



RELEASE NOTES FOR NUKE 5.0v2

This is a maintenance release of Nuke with a number of improvements and bug fixes. These release notes first describe the changes done for Nuke 5.0v2, and then list the bugs fixed during the Nuke 5.0v2 beta period.

The release notes for Nuke 5.0v1 and the developer notes are also included.

5.0v2

Version

Nuke 5.0v2

Release Date

30 May 2008

Requirements

Supported operating systems:

- Mac OS X (10.4).
- Windows XP SP2.
- Linux CentOS 4.5.

New Features

There are no new features.

Improvements

- Colour picker:
 - The first colour picker now remembers its location and which sliders are up between instances of Nuke.
 - The default settings in the colour picker have changed to:
 - RGB and HSV sliders are enabled.
 - The dynamic slider background is disabled.
 - The orientation is vertical.
- Curve Editor:
 - You can now click and drag points without modifier keys.

- Holding Shift when there is a group selection adds or removes from the selection when clicking on points, or, when clicking and dragging, translates the entire selection box.
- Ctrl/Cmd+Shift makes the currently selected points disappear, but keeps the bounding box, making it possible to translate and resize without having to worry about accidentally selecting points or handles.
- You can hold down Ctrl/Cmd and drag to resize a group selection box in one dimension when the selection box is very narrow. For example, if you have a box that's wide on the x axis but flat on the y axis, you can resize it in this way along the x axis.
- Increased the width of the box where you can edit the point coordinates.
- Restored checkmarks to input channel selectors on Merge2, per popular demand. Turning off a checkmark makes it act like that channel is black in the source.
- The Node Graph right-click menu now returns to previously selected item when you click the right mouse button. This can be toggled on and off using a preference setting.
- Overhauled .dpx reader/writer to handle many more DPX variations.
- Python: Improved view support.
- Added more view-aware knobs.
- Nuke now preserves case when looking for OFX icon names.
- User guide:
 - Rewrote large parts of the *Configuring Nuke* chapter. Added instructions for managing user knobs.
 - Added a chapter on warping and morphing images (chapter 9).
 - Added a chapter on setting interface preferences (chapter 15).
 - Added instructions for the ContactSheet node in the *Merging Images* chapter.
 - Rewrote the *Keying and Mattes* tutorial using new footage.
 - Updated screenshots throughout the user guide.

Bug Fixes

This lists the bugs fixed since Nuke 5.0v2b8. Bugs fixed during the Nuke 5.0v2 beta period are listed under *Bug Fixes Logged During the 5.0v2 Beta Period* on page 4.

- 3D: Updated the tooltip for projection modes.
- Updated the "Supported File Formats" section in the user guide.
- BUG ID 5011 - The -n switch makes all the text disappear from the Node Graph.
- BUG ID 5033 - Process_mask knob obsolete not handled correctly.

Known Bugs & Workarounds

- BUG ID 3594 - Sampling colours for Primatte causes a double free or corruption crash. This is caused by incompatible libstdc++ library on the Nuke running environment in question. It's a problem with some Linux distributions, notably Ubuntu 6.06 and CentOS 4.4, and the libraries shipped with them. As a workaround, we ship the libraries we build Nuke

against, so you can force your operating system to use these. To do so, set the `LD_LIBRARY_PATH` environment variable to point at the libraries.

- On Mac OS X 10.5 (Leopard), when the Viewer is set to the Crystal Eyes stereo display mode, Nuke may trigger an OS X bug that causes a kernel failure. This is due to a bug in OS X 10.5 to do with stereo OpenGL support. For this reason, we do not recommend using the Crystal Eyes stereo viewing mode in Nuke on Leopard at this time. The bug has been registered with Apple as bug number 5897735.

Bug Fixes Logged During the 5.0v2 Beta Period

5.0v2b8 Bug Fixes

- BUG ID 4248 - Loading a test script and inputting an .exr file causes Nuke to crash.
- BUG ID 4950 - MotionBlur in several operators: locking up when you try to Write.
- BUG ID 4985 - Viewer Input not updating correctly. Showing the correct adjustment whilst dragging gain/gamma slider, but when slider released shows incorrect result.

5.0v2b7 Bug Fixes

- BUG ID 4008 - File Browser's create new folder button disables itself when accessing UNC shares.
- BUG ID 4807 - Transform: Rounding differences between Windows and Linux.
- BUG ID 4863 - File Browser crashes if you change directories too fast and directory doesn't exist.
- BUG ID 4890 - The OFX kOfxInteractPropPixelScale property was inverted in overlays.
- BUG ID 4896 - A test script spits out malloc errors and crashes occasionally on Framecycle and render.
- BUG ID 4898 - Changing a the name of a source node for an expression which is used in an array knob updating all parts of an array knob, not just the relevant one.
- BUG ID 4954 - Alt+middle mouse drag does not zoom the Curve Editor.
- BUG ID 4972 - Nuke prints NUKE_NO_VIEWER_GPU environment variable is set even when it is not.

5.0v2b6 Bug Fixes

- BUG ID 4548 - Can't copy and paste keyframe data between curves.
- BUG ID 4723 - SplineWarp: undo causes Nuke to crash.
- BUG ID 4729 - ScanlineRender: Filter > Impulse not working.
- BUG ID 4741 - Make reading of W texture coordinate from .obj files optional since it is often bad data.
- BUG ID 4829 - Read does not obey specified format due to overzealous pixel aspect matching.
- BUG ID 4836 - Camera projection failing when card is extremely close to camera.
- BUG ID 4839 - Pop-up dialog box for Framecycler range setting no longer sets global input range, but is now empty.
- BUG ID 4848 - Quicktimes do not read in on Mac OS X (PPC).
- BUG ID 4849 - Framecycler doesn't run on Ubuntu.
- BUG ID 4854 - Extract: extract on a node that doesn't have an input doesn't disconnect the output.
- BUG ID 4857 - Open source iff reader code and add source code to NDK.

- BUG ID 4861 - When full size and proxy files are the same size, always use the one corresponding with the current proxy mode.
- BUG ID 4874 - Gizmo named with the word "Reformat" throws an error and doesn't get labeled.

5.0v2b5 Bug Fixes

- Fixed drag&drop between two nodes inside a group not producing a correct expression as the period was missing after "parent".
- 3D: Fixed the OpenGL point drawing to use the colour attribute for wireframe and solid display modes.
- Fixed import `boujou.tcl` so that it takes the image/aperture size into account when creating the camera. This fixes vertical alignment problems with points.
- BUG ID 3143 - Hotkey N on the Node Graph should bring up a rename box.
- BUG ID 3254 - The Node Graph right-click menu does not return to previously selected item when right click is hit.
Please note that this is on by default, but can be turned off in the preferences "Windows" tab under "show menu with previous item under the cursor".
- BUG ID 3314 - Downrez: a Bezier does not appear in the right place after a downrez.
- BUG ID 3916 - Can't read QuickTime files from UNC paths.
- BUG ID 4360 - Impossible to override autolabel by putting files into Nuke path.
- BUG ID 4481 - Tracker 'center_viewer' displays off-center.
- BUG ID 4559 - VectorBlur produces artifacts.
- BUG ID 4567 - FrameCycler launch from terminal must be disabled.
- BUG ID 4651 - Editing an expression on a parameter adds a point on the animation curve.
- BUG ID 4679 - Immediate crash when tweaking GridWarp and viewing through an over node.
- BUG ID 4683 - Pulldown menus do not get keyboard focus.
- BUG ID 4705 - Curve editor doesn't draw selected curve when created first time around after a time change.
- BUG ID 4707 - Saving scripts in Script Editor: no file extension added.
- BUG ID 4721 - Expressions not updating to reference new names when pasting a group of nodes into a Node Graph where a node exists with the same name.
- BUG ID 4736 - Fixed crash when connecting OFX plug-in inputs whilst viewing output.
- BUG ID 4739 - Dialog boxes not popping up at cursor position.
Please note that this is on by default, but can be turned off in the preferences "Windows" tab under "show dialogs under the cursor".
- BUG ID 4741 - Textured obj missing from 2D view.
- BUG ID 4747 - Python: bindings to set individual view values missing.
- BUG ID 4759 - Trying to edit an existing expression brings up an invalid string.
- BUG ID 4762 - Search and Replace does not work with all types of nodes.
- BUG ID 4772 - Immediate crash when painting with the SideBySide node.
- BUG ID 4795 - Matte overlay darkening the display in GPU modes.

- BUG ID 4802 - Furnace: bg rendering plug-in uses furnace_ofx_i license.
- BUG ID 4812 - Colour Picker: Saturation slider does not change when the Hue slider is adjusted.
- BUG ID 4819 - Crash when moving Bezier animation curve in the Curve Editor.
- BUG ID 4830 - Deleting a Group node's input when one of the group's properties panels is open causes a crash.

5.0v2b4 Bug Fixes

Internal release only.

5.0v2b3 Bug Fixes

Internal release only.

5.0v2b2 Bug Fixes

- Fix to show the channels in the bottom of the Viewer.
- Update to the latest FrameCycler version (3052.1056).
- Fixes for sgiWriter from 4.8 build.
- BUG ID 4401 - Esc to stop render or tracker.
- BUG ID 4402 - The Node Graph floats on start-up if saved in the default layout with tabs hidden.
- BUG ID 4419/4489 - Nuke 5.0 does not correctly cache a test script.
- BUG ID 4440 - Constant: untick the rgb channels and Nuke 5.0 crashes.
- BUG ID 4552 - Autosave: saves once but then doesn't save again.
- BUG ID 4554 - Ctrl/Cmd + Shift dropping a node on top of another in the Node Graph does not swap the two.
- BUG ID 4561/4564 - Nuke won't send clip changed events when the Viewer is closed.
- BUG ID 4577 - Knob->get_value_at() calling non-thread-safe array_at function.
- BUG ID 4588 - Array::Knob::remove_key is setting the wrong value.
- BUG ID 4592 - 4.8 using more memory than 4.5 on certain script.
- BUG ID 4602 - Fixed issues with WinSXS causing Nuke not to run on some Windows XP installs.
- BUG ID 4606 - Python needs splitView() and unsplitView().
- BUG ID 4613 - Managing user knobs: the first tab cannot be edited or deleted.
- BUG ID 4619 - Controls in the New format dialog are not aligned.
- BUG ID 4625 - The Node Graph loses focus after closing a dialog box when in fullscreen layout.
- BUG ID 4649 - Dot: changing the color (gl_color or tile_color) crashes Nuke.
- BUG ID 4650 - Nuke clears the clipboard on exit (fixed for Windows & Mac OS X).
- BUG ID 4667 - Write node: render failing with .exr images on Mac OS X.

