



# ANIMAL LOGIC

## Making the Logical Switch to Nuke

All Images from Australia courtesy of Animal Logic.

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More and more companies are enjoying the benefits of switching to The Foundry's Nuke compositing software: streamlined VFX pipelines, tighter integration between departments, and increased speed of delivery – to name just a few. And there's perhaps no better example of the advantages of adopting Nuke than at Animal Logic, the renowned visual effects company based at Fox Studios in Sydney Australia.

Animal Logic was established in 1991 to design and produce high-end visual effects for commercials and television programmes. Since the company's expansion into film VFX in 1996, Animal Logic has also delivered digital effects for many large budget motion pictures including *The Matrix*, *Moulin Rouge!*, *The Lord of the Rings: The Fellowship of the Ring*, *House of Flying Daggers*, *Hero*, *Harry Potter And The Goblet of Fire*, *World Trade Center* and *300*.

In 2002, the company began work on its first CG-animated feature film, the Academy Award-winning *Happy Feet*, for director George Miller. Released in the United States in 2006, the project saw the company expand significantly. The core team now comprises of around 200 artists, expanding to well over 400 when the workload demands. Most recently, it provided VFX shots for *Knowing*, the Baz Luhrmann directed *Australia*, and is currently working on its second CG-animated feature *Guardians of Ga'Hoole*, set for release in 2010.

Animal Logic initially invested in Nuke 4.7, upgrading to Nuke 5 for *Australia* and Nuke 5.1 for *Knowing*. Its render farm is now primarily 64-bit Linux, with 90 GUIs and 400 render licenses of Nuke. Its Nukes currently operate on Linux, Windows and OSX platforms, but the VFX pipeline is gradually being streamlined and optimised on Linux.

As lead compositor Lindsay Adams explains, "Historically, our compositing department was based on Linux, but with attractive cost incentives we migrated to the Mac, whilst the CG department stayed on Windows. We have always had a separation between the CG guys and the compositors. Recently, our lighting and compositing departments have both migrated to Linux and we are trying to get as many of our artists as possible to the same platform. The big advantage with Nuke is that it is a truly cross-platform application, so if you are stuck on Windows or Mac for whatever reason, you are not left in the dark. Other tools out there don't have that advantage.

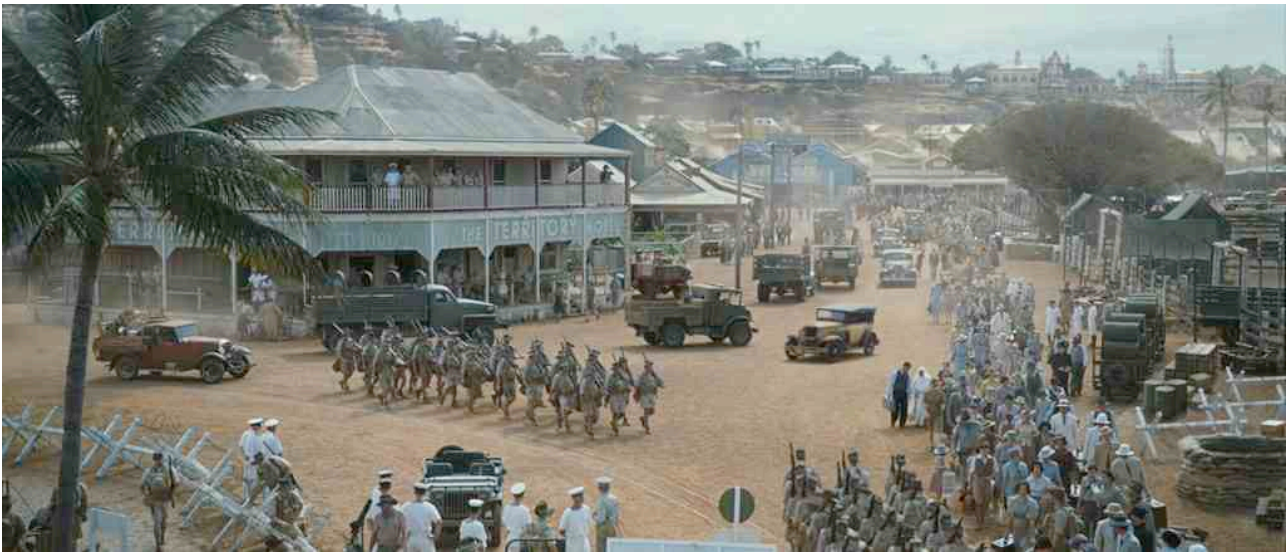
We looked at every option, and Nuke was the only package that met our needs. We now use Nuke across the entire company. It has all the functionality of the legacy products we were using, as well as a robust 3D environment – which means we can do much more in compositing. Nuke has also proven easy for our compositors and lighters to transition to, and we haven't had to spend months training people."

