

## RELEASE NOTES FOR KATANA 1.6V2

**Release Date** 11 July 2014

### System Requirements

- Katana 1.6v2 is tested and qualified on Linux 64-bit CentOS/RHEL 5.4
- A graphics card which supports OpenGL shader model 4.0
- A supported renderer (see below)

### Supported Renderers

Katana 1.6v2 supports PRMan 17.0, Arnold 4.1.3.3 and 4.0.11.0. The supplied renderer plug-ins are compiled and tested against these versions, using GCC 4.1.2. Minor version increments of PRMan and Arnold may work, as long as they are API compliant with the supported versions.

Support for PRMan 18.0 and above are provided directly by Pixar using their RenderMan Studio for Katana plug-in. To get access to RenderMan Studio for Katana please contact Pixar directly.

To use a version of PRMan or Arnold other than those listed above, you may need to recompile the renderer plug-in.

To expose new features and portions, you may need to modify the renderer plug-in.

Using a version of PRMan or Arnold other than those listed above may produce unexpected behavior. Using a compiler other than GCC 4.1.2 may produce unexpected behavior. Please note that we can only guarantee to respond to Katana bug reports when they are reproducible with the supplied versions of the renderer plug-in, compiled with the supported version of GCC.

### Third Party Dependencies

Katana 1.6v2 has dependencies on the following third party libraries:

- OpenEXR 2.0.1
- OpenSSL 1.0.0.a

These libraries are provided in the Katana distribution, in separate directories under `$(KATANA_HOME)/bin`

An ABI-compatible copy of these libraries needs to reside on your LD\_LIBRARY\_PATH in order for many of Katana's plug-ins to run. The Katana application itself uses RPATHs to locate the required libraries.



**NOTE:** Katana's wrapper script `${KATANA_HOME}/katana` appends `${LD_LIBRARY_PATH}` to ensure these libraries are visible to Katana plug-ins.

If you manage your own LD\_LIBRARY\_PATH or wish to expose these libraries to plug-ins by some other means, you can call the Katana binary directly using:

```
${KATANA_ROOT}/bin/katanaBin
```

## Feature Enhancements and Important Changes for 1.6v2

- Katana now ships with the Arnold 4.1 plug-in, which supports the Arnold 4.1.3.3 renderer version.
- As part of the technical collaboration between The Foundry and Pixar's RenderMan, in addition to the standard Katana render licenses (`katana_r`) there are also separate RenderMan for Katana (`katana_rfk_r`) render licenses designed for only rendering with RenderMan. These can only be used with Katana 1.6v2 onwards. An environment variable, **KATANA\_WITH\_RFK**, must be set to 1 in order to use the RenderMan for Katana render licenses. This will use `katana_rfk_r` licenses when running a **batch/script** process, if one is available. If no `katana_rfk_r` licenses are available, a standard Katana render license (`katana_r`) will be used instead. Please note that rendering using renderers other than RenderMan while the **KATANA\_WITH\_RFK** environment variable is set, may consume both a RenderMan for Katana render license and a standard Katana render license. Please unset the environment variable if you are not using RenderMan as the renderer.
- BUG ID 40448 - The `NetworkMaterialSplice` node was reporting a misleading error message due to incorrect connection type checking.
- BUG ID 40538 - When scene graph locations are constrained to other scene graph locations, geometry drawn for them by Viewer Modifier Plug-ins (VMPs), for example bounding boxes or guide geometry for lights, was incorrectly shown in the **Viewer** tab even when the locations were not expanded in the **Scene Graph** tab.
- BUG ID 40946 - When loading an autosave project after a crash, the LiveGroup nodes were made non-editable again, and their parameters and contents were reloaded from their respective sources. This meant that any changes that were not previously published to LiveGroup sources were lost. Now all LiveGroup nodes in an autosave project are loaded in

editable mode, which means that the user can either reload or publish potential changes on them.

- BUG ID 41784 - The `AttributeFile_In` node (and the example `AttributeFile AMP`) now correctly respond to the **Flush Caches** button.
- BUG ID 42653 - There was no C++ access to flush plug-in caches. `RenderOutputUtils::flushProceduralIDsoCaches()` now also flushes plug-in caches.
- BUG ID 43147 - Execution of a disk render or render debug output caused geometry producers to be leaked (never cleaned up, even via the Flush Caches mechanism). In order for this fix to be applied, custom Render plug-ins must be recompiled.

