

Installing mental ray

Version 3.6.51 for 3ds Max

Legal Notice

mental ray 3.6.51 for Autodesk 3ds Max 2009

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1

Setup and licensing

In this guide

Follow the instructions in this manual to install and license mental ray® 3.6.51.

This chapter gives an overview of the manual and how licensing works.

Chapters 2–4 give information on how to install and license mental ray 3.6.51:

- Chapter 2, “Installing mental ray for Windows” on page 7
- Chapter 3, “Installing mental ray for Linux” on page 23
- Chapter 4, “Installing mental ray for Mac OS X” on page 29

There is additional information on how to set up client machines and service ports in chapters 5 and 6.

- Chapter 5, “Setting up client machines” on page 37
- Chapter 6, “Editing service ports” on page 39

Overview of licensing

All customers must have a software license to run mental ray. A license is a coded record of your software purchase. The license resides in a *license file* on your machine or a license server machine. Whenever a mental ray session is launched, the *license management* software, SPM, searches the license file to check out a license for that session.

Types of licenses

Floating and client licenses

A floating license lets several users run mental ray from any computer on the same network. For example, if you install a license for five users on your network, up to five machines can run mental ray at one time.

1 | Setup and licensing

Additional setup >

Each user's computer—called a *client*—gets a floating license from a computer that serves licenses—called the *license server*. The license server can also serve itself a license. The mental ray license server requires a hardware lock (dongle) to run.

What licensing does

The licensing process creates the license file, if necessary, and adds your new mental ray license to the end of that file.

Additional setup

For additional setup, including how to make mental ray work in a network environment, see the online documentation for mental ray, including the Network Rendering guide.

- (Windows) “To view mental ray documentation” on page 20
- (Mac OS X) “To view mental ray documentation” on page 35
- (Linux) “To view mental ray documentation” on page 28

2

Installing mental ray for Windows

This chapter describes how to install and license mental ray version 3.6.51 for the Windows® XP Professional operating system (32-bit and 64-bit) and for the Windows 2000 Professional operating system (32-bit).

Installation requirements

The minimum requirements for running mental ray 3.6.51 are as follows:

Hardware requirements

To install and run mental ray 3.6.51, your workstation must have:

- (32-bit operating systems): Pentium® II or higher processor, 300 Mhz or greater
- (64-bit operating systems): Intel® processor with Intel® EM64T (Pentium® 4, Xeon™, Xeon MP) or AMD® processor with AMD64 (AMD Athlon™, AMD Opteron
- 256 MB or more available memory
- a network card
- a CD-ROM drive
- License server only: a hardware lock (dongle) and adapter cable
- License server only: an active and available serial port or USB port for the hardware lock

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Installing mental ray 3.6.51 >

Note

The mental ray licensing software (Software Protection Manager–SPM) and mental ray network rendering (rayserver) require open TCP ports on your machine in order to send and receive data across your network. By default, this data is sent on TCP ports 7050 and 7609.

If you choose to use TCP service ports other than 7050 and 7609 (for example, if your firewall blocks these ports), you must change the TCP service ports. You can change the port specification by editing files on the license server machine and the client machines after software installation. See “Editing service ports” on page 39.

Other requirements

A web browser is required to view the online mental ray documentation (Start > Programs > Autodesk > mental ray Standalone 3.6.51 for Max 2009 > Autodesk Mental Ray 3.6.51 Documentation).

Disk space requirements

Minimum: 32 MB for mental ray 3.6.51.

Note

You need at least 53 MB of free disk space for the installer to unpack the files.

Installing mental ray 3.6.51

Follow these instructions to install and license mental ray 3.6.51.

Prerequisite steps

- Stop 3ds Max and any license server processes, if running. See “To stop the SPM Licenser Server” below.
- Make sure you meet the “Installation requirements” on page 7.

Installing mental ray

- License server only: Install the hardware lock (dongle) on an available COM (serial) port.
- Obtain the mental ray 3.6.51 software CD from Autodesk or download mental ray from Autodesk.

To stop the SPM License Server

- Select Start > Settings > Control Panel > Administrative Tools > Services to open the Services window; in the Services window, scroll to find the SPM License Manager, right-click it and select Stop.

To install mental ray 3.6.51

- 1** Insert the mental ray software CD into the target machine or double-click the downloaded file.

Note

If the installation window does not open automatically when you insert the CD-ROM, then open Windows Explorer®, open the CD-ROM drive, double-click the Windows or Windows 64 folder and then double-click the `setup.exe` file.

The installation begins.

- 2** Review the License Agreement window; read the license agreement, and accept or do not accept the terms and conditions. (If you don't accept the terms and conditions, the installation does not continue.) Then click Next.
If you have a previous version of mental ray 3.6.51 installed, such as beta version, the Program Maintenance dialog box may appear. If so, select Remove and click Next. Then click Remove to uninstall the product and click Finish when done.
Both the mental ray software and the SPM (licensing) software are installed, one after the other.
The Setup Type screen appears.
- 3** Select either the Complete or Custom setup option and click Next to continue.