Adams says a key factor behind the decision to invest in Nuke, was the collaborative approach The Foundry takes on R&D. "You couldn't ask for a better or more responsive development team than The Foundry. We had an existing relationship with them as we had been using their Furnace plug-ins for years. Nuke couldn't have a better home, and we have been really impressed with the releases," he says.

Whilst Nuke has been used on commercials for Tourism Australia, Optis Telco, HBO and Quakers Porridge, its primary use at Animal Logic is for feature film compositing. Nuke is employed for a wide range of tasks from layout to final comps, and even some of the company's matte painters have begun to use it to set up environments before passing them to the compositing team for finishing.

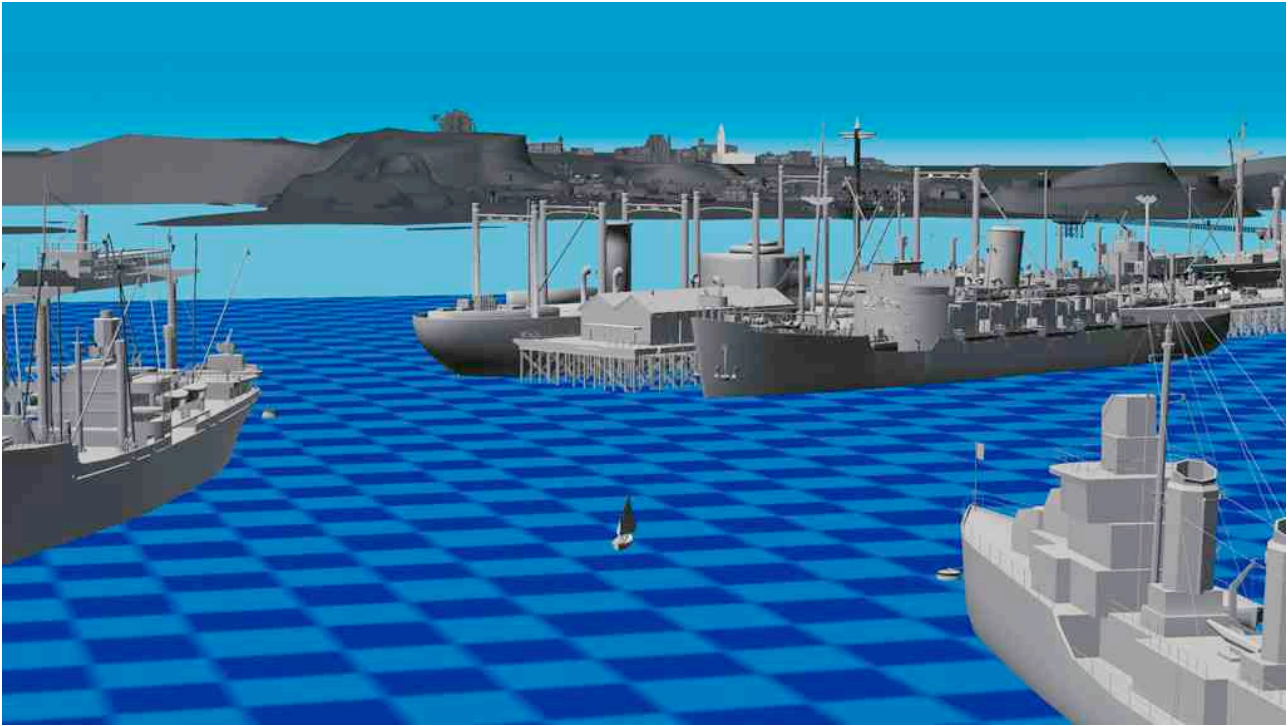
"In the past, the matte and comp work would be segregated," explains Adams, "and if there was a camera move it would need to go back via a CG package. But Nuke eradicates this process. We can load OBJs and set up camera projections directly into Nuke at any stage – the result is that we can turn around shots more quickly than ever."

