RenderWare Graphics

# Art Path Transition Guide

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## Converting Exports from RenderWare Graphics 3.4

# Contact Us

## Criterion Software Ltd.

For general information about RenderWare Graphics e-mail info@csl.com.

## Developer Relations

For information regarding Support please email devrels@csl.com.

## Sales

For sales information contact: rw-sales@csl.com

## Acknowledgements

With thanks to RenderWare Graphics development and documentation teams.

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# 1. Introduction

Some major changes were made to the way the RenderWare exporters work for the RenderWare Graphics 3.5 release. Since some users may choose to upgrade from the 3.4 release directly to the latest release, this document aims to ease the transition. The document describes:

- How to convert artwork that you have previously exported to RenderWare Graphics 3.4, so that you can export it to a more recent version of RenderWare Graphics.
- How to export artwork using latest RenderWare Graphics exporter.

This document does *not* describe all the new features of the latest exporter; rather, it describes what you need to know to export artwork that you have previously exported to RenderWare Graphics 3.4.

This document assumes that you are familiar with the features of the exporter in RenderWare Graphics 3.4.

## 1.1 Other Documentation

- TechnicalArtistGuide.pdf - This document is aimed at advanced/technical users (artists/programmers) of the RenderWare Graphics Exporters. It describes in depth a process of customizing export templates and export process itself.
- The documents 3dsmaxReferenceGuide.pdf and MayaReferenceGuide.pdf contain the information required by artists to create and export artwork.
- OptimizeStaticGeom.pdf - This document is a case study of how to optimize static geometry using knowledge of the PlayStation 2 architecture.
- 3dsmaxTutorials.pdf and MayaTutorials.pdf documents are organized around a series of tutorials that take you through the basics of RenderWare Graphics as well as some of the issues you need to think about as you create 3D worlds. If you're new to RenderWare Graphics this is where you should start.
- Three viewers can be used to view artwork exported using the RenderWare Graphics exporters. The viewers are: RenderWare Visualizer; Clump View and World View. There are two viewer documents describing the controls and setup of these viewers RenderWare Visualizer and Clump View and World View Viewers .

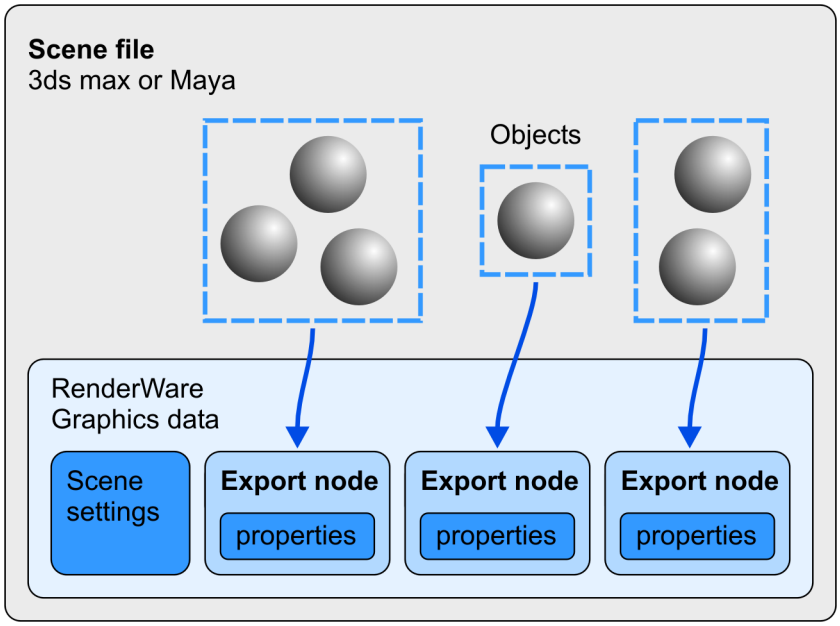
- RenderWare Graphics has a range of documentation material aimed mainly at developers but still useful for the artist. After installation, take a look at additional documents in the docs directory. The User Guide in particular should be useful to you as it covers a lot of material relevant to the artist.

- RenderWare's Fully Managed Support Service (FMSS) contains RenderWare Graphics Art Examples, which are available for download. In the FMSS https://support.renderware.com/, click *Downloads* on the left of the screen.

**PDF format:** Most RenderWare Graphics documents are in PDF format, which is a self-contained document format from Adobe. You'll need to install the (free) Acrobat Reader to view and print these. In some cases the quality is better in the printed form than on-screen.

