Release Notes for Nuke and Hiero 13.2v3

Release Date

28 July 2022

Qualified Operating Systems

- macOS Big Sur (11.x) or macOS 12.x (Monterey) on Intel chips only. Apple M1 is tested on Rosetta emulation to ensure new functionality runs as expected on M1 hardware. (We are working toward native Apple Silicon support in future releases.)

Article: For more information on Foundry products and supported macOS versions, see Foundry Knowledge Base article Q100592.

- Windows 10 (64-bit)
- CentOS 7.4 (64-bit), or later

Note: The currently supported version of VFX Reference Platform includes library versions that are only compatible with CentOS 7.4, or later. Nuke is qualified on the Centos 7.4, 7.5, and 7.6 distributions.

Other operating systems may work, but have not been fully tested.

Requirements for Nuke's GPU Acceleration

If you want to enable Nuke to calculate certain nodes using the GPU, there are some additional requirements.

NVIDIA

An NVIDIA GPU with compute capability 3.0 (Kepler) or above. A list of the compute capabilities of NVIDIA GPUs is available at https://developer.nvidia.com/cuda-gpus

Note: The compute capability is a property of the GPU hardware and can't be altered by a software update.

With graphics drivers capable of running CUDA 10.1 or above. On Windows and Linux, CUDA graphics drivers are bundled with the regular drivers for your NVIDIA GPU. Driver versions 418.96 (Windows) and 418.39 (Linux), or above are required. See https://www.nvidia.com/Download/Find.aspx for more information.

Note: We recommend using the latest graphics drivers, where possible, regardless of operating system.

AMD

Note: Bit-wise equality between GPU and CPU holds in most cases, but for some operations there are limitations to the accuracy possible with this configuration.

• On Windows and Linux, an AMD GPU from the following list:

Note: Other AMD GPUs may work, but have not been fully tested.

- AMD Radeon PRO W6600
- AMD Radeon PRO W6800
- AMD Radeon Pro W5700
- AMD Radeon Pro WX 9100
- AMD Radeon RX 6800 XT

Note: For information on the recommended driver for each GPU, see https://www.amd.com/en/support

- On Mac, integrated AMD GPUs are supported on the following Intel CPU Macs:
  - Any late 2013 Mac Pro onward (including 2019 Mac Pro),
  - Mid-2015 MacBook Pros onward, and
  - Late 2017 iMac Pros onward.

  All supported Mac Pros include a multi-GPU support option, where applicable. Bitwise equality between GPU and CPU holds in most cases, but for some operations, there are limitations to the accuracy possible with this configuration.

Warning: Although AMD GPUs are enabled on other Mac models, they are not officially supported and used at your own risk.

Multi-GPU Processing

Nuke's GPU support includes an **Enable multi-GPU support** option. When enabled in the preferences, GPU processing is shared between the available GPUs for extra processing speed.

Note: Multi-GPU processing is only available for identical GPUs in the same machine. For example, two NVIDIA GeForce GTX 1080s or two AMD Radeon™ Pro WX 9100s.

New Features

There are no new features in this release.

Feature Enhancements

There are no feature enhancements in this release.

Bug Fixes

- BUG ID 373092 - Monitor Out: After a gap in the timeline, the first frame of a shot during playback on the monitor was occasionally the last frame of the previous shot.
- BUG ID 410015 - Windows only: Monitor output from AJA Kona 4 cards using HDMI was split incorrectly in to four images on the monitor.
- BUG ID 489557 - Project Bin: Holding **Alt** and dragging more than three items from one bin to another bin caused the application to crash.
- BUG ID 501884 - Timeline Editing: Blended shots that did not start at frame 0, incorrectly offset the last frame of the blend track by 1 frame.
- BUG ID 502092 - Shuffle [S] was missing from the Tab menu after running Update.
- BUG ID 503741 - OCIOv2: Loading certain ACES 1.2 OCIO config files displayed **OCIO LookTransform error: empty destination color space name** errors in the Viewer.
- BUG ID 504131 - OCIOv2: Inverting LUTs with large input values occasionally produced NaN (Not a Number) RGB samples in the Viewer.
- BUG ID 504266 - Export: Including additional frame handles occasionally caused misalignment of keyframes.
- BUG ID 504386 - 3D Pivot Point: Pivot drag rotate did not work as expected.
- BUG ID 505214/505672 - Monitor Out: The SDI legal range button's state was not always saved or loaded correctly.
- BUG ID 507281 - Versioning: Changing the version of an unlinked track item occasionally selected the wrong version.
- BUG ID 507284 - Monitor Out: The legal range checkbox in the Monitor Out strip was missing.
- BUG ID 507829 - Monitor Out: Switching between the Timeline and Compositing environments with Monitor Out active in Nuke 13.2 was not as intuitive as in 13.1.
- BUG ID 507925 - Topdown Rendering: Setting **file type** to **mov** and then changing the **FPS** in a Write node's **Properties** panel caused Nuke to crash.
- BUG ID 508152 - Monitor Out: Closing the application with Monitor Out enabled occasionally caused a crash.
- BUG ID 509243 - Read/Write: Embedding new channels into an **.exr** file with the Write node's **interleave** control set to **channels** caused Nuke to crash.
- BUG ID 509997 - Export: Exporting a sequence to a **.mov** file displayed an error despite completing successfully.
- BUG ID 510643 - Transitions: Adding fade out to a shot in a sequence and then extending the fade length displayed a **Missing file** error.
- BUG ID 510673 - macOS only: Adjusting a fade out transition to the length of the shot locked the fade at that length.