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Licensing mental ray 3.6.51 >

If you select Custom, the Custom Setup window appears. You can specify another drive or path for the installation (the default is `C:\Program Files\Autodesk\mrstand3.6.51-max2009`).

If the Disk Space window appears automatically you do not have enough disk space on your system (usually C:) or target drive. A minimum of 53 MB must be free on your system drive (usually C:) in order for the installation to unpack the files. Free up space on the appropriate drive and continue with the installation.

- 4** The Ready to Install screen appears. Click Install to install mental ray 3.6.51.
- 5** Click Finish when prompted that the installation is complete.
The installation of the SPM licensing utilities begins.
- 6** When the Welcome screen appears, click Next.
The Ready to Install screen appears.
- 7** Click Install and the installation begins. At the conclusion of the installation, click Finish. You may be able to launch the licensing tool for SPM (see the next section).

Licensing mental ray 3.6.51

You license mental ray 3.6.51 by requesting a license. On Windows, the Product Configuration Wizard leads you through a series of questions to set up your license request and then, on all platforms, you must use the Autodesk mental ray activation form at www.autodesk.com/mentalrayactivation.

In response, Autodesk sends you an e-mail, fax, or mail containing the license information.

Once you receive the license, you copy the license, then run the Product Configuration Wizard licensing tool to insert the license into the permanent license file. See “Installing the license” on page 14.

Obtaining a license

To obtain your license, you must send a request to Autodesk with your request code (system ID), host name and key level, as well as the products you want to license.

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Licensing mental ray 3.6.51 >

To obtain a license

- 1 Select Start > Programs > Autodesk > MentalRay SPM 3.6.51 > Autodesk Mental Ray SPM Licensing tool 3.6.51.

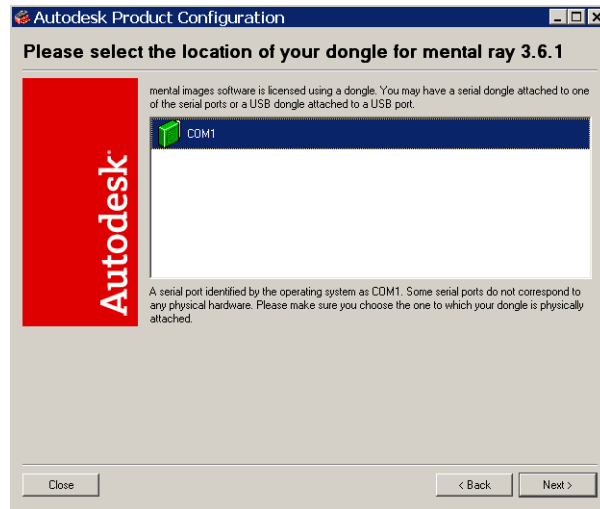
The Product Configuration Wizard appears.



- 2 Select “I need to request a license for mental ray 3.6.51” and click Next.
The dongle (hardware lock) configuration screen appears.

2 | Installing mental ray for Windows

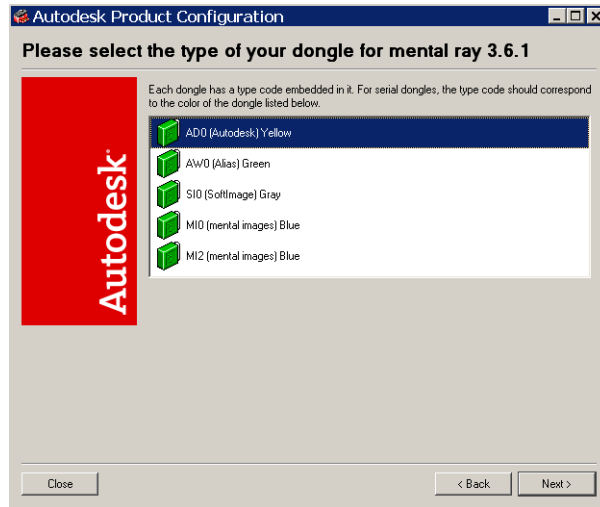
Licensing mental ray 3.6.51 >



- 3 Select the location of the dongle you have and click Next.
The type of dongle (hardware lock) screen appears.