# 1.2 Summary of Exporting in 3.4

In RenderWare Graphics 3.4, all export options were stored with the artwork, in the 3ds max or Maya scene file. To prepare a scene file for export to RenderWare Graphics, you created export nodes, containing one or more artwork objects. For each export node, you specified export options known as node properties. To export to a `.rws` file, you also specified export options known as scene settings.




Specifying all of these options was a tedious process. It was also error-prone, because most of these options referred to *how* artwork was exported, rather than *what* artwork was exported, and so were more meaningful to programmers than artists.

# 1.3 New Terms and Concepts

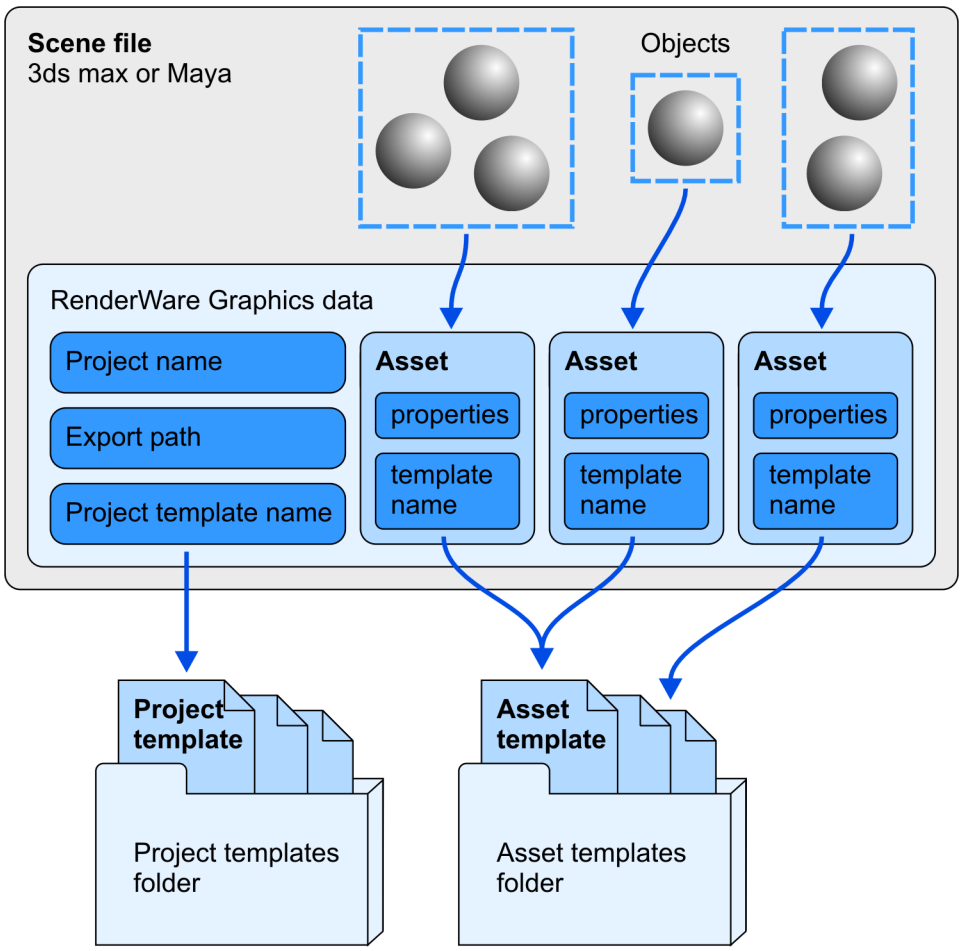
In recent versions of RenderWare Graphics, after 3.4, the options that describe *how* artwork is exported are stored in files known as *templates* (with file extension `.rwt`, for "RenderWare template").

You still create export nodes (now called *assets*), but instead of specifying export options directly, each asset refers to a predefined *asset template*. Scene settings are stored in a *project template*.

The few options that describe *what* artwork is exported in each asset are now called *asset properties*, and remain in the 3ds max or Maya scene file. (For example: the list of artwork objects that belong to an asset; the start and end frames for an animation.)

Newer exporters also store an *export path* and a *project name* property in each scene file. By default the exporter writes all exported files to the folder specified by the export path. The exporter uses the project name as the base file name for exporting all files (except for legacy file formats, which use asset names for their base file names). If you need finer control over where files are exported, the default export location can be overridden on each *asset*.