5.0v2b1 Bug Fixes

- 3D: Fix for MotionBlur3D to not crash when camera input is not connected.
- 3D: Stopped crashes when render camera input is not hooked up to anything.
- 3D: ObjWriter: Multiple objects in a single geometry stream didn't have their point, uv, and normal indices offset properly in the output file.
- Fix for plugin_appendpath crashing if run from outside an init.tcl, menu.tcl, init.py, or menu.py file.
- The YCbCr colorspace was wrong as the scaling of the numbers was inverted. Corrected to match the transform used by the dpxReader.
- Fix for SplineWarp to work when downrez/proxy is on.
- BUG ID 1668 - Nuke doesn't create a .flexlsrc.
- BUG ID 1699 - Curve Editor: It's very hard to manipulate the box if the curve is flat.
- BUG ID 3785 - Curve Editor: Points incorrectly take selection precedence over selection box.
- BUG ID 4195 - Write: QuickTime output doesn't work with QuickTime 7.4.
- BUG ID 4368 - 3D viewer displaying random geometry 'explosions' when parameters for any 3D input are changed.
- BUG ID 4373 - A customer Truelight Viewer_Input node crashes on zoom, pan, and step frame.
- BUG ID 4393 - Bounding box of downrez image does not show real values.
- BUG ID 4423 - PicReader does not work if the ROI is active.
- BUG ID 4458 - Temporal input handling on OFX plug-ins is broken in Nuke 5.0.
- BUG ID 4472 - Nuke does not handle OFX Infinite RoDs cleanly.
- BUG ID 4484 - Splash screen opens behind the Nuke window.
- BUG ID 4485 - Tab node list in the Node Graph shows all the nodes, including unsupported ones.
- BUG ID 4486 - Pressing 'OK' in a 'Edit help' right-click menu within the Preferences window crashes Nuke.
- BUG ID 4487 - Layouts loading the ones we ship instead of user defined ones.
- BUG ID 4491 - Can't render a single view from a stereo file.
- BUG ID 4492 - Changing the gl buffer depth from Float to Half-Float (or the other way) whilst the viewer is paused will display an artifact image.
- BUG ID 4493 - Switch input hotkeys don't work properly.
- BUG ID 4494 - Nuke continuously renders the same frame when downrez is changed.
- BUG ID 4496 - Viewer page up and page down getting 'trapped' in motion and forward entries.
- BUG ID 4497 - Bezier: Doesn't affect the alpha when the Bezier shape is outside the bbox, 'replace' is checked, and 'clip to' is set to 'bbox'.
- BUG ID 4498 - Read: "invalid argument"; 'file' = //1713-000/.../<file>.%04d.exr.
- BUG ID 4499 - Import_boujou script crashing when run.
- BUG ID 4505 - Alt+# and Ctrl/Cmd+# in the Node Graph not setting zoom levels.

- BUG ID 4506 - OFlow hangs when rendering from command line.
- BUG ID 4507 - Camera projection not working: projecting incorrectly sized region of image (in this case a single pixel across an entire geo obj) when camera is transformed away from origin.
- BUG ID 4537 - Using Alt+Shift to move the beginning or end point on a curve causes the curve to disappear.

RELEASE NOTES FOR NUKE 5.0V1

This is a major new release of Nuke with many new features, improvements and bug fixes. These release notes are organised into two sections: the first describes changes between Nuke 5.0v1 and Nuke 4.8v1, the second is a detailed history of the Nuke 5.0v1 beta releases.

5.0v1

Version

Nuke 5.0v1

Release Date

22 February 2008

Requirements

Supported operating systems:

- Mac OS X (10.4).
- Windows XP SP2.
- Linux CentOS 4.5.

New Features

- **UI overhaul:** If you've used Nuke before you will notice that this version looks very different. The independent floating windows have been replaced with dockable panels within one main application window. All nodes are now grouped together under a set of icons in the vertical Toolbar. The horizontal menu bar contains options for performing actions related to the whole script, the viewers, or editing. The main window is divided into three panes, which you can customize in various ways to suit your preferences. You can even float these if you're wedded to the previous version. There are also two new panels for the Curve Editor and the Script Editor. For more information, see *Using the Interface* and *Compositing Basics* in the user guide.
- We've added support for working with stereoscopic and multi-view projects. You can now set up multiple views in the project settings, compare the different views in the viewer, and manipulate the views using the nodes in the Stereo menu of the Toolbar. For more information, see *Working with Stereoscopic Projects* in the user guide.
- We've added support for Python scripting language in addition to TCL. You can use Python in Nuke's Script Editor to automate long procedures, or to create control panels and knobs for nodes. Python also replaces TCL in some of the tasks related to configuring Nuke. Instead of a menu.tcl file, you now use a menu.py file. For more information, see *The Script Editor and Python* and *Configuring Nuke* in the user guide.
- Some of the colour, filter, channel, and merge nodes have a mask input connector you can attach your matte image to. In the nodes' controls, you can select to use a matte channel from this mask input, from the node's primary input, or from the node after it processes. For more information, see *Selecting Masks* in the user guide.

- Nuke's proxy scale system allows you to define a proxy format or scale in order to work with your comp at some fraction of the input elements' resolution. When proxy mode is activated (via **Ctrl/Cmd+P** or the "proxy mode" toggle in the project root settings), Read nodes will scale down their input by the defined scale and image generator nodes will generate scaled down from their defined format. There are three interconnected parts of the proxy system: the project settings, the input/output nodes, and the Viewer.

The project settings panel contains options for a proxy format and a proxy scale and a choice of which of these should be used. If you use the proxy format, the scaling will be proportionate to the full size/proxy format relationship (not scaled to the proxy format). Alternatively you can specify a simple scale factor using the scale control. Formats can include extra information about offsets and pixel aspect but in the end the important result for either is a scale factor which is applied to all Read nodes and image generators. For more information, see *Project Formats, Proxy Scale, and the Proxy Mode* in the user guide.

The Read node will output at the required proxy scale, so there is no longer a need to add a Reformat node to generate a proxy image. You can also provide a proxy image in the Read node's proxy knob and if the current proxy scale requires an image of the proxy file's size or smaller, this will be used in preference to the full resolution file, saving on I/O time and memory while reading. For more information, see *Loading Files* in the user guide.

Finally, the Viewer has an extra "downrez" setting which multiplies against the current scale, regardless of whether proxy mode is on or not. This provides a quick way to flip to lower resolution processing without any involved setup. It's also particularly useful when a comp includes a just a few very large plates, for example a 10k matte painting, since you can set this "downrez" value to something like 1/16 when viewing just those nodes for better interactivity. For more information, see *Lowering the Display Resolution of Individual Viewers* in the user guide.

- The viewer timeline has a pulldown menu for choosing how to define the frame range shown. By default, the menu is set to **Global**, which means the viewer shows the frame range as defined in the project settings. Setting the menu to **Input** changes the frame range to the frame range of the viewer's current input. **Custom** lets you define the frame range on the timeline. For more information, see *Timeline Controls* in the user guide.
- Some of the Transform nodes have three new motion blur controls: **motionblur**, **shutter**, and **shutteroffset**. When using several of these nodes in a row, the motionblur is still concatenated, and the last transform in the chain defines the motionblur applied. For more information, see *Adding Motion Blur* in the *Transforming Elements* chapter of the user guide.
- Exposure and gamma on the viewer are now applied in the GPU when possible for faster feedback.
- There's now a global undo/redo stack for the whole application in addition to separate undo/redo stacks for the node graph, property panels, and curve editors. For more information, see *Undoing and Redoing* in the Nuke User Guide.
- 3D: added a combined BasicMaterial node for diffuse, specular, and emission materials.
- Added a Color Wheel node in the Image menu.
- Viewer LUTs, exposure, gamma, cliptest and anaglyph are GPU accelerated when possible. Added options of drawing in byte, half-float, or float precision. When byte mode is selected, the pre-5.0 software path is used, otherwise the new hardware-accelerated GPU path is used (if possible).

Improvements

- Tap and quickly release on space bar now expands the focused tab to the full window. Holding down space bar slightly longer raises the right mouse menu.
- 3D:
Changed the materials (except for Diffuse) so they conform to:
 $C = \text{map} * \text{lightingFunctions}() + \text{other}$
Cleaned up global ambient component.

`GeoOp::add_object()` didn't exit properly if the referenced object already existed. Allows `SourceGeo` types to modify their geometry without having to dump their cache completely.

Added `GeoOp::clear_rebuild()` method to turn off rebuild bits as well as turn them on. This gives plug-ins better control over what geometry groups get rebuilt.

Changed emission to rgb instead of rgba.

OpenGL view now subdivides to minimum of 20 so that light effects are moderately accurate on otherwise unsubdivided geometry (like Card).

The Phong node now has the same inputs as the Basic Material node, i.e., `mapD`, `mapS`, `mapE`, and `mapSh`. The equation for the Phong shading is now:

$C = \text{mapE} * \text{emissionColor} + \text{mapD} * C_d * \text{diffuseColor} * \text{color} + \text{mapS} * C_k * \text{specularColor} + \text{input}$.