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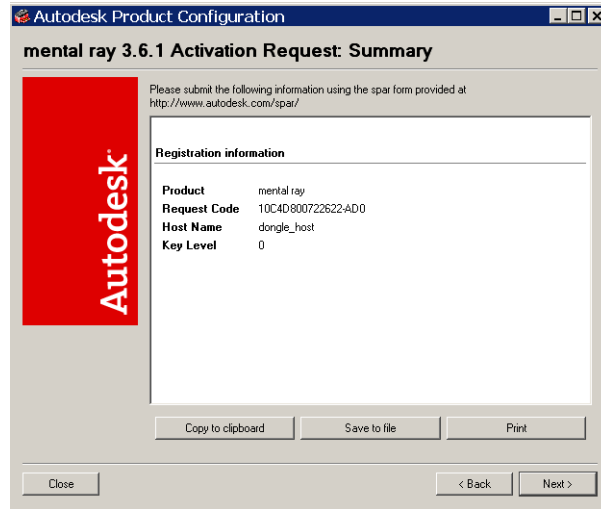
[Licensing mental ray 3.6.51](#) >



- 4 Select the color (type code) of your dongle from this screen, and click Next. The Product Configuration Wizard checks your dongle (hardware lock) and generates licensing information. You can copy this information to the clipboard, save it to a file, or print it.

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Licensing mental ray 3.6.51 >



You will need this information when you request a license using the Autodesk mental ray activation form.

If you did not record this information, you can obtain it again by running the Product Configuration Wizard.

- 5 Open a browser and go to:
www.autodesk.com/mentalrayactivation

Click through to English/ mental ray activation form, and fill out the form using the information obtained from the Product Configuration Wizard.

- 6 Once you click Submit, your license activation request is sent to Autodesk, and a license will be returned to you via e-mail.

Installing the license

For floating licenses, perform the following steps on the machine that serves the licenses in your facility. For client machines accessing floating licenses, see (Windows) "Setting up a floating client machine using the Product Configuration Wizard" on page 18 or (Linux, Mac OS X) "Setting up client machines" on page 37.

Installing mental ray

Prerequisites

- You should have already obtained a license from Autodesk. If not, refer to “Obtaining a license” on page 10 above.
- Ensure you have Administrator privileges.

To license mental ray 3.6.51

- 1 If necessary, select Start > Programs > Autodesk > MentalRay SPM 3.6.51 > Autodesk Mental Ray SPM Licensing tool 3.6.51. The Product Configuration Wizard may already be open from the previous steps.

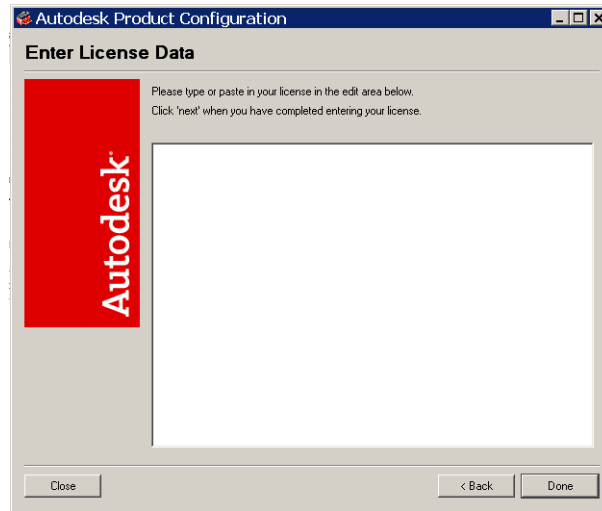
The Product Configuration Wizard appears.



- 2 Select “I need to install a license for mental ray 3.6.51”, and click Next. The Enter License Data screen appears.

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Licensing mental ray 3.6.51 >



- 3** Cut and paste the license you received from Autodesk into the text box.
- 4** Click the Next button.
The mental ray 3.6.51 License Installer program installs the license into the appropriate location on your machine.
- 5** Continue with “Additional setup for floating licenses” below, if necessary.

Additional setup for floating licenses

After installing a floating license, you should restart/start the license server machine. If you choose not to do this, then use the following procedure to restart/start the license server machine manually: “To set options and start the license server daemon” on page 17.

This procedure is not necessary for client machines accessing their licenses from a license server machine. For more information on client machines, see “Setting up a floating client machine using the Product Configuration Wizard” on page 18 (Windows), or “Setting up client machines” on page 37 (Linux, Mac OS X).

The software installer automatically installs the license server daemon: SPM License Server as a Service.

To set options and start the license server daemon

- 1 To start this service do one of the following:
 - Reboot your server machine.
 - Start the SPM License Server using the Service Manager. Select Start > Settings > Control Panel > Administrative Tools > Services to open the Service Manager window, and then, in the Service Manager, scroll to find the SPM License Server, right-click it and select Start.

- 2 To verify whether the license server installation has succeeded, type the following at the Command Prompt:

- (Windows 2000) `C:\WINNT\system32\spm\spmstat -KD`
- (Windows XP) `C:\Windows\system32\spm\spmstat -KD`

A message like this should appear:

```
SPM-daemon on <hostname>:  
License from Autodesk:  
License name version lic# used beg_date end_date cpu# type
```

where <hostname> is the name of your server machine. The information listed should be consistent with what you purchased from Autodesk.