- BUG ID 510729 - CatFileCreator: Connecting a Viewer to a CatFileCreator node caused Nuke to crash.
- BUG ID 510841 - AAF: Importing certain **.aaf** files from Avid or Resolve didn't align some shots in the timeline as expected.
- BUG ID 511136 - UnrealReader: Connecting a Camera node to the UnrealReader **camera** input caused Nuke to crash.
- BUG ID 511446 - Ocula Plug-ins: Disabling **Use GPU if available** in the node **Properties** panel with O_DisparityGenerator connected to O_DisparityViewer caused Nuke to crash.
- BUG ID 512762 - Read/Write: Rendering stereo views from **.exr** files only rendered one view.

New Known Issues Specific to Nuke 13.2

This section covers new known issues and gives workarounds for them, where appropriate.

- BUG ID 509300 - CopyCat: Training with cropped images containing more than four channels renders corrupt contact sheet data.
- BUG ID 508661 - macOS only: Using environment variables in CopyCat's **Data Directory** path causes Nuke to crash.
- BUG ID 507327 - CopyCat: Training does not work as expected if a Remove node is inserted between the input node and the CopyCat **Preview** input.
- BUG ID 507325 - CopyCat: Connecting an **Input** with no channels, displayed as **Channels: none** in the CopyCat **Properties** panel, and then clicking **Start Training** causes Nuke to crash.
- BUG ID 506965 - Monitor out: Long Nuke script names create truncated NDI sender names, which can result in only one unique stream regardless of how many Viewers are sending a signal.
  As a workaround, avoid using long Nuke script names to allow multiple streams from the same script.
- BUG ID 506918 - CopyCat: Changing the **Crop Size** and then resuming training creates contact sheets at the wrong size.
- BUG ID 506569 - UnrealReader: The enabled/disabled state of the **Use 32 Bit Post Process Materials** checkbox is not always respected by the render output.
  If UnrealReader fails to respect the enabled/disabled state, restart the Unreal Editor project to reset the controls.
- BUG ID 506360 - CopyCat: Resuming training after changing the **Model Size** displays a generic error message.
- BUG ID 506004 - ARRIRAW: Reading legacy **.mxf** files with SDK 7.0 does not match all knob values when compared to SDK 6.2.
- BUG ID 504819 - 3D Transform Handles: Geometry pivot points are affected incorrectly by downstream scale changes.
- BUG ID 504645 - Monitor Out: NDI signals from Nuke Studio are listed twice in the NDI monitor.

- BUG ID 504542 - CopyCat: Setting the **Epochs** control to a negative number and then starting training causes Nuke to crash.
- BUG ID 504406 - CopyCat: Errors displayed in the Viewer do not disappear as expected during subsequent training runs.
- BUG ID 504191 - Monitor Out: Closing Nuke Studio during playback while broadcasting the timeline Viewer over NDI causes the application to crash on exit.
- BUG ID 504013 - 3D Transform Handles: Negative scaling values in TransformGeo nodes cause inconsistent scaling in upstream ParticleEmitter nodes.
- BUG ID 503687 - Monitor Out: Some controls in the **Monitor Out** panel in Nuke Studio do not display the knob name in their tooltips.
- BUG ID 503684 - Monitor Out: The **Monitor Out** panel in Nuke Studio always displays stereo controls, even if the project does not contain multiple views.
- BUG ID 502942 - Monitor Out: The **Viewer Monitor Out** pane does not display all controls as expected. As a workaround, resize the pane to cause the controls to appear.
- BUG ID 502843 - Monitor Out: The **Use Viewer Gamma** / **Gain** controls are not enabled and disabled consistently between the **Properties** and Monitor Out pane.
- BUG ID 502793 - Monitor Out: Loading certain **.nk** scripts does not open all floating windows as expected.
- BUG ID 502495 - CopyCat: Caching during training is slower when compared to earlier Nuke builds.
- BUG ID 502404 - Monitor Out: The Viewer list does not update as expected when a Viewer node is copied and pasted in the Node Graph.
- BUG ID 502395 - Monitor Out: The list of available Viewers is not ordered correctly.
- BUG ID 502394 - Monitor Out: Output is not sent to monitor out devices unless the related Viewer is the active Viewer.
- BUG ID 502226 - Monitor Out: The floating window size is used incorrectly for all panes undocked from the interface.
- BUG ID 501785 - BM RAW: Certain files display with incorrect colorspace and gamma values.
- BUG ID 501700 - 3D Pivot Point: Rotating the pivot point by dragging in a non-default **transform order** causes the object to jump unexpectedly.
- BUG ID 501525 - CopyCat: Canceling training displays a misleading error message.
- BUG ID 501442 - 3D Pivot Point: Object scale is not always maintained by the pivot rotate algorithm.
- BUG ID 501261 - macOS Monterey only: Resizing UI elements is slow to update.
- BUG ID 500156 - OTIO: Timelines containing shots with different frame rates displays a warning message incorrectly.
- BUG ID 500138 - 3D Transform Handles: Scaling in Screen space and then rotating in Screen and World space doesn't work as expected.
- BUG ID 499468 - 3D Transform Handles: Handle size is unexpectedly affected by scale changes downstream.