Finally, the new exporter stores an *asset template path* and a *project template path* in the Windows registry, pointing to the template folders.




## Templates are XML

The exporter provides a graphical user interface for working with templates, so you do not need to know their internal format. However, you might find it interesting to see how straightforward templates are.

Templates are text files. They store export options in a format known as XML (Extensible Markup Language).

Here is an excerpt from a project template:

```
<Output>
  <param name="Export RWS File" type="bool" value="true">
    <param name="Embed TOC" type="bool" value="true"/>
      <param name="Embed Texture Dictionary" type="bool" value="true"/>
      <param name="Embed Effect Dictionary" type="bool" value="true"/>
      <param name="3ds max Embed Ambient Light" type="bool" value="false"/>
    </param>
</Output>
```

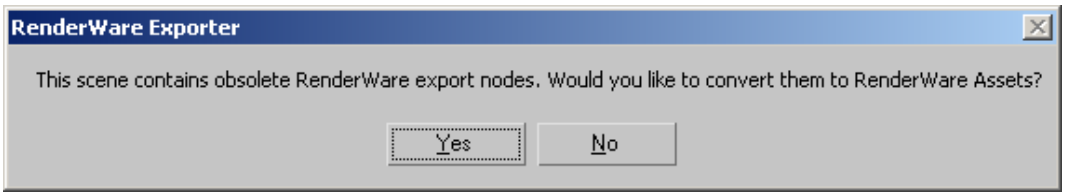
Notice the `name` attributes of the `<param>` tags: these are the export options that, in RenderWare Graphics 3.4, were stored in scene settings.

# 1.4 Benefits of Templates

- Templates separate *what* gets exported (the artwork) from *how* it gets exported (the export options). This separation:
  - Allows artists to concentrate on artwork.
  - Enables programmers to specify exactly the export options they need.
  - Guarantees consistent exports across scene files.
- 3ds max and Maya scene files can share templates. The user interface and template file format for the 3ds max and Maya exporter plugins are identical.
- You can store templates in version control systems, and restrict who can update them.
- You can store your own custom options in templates, and use Open Export plugins to read and update them. You no longer need to create a custom user interface for new options that vary across scene files. For more information, see the *Technical Artist Guide*.

# 2. Converting 3.4 Artwork

When you open a 3ds max or Maya scene file that you have previously prepared for exporting to RenderWare Graphics 3.4, the new exporter displays this dialog:




If you click *Yes*, then the exporter converts the scene file for use with the recent versions of RenderWare Graphics.

## 2.1 The Conversion Process

If the properties of an export node do not match an existing asset template, or the scene settings do not match an existing project template, then the exporter displays a dialog such as this:


If you click *Yes*, then the exporter creates new templates as required. If you click *No*, then the exporter uses the closest matching existing templates.

When the conversion is complete, the exporter displays a dialog listing the converted export nodes.

This is all that you need to do to use your 3.4 artwork with a newer exporter.

## 2.2 Convert Axis System (in the Animated Hierarchy settings)

If you update your existing templates then this option will be switched off for compatibility reasons. If you create new templates then the option is switched on. As a result, hierarchies exported with new templates will be incompatible with animations exported with old templates (and vice versa).

# 2.3 Conversion Details

The conversion process is automatic, but it's useful to understand what it does.

The exporter replaces each export node and its properties with: an asset, asset properties, and a reference to an asset template. The names of the new assets are the same as the old export nodes.

The exporter replaces scene settings with a reference to a project template.

If the exporter creates any new templates, then it gives them unique file names (`~unique_name.rwt`).

If the *Export all nodes to .rws file* option of the scene settings was selected, then the exporter uses that path, without the `.rws` file name, as the export path. The project name is set based on the rws file name. For example, if the value of the *Export all nodes to .rws file* option was:

```
c:\data\rw\fpsmodels.rws
```

then the export path will be:

```
c:\data\rw\
```

```
and the project name will be
```

```
fpsmodels
```

If the *Export all nodes to .rws file* option was not selected, then the exporter leaves the export path and project names at their default values and sets a per-asset export location for each asset to match the export location of the original export node.

# 2.4 Post-Conversion Cleanup

*Each time you convert a scene file, we recommend that you examine any new templates that the exporter has created.*

Each new template reflects a unique combination of values in the original export node properties or scene settings. This highlights differences, both inadvertent and deliberate, in your pre-conversion scene files. This is a useful opportunity to start managing your export options, and ensuring their consistency.