- 3 If the machine was already running the SPM License Server when the new mental ray 3.6.51 licenses were installed, you will need to restart the SPM License Server in order to make the new licenses available. Restart the SPM License Server by rebooting your machine or stop and restart the SPM License Manager from the Service Manager.
- 4 Run mental ray to confirm the installation. See “Starting mental ray 3.6.51” on page 19.

If you receive an SPM error, read the error carefully. If you cannot troubleshoot the SPM error please send the error and the output to Support Services.

Setup is now complete for floating license servers.

For client machines accessing their licenses from a floating license server, continue with (Windows) “Setting up a floating client machine using the Product Configuration Wizard” on page 18 or (Linux, Mac OS X) “Setting up

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Setting up a floating client machine using the Product Configuration Wizard >

client machines” on page 37. (If you want to run mental ray on your floating license server you also need to set up the floating license server as a client machine using these instructions.)

Setting up a floating client machine using the Product Configuration Wizard

Note On Windows Vista, you must run the Product Configuration Wizard as an administrator.

- 1 If necessary, select Start > Programs > Autodesk > MentalRay SPM 3.6.51 > Autodesk Mental Ray SPM Licensing tool 3.6.51. The Product Configuration Wizard may already be open from the previous steps.

The Product Configuration Wizard appears.

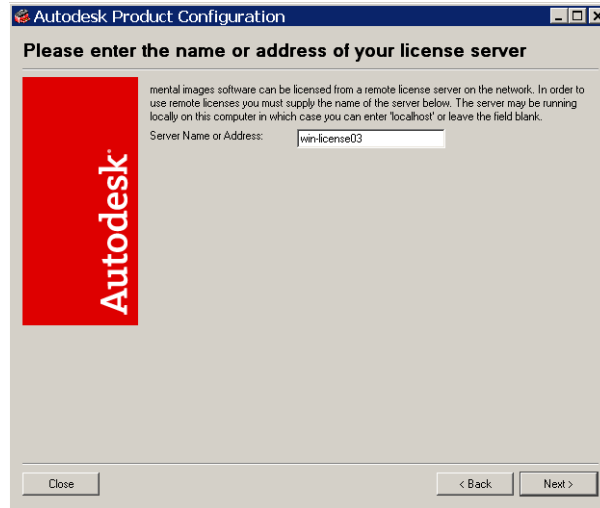


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Starting mental ray 3.6.51 >

- 2 Select “I need to set this computer up as a floating client for mental ray 3.6.51”, and click Next.

The license server address screen appears.



- 3 Enter the name of the mental ray license server machine in the text box and click Next.

(The server may be running locally on the current computer, in which case you can enter localhost or leave the text box blank.)

A screen appears telling you that the license server information has been updated. You are also prompted to restart mental ray processes. Additionally, you can re-open the Product Configuration Wizard.

Starting mental ray 3.6.51

mental ray can be started from a command line using the `mentalrayrender` command in the Command Prompt window, for example:

```
mentalrayrender myscene.mi
```

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[Troubleshooting mental ray installation on Windows](#) >

For more information about mental ray 3.6.51, please see the online mental ray reference guide.

To view mental ray documentation

- Select mental ray documentation from the mental ray Program Group (Start > Programs > Autodesk > mental ray Standalone 3.6.51 for Max 2009 > Autodesk Mental Ray 3.6.51 Documentation).

Troubleshooting mental ray installation on Windows

This section describes issues you may encounter when installing mental ray 3.6.51 on the Windows operating system.

mental ray SPM Licensing tool window is blank

On the Windows XP, 64-bit operating system, when you start the mental ray SPM Licensing tool (Start > Programs > Autodesk > MentalRay SPM 3.6.51 > Autodesk Mental Ray SPM Licensing tool 3.6.51) the Product Configuration Wizard may appear blank.

If this occurs, uninstall the Autodesk Mental Ray Standalone 3.6.51 Licensing tool with the Windows Add and Remove Programs. Then reinstall the licensing tool from the CD (see “Installing mental ray 3.6.51” on page 8).

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[Troubleshooting mental ray installation on Windows >](#)

2 | Installing mental ray for Windows

[Troubleshooting mental ray installation on Windows](#) >

3 Installing mental ray for Linux

This chapter describes how to install and license mental ray 3.6.51 for Linux.

Installation requirements

The minimum requirements for running mental ray 3.6.51 on Linux are as follows.

Hardware requirements

To install and run mental ray 3.6.51, your workstation must have:

- (32-bit) Pentium II or higher processor, 300 Mhz or greater
- (32-bit) Qualified operating system. For information on supported Linux distributions, see www.autodesk.com/qual-charts
- (64-bit) Intel® processor with Intel® EM64T (Pentium® 4, Xeon™, Xeon MP) or AMD® processor with AMD64 (AMD Athlon™, AMD Opteron™)
- (64-bit) Operating system with an x86_64 distribution. For information on supported Linux distributions, see www.autodesk.com/qual-charts
- 256 MB or more available memory
- a CD-ROM drive
- For license server only: a hardware lock (or dongle) and adapter cable

Note

The mental ray licensing software (Software Protection Manager (SPM)) and mental ray network rendering (rayserver) require open TCP ports on your machine in order to send and receive data across your network. By default, this data is sent on TCP ports 7050 and 7609.