See *Object Material Properties* in the *3D Compositing* chapter of the user guide for more information.

The "min shininess", "max shininess", and "shininess channel" controls have been added to the Specular and Phong nodes.

See *Object Material Properties* in the *3D Compositing* chapter of the user guide for more information.

The Diffuse node now conforms to the same equation as the other materials:

$C = \text{map} * \text{lightingFunctions}() + \text{other}$.

- Truelight: This node is typically used as a Viewer input node to convert from linear to monitor color space with film look applied. Thus its output, by default, is monitor color space and you would work with a Linear (no change) Viewer LUT. However, if you are using Truelight for processing in your nodegraph and want to convert the output back to linear for further work, you can deactivate the "raw Truelight output" toggle and inverse sRGB will be applied to it so that it looks correct in the Viewer when it, in turn applies a LUT to convert from linear back to monitor space.
The sRGB output toggle knob was renamed to 'raw Truelight output' since what it actually controls is whether the output of the node is the direct (raw) Truelight results or those results converted back to linear.
Truelight output_srgb renamed to output_raw and activated by default, since this causes Truelight output to be unchanged, rather than converted back to linear via sRGB LUT which is generally not desirable although it may look correct if the Viewer lut is set to default sRGB thus canceling it back out.

- Handle HTML in node labels.
- Added "remove jitter" and "add jitter" to the Tracker pulldown options. This used to be controlled by setting the jitter period to be non-zero, so is now easier to figure out and can now be left at a useful default.
- Open multiple clips from the "Read" menu item.
- Updated to use 1.6 CVS OpenEXR and correctly write valid multi-view exr files. Recognize .sxr extension for stereo exr files. (Well, any exr files; we figure out they're stereo from the header.)
- ObjWriter and reader improvements.

Bug Fixes

This lists the bugs that have been fixed since Nuke 4.8v1.

- BUG ID 1304 - Curve Editor: undo/redo is broken for all menu items.
- BUG ID 1339 - Stop Framecycler from running if the render is canceled.
- BUG ID 1677 - Resizing a backdrop causes its children to be "released". Fix is not to select background node while resizing, then when the node is reselected it will pick up its children again.
- BUG ID 2068 - "Start in" field of Windows desktop shortcut left blank, doesn't work for roaming profiles.
- BUG ID 2118 - Bezier: moving points by transform handle pops Bezier to previous keyframe position.
- BUG ID 2457 - IBK colour picker won't simply pick - it takes some fiddling with Ctrl+LMB click.
- BUG ID 2504 - Framecycler doesn't find the file to load if the file name contains "250".
- BUG ID 2510 - Killing a viewer (in 3D mode) will not stop the processing in the tree.
- BUG ID 2539 - Viewer1 is disconnected popping up when executing reformat to proxy (Nuke101-class02).
- BUG ID 2756 - The "Add Expression" dialog (opened by right-clicking an animation button) is missing OK/Cancel buttons.
- BUG ID 2949 - ZBlur: size.h knob has no effect, always seems to blur with a square aspect based on size.w.
- BUG ID 2953 - Problem in GeoOp Split/Merge (3D) - Nuke crashes when opening the stadium script.
- BUG ID 3091 - Write: tiff writer not building on Windows with lzw compression enabled.
- BUG ID 3114 - Viewer doesn't update when wipe is active.
- BUG ID 3242 - Use Phong ambient as a multiplier on global ambient value.
- BUG ID 3260 - Read: tif doesn't read Maya tif into OS X or Linux (Windows ok).
- BUG ID 3304 - 3D modifier nodes seem to have started changing the geo draw colour to their own tile colour.
- BUG ID 3305 - SplineWarp crashes when you start to draw a spline.
- BUG ID 3316 - File handles not closed and temporary files left around when rendering is canceled.
- BUG ID 3317 - Curve editor not drawing reference curves or expression curves correctly.

- BUG ID 3362 – Group: unnamed input crashes Nuke.
- BUG ID 3400 – Noise knob “lucanarity” should be “lacunarity”.
- BUG ID 3405 – Group/Gizmo: not updating from group.
- BUG ID 3410 – Crash, out of memory with specific script. Primatte not freeing memory when de grain turned on.
- BUG ID 3469 – Expression on node’s ‘disable’ knob triggers a crash.
- BUG ID 3728 – Write: Exporting to .mov truncates fps value to 2 decimal places.
- BUG ID 3778 – Nuke 4.7 viewer settings in script do not translate correctly into 5 – LUTs go to monitor, rather than viewer.
- BUG ID 3834 – Parameter linking within groups producing invalid expressions.
- BUG ID 3850 – Crash when disabling MergeGeo nodes.
- BUG ID 3983 – Error message is missing when executing “empty” Write node.
- BUG ID 4267 – First and last frame shortcuts cycle between first and last frame when pressed multiple times. So press first frame once, its goes to first frame, press it again, it goes to the last.
- BUG ID 4286 – Crash in a Tracker setup.
- BUG ID 4309 – Fixed memory leak in ZMerge.
- BUG ID 4344 – Viewer picking wrong format after Card3D node.

Known Bugs & Workarounds

- BUG ID 3688 – Viewer clip test button does not colour red on depressed state.
- BUG ID 3885 – Ctrl/Cmd + Shift dropping a node on top of another in the Node Graph does not swap the two.
- BUG ID 3941 – No dithering in viewer when using GPU for gain/gamma adjustments.
- BUG ID 4321 – FPS whilst playing a read-in image sequence for the first time may be slow when the mouse is motionless and increases when you scrub mouse around in the viewer.
- BUG ID 4368 – 3D viewer displaying random geometry ‘explosions’ when parameters for any 3D input are changed. This only happens if you have two viewers open with one set to 2D and the other 3D attached to the same node. Workaround is to use one viewer and flick between view modes.
- BUG ID 4370 – Newly added root LUT doesn’t appear in Viewer lut list, without restart.
- BUG ID 4379 – Running Nuke in viewer only mode brings up an extra panel.
- BUG ID 4386 – ~ shortcut key may lose focus to viewer 1 when it’s floating on RHEL4, meaning it won’t work as a toggle.
- BUG ID 4393 – Bounding box of downrez image does not show real values.
- BUG ID 4402 – Nodegraph floats on startup if saved in default layout with tabs hidden.
- BUG ID 4406 – Downrez slow with tiled EXR files.
- BUG ID 4407 – F key fullscreen in Framecycler does not restore correctly on Linux.
- BUG ID 4409 – Error rendering single view from stereo file, eg. “Write2 cannot be executed for multiple views”.
This may happen if you have a Write node that has only one view selected to write out in a saved script.

Nuke doesn't hook up the one view correctly when the script is re-opened until the Write node panel is opened.

The workaround is to open the Write node panel in the GUI before rendering or at the command-line specifying the view to render, for example:

nuke5.0 -view left stereoscript.nk

or if you have multiple Write nodes, one stereo (Write1) and the other single view (Write2), for example:

nuke5.0 -X Write1 -x yourscrip.nk && nuke5.0 -X Write2 -view left -x yourscrip.nk

- BUG ID 4413 - Frame boundaries/film gate clipped by near plane.

Bug Fixes Logged During the 5.0v1 Beta Period

5.0v1b18 Bug Fixes

- BUG ID 4394 - Pause viewer feature did not work. This has been fixed.

5.0v1b17 Bug Fixes

- Fix for HTML labels not scaling properly. Also remeasure all nodes when font size changes.
- Fix for the viewer not updating while tracking have nuke.tprint work with unicode objects.
- Fix previous/nextView to not wrap around. This was annoying, and also the common stereo case now acts like the next/prev keys are left/right buttons whereas with more views they keep stepping.
- BUG ID 4355 - OSX PPC: tif reader isn't working (wrong byte order).
- BUG ID 4313 - Coding error in an Op error messages when rendering this script.
- BUG ID 3709 - Empty values should revert to previous value if focus is moved away rather than remaining empty.
- BUG ID 4280 - Customer script produced error Blur5: Interest(channels=0x200), but request(channels=0xf) This is probably a coding error in an Op connected to this one's output.
- BUG ID 4294 - Viewer not resizing as it used to when the panel size is altered.
- BUG ID 4369 - Add copy gizmo to group to the edit node menu and give it a shortcut.
- BUG ID 4372 - Can't use the extract function in this script.
- BUG ID 4384 - Simple 3D script crashes when moving the TransformGeo handle in 3D view.
- BUG ID 4367 - Viewer: gpu lookups seem to be clipping out images for Cineon.
- BUG ID 4389 - An exr written out with the stereo button unchecked cannot be read back in. Crashes Nuke.
- BUG ID 4390 - Nuke startup error message about missing MSVCR71.DLL on fresh Windows XP install.
- BUG ID 4312 - Edit > Node > Filename > Search and Replace adding path to empty proxy field.
- BUG ID 4354 - [getenv TEST] being replaced by its relative file path automatically when using Search and Replace function.
- BUG ID 4222 - Hotkeys for versioning up or down a Read or Write node broken.

5.0v1b16 Bug Fixes

Internal release only.

5.0v1b15 Bug Fixes

Internal release only.

