

RenderPal V2

The professional Render Management System

Point Release 4

Release notes

RenderPal V2 Version: 2.4

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What's new in RenderPal V2 Version 2.4

New Renderer system

The most important new feature of RenderPal V2 2.4 is its completely new, highly advanced and feature-rich renderer system. This renderer system allows for the creation of renderers in an unprecedented way, offering numerous features and great power and flexibility. Every aspect of a renderer, let it be its supported parameters, commandline-switches or filters for processing the renderer's textual output, can be defined - and best of all, there is no need to do this by hand (i.e., by digging through numerous cryptic text files): renderers can be created and edited using a very comfortable, easy to use graphical editor, directly from with RenderPal V2. To get an idea of what our new renderer system has to offer, here is a list of its major features:

- All aspects of a renderer can be freely and without any limitations defined. These include:
 - **Renderer parameters:** In previous versions, you had to use the parameters that were built into RenderPal V2 when writing custom renderers; there was no way to add your own settings. The new renderer system completely changes this: all parameters (the "settings" that can be filled out in a render set and which are then passed to the renderer - usually via commandline) can now be freely defined without any limitations. For every parameter, its name, group, type and several type-specific options can be set, offering a great flexibility.
 - **Commandline switches:** A renderer will always be launched with a specific commandline which tells the renderer which parameters to use. How this commandline is compiled can be defined just like the renderer parameters.
 - **Executables:** No renderer without actual executables that will be launched! Executables for a renderer can be set in several places: the most direct way is to configure them in the clients themselves, but there is an even easier way, especially when all (or at least most of) your clients have the renderer on the same path each. For every renderer and its versions, default executables can be set. If nothing is configured for that specific renderer/version in the client, these defaults will be used. Executables can be defined individually for all operating systems (for both 32 as well as 64 bit).
 - **Output filters:** Renderers have no other way to report about their progress, errors that occur or images that have been finished than to write some text to the console. Using the so-called output filters, this textual output can be parsed and processed by RenderPal V2. This way, errors can be easily caught and reported to the server, an information about finished images can be sent and so on.
 - **Return codes:** When an executable closes, it returns a numerical code to the calling process. By convention, returning zero usually means success while any other code means failure. Not all renderers, though, follow this convention (many actually always return zero), so the new renderer system lets you define which (if any at all) codes should be interpreted as "success" or "failure".
 - **Scripting:** And if this doesn't already offer enough freedom, or if the "default behavior" of a renderer doesn't fit your needs, all aspects of the rendering process can be customized using Python! May it be a more dynamic commandline-compilation, some extended output filtering or writing script files used by the renderer, it can all be achieved with the help of a bit Python scripting.
- **Renderer versions:** Every renderer can have several different versions. A version basically extends the core renderer, modifying or further extending its functionality. The name version already indicates the main purpose of this feature: to support different versions of a single renderer (like V8.0, V9.0 and so on) at the same time. This not only offers greater flexibility when writing renderers, but also is useful when you use different versions of a renderer in your render farm - especially since executables can be configured for every version.
- **Renderer hierarchy:** All renderers are sorted into groups, so similar renderers can be grouped together; this is especially useful when a renderer supports plugin renderers as well.
- **Extended splitting:** A net job can now not only be split by frames or image slices, but also by any other "list" parameters. This can be used for splitting a job into different layers or cameras, for example; the ability to be available for extended splitting can be set on any parameter (as long as it has the "list" flag), so you can define your own "splitting params" just as well.
- And if a renderer that comes with RenderPal V2 doesn't fit your needs as you'd like, simply modify them!

If you have ever created custom renderers in a previous version, you will feel a true relief when using the new renderer system. Another great benefit of it is the way renderers are configured on the clients (i.e., configuring their executables): prior to this version, executables could only be configured for the so-called built-in renderers, but not for custom renderers. Since there no longer is such a distinction, all renderers can now be easily configured with ease on the clients, either remotely or locally. Our new renderer system introduces a superior, yet easy to use and comfortable way to create renderers with an astonishing amount of flexibility. And using the renderers is, of course, just as easy as it always has been.