If you choose to use TCP service ports other than 7050 and 7609 (for example, if your firewall blocks these ports), you must change the TCP service ports. You can change the port specification by editing files on the license server machine and the client machines after software installation. See “Editing service ports” on page 39.

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Disk space requirements

Minimum: 21 MB for mental ray 3.6.51.

Note You need at least 30 MB of free disk space for the installer to unpack the files.

Other requirements

A Web browser is required to view the online documentation.

Installing mental ray 3.6.51

Follow these instructions to install mental ray 3.6.51. At the end of the installation proceed with licensing. See “Licensing mental ray 3.6.51” on page 25.

Prerequisite steps

- Stop 3ds Max.
- Stop any SPM license server processes by typing:

```
/var/spm/spmstat -ci
```

For more information about spmstat, type `/var/spm/spmstat -h`.
- Make sure you meet the “Installation requirements” on page 23.

To install mental ray using RPM

- 1** Log in as root.
- 2** Insert the mental ray CD into a CD-ROM drive.
- 3** Mount the CD-ROM drive. For example, type:

```
mount -r /dev/cdrom /mnt/cdrom
```
- 4** Change to the CD-ROM directory. For example, type:

```
cd /mnt/cdrom
```

Installing mental ray

5 Use the `ls` command to list the packages on the CD.

Package Name (# is the package number)	Description	When Required
(32-bit) mental_ray-3.6.51-#.i686.rpm (64-bit) mental_ray-3.6.51-#.x86_64.rpm	mental ray 3.6.51 software	Always
(32-bit) mental_ray_SPM_utilities-1.1.11-#.i686.rpm (64-bit) mental_ray_SPM_utilities-1.1.11-#.x86_64.rpm	SPM licensing software	Always

6 To install mental ray, enter the following command:

```
rpm -ivh <package name>
```

7 To install SPM utilities, enter the following command:

```
rpm -ivh <SPM package name>
```

8 The files are installed in the following directory:

```
/usr/autodesk/mrstand3.6.51-max2009
```

Once the mental ray software is successfully installed, unmount and eject the CD and store it in a safe place.

Licensing mental ray 3.6.51

You license mental ray 3.6.51 by requesting a license. You must use the Autodesk mental ray activation form at www.autodesk.com/mentalrayactivation.

In response, Autodesk sends you an e-mail, fax, or mail containing the license information.

- Once you receive the license, you save the license in a temporary file, then run the License mental ray program to insert the license into the permanent license file.

3 | Installing mental ray for Linux

Licensing mental ray 3.6.51 >

See “Installing a license” on page 26.

Obtaining a license

To obtain your license you must send a request to Autodesk with your machine information.

To obtain a license

- 1 After you have installed the mental ray software, log in as root and run the following:

```
/var/spm/spm_key -c
```
- 2 Read and record your machine information.
- 3 Launch your Internet browser, complete the online mental ray activation form at www.autodesk.com/mentalrayactivation and click Submit.

Installing a license

For floating licenses, perform these steps on the machine that will run the license server process.

To install a mental ray license

- 1 You should have already obtained a license from Autodesk. If not, refer to “Obtaining a license”.
- 2 Save the license file as a text file in an accessible location; for example, `my_license`.
- 3 Log in as root.
- 4 Type the following command:

```
/var/spm/spm_key -x <path_to_license_file>/my_license
```

The license is installed into the appropriate location on your machine.

Continue with “Additional setup for floating licenses” on page 27.

Troubleshooting SPM

If you get `FATAL ERROR (/var/spm/spm_key) : Error while checking protection system while requesting a license`, use the instructions below to resolve it.

To resolve `FATAL ERROR (/var/spm/spm_key) : Error while checking protection system`

- 1 Open a shell window.
- 2 Type `/etc/init.d/spm start`

If you get a message like the one below, then re-request your license information.

```
SPM kernel module (spmkmmod.smp.24) loaded.
SPM daemon started.
```

Additional setup for floating licenses

The following steps must be performed on floating servers. These steps are not necessary for floating client machines. For more information on client machines, see “Setting up client machines” on page 37.

To set up options and start the license server daemon

- 1 Set the following environment variable manually by typing:

```
setenv SPM_HOST <your_license_server>
```

where `<your_license_server>` is the name of your license server machine.

- 2 Verify the license server installation by typing:

```
/var/spm/spmstat -KD
```

You should get a message that looks like this:

```
SPM-daemon on '127.0.0.1':
License from Autodesk:
License name version lic# used beg_dateend_datecpu#type
```

The information in the message should be consistent with what you purchased from Autodesk.