- BUG ID 499442 - 3D Transform Handles: Translating a rotated pivot point on geometry that is scaled or rotated doesn't work as expected.
- BUG ID 498754 - Windows only: Nuke occasionally fails to launch due to external hardware connected to the machine.
  As a workaround, disconnect any unnecessary hardware such as web cams or additional audio hardware before launching Nuke.
- BUG ID 497372 - Monitor Out: **frameIndex** metadata does not work as expected.
- BUG ID 492637 - 3D Transform Handles: Using the free rotate tool on certain objects causes them to scale during rotation in the 2D Viewer.
- BUG ID 491143 - Monitor Out: Enabling **Horizontal Flop** in the ViewerMonitorOut **Properties** does not work as expected.

Developer Notes

As Nuke develops, we sometimes have to make changes to the API and ABI under the hood. We try to keep these changes to a minimum and only for certain releases, but from time to time API and ABI compatibility is not guaranteed. See the following table for the situations when you may have to recompile your plug-ins and/or make changes to the source code.

Release Type	Example	Compatibility	Recompile	Rewrite
Version	13.1v1 to 13.1v2	API and ABI		
Point	13.0v1 to 13.1v1	API	●	
Major	12.0v1 to 13.0v1	-	●	●

Additionally, node **Class()** names occasionally change between major releases. While these changes do not affect legacy scripts, you may not get the results you were expecting if a node class has been modified. The **toolbars.py** file, used to create Nuke's node toolbar, contains all the current node class names and is located in **<install_directory>/plugins/nukescripts/** for reference.

As an example, between Nuke 9 and Nuke 10, the CameraShake node **Class()** changed from CameraShake2 to CameraShake3. In the **toolbars.py** file for the two releases, the entries for the CameraShake node appear as follows:

```
m.addCommand("CameraShake", "nuke.createNode(\"CameraShake2\")",
icon="CameraShake.png")
m.addCommand("CameraShake", "nuke.createNode(\"CameraShake3\")",
icon="CameraShake.png")
```

Release Notes for Nuke and Hiero 13.2v2

Release Date

31 May 2022

Qualified Operating Systems

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New Features

There are no new features in this release.

Feature Enhancements

- BUG ID 161709/266123/506317 - Monitor Out: Support for HD 10-bit RGB 4:4:4 output from AJA cards has been added.

Bug Fixes

- BUG ID 134367 - Python: Calling **nuke.scriptClear()** on the Root node did not remove User knobs as expected.
- BUG ID 202128 - macOS only: Setting monitor out to 12-bit 4:4:4 mode displayed incorrect output.
- BUG ID 386719 - Monitor Out: AJA Kona 4 12-bit Dual Link 1080p50a, 1080p59.94a, and 1080p60a output was incorrect.
- BUG ID 415797 - High DPI: Node name text was not vertically centered.
- BUG ID 428360 - DeepMerge: Holdout did not work as expected on volumetric data samples.
- BUG ID 469924 - Timeline Editing: Exporting clip length shots with **Apply Retimes** checked in the **Export** dialog applied the retime incorrectly.
- BUG ID 469970 - Read/Write: Nuke Studio 13.0 did not load pre-Nuke Studio 11.1 **.hrox** projects as expected.
- BUG ID 472443 - USD: The tooltip for the **suppress confirmation dialog** control on the Light and Axis nodes was incorrect.
- BUG ID 484135 - Linux Only: Nuke 12.2 used more RAM than Nuke 12.1 builds and clearing the cache freed up less memory.
- BUG ID 491697 - Cutting nested items in the **Project** bin to the clipboard using the **Ctrl**/**Cmd**+**X** keyboard shortcut caused Nuke Studio to crash.
- BUG ID 494705 - Setting custom colors for clip types was slow in Hiero when compared to Nuke Studio.
- BUG ID 496347 - BlinkScript: Setting values for **float4x4 mtx4** and **float3x3 mtx3** in inside **process()** calls did not work as expected.
- BUG ID 497323 - Monitor Out: 12-bit 4:4:4 RGB outputs did not work as expected in UHD display mode.
- BUG ID 499680 - Monitor Out: 1080p 12-bit 4:4:4 Single Link was output as 4:2:2 with certain AJA cards.
- BUG ID 500390 - Timeline Editing: Toggling the track visibility of tracks that reference QuickTime files caused Nuke Studio to crash.
- BUG ID 500498 - Monitor Out: Setting the output mode to 1080p 12-bit RGB 4:4:4 Dual Stereo on certain AJA cards caused Nuke Studio to crash.
- BUG ID 501488 - Monitor Out: Setting the **Pixel Format** to RGB and then changing the **Output Transform** occasionally caused the monitor output to become unresponsive.
- BUG ID 501901 - Read/Write: Using all uppercase letters for extension names, such as **.ABC** and **.FBX**, removed some **file type**-specific controls in the Camera, Axis, and Light nodes.
- BUG ID 502179 - Group nodes using an expression to check for **nuke.dependencies** of the parent group were not saved as expected if there was a Write node downstream of the group.
- BUG ID 502486 - Alembic: Loading certain **.abc** files caused Nuke to crash.
- BUG ID 505212 - Monitor Out: SDI card display modes for **HD 1080p** output were listed in a random order.

