Installation of RenderMan for Maya

RenderMan for Maya is installed using the RenderMan Installer, which manages the downloading, installation and licensing of RenderMan Pro Server (the actual renderer) along with RenderMan for Maya and/or RenderMan for Katana.

On Windows and OS X, the installer configures RenderMan for Maya. After installing, you should be good to go. Start Maya, and RenderMan for Maya should appear in the Plug-in Manager's list of plug-ins.

On Linux some manual configuration is necessary (see below).

> ⊕ On Windows and OS X you do not need to manually configure the RenderMan for Maya plug-in. The following instructions are for advanced users.

Rendering with Xgen

> ⓘ Please note that users may need to set the correct path variables for **Xgen** to render.
>
> - %MAYA_PATH%/bin
> - %MAYA_PATH%/lib
> - %MAYA_PATH%/plug-ins/xgen/bin
> - %MAYA_PATH%/plug-ins/xgen/lib
> - %RMANTREE%/lib;
>
> **Where MAYA_PATH is your installed location of Maya for your operating system (OS). See the table below where to add these paths based on your OS.**
>
> **For example, on Windows you might have the following path: C:\Program Files\Autodesk\Maya2018**
>
> When updating/changing versions you may need to reset/remake your Maya Preferences if the above settings no longer work.
>
> For each OS below it should be added to the following system environment variables:
>
> | Operating System | Environment Variable |
> |---|---|
> | Windows | `PATH` |
> | Linux | `LD_LIBRARY_PATH` |
> | OSX | `DYLD_LIBRARY_PATH` |
>
> Note that **Interactive Groom** on Xgen introduced in Maya 2017 is not currently supported. It must be baked/exported as an Alembic cache before rendering.

- A RenderMan_for_Maya.module file must contain the path to the RenderMan for Maya installation.
- Maya must find the RenderMan_for_Maya.module file in one of the locations that it searches for modules.
- Maya's command line Render command requires rmanRenderer.xml to be found by Maya.

On Windows and OS X, the installer takes care of these, but if for some reason they need to be adjusted, read on.

Install Location

Examples of the default install location of **RenderMan for Maya**:

Windows	`C:\Program Files\Pixar\RenderManForMaya-21.0-maya2016`
OS X	`/Applications/Pixar/RenderManForMaya-21.0-maya2016`
Linux	`/opt/pixar/RenderManForMaya-21.0-maya2016`

Examples of the default install location of **RenderMan Pro Server**:

Windows	`C:\Program Files\Pixar\RenderManProServer-21.0`

OS X	`/Applications/Pixar/RenderManProServer-21.0`
Linux	`/opt/pixar/RenderManProServer-21.0`

> ⚠ RenderMan for Maya requires RenderMan Pro Server, which supplies the actual rendering engine.

RenderMan for Maya respects environment variables called **RMSTREE** and **RMANTREE**, which can be used to specify the location of the RenderMan for Maya and RenderMan Pro Server installations. If these variables are not set they are inferred.

Module Location

These are examples of where the RenderMan_for_Maya.modulefile can go so that Maya will find it (adjust versions as necessary):

Windows	`C:\Program Files\Common Files\Autodesk Shared\Modules\Maya\2016`
	
	`~/Documents/maya/2016/modules`

OS X	`/Applications/Autodesk/maya2016/Maya.app/Contents/modules`
	
	`~/Library/Preferences/Autodesk/maya/2016/modules`

Linux	`/usr/autodesk/maya2016/modules`
	
	`~/maya/2016/modules`

Alternatively, you can put the module file in a non-standard location and set the MAYA_MODULE_PATH environment variable.
Run getenvMAYA_MODULE_PATH in Maya's Script Editor to see the standard locations that Maya checks for modules.

Module Contents

The module file should contain a path to the install location. These are examples of the contents of the file on different platforms (adjust versions as necessary):

Windows	`+ RenderMan_for_Maya 21.0 C:/Program Files/Pixar/RenderManForMaya-21.0-maya2016`

OS X	`+ RenderMan_for_Maya 21.0 /Applications/Pixar/RenderManForMaya-21.0-maya2016`
	
	`DYLD_FALLBACK_LIBRARY_PATH+=/Applications/Autodesk/maya2016/plug-ins/xgen/lib`

Linux	`+ RenderMan_for_Maya 21.0 /opt/pixar/RenderManForMaya-21.0-maya2016`

Note, on OS Xbatchrenders using XGen may require the DYLD_FALLBACK_LIBRARY_PATH to be set, and this can happen via the module file or as an environment variable.

Render Command

For Maya's Render command to work with RenderMan, you need to copy or symlink $RMSTREE/etc/rmanRenderer.xml into Maya's rendererDesc directory.

e.g.

```
sudo ln -s /opt/pixar/RenderManForMaya-21.0-maya2016/etc/rmanRenderer.xml /usr/autodesk/maya2016/bin
/rendererDesc/rmanRenderer.xml
```

Alternatively, you can set the MAYA_RENDER_DESC_PATH environment variable topointatthedirectory where it can find rmanRenderer.xml.

RenderMan for Maya is not listed in Maya's Plug-in Manager

Maya did not find the RenderMan_for_Maya.module file or the path listed inside the RenderMan_for_Maya.module does not point at a valid install of RenderMan for Maya.

- Check that the module file is in one of the locations returned when you type "getenvMAYA_MODULE_PATH" in Maya's Script Editor.

- Check that the path inside the file looks correct and that the install directory actually exists. The RenderMan_for_Maya plug-in must be present in the plug-ins directory under the install location. Note, Maya knows to look intheplug-inssub-directory of the installation. The path listed in the module file should not actually include the plug-ins sub-directory.

RenderMan for Maya won't load

You see either of these errors:

```
// Error: line 1: The specified procedure could not be found.
 (RenderMan_for_Maya) //
```

```
// Error: file: C:/Program Files/Pixar/RenderManForMaya-21.0-maya2016/scripts/rmanLoadPlugin.mel line 27:
Unable to dynamically load : C:/Program Files/RenderManForMaya-21.0-maya2016/plug-ins/RenderMan_for_Maya.mll
 The specified procedure could not be found.
```

A common reason for this error is attempting to load the plug-in into the wrong version of Maya. Check that the version in the error string matches the version of Maya you are running. Especially if you have multiple versions of Maya installed, the RenderMan Installer may have only downloaded the plug-in for your newest version of Maya.