If the SPM-daemon is still not running, start it (as superuser):

```
/var/spm/spmd
```

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Starting mental ray 3.6.51 >

- 3 If the SPM License Server (the spmd daemon) was already running when you installed new licenses, restart the SPM License Server (as superuser) by rebooting your server machine or by typing `/var/spm/spmd`.

Note

For systems that will be serving licenses, but not running mental ray, the licensing setup is complete. Continue with “Setting up client machines” on page 37 for all other machines.

Starting mental ray 3.6.51

mental ray can be started from a command line using the `mentalrayrender` command in a shell, for example:

```
/usr/autodesk/mrstand3.6.51-max2009/mentalrayrender myscene.mi
```

For more information about mental ray 3.6.51, see the online mental ray reference guide.

To view mental ray documentation

- 1 In the shell window, type:

```
cd /usr/autodesk/mrstand3.6.51-max2009/doc
```

- 2 Then type the command line to start your browser followed by `index.html`, for example:

```
netscape index.html
```

The default browser is launched and the mental ray online help home page is displayed.

You may want to bookmark this location in your browser for future reference.

4 Installing mental ray for Mac OS X

This chapter describes how to install and license mental ray® version 3.6.51 for Mac® OS X.

Installation requirements

The minimum requirements for running mental ray 3.6.51 on Mac OS X are as follows.

Hardware requirements

To install and run mental ray 3.6.51, your workstation must have:

- At least a 450 MHz G4 processor
- a network card
- a CD-ROM drive
- License server only: a hardware lock (dongle)
- License server only: an active and available USB port for the hardware lock

Note

Do not remove a dongle when the floating license server is running as it may corrupt the Software Protection Manager (SPM) software.

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Installation requirements >

Note

The mental ray licensing software (Software Protection Manager (SPM)) and mental ray network rendering (rayserver) require open TCP ports on your machine in order to send and receive data across your network. By default, this data is sent on TCP ports 7050 and 7609.

If you choose to use TCP service ports other than 7050 and 7609 (for example, if your firewall blocks these ports), you must change the TCP service ports. You can change the port specification by editing files on the license server machine and the client machines after software installation. See “Editing service ports” on page 39.

Operating system and user accounts

- A qualified version of Mac OS X. For information on supported versions, see www.autodesk.com/qual-charts
- An administrator account with a password on your computer to install mental ray. You do not need to be an administrator to use mental ray once it is installed.

Other requirements

A web browser is required to view the online documentation.

Disk space requirements

Minimum: 22 MB for mental ray 3.6.51

Note

You need at least 30 MB of free disk space for the installer to unpack the files.

Installing mental ray 3.6.51

Follow these instructions to install mental ray 3.6.51. When you are ready to license mental ray 3.6.51, see “Licensing mental ray 3.6.51” on page 32.

Prerequisite steps

- If you had a previous version of mental ray installed, you will need to stop any SPM license server processes by typing:

```
sudo /var/spm/spmstat -Ci
```

For more information about sudo, see “Using sudo” on page 33.
For more information about spmstat, type `/var/spm/spmstat -h`.
- Make sure you meet the “Installation requirements” on page 29.
- For license server only: Install the hardware lock (dongle) on an available USB port. See “To attach the dongle” on page 33.

To install mental ray 3.6.51

- 1** Insert the mental ray software CD into the target machine and open the `MacOSX` folder, or double-click the downloaded file.
- 2** Double-click `mentalray3.6.51.dmg` (if necessary).
- 3** When the mental ray 3.6.51 disk image mounts, double-click the mental ray installer icon.
- 4** The Software License Agreement appears. Read the information and click Continue to accept the agreement.
- 5** The Select a Destination window appears. The mental ray software is always installed to the default location.
- 6** The customize install screen appears. You may customize your installation, or select Install to proceed with the installation.
- 7** You may be prompted for an administrator password. Enter your user ID and password and then click OK.

When the installation is finished the Install Complete dialog box appears.

4 | Installing mental ray for Mac OS X

[Licensing mental ray 3.6.51](#) >

To install SPM License Utilities

- 1** Insert the mental ray software CD into the target machine and open the MacOSX folder, or double-click the downloaded file.
- 2** Double-click `mentalray3.6.51.dmg` (if necessary).
- 3** When the mental ray 3.6.51 disk image mounts, double-click the spm installer icon.
- 4** The Software License Agreement appears. Read the information and click Continue to accept the agreement.
- 5** The Select a Destination window appears. The mental ray software is always installed to the default location.
- 6** The customize install screen appears. You may customize your installation, or select Install to proceed with the installation.
- 7** You may be prompted for an administrator password. Enter your user ID and password and then click OK.

When the installation is finished the Install Complete dialog box appears.

Licensing mental ray 3.6.51

You can license mental ray 3.6.51 by requesting a license. You must use the Autodesk mental ray activation form at www.autodesk.com/mentalrayactivation. In response, we send you an e-mail, fax, or mail containing the license information.