- BUG ID 505472 - GridWarp/GridWarpTracker: Rendering from the command line with the Frame Server or a third-party renderer did not produce the same results as interactive renders.
- BUG ID 505617 - Read/Write: Rendering **.mov** files with the H264 codec with high resolution inputs caused Nuke to crash.
- BUG ID 506622 - Licensing: The language selection dropdown in the **Licensing** dialog was empty.
- BUG ID 506631/507379 - Linux only: Minimal CentOS installs that don't include CUDA libraries did not fall back to the CPU as expected or displayed **No such file or directory** errors with AIR nodes, such as Deblur and Inference.
- BUG ID 507060 - Read/Write: Setting path substitutions between macOS and Windows did not load **Project** bin thumbnails as expected.
- BUG ID 507494 - 3D Pivot Point: Dragging in the 3D Viewer to translate the pivot point on geometry with large **scale** values did not work as expected.
- BUG ID 507756 - GridWarp/GridWarpTracker: Using **Insert Mode** or changing the number of divisions in the left-hand toolbar caused Nuke to crash.
- BUG ID 508287 - Soft Effects: Making changes to certain soft effect controls in the **Properties** panel caused the Viewer to flicker.

New Known Issues Specific to Nuke 13.2

This section covers new known issues and gives workarounds for them, where appropriate.

- BUG ID 510729 - CatFileCreator: Connecting a Viewer to a CatFileCreator node causes Nuke to crash.
- BUG ID 509300 - CopyCat: Training with cropped images containing more than four channels renders corrupt contact sheet data.
- BUG ID 508661 - macOS only: Using environment variables in CopyCat's **Data Directory** path causes Nuke to crash.
- BUG ID 507829 - Monitor Out: Switching between the Timeline and Compositing environments with Monitor Out active in Nuke 13.2 is not as intuitive as in 13.1.
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- BUG ID 506569 - UnrealReader: The enabled/disabled state of the **Use 32 Bit Post Process Materials** checkbox is not always respected by the render output.
  If UnrealReader fails to respect the enabled/disabled state, restart the Unreal Editor project to reset the controls.
- BUG ID 506360 - CopyCat: Resuming training after changing the **Model Size** displays a generic error message.
- BUG ID 506004 - ARRIRAW: Reading legacy **.mxf** files with SDK 7.0 does not match all knob values when compared to SDK 6.2.
- BUG ID 504819 - 3D Transform Handles: Geometry pivot points are affected incorrectly by downstream scale changes.
- BUG ID 504645 - Monitor Out: NDI signals from Nuke Studio are listed twice in the NDI monitor.
- BUG ID 504542 - CopyCat: Setting the **Epochs** control to a negative number and then starting training causes Nuke to crash.
- BUG ID 504533 - ARRIRAW: Lens squeeze is slightly different in Nuke compared to the same file in the ARRI reference tool.
- BUG ID 504406 - CopyCat: Errors displayed in the Viewer do not disappear as expected during subsequent training runs.
- BUG ID 504191 - Monitor Out: Closing Nuke Studio during playback while broadcasting the timeline Viewer over NDI causes the application to crash on exit.
- BUG ID 504013 - 3D Transform Handles: Negative scaling values in TransformGeo nodes cause inconsistent scaling in upstream ParticleEmitter nodes.
- BUG ID 503687 - Monitor Out: Some controls in the **Monitor Out** panel in Nuke Studio do not display the knob name in their tooltips.
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- BUG ID 502793 - Monitor Out: Loading certain **.nk** scripts does not open all floating windows as expected.
- BUG ID 502495 - CopyCat: Caching during training is slower when compared to earlier Nuke builds.
- BUG ID 502404 - Monitor Out: The Viewer list does not update as expected when a Viewer node is copied and pasted in the Node Graph.
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- BUG ID 499468 - 3D Transform Handles: Handle size is unexpectedly affected by scale changes downstream.
- BUG ID 498754 - Windows only: Nuke occasionally fails to launch due to external hardware connected to the machine.
  As a workaround, disconnect any unnecessary hardware such as web cams or additional audio hardware before launching Nuke.
- BUG ID 497372 - Monitor Out: **frameIndex** metadata does not work as expected.
- BUG ID 494978 - ARRIRAW: Reading certain **.ari**, **.arx**, and **.mxf** files displays metadata errors on the command line.
- BUG ID 492637 - 3D Transform Handles: Using the free rotate tool on certain objects causes them to scale during rotation in the 2D Viewer.
- BUG ID 491143 -Monitor Out: Enabling **Horizontal Flop** in the ViewerMonitorOut **Properties** does not work as expected.