Chunk reporting

The history of a net job chunk is now a true event log (similar to the global event log), showing many details about the "life" of every chunk. Thanks to the new renderer system and its output filters, errors - as well as other pieces of information which might be helpful when taking care of net jobs - will be filtered from the renderer's output and sent to the server, where these entries will be immediately added to the chunk's history - which can, of course, be viewed remotely using the Remote Controller as well. The most recent message of a chunk will also appear in the chunk list, so you can quickly see why a chunk failed - this is especially useful in combination with the maximum render attempts limit (see below).

Editing multiple net jobs

When editing multiple net jobs at once, it is now possible to choose which settings should be applied, and which should stay untouched. This way, you can, for example, only edit the frame splitting settings of those net jobs without changing any other value. Instead of editing one job after the other, which is very time consuming and tedious, you can now do this with ease in a single batch: select all jobs that should be modified, select and set the settings you want to apply and you are done.

Frame checking and image directory placeholders

When using automatic frame checking on net jobs, it is now possible to use placeholders for the image directory path. In order to work properly, the frame checker needs to know where rendered images will be located. Previously, you could provide only a root image directory and tell RenderPal V2 to look in sub-directories as well, but this was not always fail-proof. With this new release, placeholders can be used in the image directory path. These include any parameters that can also be used for splitting: you can now add the scene name, the current camera or render layer and so on to the image directory path and RenderPal V2 will replace them by their corresponding values. If the renderer uses a directory hierarchy when outputting images, this feature ensures that the frame checker will always look in the right place for them.

Maximum render attempts

When a rendering fails, chances are that this will not just happen on a single client but on all of them; this could be due to a corrupt scene, some configuration issues, the output disk being full... This new version of RenderPal V2 introduces the possibility to set a maximum number of render attempts for net job chunks. If this maximum is reached, the chunk will no longer be picked up for rendering. Since the last attempt will usually result in an error, the chunk will stay in an erroneous state and the error message will be shown in the chunk's history and the chunk list as well. This way, "bad chunks" can be spotted with ease, and the render farm will not try to render a chunk that will fail anyway again and again.

OS-specific path maps

Path maps are an easy way to deal with the different path conventions under the various operating systems. This important feature has become even better, as it is now possible to add entries to path maps that will be applied to a specific operating system only. Working with multiple operating systems has again become easier.

Other changes and improvements

Besides many smaller changes and fixes, there are a few improvements that are worth mentioning:

Flood protection

When renderers go crazy, they tend to write quite a lot of text to the console; this could lead the RenderPal V2 Client to consume a lot of precious memory. Due to this, the output buffers of RenderPal V2 are now limited to 3 MB, so that memory consumption will be kept low even if the renderer throws out hundreds of megabytes of text.

Automatic net job cleanup

Previously, net jobs could only be automatically removed right after they were finished. We extended this option so that finished net jobs can be automatically removed after a certain numbers of days. This way, you can keep finished net jobs for a while, but don't have to remove them manually after a while - RenderPal V2 will now do this for you.

Python improvements

The Python integration has been greatly improved, resulting in a better performance and stability. RenderPal V2 now also uses a better text editor for the Python scripts.

User interface improvements

When using RenderPal V2 under a "themed" operating system (starting with Windows XP), you will notice a freshened and more pleasing look of the user interface.

Minimize to tray

We added several options how minimizing and closing RenderPal V2 should be handled. It is now possible to let RenderPal V2 be minimized to the system tray and also minimize it when hitting the X button.

Tray icon utility for Linux and Macintosh clients

We have added a handy tray icon utility to the Linux and Macintosh console clients, which can be used to control the client and its service.

...and a lot more...

This release brings many small changes that make working with RenderPal V2 easier and more pleasing - just browse through the changelog to get an idea of what to expect - but most importantly, you should just try out this new release for yourself!

