



SEMuIator3D[®] Reader

INSTALLATION

Windows 10 • Red Hat Enterprise Linux 6 & 7

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Online Help Version 9.0 compatible with SEMulator3D Reader version 9.0

Installation Instructions

This section contains instructions for installing and uninstalling the SEMulator3D Reader.

Operating Systems

The following operating systems are supported by this release:

- Windows 10, 64-bit
- Red Hat Enterprise Linux 6, 64-bit
- Red Hat Enterprise Linux 7, 64-bit

Coventor recommends that users keep OS installations up to date with the latest updates.

Hardware Requirements

The minimum computer components needed to run the SEMulator3D Reader are listed below.

- Intel 4 class or newer, or AMD X-86 compatible CPU
 - Minimum 2 GHz, faster is recommended
 - Minimum 6 MB Smart Cache, or AMD equivalent (more is recommended)
- 2 GB RAM (more is recommended)

Coventor recommends the following graphics hardware and settings when running the 3D Reader:

- Support for OpenGL version 2.0 or higher
- Display set to 1024 x 768 minimum resolution, 32-bit color. The 3D Reader will not work if the display is set to 16-bit.

Graphics Configuration

Coventor recommends the following graphics hardware and settings when running the 3D Reader:

- Support for OpenGL version 2.0 or higher
- Display set to 1024 x 768 minimum resolution, 32-bit color. The 3D Reader will not work if the display is set to 16-bit.

Rendering

The 3D Reader makes extensive use of 3D graphics capabilities for displaying and animating models. Although the 3D Reader requires an OpenGL-compatible 3D graphics

card to work properly, the 3D Reader implements a highly optimized rendering algorithm that uses the CPU for a majority of rendering. OpenGL is still required, but most platforms provide a software version of this that should suffice.

Direct rendering is supported for the following setups:

- TurboVNC + VirtualGL (recommended*)
- TurboVNC with an open-source Mesa driver on the server
- EOD server-side rendering
- Rendering performed by the local machine

The following configurations are **not** supported:

- TurboVNC + proprietary NVIDIA/AMD drivers on the server (without VirtualGL)
- Indirect rendering

*TurboVNC + VirtualGL is the **recommended** solution. Other modern VNC clients should also work.



The use of a discrete graphics card will not enhance performance for most models. However, in cases where a discrete graphics card is used, Coventor recommends using NVIDIA Quadro cards with up-to-date drivers.



OpenGL 2.0 or higher is required.

Windows Installation

OS Compatibility

This release of SEMulator3D Reader for Windows supports Windows 10, 64-bit.

Disk Space Requirements

The approximate disk space required for installing the SEMulator3D Reader is 364 MB.

SEMulator3D Reader 9.0 must be installed in a location with no spaces in the path name, e.g., do not install SEMulator3D Reader in *C:\ Program Files*.

System Configuration

Before installing the SEMulator3D Reader, make sure that your machine meets the following criteria:

- TCP/IP networking must be installed on your system in order for the 3D Reader to work.
- The drive(s) where the SEMulator3D Reader and the Temp directory are to reside must have the NTFS file system.
- The Temp environment variable must point to a directory to which the user has write privileges, and the directory cannot have any spaces in its name.

Installing the 3D Reader

To install the SEMulator3D Reader:

1. Download the installation from the Coventor Web site:
<http://www.coventor.com/semiconductor-solutions/semulator3d/semulator3d-reader/>
2. Log in as a user with administrative privileges.
3. Navigate to the directory where you saved the *SEMulator3DReader9_DATE_GOLD.exe* (where DATE is the release build date in YYYY-MM-DD format), and double click on it to start the installation.
4. Wait for the install files to decompress.
5. In the Introduction window, click on **Next**.
6. In the License Agreement window, read the License Grant information, then select *I accept the terms of license agreement*, and click on **Next**.
7. Specify where you would like to install the SEMulator3D Reader. The default directory is *X:\Coventor\SEMulator3DReader9*, where *X:* is the drive with the

maximum available free space. We will refer to this installation drive as D: in the rest of this document. To change the default directory, click on *Choose...*, and navigate to the desired drive and directory. We recommend that you keep the `...\Coventor\SEMulator3DReader9` path because this will make it easier for technical support to help you if the need arises.

Click on **Next**.

8. In the next dialog, leave *Enable Automatic Update Check* checked if you would like the software to check for updates, then click on **Next**.
9. In the following window, click on **Install** to start copying files to the appropriate directories. A status monitor will display the installation progress.
10. When the installation is finished, click on **Done**.

Linux Installation

OS Compatibility

The following operating systems are supported in this release of SEMulator3D Reader:

- Red Hat Enterprise Linux 6, 64-bit
- Red Hat Enterprise Linux 7, 64-bit

Disk Space Requirements

The approximate disk space required for installing SEMulator3D Reader is 500 MB.