## Bug Fixes

- BUG ID 27742 - The hide state for locations in the Viewer was leaking into other locations, causing more locations to be hidden than expected.
- BUG ID 40462 - Flushing the caches or the **Util > Reload shaders and args file** erased all new shader array parameters added on Shading Nodes.
- BUG ID 40544 - A constraint resolve error was being issued when resolving a constraint with no target. Now a constraint is not added to the global constraints list if it has no target.
- BUG ID 40658 - Collapsing and re-expanding locations whose children had viewer surface shaders assigned could cause the shader assignments to be lost.
- BUG ID 40774 - When reloading a LiveGroup node's parameter interface and contents from its source, the viewed, edited, and selected states of nodes within the LiveGroup node were reset. This caused the parameters of edited child nodes to disappear from the **Parameters** tab.
- BUG ID 40833 - When choosing the **Edit > Explode Selected Groups** command or pressing the **U** key in the **Node Graph** tab while LiveGroup nodes were selected, an exception was raised.
- BUG ID 40924 - Scene edits could trigger excessive computation and UI lag for scenes with large LiveGroup nodes that were in an editable state.
- BUG ID 41046 - Custom LookFile name spaces only worked with one override when multiple `LookfileOverrideEnable` nodes were applied.
- BUG ID 41076 - In ViewerModifier plug-ins the `getLocalSpaceBoundingBox()` method wasn't called when attributes on matching locations changed.
- BUG ID 41285 - Changing the viewed node could cause locations with assigned Viewer shaders to lose their assignments.

- BUG ID 41475, 41477 - When switching display transforms in the Monitor, a Python stack trace appeared in the console and the change wasn't applied.
- BUG ID 41796 - ProducerObservers performed work on nodegraph\_changed events, even when scenegraph updates had been disabled.
- BUG ID 41798 - Performance improvements have been made for changing render settings in a scene with lots of render outputs defined.
- BUG ID 42723 - Reverting an editable LiveGroup with the source parameter set to an invalid source file resulted in an error, making it impossible to exit the editable state.
- BUG ID 42963 - When rendering in batch mode, an initial cook of /root was taking place at frame 0, rather than at the frame at which the Katana file had been saved.
- BUG ID 43341 - The RenderNodeInfo cache was not flushed when the **Flush Caches** button was pressed.
- BUG ID 43439 - Updates to Arnold light filters that were applied with a ShadingNodeArrayConnector did not work correctly while live rendering.
- BUG ID 43455 - Katana would occasionally crash during Preview Renders for node graphs containing 2D Nodes due to unreliable socket connections. Stability and error reporting for this issue has been improved.

## Known Issues

- BUG ID 41152 - When editing parameters of a node that is part of a LiveGroup node and reloading the parent LiveGroup node, the UI state of the **Parameters** tab is reset. This includes scroll bar positions, selections of items, and selections of nested tabs (for example **Object**, **Material** and **Linking** tabs for a Gaffer node).
- BUG ID 41092 - When reloading a LiveGroup node's parameter interface and contents from its source, parameters of child nodes that are edited in floating panes disappear from those panes.
- BUG ID 40709 - The Alembic library does not support multiple process or thread access to an Alembic file. This means that a crash occurs when modifying an Alembic file outside Katana, while it's loaded in an open Katana scene. To avoid this, you must **Flush Caches** before attempting to update any modified Alembic files.
- BUG ID 40600 - Undoing a revert of an unpublished LiveGroup does not restore the LiveGroup's editable and modified state.
- BUG ID 40599 - User parameters of non-editable LiveGroup nodes can incorrectly be edited.