- See “Obtaining a license” on page 33.

Once you receive the license, you save the license in a temporary file, then run the License mental ray program to insert the license into the permanent license file.

- See “Installing a license” on page 34.

Using sudo

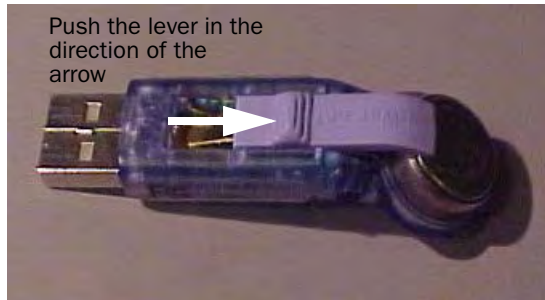
In the following section, you're going to use `sudo`—the special Mac OS X command that executes other commands with the highest level of user permissions—to execute certain commands as root. You must authenticate `sudo` each time you use it. The following commands must be run by someone who has administrator privileges on the machine.

Obtaining a license

You must request a license from Autodesk, but first you must attach the dongle. Some older dongles require you to push a lever to get power to the dongle.

To attach the dongle

- 1 Attach the dongle to any available USB port on your system.
- 2 (On some models.) Push the lever on the dongle so that it makes contact with the battery.



To obtain a license

- 1 After you have installed the mental ray and SPM software, log in to an account with administrator privileges.
- 2 Open a Terminal window and type:

```
sudo /var/spm/spm_key_ib -c
```

Enter the password when prompted.

4 | Installing mental ray for Mac OS X

Licensing mental ray 3.6.51 >

Tip Reboot your computer with the dongle attached if you get an error.

- 3 Read and record your machine information.
- 4 Get a license by launching your Internet browser and completing the online mental ray activation form at www.autodesk.com/mentalrayactivation

Installing a license

For floating licenses, perform these steps on the machine that will run the license server process.

To install a mental ray license

- 1 You should have already obtained a license from Autodesk. If not, refer to “Obtaining a license” on page 33.
- 2 Save the license file as a text file in an accessible location; for example, `my_license`.
- 3 Log in to Mac OS X using an account with administrative access.
- 4 In a Terminal window, type:

```
sudo /var/spm/spm_key_ib -x <path_to_license_file>/my_license
```
- 5 Continue with “Additional setup for floating licenses” on page 34..

Additional setup for floating licenses

After installing a floating license, we recommend that you restart/start the license server machine.

To start the SPM license server, use the following command:

```
sudo SystemStarter -vd start mi-spm
```

(For more information on client machines, see “Setting up client machines” on page 37.)

Once you have restarted, verify the license server installation by typing:

```
sudo /var/spm/spmstat -KD
```

Installing mental ray

You should see a message that looks like this:

```
SPM-daemon on '127.0.0.1':  
License from Autodesk:  
License name version lic# used beg_dateend_date cpu#type
```

The information in the message should be consistent with what you purchased from Autodesk.

For more information about `spmstat`, type `/var/spm/spmstat -h`.

For systems that will be serving licenses, but not running mental ray, the licensing setup is complete. Continue with “Setting up client machines” on page 37 for all other machines.

Starting mental ray 3.6.51

mental ray can be started from a command line using the `mentalrayrender` command in the Terminal window, for example:

```
/Applications/Autodesk/mrstand3.6.51-max2009/bin/mentalrayrender  
myscene.mi
```

For more information about mental ray 3.6.51, please see the online mental ray reference guide.

To view mental ray documentation

- 1 Navigate to the `Applications` folder in Mac OS X, and in the `Autodesk` folder, open the `mentalray3.6.51` folder.
- 2 Double-click `index.html` within the `docs` folder. Your default Web browser is launched and the mental ray online library appears.

You may want to bookmark this location in your browser for future reference.

4 | Installing mental ray for Mac OS X

Starting mental ray 3.6.51 >

5

Setting up client machines

Setting up client machines

To set up a Windows client, see “Setting up a floating client machine using the Product Configuration Wizard” on page 18.

For Linux or Mac OS X clients, you need to install mental ray on each client machine and set some environment variables.

To do so, you may need to edit the `rayd` file in the mental ray 3.6.51 `bin` directory. Fill in the name of your SPM License server and uncomment the `setenv SPM_HOST` line. This file may not be modifiable unless you have administrative privileges.

In order for the `SPM_HOST` environment variable to be picked up by the server, you may need to reboot your machine.

To set up Linux or Mac OS X client machine environment variables

- 1 Install the mental ray software on each client machine that will run mental ray. (If you also want to run mental ray on the license server machine, you will also need to set up the license server as a client machine using the instructions below.)
- 2 Add the install location of mental ray to your `PATH` environment variable:
 - (Linux) `/usr/autodesk/mrstand3.6.51-max2009/bin`
 - (Mac OS X) `/Applications/Autodesk/mrstand3.6.51-max2009/bin`

For example, by typing the following in a Terminal or shell window:

(Linux) (csh)

```
setenv PATH ${PATH}:/usr/autodesk/mrstand3.6.51-max2009/bin
```

(Mac OS X) (csh)

```
setenv PATH ${PATH}:/Applications/mrstand3.6.51-max2009/bin
```

(Check your shell documentation for details of how to set your path.)