5.0v1b14 Bug Fixes

- OFX plug-ins now appear in the Node Chooser list.
- Fixed .obj writer bug where multiple objects in a single geometry stream didn't have their point, uv, and normal indices offset properly in the output file.
- Implemented Alt-drag to scroll the Properties panel and stopped the scroll area from eating our hotkeys.
- Fix nasty memory trashing crash in TextEditor knob.
- Fixed hang on exit during destruction of running viewer.
- BUG ID 2748 - Tabs have 1 pixel orange smear.
- BUG ID 4107 - 'l' keyboard shortcut is listed in viewer as shortcut for luminance, however its been take over for the jkl implementation.
- BUG ID 4132 - Copy nodes 'to' drop down list contains greyed out channels that can't be selected.
- BUG ID 4273 - Postage stamp byte order wrong on PPC.
- BUG ID 4288 - Nuke 'about' window appears in top left corner when in full screen layout. Clicking anywhere but on it sends it behind the fullscreened layout which makes nuke appear to be frozen because the about window is modal. [Made window no longer modal; still investigating why it goes behind.]
- BUG ID 4290 - TCL doesn't return knob value from grouped values in ColorCorrect.
- BUG ID 4333 - Script Editor syntax highlighting prefs don't update live.
- BUG ID 4334 - Flipbooking Read when Proxy mode is active renders nothing and flips any previously rendered flipbook images.
- BUG ID 4338 - Selecting 'edit' to change newly created channels in AddChannels node shows channels offset by one.
- BUG ID 4343 - No Python trace for errors in .py files run at startup.
- BUG ID 4344 - Viewer picking wrong format after Card3D node.
- BUG ID 4347 - Stereo views not parsing correctly for menu displaying, saving and loading split knobs, etc.
- BUG ID 4348 - Cmd / Ctrl and scroll mouse wheel no longer moves forward and backwards on the timeline.
- BUG ID 4350 - Pressing Enter or Return in a parameter value should select the entire value.

5.0v1b13 Bug Fixes

Important Warning

- Write nodes were errantly defaulted to stereo mode for .exr format. This has been fixed, but existing Write nodes in scripts will have to have their stereo mode toggle activated since they wouldn't have saved the setting matching the default. If you are working on a stereo project, you may want to put the following in an init.py in your NUKE_PATH:

```
nuke.knobDefault("Write.stereo", "true")
```

In order to have them default to stereo for your project.
- Several EdgeBlur bug fixes:
Could erroneously produced differing output depending on what channels were passing through.

Tint control did not work correctly.

Alpha output rendered incorrectly.

Redundant opacity and mix controls.

Blur amount now only affects the edges of the blur area and doesn't scale up the center brightness.

- Fixed .obj reader not closing files.
- Fixed linked enumeration knobs appearing with no menu items.
- Fix crash when selecting luma or matte overlay when using Viewer float or half-float drawing path.
- BUG ID 1339 - Stop Framecycler from running if the render is canceled.
- BUG ID 2949 - ZBlur size.h knob has no effect, always seems to blur with a square aspect based on size.w.
- BUG ID 4083 - When popping up a floating control panel when creating a node it pops the cursor in the name box.
- BUG ID 4115 - 3d overlays are drawing too large.
- BUG ID 4206 - Autolabel not updating nodegraph.
- BUG ID 4212 - Deleting viewer can cause a crash.
- BUG ID 4218 - Panel menu "edit help" broken.
- BUG ID 4219 - SplineWarp src/dstgrid knobs give Undo::beginKnob not called.
- BUG ID 4258 - Add a preference whether or not to clear script editor script input area on execute.
- BUG ID 4259 - Add Script Editor syntax highlighting color prefs.
- BUG ID 4268 - EXR Write nodes should not default to stereo.
- BUG ID 4271 - Quicktime Write nodes don't completely finish, leaving a .tmp file and no .mov file.
- BUG ID 4276 - Ctrl+LMB click in the node graph not mapped to right click (OS X).
- BUG ID 4286 - Crash in a Tracker setup.
- BUG ID 4289 - Curve Editor reverse function doesn't work.
- BUG ID 4291 - Some nodes listed in the menu do not appear in the TAB search function.
- BUG ID 4292 - File browser image preview plane repeats edge pixels out to the edge of the preview window.
- BUG ID 4297 - Decloning doesn't remove the clone mark (red point) from the node in the DAG.
- BUG ID 4303 - Pink and black checkerboard appears briefly when setting A/B views, then opacity slider stops working.
- BUG ID 4307 - Read node missing "sequences" checkbox.
- BUG ID 4308 - Curve editor updates slow on Tracker transform curves when they are recomputing due to changes to track point.
- BUG ID 4309 - Fixed memory leak in ZMerge.
- BUG ID 4314 - Pressing enter in the File Browser text field on a valid file does not create a Read node.
- BUG ID 4315 - Incorrect output when writing to 16 bit linear colorspace dpx.

- BUG ID 4320 - Channel menu getting mixed up when both editing and creating new entries.

5.0v1b12 Bug Fixes

- Stopped DeInterlace gizmo erroring on creation.
- Fixed GeoWrite failing when executing a range of frames from the GUI.
- Fix to BlackOutside node applying incorrectly.
- Fixed Viewer 3D mode hotkey labels.
- Fixed mirrorball warper.
- Node Chooser now uses plug-in names rather than menu items so that each item is sure to be distinct. Fixed some glitches when switching focus with it active.
- Performance tweaks for playback in half float viewer mode.
- Stifled extraneous undo/redo events generated by viewer (changing viewed channels, gain/gamma, etc).
- Fixed crash when deleting added LUTs out of order and disallow deletion of built-in LUTs since some nodes rely on their existence.
- BUG ID 1304 - Curve Editor: undo/redo is broken for all menu items.
- BUG ID 2817 - Strange artifacts in the viewer when disabling/enabling LayerContactSheet.
- BUG ID 2854 - Numeric fields only showing 3 digits past decimal point.
- BUG ID 2967 - Declone doesn't work.
- BUG ID 3285 - Unable to save to the default autosave location when starting up in a non-writable "current directory".
- BUG ID 3461 - Undo::beginknob(data) not called when using primatte to sample colours, reset, etc.
- BUG ID 3628 - Opening very large example script got slower.
- BUG ID 3776 - Viewer jumping to new scale when proxy changed while in "fit" view.
- BUG ID 3806 - Present unified methods for accessing data via Python on different knob types.
- BUG ID 3867 - Add Toolbar items to Layout menu.
- BUG ID 3877 - On screen control widget disappears when Properties Bin is not given foreground focus.
- BUG ID 4009 - Drag and drop from unc path creates an errored out Read node due to path being interpreted incorrectly.
- BUG ID 4028 - Don't create undo events for raising a node panel.
- BUG ID 4031 - File > Save new version appears to set every numeral in the filename to the version.
- BUG ID 4034 - Search function: now only ever returns the first instance of the search pattern.
- BUG ID 4038 - Splash screen opens behind Nuke window.
- BUG ID 4062 - Fix unhandled Undo Begin not called errors.
- BUG ID 4063 - Newly added LUTs not available for selection.

- BUG ID 4065 - Error message displayed when adding new LUTs: "Undefined lut requested (5)."
- BUG ID 4072 - Animation > Copy > Paste still failing after menu items made to work again (Windows only).
- BUG ID 4080 - Bezier control panel tabs that are behind still report true for isVisible().
- BUG ID 4082 - Viewer channel drop down shows 'all' where 'none' should be.
- BUG ID 4085 - Node Graph not doing initial update until clicked in.
- BUG ID 4086 - Right Shift not working for shortcuts on XP.
- BUG ID 4091 - Viewer info pixel positions need to be scaled by proxy/downrez factor.
- BUG ID 4095 - Ctrl+click on a node is not opening the selected node(s) properties panel.
- BUG ID 4101 - Problems adding Commands to Node Graph menu.
- BUG ID 4104 - Viewer A/B menu labels don't update when input is switched.
- BUG ID 4105 - PointsTo3D calculating a single value over and over again.
- BUG ID 4109 - Merge should output the format of the last connected input.
- BUG ID 4115 - 3D overlays are drawing too large.
- BUG ID 4121 - 3D viewer reframing when dragging playhead.
- BUG ID 4128 - Another case of "This is probably a coding error in an Op".
- BUG ID 4137 - "Knob name does not have a node" message.
- BUG ID 4140 - Viewer info line text should always be white.
- BUG ID 4143 - Remove old OpticalFlow node. It crashes instantly due to changes in the underlying architecture but has been deprecated since introduction of OFlow in 4.7.
- BUG ID 4149 - Dot nodes drawing too large by default.
- BUG ID 4150 - Zoom out in viewer hanging in updating alternate lines.
- BUG ID 4159 - Help > Key Assignments doesn't show correct information.
- BUG ID 4179 - Quit shortcut in Group window does not exit.
- BUG ID 4184 - Simplify default autosave path selecting best of three alternatives. This involved addition of a new TCL command "firstof" which returns the first non-empty string from it's arguments.
- BUG ID 4185 - 16-bit sRGB output conversion inaccurate.
- BUG ID 4203 - Typing zero in the proxy scale box, with proxy scale switched on, causes Nuke to crash.
- BUG ID 4205 - Copying and pasting some Merge nodes with more inputs than the default results in only the default input connections being copied (sometimes only one of them if there are two).
- BUG ID 4211 - Fix formatting of Tracker controls.
- BUG ID 4224 - Export Ascii not working and erroring out.
- BUG ID 4233 - Another case of "This is probably a coding error in an Op".
- BUG ID 4240 - Python errors need to print line number.
- BUG ID 4247 - Proxy scaling munging border pixels.

- BUG ID 4267 - First and last frame shortcuts cycle between first and last frame when pressed multiple times. So press first frame once, it goes to first frame, press it again, it goes to the last.
- BUG ID 4274 - Viewer not updating lines on zoom/pan.
- BUG ID 4278 - Export Ascii from control panel animation menu returns error.

