PRIME FOCUS BROADCAST VFX TEAM WINS EMMY AWARD

OUTSTANDING GRAPHIC DESIGN AND ART DIRECTION WIN FOR WORK ON WORLD WAR II FROM SPACE

World War II from Space, directed by Simon George and produced by October Films, covers the key political events and battles of World War II, making extensive use of today's creative technology to deliver the information in a way that will seize the attention of modern audiences. Late 2012, Prime Focus completed the work on this hugely ambitious project, totalling 78 minutes of CG in a 90 minute programme. Graham Stott, as VFX supervisor at Prime Focus, had to deliver well over 150 shots ranging from satellite views of the globe, 2 ½D photo enhancements to full blown battle scenes. It was a very collaborative process which saw the director cutting the show in the same studio in which the content was created. Both teams worked from front to back, gradually filling in the timeline, replacing the big black holes with shots.

CHALLENGE

If Prime Focus would have followed the traditional approach whereby a 3d team created all the cameras and assets, then sent all the passes to a dedicated comp team to finish the shots, it would have been far too time consuming and would have meant the project would have to be fundamentally curtailed. The globe shots in particular would have been incredibly problematic to get right so quickly, without the ability to look at the finished result as the cameras were created.

"Without seeing the render, how would the pre-vis artist know whether the camera was too close to a texture for example?," said Graham Stott. "Previously having had experience of the globe being a 3d asset, rendering on mental ray had taken anywhere up to half an hour a frame – just for the colour pass."

Battle scene from *World War II From Space* (courtesy of Prime Focus)

SOLUTION

Prime Focus decided to use a GPU-accelerated workflow throughout the project to allow the director to broaden the ambition of the show to the extent he finally did. By keeping the work flow using Eyeon Fusion's GPU accelerated 3d space on the NVIDIA Quadro GPU it not only cut render times hugely, but also conferred several other massive benefits. Rendering on the Quadro GPU was so quick that viewing the initial camera pre-vis comps was possible in real-time at full HD, conferring a real creative advantage when framing the action, sharply reducing the time it took to find the best possible angles. Having these higher quality rendered pre-vis shots also enabled Stott's team to find the limits of their environment set-ups in order not to commit to shots which would be too labour intensive to deliver. Since rendering on the GPU was so quick, it was possible to use the intended environment in the pre-vis stage and eliminate many costly camera selections.

"We used HP workstations equipped exclusively with Quadro cards to render all the VFX without the need for a traditional render farm. Without the ability to tap the power of the GPU, this job would have been impossible to achieve in its current form" explained Stott.

IMPACT

Once the pre-vis shot was placed in the edit and signed off for camera timings and action blocking, any low res textures and low poly models were replaced for the high quality iterations. At this stage the Eyeon Fusion software was used as a traditional piece of 3D software which rendered out all the usual passes needed for the comp.

Prime Focus had recently upgraded tier HP workstations with Quadro GPUs and the results were startling. On a project which normally needed a considerable farm to render, Stott's team managed to render all the VFX shots on about 4 to 5 workstations. Furthermore, on some of the shots it was possible to skip pre-rendering the passes and

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keep the whole comp 'live' with the render nodes plugged directly in through the flow. This gave the ability to tweak practically everything at the final comp stage, from lighting, action and even camera which proved to be an incredible benefit both to efficiency and creativity.

"This was one of those special moments where the technology really could release the artists to concentrate purely on the creation itself, rather than having to get bogged down in the method of creating," concluded Stott. "The synergy between NVIDIA and Eyeon has had a colossal impact on methodology and the scope of what could be achieved."

Battle scene from *World War II From Space* (courtesy of Prime Focus).

To learn more about NVIDIA Quadro, go to **www.nvidia.com/quadro**