5 | Setting up client machines

Setting up client machines >

- 3 Create a new environment variable called SPM_HOST to identify your license server machine, for example:

```
setenv SPM_HOST <your_license_server>
```

where <your_license_server> is the name of your license server machine.

Note If you're not using the rayd file, for Mac OS X, these environment variables may need to be set up manually each time a user logs on, unless a `.cshrc` or `.kshrc` file is set up to do it at login. See your network administrator.

6

Editing service ports

Editing service ports

This chapter describes how to edit the TCP service port configuration on Windows, Linux, and Mac OS X.

If you choose to use TCP service ports other than 7050 for SPM services and 7609 for mental ray network rendering, then after each software installation you must edit the TCP service ports to the non-default port of your choice. This must be done on the license server machine and the client machines.

To edit the service ports on Windows

- 1 Make sure you have administrator privileges on your machine.
- 2 In a text editor, such as Notepad, open the file:

```
C:\Windows\system32\drivers\etc\services
```

- 3 Edit the lines:

```
mi-spm 7050/tcp  
maxmr3651 7609/tcp
```

to

```
mi-spm <yourportnumber>/tcp  
maxmr3651 <yourportnumber>/tcp
```

where <yourportnumber> is the port number to use.

- 4 Save the file.

Tip

To edit the service port on Windows you could also re-run the mental ray installer. Select Modify and click Next to get to the Service Configuration window where you would edit the service ports.

To edit the TCP service ports on Linux

- 1 Log in as root.
- 2 Open the file `/etc/services` using your preferred text editor.

6 | Editing service ports

Editing service ports >

3 Edit the lines:

```
mi-spm 7050/tcp
maxmr3651 7609/tcp

to

mi-spm <yourportnumber>/tcp
maxmr3651 <yourportnumber>/tcp
```

4 Save the file.

To edit the TCP service ports on Mac OS X 10.5 (Leopard)

1 Log in as superuser (sudo -s).

2 Open the file `/etc/services` using your preferred text editor.

3 Edit the lines:

```
mi-spm 7050/tcp
maxmr3651 7609/tcp

to

mi-spm <yourportnumber>/tcp
maxmr3651 <yourportnumber>/tcp
```

4 Save the file.

5 Open a Terminal window and do one of the following (depending on the type of service you are using):

- maxmr3651:

```
sudo /usr/bin/dscl . -change /Services/maxmr3651
port <currentportnumber> <newportnumber>
```

For example:

```
sudo /usr/bin/dscl . -change /Services/maxmr3651
port 7607 7609
```

- mi-spm:

```
sudo /usr/bin/dscl . -change /Services/mi-spm
port <currentportnumber> <newportnumber>
```

For example:

```
sudo /usr/bin/dscl . -change /Services/mi-spm
port 7607 7609
```

Installing mental ray

Note To determine the port you're currently using, in a Terminal window, type: `/bin/dscl . -read /Services/maxmr3651`

6 Reboot your machine.

To edit the TCP service ports on Mac OS X 10.4 (Tiger)

- 1** Log in as superuser (`sudo -s`).
- 2** Open the file `/etc/services` using your preferred text editor.
- 3** Edit the lines:

```
mi-spm 7050/tcp
maxmr3651 7609/tcp

to

mi-spm <yourportnumber>/tcp
maxmr3651 <yourportnumber>/tcp
```

- 4** Save the file.
- 5** From the Apple Finder menu, select Go > Applications and then double-click the Utilities folder.
- 6** Double-click the NetInfo Manager icon.
- 7** Under the Services directory of the NetInfo database, find and select the appropriate service, for example, `maxmr3651` or `mi-spm`.
- 8** Click the lock icon at the bottom of the panel and then enter your administrator user name and password. This allows you to unlock the NetInfo database and make changes.
- 9** Select the port field and change its value to the desired port number.
- 10** Click the lock icon again when you're done.
- 11** From the Apple Finder menu, select Domain > Save Changes to commit your changes to the NetInfo database.
- 12** Reboot your machine.

6 | Editing service ports

[Editing service ports](#) >

Installing mental ray

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2.2.3 is deleted;

(v)the phrase "at the Original Site or at Your site(s) within five (5) kilometers of the Original Site" in Section 3.1.2(a) first paragraph is deleted and "within Your Territory" is substituted therefor;

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(vii)Section 1.12 "Original Site" is deleted; and

(viii)Section 3.2.9 is deleted and the following substituted therefor:

"3.2.9Use Outside of Territory. You may not Access the Software or User Documentation outside of the Territory."

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