5.0v1b11 Bug Fixes

- Fixed crash adding items to "Node Graph" menu.
- Autosave to Nuke temp dir if no filename specified to stop autosave files trying to be created in random readonly directories.
- BUG ID 3077 - Restore MinColor.
- BUG ID 3366 - Ctrl+C in shell doesn't kill Nuke.
- BUG ID 3590 - When proxy mode is active, proxy image will be used if current rendering format is smaller than or equal to it.
- BUG ID 3637 - Canceling OFX plug-in progress dialog from analysis passes does not force the plug-in to stop.
- BUG ID 3651 - Pressing 'Enter' does not work in the File Browser to select a file.
- BUG ID 3761 - Downrez factor in viewer does not work at certain resolutions.
- BUG ID 3798 - Non existent channel used for mask errors cropping up randomly.
- BUG ID 3978 - Timeline doesn't update when range is changed on viewed input node.
- BUG ID 3981 - Current frame field should be wider.
- BUG ID 3983 - Error message is missing when executing "empty" write node.
- BUG ID 4019 - Can't select paint strokes in the viewer.
- BUG ID 4022 - Need a hotkey to step through views (Alt+cursor Up/Down).
- BUG ID 4033 - Crashes running on Windows XP in virtual machine.
- BUG ID 4047 - Some size controls not scaling correctly with downrez factor.
- BUG ID 4122 - An exception is thrown when creating OFX nodes from scripting without GUI running.
- BUG ID 4130 - Selecting curve points in the Curve Editor selects points on hidden curves as well as on current curves.
- BUG ID 4135 - Copy and pasting a node does not connect to the selected node.
- BUG ID 4136 - Node disable shortcut (D) and right-click menu option do not work.
- BUG ID 4142 - Stickynote node saved in old Nuke appears blank in b10.
- BUG ID 4146 - File > Save New Version erroneously renaming 'Desktop' to 'desktop' in file path.
- BUG ID 4161 - Manage user knobs add menu can no longer add size knobs or divider lines.

5.0v1b10 Bug Fixes

- Fixed tooltip editing in user knobs.
- Stopped the Escape key in the node chooser from closing the Node Graph.
- Fixed an assert that was being thrown mistakenly in the cache code.

- GPU initialization cleanup fixing crashes that occurred on viewer creation.
- Fix selection of "Standard" UI preset not working.
- Vertical scroll bar in Properties bin is now always on, to prevent panels resizing.
- Made UI font preferences work.
- Removed use of GL extension causing flicker on OS X.
- Fixed undo in Preferences.
- Remove `nuke.menuBar()` and `nuke.menuItem()` calls as they have been superseded by the object interface used in `menu.py` now. The object interface provides `nuke.menu(name)` to create or retrieve the named menu, and then `n.addCommand()`, `n.addMenu()`, `n.addSeparator()`, and `n.findItem()` for some menu `n`.
The currently available menus are: "Nuke" (the main application menu), "Animation" (the curve editor right-mouse menu and knob animation menus), "Properties" (the right-mouse menu for the control panels), "Nodes" (the node toolbar), "Node Graph" (its right-mouse menu), and "Viewer" (its right-mouse menu).
- Fixed frameslider not clearing current frame number entirely on very large numbers.
- Made viewer LUT list NOT contain "default" so that it always indicates what LUT is set (no wondering what "default" is). When the viewer is initialized it takes the current Root settings viewer LUT value.
- No longer raise panels for input and output nodes in newly created group.
- BUG ID 2545 - Filled out more Python command documentation.
- BUG ID 2656 - Keyboard shortcuts for the exit Yes/No/Cancel box not implemented.
- BUG ID 2841 - Expression link via Cmd+drag on any position on the parameter or on sub knobs.
- BUG ID 2983 - Wipe tool handle appears to twist in 3D space, lines out of sync.
- BUG ID 3132 - Opening [this test script] crashes Nuke.
- BUG ID 3233 - Undo and redo not working in Curve Editor.
- BUG ID 3394 - When pasting items with associated split knobs (and views) we should ask users if they want to add said views to the current script.
- BUG ID 3482 - Make Script Editor icons more legible.
- BUG ID 3517 - Modifier to copy array knob to another (like click-drag makes expression link).
When dragging curve button, it will:
NO modifier - copy values
Ctrl/Cmd - link knobs
Shift - copy expressions/animations.
- BUG ID 3257 - File Browser: hotkey for OK not working when file list had the focus.
- BUG ID 3606 - Need to split function to create motion blur knobs from filter knobs.
- BUG ID 3611 - Layouts are not loaded correctly in the presence of preferences47.nk and a `plugin_addpath`.
- BUG ID 3684 - Python command to output to shell (`nuke.tprint()`).
- BUG ID 3718 - Layouts do not restore un-maximized layouts correctly.
- BUG ID 3792 - Can't edit key values in Curve Editor.

- BUG ID 3796 - Layout saving and loading in script broken.
- BUG ID 3833 - Format menu popup too small to read sizes.
- BUG ID 3855 - 3D not updating and drawing incorrectly.
- BUG ID 3886 - Go to frame field is not preselected when the dialog is opened.
- BUG ID 3896 - New format setting in Project settings cause lost of format selections.
- BUG ID 3918 - Viewer should update to add/remove stereo view menu when Root Views setting changes.
- BUG ID 3954- Cross-dissolve feature doesn't work on Viewer "split-screen" jack.
- BUG ID 3976 - File browser stores favorites without a final slash.
- BUG ID 3979 - Preferences alignment of widgets is wrong in many places.
- BUG ID 3981 - Current frame field should be wider.
- BUG ID 3984 - Crash when executing "empty" write node.
- BUG ID 3991 - Edit > Select All doesn't work.
- BUG ID 4001 - Channel/Add menu item creates wrong operator.
- BUG ID 4003 - Color picker not getting passed back undos from color knobs.
- BUG ID 4007 - Transform problems when combined with downrez factors.
- BUG ID 4012 - Modified Preferences reloaded, then tweaked again lose previous modifications.
- BUG ID 4017 - Unable to delete tracker from previously saved script.
- BUG ID 4018 - Render SVG icon images to PNG for faster initialization.
- BUG ID 4021 - Changing the default viewer LUT does not update in the viewer.
- BUG ID 4026 - Write nodes with blank label on the Node Graph.
- BUG ID 4027 - Viewer channel drop down should not have a 'new' option.
- BUG ID 4036 - Output node should be deletable when copied out of group.
- BUG ID 4041 - Colour picker no longer toggles on and off from the colour picker button in the control panel.
- BUG ID 4045 - Flipbook doesn't render reliably when multiple views exist.
- BUG ID 4046 - Dustbust on-screen controls not scaling with downrez.
- BUG ID 4047 - Flare on-screen controls not scaling with downrez.
- BUG ID 4056 - Cornerpin (and potentially other transforms) saving out wrong value of knobs.
- BUG ID 4073 - Crash modifying expression.
- BUG ID 4076 - Bezier produces wrong bounding box.
- BUG ID 4092 - ColorWheel node proxy glitches.
- BUG ID 4096 - Text in label fields cannot have white space added to it. As soon as you do the cursor snaps back to the beginning of the entry field.
- BUG ID 4097 - Group Input nodes cannot be hooked up to connections expecting a 3D input.
- BUG ID 4099 - File Browser for loading in camera chan files has a 'Save' button rather than a 'Load' or even 'OK' button.

Now 'get_filename' produces a browser with an "Open" button, and there is a new 'get_savefilename' that produces a browser with a "Save" button.

- BUG ID 4108 - MaskChannel knob errors when loading old scripts.
- BUG ID 4110 - Can't open Group nodes with Ctrl+Enter.

5.0v1b8 Bug Fixes

- Miscellaneous fixes to Python/TCL panels.
- Turned off animation on various Preferences that shouldn't be animatable.
- Last frame of range now shows on Viewer timeline.
- Fixed weird snapping on OS X where windows snapped to old phantom window positions.
- Added ability to set the bbox to the A input in Merge2.
- Local Redo implemented.
- TAB instead of Spacebar to raise Node Chooser.
- Added Anaglyph GPU mode.
- Viewer bug fixes.
- Fixed color chips in node control panel not representing the actual value of the node's colour.
- Don't write default tile/GL colour to script.
- EXR reader implementation bug fixes.
- BUG ID 1677 - Resizing a backdrop causes its children to be "released". Fix is not to select background node while resizing, then when the node is reselected it will pick up its children again.
- BUG ID 2793 - Dustbust not laying down undo/redo stack entries correctly.
- BUG ID 2996 - Undo::beginKnob(name) not called!
- BUG ID 3074 - Put symbolic link or script at base of app directory pointing to executable.
- BUG ID 3144 - All plug-ins menu needs to be reimplemented.
- BUG ID 3221 - Recent files hot keys don't work.
- BUG ID 3241 - Script Editor should default to input area selected.
- BUG ID 3264 - Key assignments (nuke.hotkeys) reporting Ctrl+ on OS X.
- BUG ID 3317 - Curve editor not drawing reference curves or expression curves correctly.
- BUG ID 3320 - ROI draws incorrectly when proxy scale is not 1.0.
- BUG ID 3380 - The Node Graph looks really rather ugly when zoomed out on a script.
- BUG ID 3538 - Expression node layout very cramped.
- BUG ID 3672 - Can't get the knobs on a transform.
- BUG ID 3685 - Ctrl/Cmd shift C to set node colour via the spawned colour picker instead sets the current node colour to black.
- BUG ID 3687 - Shift # for wipe input to viewer not working.
- BUG ID 3696 - Alt+X should allow you to source Python as well as TCL and .nk files.
- BUG ID 3763 - Update multiview EXR I/O.