Downloading the Installation Files

Download the installation from the Coventor Web site:

<http://www.coventor.com/semiconductor-solutions/semulator3d/semulator3d-reader/>

Installing the 3D Reader

This section details how to install the SEMulator3D Reader product, which is installed using the *SEMulator3DReader_9.0_DATE_GOLD.tar* file (where DATE is the release build date in YYYY-MM-DD format) that you downloaded. To install SEMulator3D Reader in your home directory, you do not need root privileges.

To start the install:

1. Create a new directory containing only the *SEMulator3DReader_9.0_GOLD.tar* file.
2. In that new directory, untar the distribution: `tar -xf SEMulator3DReader_9.0_DATE_GOLD.tar`
3. Run the install file: `./install`

During the installation you will be given several instructions:

1. Read the license agreement, then enter y if you agree to the license agreement. If you do not agree, enter n and the installation will exit.
2. Enter the full path for the installation. When you enter the full path, a directory named *Coventor/SEMulator3DReader9* will be created under the path specified.
3. Click on Enter. The installation will begin.
4. You will be asked the following question:

Do you wish to create a link named *semulator3dreader9* to the SEMulator3D Reader startup program */.../Coventor/SEMulator3DReader9/bin/linux_*

x64/SEMulator3DReader in a common system directory that is in every user's default path?

If you answer yes, you will be asked to enter a directory location for the link (e.g., */usr/local/bin*). If you do not have write permissions to the specified directory, you will be warned, and the link procedure will be skipped. You will be told to create the link manually.

5. The installer checks for the system libraries required for SEMulator3D Reader and reports any missing libraries.
6. The installation checks that SELinux is enabled. The installation will prevent SELinux from blocking Coventor-shared object libraries.

The SEMulator3D Reader installation is complete.

During installation, the installer automatically runs the *checkRPMs* script to search for the libraries required to run the SEMulator3D Reader. The installer will report any missing libraries. If for some reason the user has troubles with missing libraries after installation, he or she can run the *checkRPMs* script from the *...SEMulator3DReader/bin* directory.

Accessing the Software

To run SEMulator3D Reader, cd to *.SEMulator3DReader9/bin/linux_x64* and type

```
./SEMulator3DReader
```

Or, if you had created a link during installation, cd to the directory where the shortcut was placed and enter

```
./semulator3dreader9
```

cd to */.../Coventor/SEMulator3DReader9/bin/linux_x64*

Uninstalling SEMulator3D Reader

Windows

To remove SEMulator3D Reader software:

1. Go to *Start > Control Panel*.
2. From the Control Panel list, select *Programs/Uninstall a program*.
3. Select *SEMulator3D Reader 9*, and select *Uninstall/Change*.

Linux

SEMulator3D Reader can be uninstalled by deleting `.../Coventor/SEMulator3DReader9`.

- To delete SEMulator3D Reader using a navigation window, select the installation directory, and then select *Edit > Move to Trash* menu or right click on the directory and select *Move to Trash*.
- To delete SEMulator3D Reader using a shell window, `cd` to the location of the installation and enter `rm -r SEMulator3DReader9`

Remote Access

When running the SEMulator3D Reader on a Windows machine and connecting remotely from another Windows machine, Coventor recommends using the Remote Desktop Connection application.

When running the SEMulator3D Reader on a Windows machine and connecting remotely from a Linux machine, or running the SEMulator3D Reader on a Linux machine and connecting remotely from any other machine, you will need to use a VNC client. Coventor recommends using TurboVNC.

Considerations

Please keep the following considerations in mind:

- Your VNC server must have the *xkeyboard* extension enabled.
- If you are using proprietary NVIDIA drivers, you must also install VirtualGL 2.5.0 or later.
- If you do not wish to use VirtualGL, Coventor recommends running the SEMulator3D Reader with non-proprietary NVIDIA drivers, such as the Nouveau driver.
- If you have an NVIDIA GTX or RTX graphics card, and experience issues launching 3D Reader over RDP, try using VNC instead.
- If you have problems using VNC, make sure that your server software is up to date.
- It is also possible to run the SEMulator3D Reader remotely using OpenText Exceed and other remote desktop applications.

If you run the SEMulator3D Reader on a Windows machine connected through Remote Desktop, you may experience reduced functionality or crashing in the SEMulator3D Reader if you use a graphics card other than an NVIDIA Quadro card and have hardware-accelerated rendering enabled (the default). In this case, you may enable software rendering instead by performing one of the following actions:

- Set the environment variable *QT_OPENGL* to *software*
- Add the flag *-software* to the SEMulator3D Reader executable