disks, tape drives, and CD drives) for all systems running an objectserver on the network. Most systems should not need to run an instance of this daemon. It should be sufficient to designate a single machine on each network to run this daemon. Very large networks may find it convenient to designate several systems to run the daemon. See the *directoryserver*(1M) reference page for complete information.

The File Manager

The graphical interface to the file system is an alternative to the IRIX shell for running applications and organizing information. It is similar to the WorkSpace(1G) application of past IRIX releases. For complete information, see the *fm*(1G) reference page.

The Desks Overview

The desks overview provides controls for manipulating IndigoMagic environment "desks." The overview is completely described in the *ov*(1X) reference page and can create, change, copy, rename, and delete desks. Windows can also be dragged from one desk to another or placed on the global desk.

The Media Daemon

The Media Daemon (described in the *mediad*(1M) reference page) monitors the removable media devices on a system. When a tape, CD, optical disk, removable hard disk, or floppy disk is inserted, *mediad* recognizes it and mounts it as a file system if possible. Some CDs (such as audio disks), and some tapes and floppies (for example, *tar*(1) floppies) are not mountable, and *mediad* brings up an appropriate tool. When a user issues the eject command, eject sends *mediad* a message which causes it to attempt to unmount the media and eject it.

The Soundscheme Audio Server

The audio cue server daemon (described in the *soundscheme*(1) reference page) provides high-level audio playback services for user applications. Based on the audio and audiofile libraries, *soundscheme* mixes and plays sounds on demand as requested by multiple client programs using a single audio port.

Starting the cadmin Daemons

The following list describes how each daemon in the *cadmin* object system is started. By default, all these daemons are started at boot time. If you have the *cadmin* system installed on your machine, you should not need to start these daemons manually. This information is provided in the event that someone has turned these daemons off or the software is not working properly.

objectserver The bootup script */etc/init.d/cadmin* checks the value of the *objectserver* variable with the *chkconfig* command at boot time. Use the *chkconfig*(1M) command if you need to check that this daemon is running or make a change to its status at the next boot.

To change the status of this daemon while the system is running, use the command script:

/etc/init.d/cadmin [**start** | **stop**]

directoryserver The bootup script */etc/init.d/cadmin* also checks the value of the *directoryserver* variable with *chkconfig* at boot time. Use the *chkconfig*(1M) command if you need to check that this daemon is running or make a change to its status at the next boot.

To change the status of this daemon while the system is running, use the command script:

/etc/init.d/cadmin [**start** | **stop**]

fm The File Manager is started by default on most systems. The existence of a file named *.desktop* or *.nodesktop* in a user's home directory causes the daemon to abort. If the File Manager is not running, it can easily be invoked by choosing the *Desktop* and then the *Home Directory* items from the Toolchest on your screen.

ov The Desktop Overview is controlled by the user through the Toolchest. Select the *Desktop* item on your toolchest and then the *Desks Overview* item.

bgdaemon The */usr/lib/X11/xdm/Xsession.dt* file sets the background daemon to be started at boot time. This can be prevented only by commenting out the appropriate line in the *Xsession.dt* file.

mediad The bootup script */etc/init.d/mediad* checks the value of the *mediad* variable with *chkconfig*(1M) at boot time or whenever the *mediad* script is invoked as a direct command. Use the *chkconfig*(1M) command if you need to check that this daemon is running or make a change to its status at the next boot.

To change the status of this daemon while the system is running, use the command script:

/etc/init.d/mediad [**start** | **stop**] *soundscheme* The */usr/lib/X11/xdm/Xsession.dt* file checks the value of the *soundscheme* variable with *chkconfig* at boot time. Use the *chkconfig*(1M) command if you need to check that this daemon is running or make a change to its status at the next boot.

Stopping the cadmin Daemons

From time to time, you may need to disable some parts of the *cadmin* object system. For example, to test new audio software, you may need to turn off the *soundscheme* daemon temporarily. The following sections describe how to disable the elements of the *cadmin* system safely, so that they can be easily restarted when necessary.