- BUG ID 3776 - Huge jump may occur in the viewer when comparing images.
- BUG ID 3779 - Small images do not frame properly and output gets corrupted.
- BUG ID 3814 - Images are not drawing correctly in the viewer in proxy mode.
- BUG ID 3822 - Starting from Desktop icon or Applications/Graphics/ icon sometimes causes Nuke to hang.
- BUG ID 3829 - Colour Picker not saving position and opening in the same place with the same size next time. Also added a button to Preferences to clear the session's remembered color picker positions.
- BUG ID 3844 - Crash at startup in system call.
- BUG ID 3864 - File Browser should not be case sensitive in list order.
- BUG ID 3868 - Crash in conversion to FLOAT16.
- BUG ID 3873 - Loading an untitled autosave started up with a clear modified flag.
- BUG ID 3874 - Viewer menus no longer show hotkey assignments.
- BUG ID 3878 - Certain preferences file causing a crash at startup.
- BUG ID 3897 - Crash on render menu after canceling tracker progress.
- BUG ID 3900 - Click on nothing in viewer while updating jumps to rendering at that scan-line.
- BUG ID 3901 - Panel tabs expand in size when Preferences are saved.
- BUG ID 3908 - Crop defaults seem to be picking up on script format rather than the current stream format.
- BUG ID 3911 - Changing downrez level whilst Paint node is in use causes the brush circle to become huge and lose function.
- BUG ID 3912 - Add a "separate and join" views item to Stereo menu.
- BUG ID 3917 - Rendering multiple views to a sequence doesn't work.
- BUG ID 3925 - StickyNote crashes when certain keys are pressed over it.
- BUG ID 3928 - 'Track range of frames' does not track the range specified.
- BUG ID 3930 - CurveTool node crashes Nuke when moving mouse after pressing Go.
- BUG ID 3946 - Put 'nodes' creator object under nuke module rather than global everywhere. NOTE: This means that the old `nuke.nodes()` function which returned all nodes in the script had to move to `nuke.allNodes()`. At least this is more consistent with the existing `nuke.selectedNodes()`.
- BUG ID 3951 - Stereo buttons getting animation menu items (File, Edit, Predefined).
- BUG ID 3952 - JoinViews input labels should show full name, not just first letter.
- BUG ID 3958 - Split views knobs don't refresh when view is toggled in viewer.
- BUG ID 3960 - File_Knob shows view menu even if set to no animation.
- BUG ID 3965 - Viewer with input on range 1,1 (or anything nil) used to show global time range.
- BUG ID 3968 - Size > Fullscreen is missing.

5.0v1b7 Bug Fixes

Internal release only.

5.0v1b6 Bug Fixes

- Added Undo for color knobs.
- Added side-by-side and anaglyph Viewer stereo display modes.
- 'X' in nodegraph now supports both TCL and Python.
- Fixed crash when creating dot nodes.
- Fixed crash on nodes in error state.
- Float button on an already floating panel, docks it back in bin, if bin exists.
- If there is no Properties bin new node control panels now float automatically instead of creating a new floating bin.
- General views functions now on a Views menu with Stereo menu as a submenu.
- Preferences for UI colors restored.
- Cursor keys now pass through the node graph and Curve editor to change frame on current viewer.
- Fixed a crash involving the Info Window.
- Changed Group control panel "Show" button to 'S'.
- Number field tooltips now display expression, if any.
- Fixed a bug where pressing Tab in a number field set a key.
- Fixed cancel in file import dialog not cancelling.
- Truelight was using viewer LUT to convert back to linear, which could change at any time. Now always uses sRGB.
- Log2Lin: If blackpoint is 0 and linearized value goes below 0, values are now clipped at 0. Problem reported as "our blackpoint is set to 0 and we're getting negative values when input is 0". If black point is non-zero, then negative values are possible and correct and still occur.
- Fixed a bad knob name in ColorWheel.
- Window snapping restored on Linux, to the extent XWindows allows.
- Default number of threads is now equal to number of cores or 2, whichever is larger. Testing since recent Cache/Thread work indicates that running more threads than CPUs is no longer particularly beneficial (and sometimes detrimental).
- Python:
 - Python 'nuke' module functions `getInput()`, `getFilename()`, and `getClipname()` now return None when dialog is canceled.
 - Added Python panel 'execute' function for script objects.
 - Major cleanup on menu/toolbar system. "All Plugins" now works again. You can now retrieve/create a menu by name. See the `menu.py` and `toolbars.py` scripts in the installation.
 - The active Viewer can be gotten with `nuke.activeViewer` and it can be told play, stop, and change current frame.
 - Python equivalent of the TCL 'sample' function now available in nuke module.
- Curve Editor:
 - Now shows/hides tree items on panel expand/contract as before.
 - Now correctly selects items on panel open or animation creation.
 - Now deselects all items when clicking in empty space in the tree.

- Experimental:
Space bar in the node graph pops up a node chooser field/menu.
- BUG ID 2068 - "Start in" field of Windows desktop shortcut left blank, doesn't work for roaming profiles.
- BUG ID 2118 - Moving points by transform handle pops Bezier to previous keyframe position.
- BUG ID 2457 - IBK colour picker won't simply pick - it takes some fiddling with Ctrl+LMB click.
- BUG ID 2504 - Framecyclor doesn't find the file to load if the file name contains "250".
- BUG ID 2510 - Killing a viewer (in 3D mode) will not stop the processing in the tree.
- BUG ID 2659 - Bezier not laying down undo stacks.
- BUG ID 2670 - Entering formulas in UI numeric fields doesn't evaluate.
- BUG ID 2687 - Arrow icons on ShuffleCopy.
- BUG ID 2711 - Preferences defaults for timeouts were in ms instead of seconds.
- BUG ID 2738 - Paint OSC does not follow pointer.
- BUG ID 2756 - No 'add expression' link on the animation menu drop down.
- BUG ID 2783 - Viewer shows artifacts when Viewer Gain value is changed.
- BUG ID 2824 - Hotkeys(...) returns trash instead of list of available hotkeys.
- BUG ID 2873 - MenuBar(...) and menuItem(...) do not work from Script Editor.
- BUG ID 2887 - Channels: in-active item on edit menu.
- BUG ID 2913 - Viewer caching/playback not updating while dragging in the timeline.
- BUG ID 2966 - ColorCorrect cant select channels that exist in this expr.
- BUG ID 2996 - Undo::beginKnob(name) not called.
- BUG ID 3114 - Viewer doesn't update when wipe is active.
- BUG ID 3120 - Add Proxy toggle to Viewer and move downrez popup next to Proxy.
- BUG ID 3160 - Add a button and make Ctrl+P toggle proxy in viewer.
- BUG ID 3178 - Recent Files menu doesn't work correctly.
- BUG ID 3199 - File import and export is broken in Curve Editor.
- BUG ID 3233 - Undo redo not working in Curve Editor.
- BUG ID 3310 - TCL/Python panels with more than one text input widget wouldn't take any input.
- BUG ID 3351 - Crash when running Furnace WireRemoval.
- BUG ID 3363 - Nuke not accepting drag and drop events into the node graph.
- BUG ID 3367 - Nuke installs to "program files" rather than "program files (x86)".
- BUG ID 3408 - Proxy mode checkbox in Preferences doesn't reflect Ctrl+P toggle.
- BUG ID 3456 - Output node is not deleted when pressing Delete.
- BUG ID 3482 - Make Script Editor icons more legible.
- BUG ID 3484 - Enter hotkey doesn't open selected nodes' control panels or Esc close.
- BUG ID 3489 - GPU accelerated viewer effects now work on OS X/ATI.

- BUG ID 3502 - Some panels code is not exposed through Python.
- BUG ID 3505 - Pop up panels going behind main window.
- BUG ID 3527 - Curve Editor doesn't hide unselected curves.
- BUG ID 3544 - Add a toolbar to control panel bin with options to lock bin against new panels, limit number of panels, and clear.
- BUG ID 3577 - Recording unnecessary data (default font) in the script file.
- BUG ID 3582 - Floating or pop-up windows sometimes open behind other windows.
- BUG ID 3622 - Ctrl+click not resetting individual knob values in Gizmos to default.
- BUG ID 3624 - Grain: presets not updating.
- BUG ID 3625 - A furnace top menu is displayed in Nuke when Furnace1.1v3_OFX1.0_Win32 is installed.
- BUG ID 3636 - Trying to attach the second input of an OFX node to an image sequence causes crash.
- BUG ID 3678 - Increase size of expression window.
- BUG ID 3679 - Expression windows disappear behind main UI window if you click anywhere else on the UI.
- BUG ID 3682 - Edit expression link in Curve Editor does not work.
- BUG ID 3694 - Pressing 'Cancel' in the render window renders instead of cancelling.
- BUG ID 3701 - Expose LUT conversion functions through Python.
- BUG ID 3706 - Script Editor: syntax highlight for single quotes.
- BUG ID 3710 - Script Editor: load and save script icons need to be more distinguishable.
- BUG ID 3711 - File Browser requires a click on a folder or button before the right click starts to work when browser first opened.
- BUG ID 3716 - Funny little temporary windows appear when trying to load in Scene and Scanline with the following steps.
- BUG ID 3721 - Nuke key assignments help document shows &s and @s.
- BUG ID 3728 - Write: Exporting to .mov truncates fps value to 2 decimal places.
- BUG ID 3749 - Nuke.GetColor() using the system colour picker instead of Nuke's.
- BUG ID 3755 - -inf appears at very low pixel values fed into Merge set to diagonal mode.
- BUG ID 3758 - Nodes do not connect if you drag and drop connectors, and use the middle/right-click to cycle through the connections.
- BUG ID 3756 - Int knobs getting wrong defaults on file readers.
- BUG ID 3757 - Crash when focus change causes newly focused widget to be destroyed.
- BUG ID 3762 - Hide floating window does not work properly.
- BUG ID 3764 - The "main" view gives an error if not deleted once more views are created (until the script is reloaded).
- BUG ID 3771 - Broken user knobs causing errors when reloading script.
- BUG ID 3778 - Nuke 4.7 viewer settings in script do not translate correctly into 5 - LUTs go to monitor, rather than viewer.
- BUG ID 3781 - Search is case dependent and shouldn't be.
- BUG ID 3782 - Handle colour tinting textures in OpenGL view.