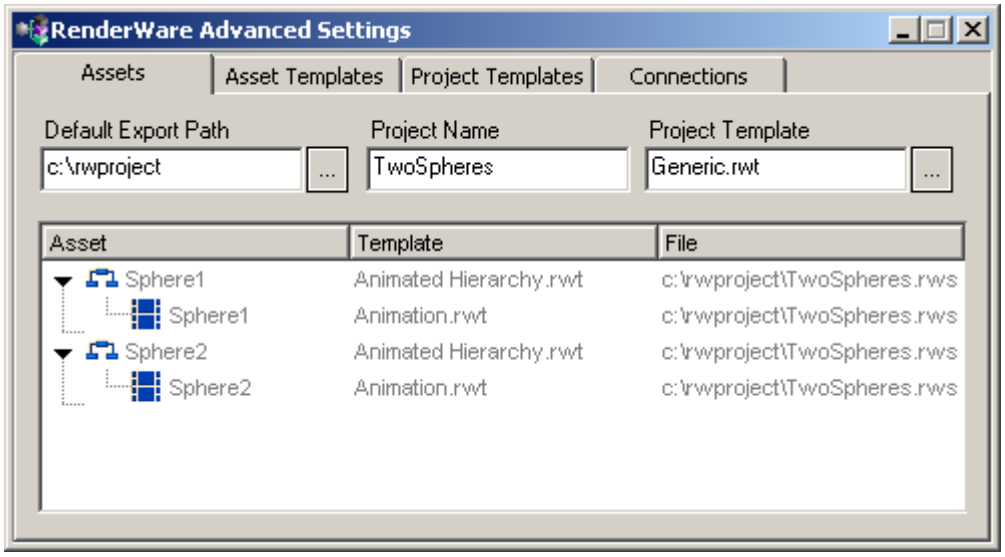
You should compare any new templates with the supplied default templates (described in the following section), and examine the differences. (Templates are XML files, so you can use any text-based or XML comparison tool.)

To view the template names that your scene file uses:

1. Open the scene file in 3ds max or Maya.

2. *RenderWare→Advanced Settings→Assets* tab

The project template name is displayed in the *Project Template* box. The asset template names are shown next to the asset names, in the list of assets.



## Deleting Unwanted Templates

If you identify a template that was created "by mistake" (because of inadvertent differences in the scene file), then you can update your scene file to refer to another template, and then delete the unwanted template `.rwt` file:

1. Open the scene file in 3ds max or Maya.
2. *RenderWare→Advanced Settings→Assets* tab
3. For an unwanted asset template: for each asset that uses the template, click the template name (shown next to the asset name, in the list of assets), and then select a different template.

   For an unwanted project template: click the browse button next to the *Project Template* text box, and then select a different template.
4. Save and close the scene file.
5. Delete the template `.rwt` file.

## Renaming New Templates That You Want to Keep

If you identify a new template that you want to keep, then you might want to replace its generated `~unique_name.rwt` file name with something more meaningful. If you do this now, before converting any more scene files, then subsequent scene files that match this template will automatically refer to the new name. (Otherwise, if you decide later to rename the template, then you will need to update each affected scene file.)

To rename an asset template:

1. Open the scene file in 3ds max or Maya.
2. *RenderWare→Advanced Settings→Asset Templates* tab
3. In the *Template* list, select the project template you want to rename.
4. Click *Options*, and then select *Rename*.
5. Enter the new name for the template.

   In addition to renaming the `.rwt` file, this also updates each asset in the scene file that refers to this asset template.
6. Save and close the scene file.

To rename a project template:

1. Open the scene file in 3ds max or Maya.
2. *RenderWare→Advanced Settings→Project Templates* tab
3. In the *Template* list, select the project template you want to rename.
4. Click *Options*, and then select *Rename*.
5. Enter the new name for the template.

   In addition to renaming the `.rwt` file, if the current scene file refers to this template, then this also updates the scene file to refer to the new template name.
6. Save and close the scene file.

## Using Different Templates

You might decide that you want to use different asset templates, or a different project template, than was specified by the conversion process:

1. Open the scene file in 3ds max or Maya.
2. *RenderWare→Advanced Settings→Assets* tab
3. To change the asset template used by an asset, click the existing template name (shown next to the asset name, in the list of assets), and then select the new template name.

   To change the project template: click the browse button next to the *Project Template* text box, and then select the new template name.
4. Save and close the scene file.