Developer Notes

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Release Notes for Nuke and Hiero 13.2v1

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14 April 2022

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New Features

UnrealReader

In this release we build on UnrealReader with a number of improvements in stability and usability, as well as enhancements for existing features. Unreal Engine 4.27.2 and 5.0 (Windows only) are the supported versions for the Nuke Server plug-in. Changes for this release include:

- Improved stability
- Various UI improvements
- Faster and more intuitive Stencil Layer picking workflow:

    - The old table list of selectable items is replaced with a new visual picking workflow similar to Cryptomatte.
    - The same wildcard selection syntax is available in the **Layer List** as in Cryptomatte.
    - New Cryptomatte render pass ID grouping types.
- Environment variable support in Write section File knob / Nuke Server
    - This helps with cross-operating system support when writing to shared network drives.
    - The familiar [getenv <your_environment_variable>] syntax is now supported.
- Extended EXR **Compression** options
    - The UnrealReader **Write** properties section **Compression** options have been extended to include all of the standard **.exr** options found in Nuke.
- UnrealReader is now available for Nuke Indie license holders.

Nuke Server Download

Download the Nuke Server for your operating system from here:
https://www.foundry.com/products/nuke/download/unreal-nuke-server

A development build of the Nuke Server for Linux is available for testing upon request through Support.

A.I. Research

In this release, we have continued to improve our Machine Learning tools, enhancing the CopyCat node with faster training, support for multiple GPUs and multi-channel training. We have also removed any limitation on the number of training images and enabled the ability to train on headless Nuke with the **-X** flag.

With this update not only is single GPU training up to 30% faster, but you can also take advantage of setups with multiple GPUs. You can either speed up training by running CopyCat on all your GPUs simultaneously or run different training sessions on each GPU, allowing you to do more experiments at the same time.

CopyCat can now support more than four channels, as many as your GPU and Nuke can handle, allowing you to train networks for a variety of more advanced use cases.

Finally, we have streamlined the ability to kick off training on remote machines. You can now run CopyCat from the command line using the **-X** flag without any need to write additional Python scripts.

Top-down Rendering

In this beta, we have introduced a new way for Nuke to render its node graph. Top-down rendering provides significant performance improvements to Nuke's 2D graph processing. Performance in Nuke is variable,

depending on the script you are rendering, but in our internal testing scripts render 20% faster on average and some scripts render as much as 1.5x faster.

Top-down rendering inverts Nuke's classic rendering method, rendering the graph node-by-node from the top of the graph down, rather than scanline-by-scanline on demand. This allows Nuke to cache its data more efficiently, and to reduce thread-synchronization issues, resulting in overall faster rendering. Because top-down renders the script node-by-node, from the top of the graph down, Nuke's scanline-by-scanline progressive update to the viewer is replaced by the whole image updating at once.

There are three ways to enable top-down rendering within your scripts in this beta:

- Set the environment variable NUKE_TOPDOWN=1.
- Use the **--topdown** flag when launching Nuke from the command line.
- Change the new **render mode** setting to **top-down** in the Project Settings.

If none of the above is set to use top-down, Nuke uses the default behavior and renders in **classic** mode.

Note: The render mode is only saved as part of the script if you set **render mode** to **top-down** in the **Project Settings**. This ensures that the chosen render method is used the next time the script is opened. Using the **NUKE_TOPDOWN** environment variable or **--topdown** command line argument does not save the render mode in the script.

3D UX Improvements

We have added the ability to rotate the pivot point in the **Properties** panel and directly in the Viewer, including an internal orientation indication for the pivot point.

We've also implemented a long-standing feature request and added a new free rotate algorithm, making free-rotation of 3D objects in the viewer much easier and more intuitive.

Timeline Project Loading

Continuing with the improvements made in 13.1, where we reduced the time it takes to load **.hrox** projects by 25%-30%, we are drastically reducing the time projects take to load, including the larger and complex projects and making connecting or joining to Sync Sessions a lot faster.

To see these improvements, you must load a project that has been saved in 13.2. Any new projects created in Nuke 13.2 will automatically get these benefits, but older projects need to be saved in Nuke 13.2 and reopened in order to see the loading time improvements. These changes maintain backwards compatibility, however, these improvements are only maintained in 13.2 builds.

OpenTimelineIO (Beta)

In 13.2 we are introducing OpenTimelineIO (OTIO). In combination with the previous work done in metadata management, we expect OTIO to be the future of editorial workflows when manipulating editorial data.

OTIO is an API and interchange format for editorial cut information. Similar to an Edit Decision List (EDL) it also includes an API for reading, writing and manipulating data. In this release OTIO supports the import and export of clips, tracks, transitions and linear retimes in OTIO edits. OTIO is labeled as a beta because OTIO v1.0 has not been released yet.