Stopping the Objectserver

To stop the *objectserver*, log in as *root* and issue the command:

```
/etc/init.d/cadmin stop
```

This stops the *objectserver* until you use the same script to restart the daemon with the *start* command.

If the *objectserver* daemons are not running, much of the administrative functionality is lost:

System Manager
The System Manager tool will not start up. If you select the System Manager, you see a message from the *chost* tool saying “Cannot communicate with <*hostname*>. Perhaps there is no objectserver available on this system.”

User Manager The User Manager also does not start up. When you first select the User Manager, it appears to be working correctly in that you see the message “Looking up user accounts. Please wait.” However, after some time a message appears from the *cpeople* tool saying “The network did not respond correctly. Please try again. If it still does not respond, see the section on Troubleshooting Network Errors in the online Personal System Administration Guide.”

Monitor Disk Space
: Monitor Disk Space does not work without the *objectserver*. If you attempt to select this service, the *cfile* tool gives this error message: "The network did not respond correctly. Please try again. If it still does not respond, see the section on Troubleshooting Network Errors in the Online *Personal System Administration Guide*."

Media Daemon
: The removable media device icons do not work in the absence of the objectserver. They show their generic icon on the desktop.

These tools will work again if you restart the *objectserver* with the *chkconfig* command and a reboot or the command:

```
/etc/init.d/cadmin start
```

Stopping the Directory Server

The most convenient way to stop the *directoryserver* is to log in as *root* and issue the following commands, in order:

```
/etc/chkconfig directoryserver off
/etc/init.d/cadmin stop
/etc/init.d/cadmin start
```

This directs the system not to run the *directoryserver* daemon, but keeps the objectserver running. If you do not run this daemon, some of the system administration tools will fail because they will not be able to collect information from remote systems.

These tools will work again if you restart the *directoryserver* with the *chkconfig* command and a reboot or the commands:

```
/etc/chkconfig directoryserver on
/etc/init.d/cadmin start
```

Stopping the File Manager

If you wish to stop the File Manager (*fm*) daemon from running, give the command:

```
/usr/lib/desktop/telldesktop quit
```

When you next log in, the File Manager will start up again automatically. Note though, that the File Manager can be started up at any time by choosing the *Desktop* item and then the *Home Directory* item from the System Toolchest menu or with the command:

```
/usr/sbin/fm -lrb
```

When the File Manager is not running, no icons appear on the main background window. You cannot drag icons from another location, such as the Icon Catalog, onto the main background. You do not have iconic access to system or network peripherals. For many users, the biggest repercussion of not running the File Manager is that there is no graphical access to the directory structure, especially the user's home directory.

Stopping the Desks Overview

To stop the Desks Overview daemon, select the Quit option from the pulldown menu in the upper left corner of the Overview window.

This kills the current instance of the Desks Overview. If the desktop updating mode (which is set in the *Desktop* Toolchest, *Customize* submenu, *Windows* item) is set to *explicit*, be sure to click on the *Set Home Session* button. This prevents the Desktop Overview from starting up when the user next logs in. Note that the Desks Overview can always be started by choosing *Desks Overview* from the *Desktop* Toolchest. The choice can be removed from the default */usr/lib/X11/system.chestrc* file if you choose, but any user can make a custom *.chestrc* file in their home directory and reinclude the option.

If the Desks Overview is not running, users can not switch between their desktops. The desktops are not removed, they are merely inaccessible.

Stopping the Media Daemon

To stop the media daemon (*mediad*), log in as *root* and issue the command:

```
/etc/init.d/mediad stop
```

This stops the media daemon until you use the same script with the *start* command to restart it. Note that if there are no devices suitable for monitoring, *mediad* exits.

If *mediad* is not running, the user must mount all removable media themselves. This would have a major impact on users who are not familiar with the mount process for CD ROM disks and floppies, which requires **root** privilege. Another problem is that there is no indication on the icon for the media drive to indicate what type of media is in the peripheral device. For instance, if *mediad* is running and there is an audio CD in the CD-ROM drive (and *cdman* is not running), there will be musical notes above and to the left of the CD-ROM icon.

Stopping the Soundscheme Daemon

The most convenient way to stop the Soundscheme Audio Server is to deselect the *Desktop Sounds* button on the Desktop Settings control panel.