- BUG ID 40598 - Reverting a LiveGroup node does not revert its user parameters.
- BUG ID 40237 - Nodes can be dragged into the Group bubble of a non-editable LiveGroup node.
- BUG ID 39261 - Operations that lock and unlock nodes do not currently create entries in the Undo History, which can lead to an incorrect node graph state when undoing and redoing operations.
- BUG ID 37477 - Adding an invalid path to the ImageRead node causes Katana to crash.
- BUG ID 37256 - When using the RGBA widget type, RGB values in the color picker are reset to 0 when the alpha is 0, which is the alpha's default value.
- BUG ID 36926 - The **rendererSettings > displayOptions** parameter of a RenderOutputDefine node for the PRMan renderer, shown when its **type** parameter is set to **raw**, cannot be set using the **Parameters** tab.  
For a workaround,
  1. Make sure that the PRMan 17.0 plug-in is loaded. See the Installation and Licensing chapter in the *User Guide* for more on this.
  2. Click on the Shelf Actions button.
  3. Select the shelf named (other) PRMan17.
  4. Click on CreateUpdateDisplayOptionsNode.
  5. Place the newly created node after the RenderOutputDefine node defining the display options.
- BUG ID 36691 - State badges are currently shown for attribute values of dynamic array child parameters, even though only their parent array parameter should appear with a state badge.
- BUG ID 36663 - It is not currently possible to sort notifications in the **Notifications** popup window.
- BUG ID 36225 - The UpdatePrmanSettingsNode shelf script does not currently deal with expression parameters. Locally set Parameter Expressions on PRMan nodes will need re-adjusting after running the shelf script.
- BUG ID 36176 - The 2D node **Disk Render Upstream Render Outputs** option does not use the batch render method, **batchRender**, for upstream render nodes, instead it is using **diskRender**.
- BUG ID 36170 - Control keys (notably arrow keys) do not function as expected in shell mode.
- BUG ID 34870 - Katana doesn't support render output directory creation for **shadow**, **merge** and **script** output types.
- BUG ID 34274 - When using Reyes mode in PRMan Live Rendering, lights are duplicated when sending live render updates.

- BUG ID 34256 - Preview Rendering 2D nodes fails when **Disk Render Upstream Render Outputs** is set to **Unless Already Cached**. In addition, a crash sometimes occurs when attempting to repeat the Preview Render. You can work around this issue by setting the right-click context menu option on a 2D node to **Always** instead of **Disk Render Upstream Render Outputs** will work around this problem, however, this will mean that each time a change is done in the 2D node and Preview Render started, a Disk Render will be triggered for the image dependency upstream, even if this had no changes. Alternatively another workaround for the 2D nodes Preview Render work flow is using an ImageRead node that is expression linked to your RenderOutputDefine node render location parameter. You will need to disk render beforehand to have your image output available as 2D nodes input, and set the Monitor's 2D Render Mode to **Pen-Up** instead of **Continuous** to preview the changes as expected.
- BUG ID 33242 - Live Rendering is not designed to work with rapid updates to region of interest (ROI), and may cause unexpected behavior.
- BUG ID 32125 - Live Rendering complex scenes using anything other than **Selected Scenegraph Locations** can result in Katana crashing.
- BUG ID 31790 - In the **Parameters** tab, setting an expression for an array or a group parameter currently breaks the parameter's UI.
- BUG ID 31257 - The keyboard shortcut for **Edit > Toggle Ignore State of Selected Nodes** command in the **Node Graph** tab is **Alt+D**, not **D**. This overrides the **Alt+D** keyboard shortcut of the **Unconnected to Viewed Node** menu item. The **D** key toggles the ignore state of a single node under the mouse pointer.
- BUG ID 30170 - The **--crop-rect** and **setDisplayWindowToCropRect** command-line options do not currently work, so nothing is cropped. You can work around this issue by adding a RenderSettings node to your Katana scene with the **cropWindow** parameter set. This allows you to render using a cropped display window in batch mode.
- BUG ID 28549 - Main menu commands that create nodes, notably **File > Import...**, **File > Import LiveGroup...**, and **Help > I want a pony**, do not create the nodes in a Group or LiveGroup node that has been entered in a **Node Graph** tab. Instead they create the nodes in the root level of the node graph document.
- BUG ID 27147 - Due to an internal bug in Qt 4.7.2 an error message similar to the following may occasionally be displayed in the console: "Application asked to unregister timer 0x13000076 which is not registered in this thread. Fix application." (<https://bugreports.qt-project.org/browse/QTBUG-16175>.)
- BUG ID 22296 - Due to a known issue with PRMan, Katana does not currently support PRMan Live Rendering with AOVs.

For a workaround, to allow Live Rendering, disable AOVs in interactive renders by applying an interactive render filter, using a `RenderSettings` node with the `interactiveOutputs` parameter set to just **primary**.