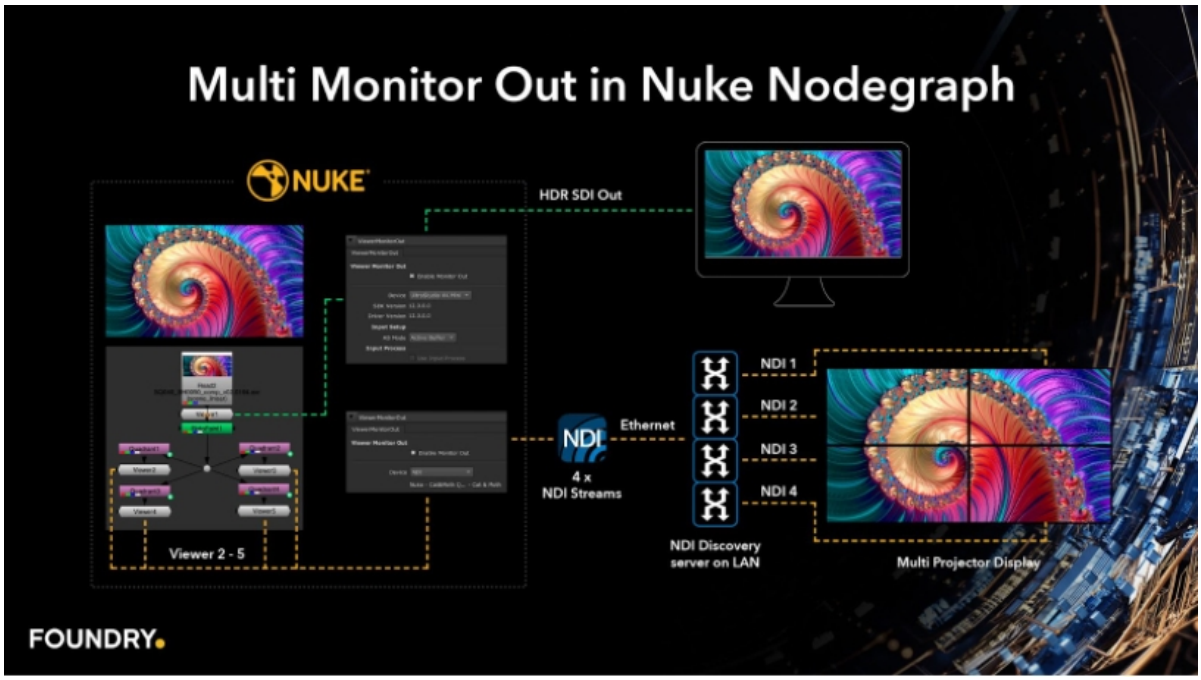
Non-Linear Dissolves on the Timeline

We are bringing users better workflows in the timeline when working with transitions by supporting non-linear dissolves. You can now see transitions in the **Properties** panels, create keys to the transitions, and edit dissolves, fade ins and fade outs in the Curve Editor and Dope Sheet.

To use non-linear dissolves, double-click a transition in the timeline, and then edit the transition from the **Properties** panel or create and adjust frames in the Curve Editor or Dope Sheet. Transitions are also applied properly to clips with soft effects.

Monitor Out for Nuke

Continuing the work that we have done in the Nuke 13.x series, we have added an exciting new feature to the Monitor Out. With these ongoing updates to Monitor Out we are continuing to provide ever more powerful options with greater workflow efficiencies.



- We have now added the Monitor Out as a Tab in the Viewer control panel.
  - You can access the Viewer **Properties** by pressing **S** whilst the mouse is in the Viewer.
  - Double-clicking the Viewer node also opens the **Properties**. When a Viewer node is selected, pressing Return also opens the **Properties**.
  - You can access the Monitor Out controls in the Viewer **Properties** directly by pressing the cog icon in the Monitor Out strip.
  - Using the workspace **Viewer Monitor Out** adds the Monitor Out strip below the player controls.
- Each Viewer node now has its own independent Monitor Out functionality.
  - Multiple floating windows can be used simultaneously.
  - Multiple NDI streams can be sent simultaneously.
  - SDI functionality sent from a single hardware device is limited to only being used by a single Monitor Out.

Monitor Out - NDI

Continuing the work to improve our monitor out functionality and make review sessions more productive and ensure that everyone in the team is always on the same page, this beta introduces a new workflow with the support for NDI in the Nuke Family. Network Device Interface, or NDI, is a network protocol that enables you to send video and metadata signals over standard IP networks in real-time. NDI allows you to easily share a Nuke Viewer's output with anyone else on the same network.

To view an NDI stream, you need the NDI Studio Monitor application installed on your local machine. NDI Studio Monitor is available for download on macOS and Windows here:

- NDI Tools for macOS
- NDI Tools for Windows

For more information on the NDI Tools and network configuration best practice, see:
https://ndi.tv/tools/education/networking/best-practices/networking-best-practice/

Monitor Out - AJA and Blackmagic Design

In addition to the new features in the Viewer Monitor Out we have also updated the functionality when using an AJA and BMD video out device. This work was done to make it easier to understand what output options are available when using AJA and BMD cards in Nuke and Nuke Studio. These changes greatly benefit artists working with SDI outputs at different resolutions.

Testing SDI out across a broad range of hardware remains challenging and we appreciate any feedback on these features.

AJA T-Tap Pro Support

Support for the AJA T-Tap Pro has been added to the Viewer Monitor Out node. If the device is installed on your system it appears in the **Device** drop down list.

ARRI Image SDK 7.0.0 (Beta)

To support their new S35 4K camera ARRI have created a new SDK (7.0) to decode and debayer the images from this camera.