Alternately, you can log in as *root* and issue the command:

```
killall /usr/sbin/soundscheme
```

To eliminate the Soundscheme Server when you next reboot, use the command:

```
chkconfig soundscheme off
```

This directs the system not to run the *soundscheme* daemon. You can also stop the *soundscheme* daemon by editing the *Xsession.dt* file as described for the Background daemon.

If you disable the soundscheme daemon, the user will get no audio cues when events take place on their systems. For instance, saving a new file does not result in a "beep" and moving an icon on the background is not accompanied by a "cymbal swish" sound.

Troubleshooting the cadmin Object System

Troubleshooting the Objectserver

The *objectserver* may require occasional troubleshooting, especially if new scripts and tools have added to the standard configuration. Suppose you see the following error message:

```
Can't contact objectserver
```

There are several steps you can take to restore the system to correct operation. Follow these steps in order:

Log into the system as **root**.

1. Make sure that two *objectserver* daemons are running. In a shell window, enter the command:

   `ps -ef | grep objectserver`

   You should see three lines of information. At the far right of these columns, you should see the following words:

   `/usr/Cadmin/bin/objectserver`

   `/usr/Cadmin/bin/objectserver`

   `grep objectserver`

   The last item is the *grep* command you just entered, and there should be two separate instances of the *objectserver*.

2. If you see no occurrences or only one occurrence of the *objectserver*, check to see if the *objectserver* configuration flag is on. In a shell window, enter the command:

   `chkconfig | grep objectserver`

   You should see the line:

   `objectserver on`

   Suppose the response that you see is:

   `objectserver off`

   Then you must turn on the *objectserver* by entering the command:

   `chkconfig objectserver on`

   Then cycle the *cadmin* init script by issuing the commands:

   `/etc/init.d/cadmin stop`

   `/etc/init.d/cadmin start`

3. Wait approximately 60 seconds and then reissue the command:

   `ps -ef | grep objectserver`

   Check the output to see that both *objectserver* daemons are running. If both required instances of the *objectserver* are running, the error message should no longer appear. If you see the message again, go on to the next step.

4. If two instances of the *objectserver* are running, but you still see the message:

   `Can’t contact objectserver`

   The *objectserver* database may be corrupted. You must stop the *objectserver* daemons, repair the database and then start the *objectserver* daemons again with the following commands:

   `/etc/init.d/cadmin stop`

   `/etc/init.d/cadmin clean`

   `/etc/init.d/cadmin start`

Troubleshooting the Directoryserver

If you are attempting to place an icon on your desktop from a remote system on your network and you receive an error message from the *directoryserver*, check the system with the following steps.

1. Locate the system that runs the directoryserver daemon.
2. Log into that system as **root**.
3. Make sure that the *directoryserver* is running. In a shell window, enter the command:

   `ps -ef | grep directoryserver`

   You should see two lines of information. At the far right of these columns, you should see the following words:

   `/usr/Cadmin/bin/directoryserver`

   `grep directoryserver`

   The second item is the *grep* command you just entered, and the other is the *directoryserver*.

4. If you see no indication of the directoryserver, check to see if the *directoryserver* configuration flag is on. In a shell window, enter the command:

   `chkconfig | grep directoryserver`

   You should see the following line:

   `directoryserver on`

   Suppose the response that you see is:

   `directoryserver off`

Then you must turn on the objectserver by entering the command:

chkconfig directoryserver on

Then cycle the *cadmin* init script by issuing the commands:

/etc/init.d/cadmin stop

/etc/init.d/cadmin start

5. Now wait approximately 60 seconds and then reissue the command:

   ps –ef | grep directoryserver

   Check the output to see that the directoryserver is running. If it is, the error message should no longer appear. If you see the message again, go on to the next step.

6. In the event of massive and irretrievable failure, issue the following commands:

   /etc/init.d/cadmin stop

   /etc/init.d/cadmin clean

   /etc/init.d/cadmin start

   Note that this series of commands will remove your cadmin database and it may take up to several days for the database to rebuild and repropagate itself.