- BUG ID 3789 - Python script hanging after more than 190 calls to `nuke.createNode()`.
- BUG ID 3800 - Constantly redrawing scanline viewer when dragging around the transform jack.
- BUG ID 3804 - ShuffleViews buttons don't work.
- BUG ID 3806 - Some knobs (color, xy) not returning values cleanly through Python scripting.
- BUG ID 3809 - UI float panels destroyed by removing only one of their panes/tabs when there may be many (so losing data).
- BUG ID 3811 - Viewer update glitches.
- BUG ID 3813 - "Want channel" error message.
- BUG ID 3821 - Fit 'F' hotkey not working in the node graph.
- BUG ID 3834 - Parameter linking within groups producing invalid expressions.
- BUG ID 3835 - Menu.tcl is still present under plug-ins.
- BUG ID 3838 - Pressing X to execute a script command doesn't capture keyboard input.
- BUG ID 3850 - Crash when disabling MergeGeo nodes.
- BUG ID 3859 - Framecycler will not start on a certain script.
- BUG ID 3869 - Viewer hotkey changes:
 - IP Toggle: Alt+P
 - ROI toggle & draw out: Alt+W
 - Play backwards: J
 - Stop: K
 - Play forwards: L
 - Camera lock: Ctrl+L
- BUG ID 3875 - Edit > Node > Uncolor fails.
- BUG ID 3881 - If `NUKE_NO_VIEWER_GPU` environment variable is set (to anything) Nuke will not use the GPU for Viewer effects like gain/gamma and LUTs.
- BUG ID 3882 - Properties panel contents comes unhinged when tab is covered.
- BUG ID 3883 - View knob revert/undo support.
- BUG ID 3894 - Changing between layouts with icon Toolbar and those without it causes crash.
- BUG ID 3898 - Restore All Plugins to Other menu.
- BUG ID 3906 - Double-clicking does not move the clicked node's control panel to the top of the Properties panel.

5.0v1b5 Bug Fixes

- Internal release only.

5.0v1b4 Bug Fixes

- File browser: fixed clicking in the favourites list when favourite is already selected.
- Fix for keyboard navigation in combo boxes firing shortcuts.

- Added a variety of Pulldown_Knob for Python scripts. Fixes the Grain-presets-not-working problem.
- Added checks to stop menu commands crashing when running in console mode.
- Fixed disappearing Range_Knobs.
- Improved error message when trying to execute a viewer.
- Fixed slow playback when Curve Editor is visible.
- Fixed controls not updating when using cursor keys to change frame.
- Fixed drawing of ghostly frameslider playhead when zoomed in.
- Fixed frameslider not redrawing playhead properly with big frame numbers.
- Fixed crash in Read node because it had the wrong information. Also made it reopen file if reload button or the LUT/premult/raw were changed.
- Added the WH button back into BBox_Knob.
- Fix for toolbar menus popping up unexpectedly when you click on a button and then dismiss the menu by clicking elsewhere.
- BUG ID 2539 - Viewer1 is disconnected popping up when executing reformat to proxy (Nuke101-class02).
- BUG ID 2761 - No way to edit or delete bookmarks in image/script browser.
- BUG ID 3080 - Crash/freeze when huge script created.
- BUG ID 3149 - Nodes not erroring out correctly.
- BUG ID 3203 - File > Export nodes as script does not work.
- BUG ID 3304 - 3D modifier nodes seem to have started changing the geo draw colour to their own tile colour.
- BUG ID 3306 - Selecting the 'clear all' in the tracker control panel offsets the tracking box.
- BUG ID 3366 - Ctrl+C in a shell doesn't kill a -x render on Windows.
- BUG ID 3410 - Crash, out of memory with specific script. Primatte not freeing memory when degrain turned on.
- BUG ID 3466 - Editing framerate (frame_range_lock) field is problematic.
- BUG ID 3499 - Alt + i a.k.a. script_data.tcl or the script information pop up is reporting a maximum of 64 channels.
- BUG ID 3565 - Cursor key frame change in viewer doesn't cause viewer handles to redraw like scrub timeline does.
- BUG ID 3568 - Default knob values reading in incorrectly.
- BUG ID 3599 - Nuke doesn't run from a network path on Windows.
- BUG ID 3602 - Preferences: sliders don't work.
- BUG ID 3609 - NDK include file should go back to its original location and symlink to the new one.
- BUG ID 3639 - Crash when manipulating project views.
- BUG ID 3640 - Pressing page up causes a crash in the viewer.
- BUG ID 3664 - Timeline indicator of frame should appear at cursor position on hover.
- BUG ID 3671 - Hotkey for 'clear output window' in script panel (Ctrl+Backspace).
- BUG ID 3674 - Saving script won't warn when overwriting.

- BUG ID 3690 – Opening a browser from the Script Editor changes filter to *.py and doesn't change it back.
- BUG ID 3691 – Nuke.display does not update data from previous session until update is manually pressed.
- BUG ID 3696 – Alt+X should allow you to source Python as well as TCL and .nk files.
- BUG ID 3715 – Truelight colour correction behaviour is different in 5.0 compared to 4.8. Flipped default for output to be the raw truelight output rather than converted back to linear.

5.0v1b3 Bug Fixes

- Fixed tabs vanishing on CentOS while dragging.
- CameraShake was missing its icon.
- Don't hang when the viewer is zoomed out a long way.
- Moved file preview to inside the chooser instead appearing in a random floating position on Windows and Linux.
- Formatted numeric inputs so they never use exponential notation.
- User knobs: fixed adding of groups and pulldown choices.
- Fix for Preferences sliders not updating their text fields.
- Minor changes to Paint/Tracker layout and tooltips.
- Initial texture-based LUTs.
- Project3D must not restrict the UV range when the renderer is in UV mode.
- BUG ID 2800 – Undo a Group node creation causes curve editor to be removed.
- BUG ID 2933 – OFX plug-ins with analysis pass not drawing every frame as it analyses as they used to.
- BUG ID 2953 – Problem in GeoOp Split/Merge (3D) – Nuke crashes when opening the stadium script.
- BUG ID 3091 – Write: tiff writer not building on Windows with lzw compression enabled.
- BUG ID 3204 – Viewer connections should not be undoable.
- BUG ID 3260 – Read: tif doesn't read Maya tif into OS X or Linux (Windows ok).
- BUG ID 3286 – File browser should scan when a full \\server\share\ path is typed in.
- BUG ID 3362 – Group: unnamed input crashes Nuke.
- BUG ID 3365 – Tracker: no progress bar so no way to stop it once started.
- BUG ID 3366 – Ctrl+C in shell doesn't kill a -x render (fixed on Linux & Mac).
- BUG ID 3381 – Layouts need to store which order tabs are in a panel.
- BUG ID 3405 – Group/Gizmo: not updating from group.
- BUG ID 3419 – Curve Editor is opened when Nuke starts (instead of the DAG window).
- BUG ID 3429 – Pic reader not reading RGBA format.
- BUG ID 3431 – Old shortcut Ctrl+arrow should be restored (divides the frames to next key-frame).
- BUG ID 3437 – 3D double clicking on a object no longer opens its properties.

- BUG ID 3446 - Go to frame (Alt+G) should take formula.
- BUG ID 3458 - Floating parameters open up next to the node.
- BUG ID 3462 - Ctrl+click not resetting individual knob value to default.
- BUG ID 3465 - Undos not calling a redraw when one is needed.
- BUG ID 3469 - Expression on node's 'disable' knob triggers a crash.
- BUG ID 3474 - DDImage/include/Box3.h include DDMath2 file that is not distributed.
- BUG ID 3479 - Connecting a viewer to a Dot node which has no input sets the viewers mode to 3D.
- BUG ID 3432 - Drag and drop title and gl color boxes between nodes.
- BUG ID 3481 - Ctrl+click on tab to float that tab.
- BUG ID 3494 - Alt/option drag on parameter values does not start the drag from the digit which you mouse down on, rather it starts from the digit which you had previously selected.
- BUG ID 3502 - Some panels code is not exposed through Python.
- BUG ID 3520 - Show input node's name next to input name in control panel input menu.
- BUG ID 3546 - Colour swatches should be drag and dropable on each other.
- BUG ID 3551 - Reformat: in 'to box' mode the height field should be disabled unless force this shape is toggled on.
- BUG ID 3557 - Hopping into 3D view then back again into 2D gives black.
- BUG ID 3560 - Request for a Python function which adds a view to the project.
- BUG ID 3580 - Alt+1 hotkey in viewer doesnt go to zoom level 1 as it used to.
- BUG ID 3585 - Ctrl+click in DAG does not raise right-mouse menu on OS X.
- BUG ID 3595 - Knob_default command no longer works.
- BUG ID 3603 - File browser no longer shows . (hidden) file names once . is entered in the entry field.
- BUG ID 3611 - Layouts are not loaded correctly in the presence of preferences47.nk and a plugin_addpath.
- BUG ID 4145 - Exception occurs when "Source a script" action cancelled.

5.0v1b2 Bug Fixes

- Fixed potential crash editing node name field.
- Fixed glitch in node panel widget hiding/disabling.
- TCL command 'x' dialog execute script from file restored.
- Fixed some curve editor UI glitches.
- Returned 'K' shortcut for Copy node.
- Paint knob no longer updates stroke list every time mouse moves.
- Fixed user knobs writing out unset tooltips, which confused loader.
- Fixed crash setting empty label on knob with empty label already.
- Fixed GL "invalid operation" error in Curve Editor.
- Ported in all relevant bug fixes from 4.8 beta cycle.