This has been added to Nuke and Nuke Studio as a beta feature because the camera and the SDK are not yet finalized. We encourage users of the new camera to use Nuke to test and provide feedback to both us and ARRI so that we can fully release this feature in the coming months.

In this release, we are using Arri SDK 7.0.0-RC6. Legacy ARRI files including **.ari**, **.arx** and **.mxf** files continue to load but will use the older ARRI RAW 6.2 SDK.

Blackmagic RAW 2.2

We have updated Blackmagic RAW to support the 2.2 SDK which includes the following updates:

- Added support for Fujifilm GFX100 and GFX100S Blackmagic RAW clips captured by Blackmagic Video Assist.
- Added support for Panasonic Lumix GH5S, BS1H and BGH1 Blackmagic RAW clips captured by Blackmagic Video Assist.

Feature Enhancements

- BUG ID 132776/490781 - Viewer: You can now double-click Viewer nodes to open the **Properties** panel.
- BUG ID 144149 - 3D Transform Handles: You can now rotate the pivot point in the 3D Viewer.
- BUG ID 428475 - Monitor Out: Nuke, Nuke Studio and Hiero now support the Blackmagic Design Decklink 8K Pro.
- BUG ID 424014 - Third-Party Libraries: OpenSSL has been updated to version 1.0.2u.

Bug Fixes

- BUG ID 152798 - Read/Write: If the pixel aspect ratio (anamorphic squeeze) could not be found in a file, its default format was set to the first format in the list that matched the format's width and height.
- BUG ID 241348 - Monitor Out: Nuke Studio did not use the recommended AJA output options.
- BUG ID 434387 - Windows only: Setting the UI scale to 150% or higher and moving Nuke to a second monitor stopped the floating color pickers working as expected.
- BUG ID 471681 - CopyCat: Training a network from the command prompt with the **-X** argument occasionally failed.
- BUG ID 472519 - CopyCat: Training a model with multi-channel files did not work as expected.
- BUG ID 474950 - AIR Tools: Rendering from the command line always used the GPU, whether the **--gpu** argument was added or not.
- BUG ID 482780 - 3D Transform Handles: Setting the **transform order** to **RTS** at small **scale** values did not work as expected.
- BUG ID 485263 - Developer Documentation: The formatting of the **nuke.memory()** documentation made it difficult to read.
- BUG ID 488973 - CopyCat: Starting training with the Viewer **proxy mode** enabled did not display a warning message.
- BUG ID 489286 - 3D transform handles: The transform toolbar was active for **.fbx** files even when transforms were disabled.
- BUG ID 491076 - 3D Transform Handles: The effect of dragging a scale transform handle was influenced incorrectly by geometry transforms downstream.
- BUG ID 493869 - 3D Transform Handles: Object parenting lines did not appear as expected in relation to the world axes.
- BUG ID 494124 - 3D Transform Handles: Translating geometry on the Z-axis and then dragging the pivot point did not work as expected.
- BUG ID 497654 - Transitions: Adding a Burn-In soft effect to a shot with a dissolve transition didn't work as expected.

- BUG ID 498939 - BM RAW: Selecting **Decode Using** > **Clip Custom** displayed an **Internal memory error** when reading some locally stored files.
- BUG ID 499540 - Monitor Out: Blackmagic Design card HD outputs at 10-bit 4:4:4 were actually output at 4:2:2.
- BUG ID 500198 - Windows only: The SymLink Generator exporter in Nuke Studio did not work as expected.
- BUG ID 500964 - Upscale: Setting the **Tile Size** control to anything other than a multiple of 16 did not work as expected.
- BUG ID 501628 - Timeline Viewer: Changing the Viewer color channel output during playback did not work as expected.
- BUG ID 501920 - Linux only: Playing back certain **.mov** files displayed an **unknown color curve** error and caused Nuke Studio to crash.
- BUG ID 503346 - Create Comp: Rendering comp updates occasionally caused Nuke Studio to crash.
- BUG ID 503501 - Linux only: Rendering certain comps in Nuke Studio's timeline displayed a **ReaderMessage Unknown** error on the **.nk** thumbnails in the **Project** bin.
- BUG ID 410055 - Linux only: Rendering Nuke scripts that contain a Spherical Transform node, can take significantly longer to render compared to Windows machines that use the same specifications.

New Known Issues Specific to Nuke 13.2

This section covers new known issues and gives workarounds for them, where appropriate.

- BUG ID 506569 - UnrealReader: The enabled/disabled state of the **Use 32 Bit Post Process Materials** checkbox is not always respected by the render output.
  If UnrealReader fails to respect the enabled/disabled state, restart the Unreal Editor project to reset the controls.
- BUG ID 506360 - CopyCat: Resuming training after changing the **Model Size** displays a generic error message.
- BUG ID 506004 - ARRIRAW: Reading legacy **.mxf** files with SDK 7.0 does not match all knob values when compared to SDK 6.2.
- BUG ID 505214 - Monitor Out: The SDI legal range button's state is not always saved or loaded correctly.
- BUG ID 504819 - 3D Transform Handles: Geometry pivot points are affected incorrectly by downstream scale changes.
- BUG ID 504645 - Monitor Out: NDI signals from Nuke Studio are listed twice in the NDI monitor.
- BUG ID 504542 - CopyCat: Setting the **Epochs** control to a negative number and then starting training causes Nuke to crash.
- BUG ID 504533 - ARRIRAW: Lens squeeze is slightly different in Nuke compared to the same file in the ARRI reference tool.