On *Australia*, for example Animal Logic used Nuke to create and augment a number of environments for plates that had been shot in studio and on location. The team worked on all of the shots around wartime Darwin, which included the Nuke compositing of a large number of crowd replication elements, dust, vegetation and cattle. Nuke was also used to project matte paintings of troop ships and passenger liners, and then to dress them appropriately with CG rigging, boxes and crates, as well as particle effects, sprites, live-action smoke, not to mention sky replacements and rig removals.



Along with bringing the matte painting and compositing departments closer, Adams says that Animal Logic has also experienced a much tighter relationship between its roto and tracking teams since introducing Nuke – a great benefit when it comes to training younger artists. “This lets our compositors to focus on compositing, which keeps them happy, and has led to us building a larger compositing team as well as faster turnaround of shots – a win on every front. Being able to produce multiple versions of shots really quickly also helps our supervisors give directors a range of options. Our team really loves Nuke and never want to go back.”

In terms of optimisation, and Nuke’s ability to integrate with other tools and processes within the VFX and finishing pipeline, Adams comments, “We regularly import cameras into Nuke from Boujou and Maya using the FBX interchange format, or an in-house developed script that exports Maya cameras and locators to a Nuke script. On commercials, final renders from Nuke get passed to Flame for grading and conform. When we receive a new batch of scans for a feature film project, we balance all of the shots in our DI grading suite first and pipe those values into Nuke using a gizmo we wrote that accepts Nucoda grades. We can apply the grade values in compositing without the data management overhead.”



He also identifies Nuke's 3D environment, 32-bit floating-point multi-channel workflow, and intelligent colour-space assumptions – such as applying the correct LUT to Cineon or .EXR files – as perhaps the most vital assets in the daily life of a comper.

“Unlike 2.5D comping systems that only allow you to work with flat images, with Nuke you can load OBJs and project textures on to low resolution models, load in a camera that has been tracked separately from several trackers, and use that to do patch work or set extensions with the correct perspective. As Nuke's has bi-cubic capabilities you can grab a texture by its vertices, bend it around and modify the image as you like. All of which were fundamental to our work in *Australia*.

In terms of handling multi-layer composites, Nuke's floating-point 32 bit architecture and multi-channel image processing are what you need for film work. Most other compositing systems only let you work with RGB, Alpha and Z channels, but with Nuke, you can have up to 1,024 channels. On *Australia*, we imported multichannel EXRs into Nuke from directly from Photoshop. For CG renders you could potentially have depth, worldspace coordinates, motion vectors, etc, all within one file. This is ultimately good for productivity and simplifies the workflow, and with our recently upgraded render farm we can scream through the renders."

As far as film-compositing-tools-with-a-future go Adams believes, "There really is Nuke and nothing else. Other products out there are either dying or don't have a future. With The Foundry, Nuke has a solid, responsive and committed development team that listens to its users, and it's an application that you can use to get shots finished today. Nuke is really moving forward in a changing industry."