- Further fixes to avoid duplicate node names and update expressions when node names are changed.
- Fixed memory leak in OFX host code.
- Added information for -s option to command line help output.
- Fixed File Browser sequenced image filters.
- Script Editor now executes on keypad enter.
- Grade and Exposure use colour control rather than colour picker.
- Script Editor input window is not cleared if an error occurs.
- Script Editor only executes selected text when a selection is made in input field.
- Python execute() function is now executeMultiple() and execute() takes simpler arguments.
- BUG ID 2519 - Make File Browser default size larger.
- BUG ID 2550 - Move Nodegraph view split marker on nodes to more clearly visible location.
- BUG ID 2584 - Script editor, if saved in default layout, does not appear when nuke is launched.
- BUG ID 2670 - Can't enter formulas entered into numeric fields for immediate evaluation.
- BUG ID 2687 - Improved ShuffleCopy icons.
- BUG ID 2756 - "Add Expression" dialog missing OK/Cancel buttons.
- BUG ID 2784 - Curve editor not always adding/removing curves in sync with control panel.
- BUG ID 2852 - Layout problems with Paint controls' list of strokes box and column sizing.
- BUG ID 2881 - No way to set specified frame range on Paint.
- BUG ID 2914 - Analysis passes are creating extraneous entries on the curve editor list.
- BUG ID 2950 - Text not wrapped in some OFX About windows.
- BUG ID 3013 - Can't pick Card3D rotation widget in Viewer.
- BUG ID 3054 - No OFX plug-in icons on Windows.
- BUG ID 3080 - Fixed crash when creating enormous numbers of nodes procedurally.
- BUG ID 3084 - Curve editor in param panels not selecting the correct curves by default.
- BUG ID 3100 - Glitch in reordering user knobs.
- BUG ID 3154 - No image format information in viewer.
- BUG ID 3167 - Fix deadlock on Windows causing freeze at exit.
- BUG ID 3196 - File browser does not have a sequence check box when browsing for scripts.
- BUG ID 3203 - File > Export nodes as script doesn't work.
- BUG ID 3204 - Viewer create/delete should be undoable but viewer connections should not go on undo stack.
- BUG ID 3212 - Crash on load due to curve editor trying to add and display all curves.
- BUG ID 3218 - File knobs can't be split for multi-view.
- BUG ID 3222 - "List only visible" in the paint node doesn't work.
- BUG ID 3234 - Bezier colour knob has no colour chip.
- BUG ID 3236 - File browser slow to show files matching filter if there are a lot of files in the directory.

- BUG ID 3229 - 3D grid centre colour is red on Linux/Windows.
- BUG ID 3242 - Use phong ambient as a multiplier on global ambient value.
- BUG ID 3243 - Sliders need a bigger "hit" area.
- BUG ID 3265 - New floating control panels have scroll bar on OS X and Linux.
- BUG ID 3267 - Panel menu "New Viewer" just moves existing viewer.
- BUG ID 3268 - Curve Editor automatic open of animated params searching recursively in gizmos.
- BUG ID 3275 - Colour picker slider ranges should match knob range.
- BUG ID 3278 - Various draw nodes have groups in main tab for things that used to be in separate tab pages.
- BUG ID 3279 - No 'Save' and 'Close' buttons in Preferences.
- BUG ID 3282 - Viewers not saving/loading positions correctly and spawning without tabs.
- BUG ID 3284 - Viewer stereo buttons blank on Windows.
- BUG ID 3286 - File Browser hangs on Windows trying to find tab-completions if you type \\ into the text field.
- BUG ID 3287 - Tracker not drawing overlay when tracking.
- BUG ID 3288 - Viewer not updating zoom pulldown when switching between inputs and auto scaling.
- BUG ID 3289 - Hang when opening a new script from an existing Nuke window.
- BUG ID 3290 - No text in Curve Editor (panel and control panels curve editors).
- BUG ID 3293 - Crash when running `load_all_plugins()` from terminal mode (-t).
- BUG ID 3296 - Crash when closing Bezier control panel.
- BUG ID 3298 - Add built-in TCL 'Python' command that uses Nuke's Python for studios who have implemented a TCL plug-in module against their own possibly incompatible Python.
- BUG ID 3300 - New Viewer floating when it shouldn't.
- BUG ID 3301 - Preferences window should stay on top. (Fixed on Linux/Windows but not on OS X due to platform-specific technical complications.)
- BUG ID 3303 - Fix HTML docs page (Help > Documentation) old links, etc.
- BUG ID 3305 - SplineWarp crashes when you start to draw a spline.
- BUG ID 3306 - Selecting 'Clear all' in the tracker control panel offsets the tracking box.
- BUG ID 3313 - Proxy does not work when set to format mode.
- BUG ID 3316 - File handles not closed and temporary files left around when rendering is canceled.
- BUG ID 3321 - Slow open/beachball on large script.
- BUG ID 3332 - Rendering single frame by giving just a single frame number fails to execute.
- BUG ID 3339 - Viewer camera selection missing "default" selection.
- BUG ID 3341 - Curve Editor hotkeys don't work.
- BUG ID 3344 - Add a "Clear output" button to Script Editor.
- BUG ID 3346 - Script Editor's "Source script" and "Load script" buttons are swapped.
- BUG ID 3350 - Cannot access `argv` from Python in GUI.

- BUG ID 3356 - FrameCycler on Read only loads one frame.
- BUG ID 3359 - Alt+G to go to frame does not work.
- BUG ID 3361 - "Set knobs to default" fails on channel knobs.
- BUG ID 3370 - Default view not assigned early enough when starting in terminal mode.
- BUG ID 3382 - Crash connecting viewer to Write node on exr with stereo input.
- BUG ID 3383 - Hash on Read nodes clipped to wrong range and caused invalid cache hits.
- BUG ID 3388 - Crash running OFX Steadiness analysis.
- BUG ID 3390 - View selection menu should show views in same order as defined in settings.
- BUG ID 3393 - Stereo view not passing up correctly through 3D nodes.
- BUG ID 3395 - Curve editor shows OFX 'hidden' parameters.
- BUG ID 3400 - Noise knob "lucanarity" should be "lacunarity".
- BUG ID 3407 - Animated 3D nodes don't update when current time is changed in viewer.
- BUG ID 3413 - File Browser completion should not be case-sensitive.
- BUG ID 3414 - Timeline freaks out on ranges with huge numbers.

DEVELOPER NOTES

Here are the changes relevant to developers.

Differences Between Nuke 5.0 and Nuke 4.8 Plug-ins

Constructor takes a `Node*` argument. This is so that constructors can call methods that need the node pointer. This means that you must add this argument to your plug-ins constructor and make it call the base class:

OLD: `Mylop() {...}`

NEW: `Mylop(Node* node) : lop(node) {...}`

Also, you have to add the node argument to the "build" function that is put into the `Op::Description`:

OLD: `static Op* build() {return new Mylop();}
const Op::Description MyOp::description("Mylop", 0, build);`

NEW: `static Op* build(Node* node) {return new Mylop(node);}
const Op::Description MyOp::description("Mylop", 0, build);`

The "@" commands in labels and tooltips have been replaced with an HTML-like syntax used by Qt:

OLD: `Tooltip(f, "This is @i;italics");`

NEW: `Tooltip(f, "This is <i>italics</i>");`

Also, Nuke always puts the name of the knob into the tooltip, so you may want to remove your own to avoid redundancy:

OLD: `Float_knob(f, &f, "knobname");
Tooltip(f, "knobname\nThis controls something");`

NEW: `Float_knob(f, &f, "knobname");
Tooltip(f, "This controls something");`

`Op::status` has been removed. To report your progress use these:

```
Op::progressMessage(const char*);
Op::progressFraction(double);
Op::progressFraction(a,b) // same as progressFraction(float(a)/b);
```

`execute()` no longer takes an array of frames. Instead, Nuke sets the current frame (and any other parts of the `outputContext()`) repeatedly and calls the new `execute()` for each of them. In most cases, this means your `execute()` should be much simpler.

OLD:

```
bool Mylop::invalidate(Hash ignored) {
    // indicate that only input and "mysetting" have any effect:
    Hash hash(input().hash());
    hash.append(mysetting);
    return !op::invalidate(hash);
}
```

NEW:

```
void Mylop::append(Hash& hash) {
    // replace with new value:
    hash = input().hash();
    hash.append(mysetting);
}
```

If you use the current frame number in your calculations, note that it has completely changed. The frame number is available in `outputContext().frame()`, so you don't (and should not) store it yourself.

OLD:

```
class Mylop {
    double saved_frame;
    ...
};

bool Mylop::set_frame(double& f) {
    this->saved_frame = f;
    return true; // indicates that frame makes a difference
}

Mylop::engine(...) {
    do_something(saved_frame);
}
```

NEW:

```
class Mylop {
    ...
};

// you must implement this so that frame number changes hash:
void Mylop::append(Hash& hash) {
```

```

    hash.append(outputContext().frame());
}

Mylop::engine(...) {
    do_something(outputContext().frame());
}

```

Nuke keeps track of how you split inputs, making referencing them easier. However, it is compatible with the older code:

OLD: int Mylop::split_input(int) {...}
 engine(...) {
 // get the 4th part of 2nd user-visible input:
 lop& i = input(split_input(0)+4);
 }

NEW: int Mylop::split_input(int) {...}
 engine(...) {
 // get the 4th part of 2nd user-visible input:
 lop& i = input(1,4);
 }

To set the input frame number, you must modify the OutputContext object with a new method. The old method will not work and will not be called.

OLD: void Mylop::input_frame(int n, double& frame, double& shutter) const {
 frame = get_frame_for_input(n);
 }

NEW: const OutputContext& Mylop::inputContext(int a, int b, OutputContext& scratch) {
 // a = user-visible input number, b = split number
 scratch = outputContext();
 scratch.frame(get_frame_for_input(a+b));
 return scratch;
 }

Note that you can also change any other parts of OutputContext, such as the view number. This is how multiple views are handled. The Anaglyph node splits its inputs and asks for a different view from each, then colours the two inputs and merges them together.

gotoFrame is replaced with gotoContext:

OLD: gotoFrame(10);

```
NEW: OutputContext context = outputContext();
      context.frame(10);
      gotoContext(context);
```

If you have a format control, it now writes into a "FormatPair" rather than an array of two formats:

```
OLD: Mylop {
      const Format* formats[2];
      _validate() {
          info_.format(*formats[0]);
          info_.full_size_format(*formats[1]);
      }
      void knobs() {
          Format_knob(f, formats, "format");
      }
  }
```

```
NEW: Mylop {
      FormatPair formats;
      _validate() {
          info_.format(*formats.format());
          info_.full_size_format(*formats.fullSizeFormat());
      }
      void knobs() {
          Format_knob(f, &formats, "format");
      }
  }
```