- BUG ID 504406 - CopyCat: Errors displayed in the Viewer do not disappear as expected during subsequent training runs.
- BUG ID 504191 - Monitor Out: Closing Nuke Studio during playback while broadcasting the timeline Viewer over NDI causes the application to crash on exit.
- BUG ID 504013 - 3D Transform Handles: Negative scaling values in TransformGeo nodes cause inconsistent scaling in upstream ParticleEmitter nodes.
- BUG ID 503687 - Monitor Out: Some controls in the **Monitor Out** panel in Nuke Studio do not display the knob name in their tooltips.
- BUG ID 503684 - Monitor Out: The **Monitor Out** panel in Nuke Studio always displays stereo controls, even if the project does not contain multiple views.
- BUG ID 503013 - ARRIRAW: Enabling **Use GPU if available** only displays half the image with S35 files.
- BUG ID 502942 - Monitor Out: The **Viewer Monitor Out** pane does not display all controls as expected. As a workaround, resize the pane to cause the controls to appear.
- BUG ID 502843 - Monitor Out: The **Use Viewer Gamma** / **Gain** controls are not enabled and disabled consistently between the **Properties** and Monitor Out pane.
- BUG ID 502793 - Monitor Out: Loading certain **.nk** scripts does not open all floating windows as expected.
- BUG ID 502495 - CopyCat: Caching during training is slower when compared to earlier Nuke builds.
- BUG ID 502404 - Monitor Out: The Viewer list does not update as expected when a Viewer node is copied and pasted in the Node Graph.
- BUG ID 502395 - Monitor Out: The list of available Viewers is not ordered correctly.
- BUG ID 502394 - Monitor Out: Output is not sent to monitor out devices unless the related Viewer is the active Viewer.
- BUG ID 502226 - Monitor Out: The floating window size is used incorrectly for all panes undocked from the interface.
- BUG ID 501785 - BM RAW: Certain files display with incorrect colorspace and gamma values.
- BUG ID 501700 - 3D Pivot Point: Rotating the pivot point by dragging in a non-default **transform order** causes the object to jump unexpectedly.
- BUG ID 501683 - 3D Pivot Point: Rotation doesn't work as expected in Screen space and World space.
- BUG ID 501525 - CopyCat: Canceling training displays a misleading error message.
- BUG ID 501442 - 3D Pivot Point: Object scale is not always maintained by the pivot rotate algorithm.
- BUG ID 501261 - macOS Monterey only: Resizing UI elements is slow to update.
- BUG ID 500156 - OTIO: Timelines containing shots with different frame rates displays a warning message incorrectly.
- BUG ID 500138 - 3D Transform Handles: Scaling in Screen space and then rotating in Screen and World space doesn't work as expected.
- BUG ID 499468 - 3D Transform Handles: Handle size is unexpectedly affected by scale changes downstream.

- BUG ID 497372 - Monitor Out: **frameIndex** metadata does not work as expected.
- BUG ID 494978 - ARRIRAW: Reading certain **.ari**, **.arx**, and **.mxf** files displays metadata errors on the command line.
- BUG ID 492637 - 3D Transform Handles: Using the free rotate tool on certain objects causes them to scale during rotation in the 2D Viewer.
- BUG ID 491143 -Monitor Out: Enabling **Horizontal Flop** in the ViewerMonitorOut **Properties** does not work as expected.
- BUG ID 488611 - Monitor Out: Certain formats, such as **2K DCI PsF** and **4K DCI p**, are not output as expected from Blackmagic Desig Decklink 8K Pro cards.

Developer Notes

As Nuke develops, we sometimes have to make changes to the API and ABI under the hood. We try to keep these changes to a minimum and only for certain releases, but from time to time API and ABI compatibility is not guaranteed. See the following table for the situations when you may have to recompile your plug-ins and/or make changes to the source code.

Release Type	Example	Compatibility	Recompile	Rewrite
Version	13.1v1 to 13.1v2	API and ABI		
Point	13.0v1 to 13.1v1	API	●	
Major	12.0v1 to 13.0v1	-	●	●

Additionally, node **Class()** names occasionally change between major releases. While these changes do not affect legacy scripts, you may not get the results you were expecting if a node class has been modified. The **toolbars.py** file, used to create Nuke's node toolbar, contains all the current node class names and is located in **<install_directory>/plugins/nukescripts/** for reference.

As an example, between Nuke 9 and Nuke 10, the CameraShake node **Class()** changed from CameraShake2 to CameraShake3. In the **toolbars.py** file for the two releases, the entries for the CameraShake node appear as follows:

```
m.addCommand("CameraShake", "nuke.createNode(\"CameraShake2\")",
icon="CameraShake.png")
m.addCommand("CameraShake", "nuke.createNode(\"CameraShake3\")",
icon="CameraShake.png")
```