



The Next Nuke

an industry op-ed by Steve Wright

I was hanging around The Foundry booth at the recent NAB show to check out the new happenings for Hiero and Mari and got a very special treat. Jon Wadelton, the Nuke product manager, sat down with me one-on-one with his laptop to show me the cool new things coming soon in the upcoming Nuke release. I have been authorized by The Foundry to give you a sneak peak here.

Coming soon...

The next release of Nuke is slated for some very cool refinements and feature additions. One that I am particularly looking forward to is that the GPU and CPU renders will have the same look. The days of having the GPU render in the 3D viewer not match the final 2D render will be gone forever. Now here is a blow-by-blow preview of some of the other new things slated for the next release:

Denoise - The new Denoise node replaces two earlier, simpler degrading tools, DegrainBlue and DegrainSimple. So what's up with the name "Denoise" instead of "Degrain"? It goes like this: digital cinema and HD video camera images have noise, not grain. Only film scans have grain. But, from a purely mathematical point of view, grain is simply another form of noise. So, long story short, "denoise" is an appropriate generic name for the process, whether working with noise or grain. While historically they were treated with different nodes, the new Denoise node will elegantly remove either. It does this by using advanced wavelet technology to surgically remove the noise or grain without removing edge detail. It is also now GPU based making it 6 times faster.

Point Tracker – The venerable old Tracker node will have several major upgrades. First and foremost, it now has an unlimited number of trackers compared to the current limit of four (hooray!). It also has track averaging built in to spare you the hassle of cobbling together the cumbersome expressions required for track averaging in the current version. You will also be able to set keyframes for a tracker prior to tracking to guide through the shot which helps it step over obscuring obstacles. And, it's faster.

ZBlur – the ZBlur node is now a true and proper defocus with the bokeh¹ effect rather than just a simple blur. It also provides various aperture shape options, including an arbitrary image input if you would like to draw one yourself. It also has an intelligent "blur inside" feature to correctly blur a defocused foreground object over a sharp background object. I don't even know how in the heck they can do that. And finally, it sports a movable focal point that can be keyframed. No problem creating a follow focus shot now.



PointCloudGenerator – The PointCloudGenerator node was released with Nuke 6.3 to create dense point clouds which are immensely helpful for lining up 3D geometry with a 2D scene. The new version has better filtering to reject spurious points and, if all else fails, you will be able to just pick offending points and delete them yourself. But the really big news is about generating meshes. The PointCloudGenerator node will now perform the meshing internally (no PoissonMesh node required) and it can even be applied to groups of points you select.

I must confess to being continually impressed with The Foundry's product development strategy for Nuke and its cousin products Hiero, Mari, Ocula and Katana. The Foundry works closely with the big vfx studios to find out what the big new developments in the industry are, then collaborates with them to incorporate those developments into their product line. This keeps Nuke continuously at the bleeding edge of visual effects production technology with major new innovations like deep compositing. I wish I could tell you about the next major new innovation to be incorporated into Nuke, but it is still a big secret. Darn.

Steve Wright

¹ "Bokeh" effect – the blooming of highlights in a defocused image.