Full changelog for RenderPal V2 Version 2.4

```
+-- Legend -----+
| + New Feature   |
| # Modification/Improvement |
| ! Bugfix       |
| - Removed feature |
+-----+
```

* Note: RenderPal V2 2.4 introduces a completely new renderer system; it contains plenty of new features, too many to be mentioned individually in this changelog. So, you won't find entries like "RenderPal now supports multiple frame ranges per job" in this log, as it is part of the new renderer system.

```
[# Global] Plenty of smaller fixes and improvements
[# Global] The overall stability has been further improved
[# Global] Made many UI improvements
[+ Svr/Rc] Path map entries can now be applied to a specific OS only
[# Svr/Rc] Net job notes can now be 4096 characters long
[# Global] Made clicking the header-checkboxes easier
[+ Svr/Rc] When editing multiple net jobs, it is now possible to select which settings groups should be applied
[# Global] Implemented a completely new advanced renderer system
[! Svr/Rc] Fixed a bug with the path map dropdown in the path map editor
[# Server] The client, user and path map management can no longer be opened when another user is currently using it
[# Server] Net jobs being edited by another user can no longer be edited
[# Server] The user right to upload custom renderers has been replaced by a user right to access the renderer management
[# Client] The console client will now try several UDP ports for the heartbeat sender socket
[! Server] The option to automatically remove finished net jobs caused the server to crash
[# Global] The option dialogs are no longer shown automatically on first start
[- Global] Removed the "/nofirststart" commandline option
[# Svr/Rc] The path map entry list is now multi-selection
[# Svr/Rc] It is now possible to copy & paste only certain path map entries
[+ Svr/Rc] The main net job list now shows the date and time when a net job was finished
[+ Server] Extended the "Remove finished net jobs" option so that finished jobs can be automatically deleted after x days
[+ Global] The current time is now shown in the main tab bar
[# Client] Startup scripts for the console client have been updated
[# Svr/Rc] Modified the render set tab page for the new renderer system
[+ Global] Added an option to show/hide the clock in the tab bar
[- Svr/Rc] Missing scene files are no longer shown in red
[! Svr/Rc] When adding scene files belonging to a sequence, RenderPal didn't ask to automatically add the entire sequence
[- Global] The minimize-to-tray button has been removed (caused problems under Vista and Windows 7)
[+ Global] Added a "Minimize to tray" and a "Minimize on close" option
[# Global] The maximum size of an output buffer has been limited to 3 MB to prevent excessive flooding
[# Svr/Rc] Redesignated the net job event list
[# Svr/Rc] The renderer specified in the render set will now always be used for new net jobs; the corresponding option has been removed
[# Svr/Rc] When editing multiple net jobs, a list of all selected jobs is now shown in the editor
[+ Client] Clients will now report reasons for chunk errors
[+ Client] Added a new renderer configuration dialog to the client
[- Global] The "Renderers" option pages have been removed (obsolete now)
[! Server] Urgent net jobs ignored the number of render cores (parallel rendering) and always used only one
[# Global] Redesignated the main server view lists
[# Svr/Rc] The net job chunk history is now a true event log (with colors and different event types etc.)
[+ Global] The text viewer dialog (used for remote log reading, for example) now offers search functionality
[+ Svr/Rc] The last chunk message is now shown in the net job chunk list
[+ Global] Added an option to start RenderPal minimized (was previously only available via command-line)
[# Server] The submission date for remotely submitted net jobs is now set by the server
[# Svr/Rc] Automatic frame checking for every finished chunk now supports placeholders for "splitting tokens" (like cameras etc.)
[# Server] Frame checking now always creates a single net job only (due to the new multiple frame ranges support)
[! Global] The Python engine could stop working in certain cases
[# Svr/Rc] Replaced the Python script editor with a better one
[! Global] Some list columns didn't sort properly
[! Client] Output wasn't properly redirected for net job chunk events
[# Global] The Python engine has been significantly improved
[# Server] Slash directions are no longer automatically changed by the path map engine
[# Svr/Rc] Added a bunch of presets to the Render to Print calculator
[! Global] Fixed an event processing bug in the console versions of the client and remote controller that could lead to crashes
[# RmCtrl] The command-line remote controller has been adapted to the new renderer system
[! Svr/Rc] Double-clicking an empty area in the known clients opened the dialog for editing a client
[+ Server] Added an option to specify the maximum number of rendering attempts for net job chunks
[! Server] Deleting clients could lead in rare cases to a crash
[! Client] The console client could become unresponsive during heavy rendering
[+ Client] The Linux and Macintosh console client got a handy tray icon utility for controlling the client and its service
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Contact

...Heute ist nicht alle Tage, ich komm' wieder, keine Frage...

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