## Editing Templates

Templates are XML files. To edit them, you can use the Advanced Settings dialog of the exporter (*RenderWare→Advanced Settings→Asset Templates* tab or *Project Templates* tab), an XML editor, or even a text editor.

If you use a text editor, ensure that the XML remains well-formed, otherwise the exporter will not be able to use the template.

# 2.5 Supplied Templates

RenderWare Graphics now supplies default templates that you can customize for your specific requirements.

| ASSET TEMPLATE FILE NAME (.RWT) | FOR EXPORTING ASSET TYPE | EQUIVALENT* IN 3.4 |
|---|---|---|
| `Animated Hierarchy` | `RpClump` | DFF |
| `Animation` | `RtAnimAnimation` | ANM |
| `Spline` | `RpSpline` | SPL |
| `Static World` | `RpWorld` | BSP |

***** In 3.4, you specified an export file format by selecting an option button in the export node general options. Now, the project template specifies the export file format.

| PROJECT TEMPLATE FILE NAME (.RWT) | FOR EXPORTING TO PLATFORM TYPE | EXPORT FILE FORMAT |
|---|---|---|
| `Generic` | PC (for example, D3D8 or OpenGL) | `.rws` |
| `GameCube` | GameCube | `.rg1` |
| `PS2` | PlayStation 2 | `.rp2` |
| `Xbox` | Xbox | `.rx1` |

## Where are Templates Stored?

The exporter stores templates in the asset template path and the project template path.

By default, these paths are `export/bin/Templates/Asset` and `…/Project`, respectively (in your RenderWare Graphics path).

You can change these paths to refer to folders that belong to your version control system.

To view or change the asset template path:

- *RenderWare→Advanced Settings→Asset Templates* tab

To view or change the project template path:

- *RenderWare→Advanced Settings→Project Templates* tab

# 2.6 Other Documentation About Templates

For more information about templates, including how to create new templates, see the *Technical Artist Guide*.

# 3. Exporting Artwork

The following procedures describe how to export artwork from a scene file that you have previously prepared for exporting to RenderWare Graphics 3.4, and that you have converted for exporting to a more recent version of RenderWare Graphics.

To export artwork from a scene file that you have not previously used with RenderWare Graphics 3.4, see either the *3ds max Reference Guide* or the *Maya Reference Guide*.

## 3.1 Exporting All Assets

To export all assets in a scene file:

- *RenderWare→Export*

The Output Window opens, and displays the export progress.

## 3.2 Exporting Selected Assets

To export selected assets:

1. *RenderWare→Advanced Settings→Assets* tab
2. Select one or more asset names.
3. Right-click one of the selected asset names, and then select *Export*.

The Output Window opens, and displays the export progress.

# 3.3 Exported Files

Which exported files the exporter creates depends on the output options in the project template, and the exported asset types:

| OUTPUT OPTION | EXPORTED FILES |
|---|---|
| Export RWS File | *Export path* + *Project name* + `.rws` |
| Export RF3 File | *Export path* + *Project name* + `.rf3` |
| Export Legacy Files | *Export path* + *Asset name* + `.anm` or `.bsp` or `.dff` or `.dma` or `.spl` (depending on the asset types) |

For example:

- If you use a project template whose *Export RWS File* option is `true`, then the exporter creates a `.rws` file, with the project name as its base file name.
- If you use a project template whose *Export Legacy Files* option is `true`, and the scene file contains an asset of type `RpWorld`, then the exporter creates a `.bsp` file, with the asset name as its base file name.

If a custom export location has been set on an asset then this overrides the path and name of the file exported for that asset. The file type is still controlled by the project template however.

## Specifying the Export File Format

You specify the export file format in the output options of the project template:

1. *RenderWare→Advanced Settings→Project Templates* tab
2. In the *Template* list, select the project template you want to change.
3. Set the options under Output to `TRUE` or `FALSE`, as desired.

## Changing the Export Path

To change the export path:

1. *RenderWare→Advanced Settings→Assets* tab
2. Click the browse button next to the *Export Path*, and select a new folder.

## Changing the Project Name

To change the project name:

1. *RenderWare→Advanced Settings→Assets* tab

2. Type a new *Project Name*.

## Customizing an asset export location

To set a non-default export location for an asset:

1. *RenderWare→Advanced Settings→Assets* tab

2. Enable customized asset mode by right clicking on the asset tab background and selecting *customize*.

3. Left click on an asset filename and hit the browse button (..)

4. Enter a custom path and file name. The file extension is ignored.