



Artomatix uses SoftLayer's cloud infrastructure with NVIDIA GPUs to provide designers with a scalable, on-demand platform where they can quickly and easily create high quality, complex game environments.

Setting the Stage

When Eric Risser, founder and CTO of Artomatix, first had the idea that would become Artomatix, he was just a teenager. As an avid amateur game designer, he found that he was spending a lot of his time creating background elements of the game landscape. A house, for example, could take hours to design and build, so a whole street or village would take days or weeks to build.

He began thinking about a way to make the process of creating repeatable details simpler and faster. He worked on this idea throughout his studies, and by the time he completed his PhD, he had developed the code that would enable game designers to create high-quality, complex original landscapes and environments faster, using artificial intelligence (AI).

Believing in the potential of his idea, Risser needed to determine its commercial viability. Through Dublin-based startup investment organization, NDRC, Risser joined forces with a team of other entrepreneurs and innovators, including Neal O'Gorman. Having worked with a number of startups previously, including one in the

gaming industry, O'Gorman saw the potential of the creation and came on board to help bring it to market and would become the company's CEO.

Challenge

The team began talking to game designers—from small independents to the large studios—to identify the challenges facing them that their code could help to solve.

"One issue that came to light quite quickly was seam removal," explains O'Gorman. "Say you're trying to create a field full of grass for your game landscape. The traditional way to do this would be to create a small section, and then replicate it in tiles across the whole space. This can be done well, or badly, but it's always a time-consuming business and can take up to two days for one seam."

The closest software had come to speeding things up was some very niche offerings that only worked for very specific elements, such as trees. It was clear there was a need for a solution that could be applied to any type of texture to speed up and simplify the replication process.



Industry
Cognitive Intelligence

Challenge
Artomatix needed a scalable, flexible, and secure cloud platform that supported advanced graphics processing to underpin its innovative AI solution for game developers.

Why SoftLayer, an IBM Company
SoftLayer offered a scalable, secure bare metal-based cloud platform with industry-leading GPU hardware from NVIDIA, downtime, even when issues arise.

WHAT ARTOMATIX ACHIEVED WITH SOFTLAYER

- Acceleration of new art creation by a factor of forty
- Ability to offer IP-sensitive customers their own server within the cloud
- Fast, effective R&D through the SoftLayer Catalyst program for tech start-ups

Risser and O’Gorman knew they could address this issue by enabling designers to automate the creation of high-quality graphics, but they wanted to ensure their offering was as strong as it could be before they launched it.

The solution was run on CPU-powered cloud servers that did not offer the fast processing speeds that the team needed in order to set Artomatix firmly ahead of the alternative manual solutions already available. They needed to find a GPU-powered platform with the graphics, memory, and performance capabilities that game development requires.

“We also wanted to be sure we had a strategic roadmap for the company to help us grow beyond the initial use case we’d identified,” said O’Gorman. “We won a number of competitions in the tech startup community, which gave us the funds and the network to research and develop some other use cases.”

The team wanted to ensure that its new cloud platform would offer the scalability and flexibility to support these additional use cases and customers over time.

Solution and Results

The Artomatix team ported the solution over to a cloud environment running on SoftLayer bare metal servers powered by NVIDIA GPUs, providing both test and production environments.

“It was critical for us to combine high-end graphics processing capabilities with a cloud-based environment, and SoftLayer was the only solution provider that could offer us this,” said O’Gorman. “We joined its Catalyst program for startup businesses and this has provided us with invaluable financial support and expertise to get our solution ready for launch. We’re using SoftLayer’s London data center at the moment, but expect to expand to the San Jose site as well once our customer base in Silicon Valley grows.”

The key benefit that Risser and O’Gorman see from the SoftLayer cloud platform is speed. Seam removal analysis, which used to take 80 seconds, can now be done in just two seconds, creating a forty-fold improvement. With this speed, designers are able to make changes to their game environments in close to real time. The Artomatix team also took advantage of the ability to offer customers their own private machines in the data center if needed.

“For the large studios, their IP is their most important asset, so we need to assure them that we will keep it safe, and physically separate from any environments being accessed by their competitors,” said O’Gorman.

With the new platform in place, Artomatix has already added the capability to resynthesize small parts of a texture, which it was not able to do using its previous cloud platform. Another feature under development

is hybridization, where the software learns from existing examples of a design to create more variations on the theme.

“For example, if you wanted to create an army, you could design three soldiers—all wearing the uniform but with their own facial features and so on—and then Artomatix will use those three as a basis to create the rest of the army, where each individual is unique but of a type,” O’Gorman explained.

This could offer huge time savings, not only to game developers but to film and TV studios as well. It could also be applied to the fields of industrial design, fashion, and 3D printing, enabling customers to design and print their own unique piece of jewelry, for example.

“We’re also developing a style transfer feature, where you can apply the style from one image or painting to another,” said O’Gorman. “This could be useful for game designers wanting to create a new level with a slightly different look and feel to the previous ones.”

The vision that Eric Risser first developed in high school has become a reality, and one that offers a unique and highly valuable proposition to game developers, animators, and designers.

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- NEAL O’GORMAN, FOUNDER AND CEO, ARTOMATIX