



DISTRICT 9 © 2009 TriStar Pictures, Inc. All rights reserved.

For Image Engine, High-Performance Storage Solutions Enable Creativity and Innovation in Visual Effects

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Head of Studio, Image Engine

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Visual Effects Executive Producer,
Image Engine

Summary

Creating the computer-generated visual effects that bring characters and scenes to life in films and television is a precise, intense, creative, collaborative and often high-pressure endeavor. In recent years, the work has become even more challenging as Hollywood’s demands for realism and impact have grown and the technology – such as stereoscopic 3D – has become even more complex. During this period of innovation, Image Engine, the Vancouver, British Columbia-based visual effects company, has emerged as a market leader, with groundbreaking work in films such as “District 9”, “Watchmen”, “2012” and many others. In order to deliver the kind of creativity and trust required in this most-demanding arena, Image Engine has leaned heavily upon its BlueArc network storage solutions. With BlueArc, Image Engine has confidence that its storage infrastructure will provide the speed, performance and scalability so it can continue to take on projects of increasing size and scope – giving its artists the opportunity to be as creative as their imaginations will allow.

The Customer

Perhaps you’ve seen the alien creatures in the Academy Award®-nominated “District 9” or the aircrafts, missiles and explosions in the opening scene of “The Losers” or the close-up of blood dropping through three stories in “The Incredible Hulk.” What all of these memorable film visuals have in common is that each is a highly complex and acclaimed example of the power of computer-generated visual effects to realistically and dramatically tell a story. What they also have in common is that they were all created by the same visual effects studio: Image Engine.

Image Engine is an innovator and leader in the world of visual effects for film and television, with more than 15 years in the industry, several award wins and a notable list of film credits, including the recent “Twilight Saga: Eclipse”, “Watchmen”, “2012”, “Law Abiding Citizen”, “Orphan”, and many others, including the three mentioned above.

Image Engine is also a pioneer in building the type of corporate culture and technology infrastructure required to service a quality-obsessed deadline-oriented film industry based 2,000 miles away.

Aided by healthy tax incentives, Vancouver has become a hotbed for visual effects and post-production studios, and Image Engine is proud of its status as a leader in proving that a Vancouver studio can successfully take on major projects and deliver an extremely high level of quality.

The Challenge

As visual effects in film and television have gotten far more realistic and spectacular over the past few years, they have also gotten incredibly complex to create and produce. A single shot that might take up three or four seconds in a movie can be more than 100 frames long, requiring as much as a dozen or more layers of the same image sequence to account for all of the variables in background and light and color and movement. For a feature film that has several hundred shots – or perhaps even thousands of shots – it is easy to see how the storage demands can multiply quickly.

It's not just the amount of storage that's challenging: Performance and speed are equally important. "Speed is critical to an artist's workflow; therefore putting a robust data storage infrastructure in place, which allows artists to work rapidly with large amounts of data, is of paramount importance," says Image Engine's Head of Studio, Jason Dowdeswell. "With our BlueArc solution we pride ourselves in being able to meet and exceed our clients' expectations in terms of turning around shots and responding to urgent requests."

In addition to capacity, speed and performance, Image Engine also needed a storage infrastructure that could scale up quickly and easily in order to have the flexibility to deliver on existing projects and take on new projects. "We had architecture issues with the previous system," says Terry Bates, Head of Systems at Image Engine. "The storage was divided up into silos and we'd be constantly moving projects from storage silo to storage silo."

The Solution

Image Engine realized its existing storage solution needed to be changed and it looked at possible solutions from three vendors, including the incumbent. In the end, BlueArc was the strongest solution in every category: Performance, speed, scalability and footprint, which turned out to be a significant issue for Image Engine. "One of the challenges is server room space," Bates says. "The BlueArc solution was clearly going to be the one that would take the smallest footprint. I had worked with BlueArc at another company and, to me it was a no brainer. They delivered the speed, scalability and footprint we were looking for."

Image Engine now has two BlueArc Titan 3200 network storage solutions. The company has tripled its storage capacity in recent years and is looking to double that again to plan for future stereoscopic work. All of the SAS and SATA drives are supplied by Hitachi and all of the company's data is centrally stored on the BlueArc system, including applications, data, images and projects. All active projects are on the SAS drives, while applications and older projects are on the SATA drives. The storage supports a work force that can range from about 50 people to as many as 175, with freelancers added to support specific projects.

The Results

With the BlueArc storage infrastructure in place Image Engine has both the ability and the confidence to take on new projects – with increasing scope – without having to worry about whether they have the storage to support it. This has had an enormous positive effect on the company internally, and it has given it significant visibility within the Hollywood community.

"Our clients know we are a company that has the bandwidth to pull off projects of a certain size and we have the scalability to meet new projects," says Dowdeswell. "In the past, when producers would come in they would ask a series of questions: How many artists do you have, what is the average shot count per year, how much storage do you have, how scalable is it. We've reached the point now where producers don't ask about the infrastructure. That means we're at the next level."

The company had recently invested significantly in the film division, by hiring top international R&D talent to build a state-of-the-art pipeline from scratch, so that they were positioned to take on projects with the scope of "District 9", which was the movie that gave recognition to Image Engine as a high-end visual effects studio, highly specialized in creature work. This inspired the confidence of Director Neill Blomkamp, who awarded the majority of the visual Effects to Image Engine.

At the time, in mid-2008, "District 9" was the largest project Image Engine had ever taken on and the company's work on that helped to precipitate the shift in storage to the BlueArc solution and also to elevate the company's status in the industry. "After the success of 'District 9', filmmakers no longer question whether we are capable of handling large, complex shows and we are currently seeing more work than ever coming into the studio at one time," says Shawn Walsh, Visual Effects Executive Producer at Image Engine. "As a producer you need to have the utmost confidence in the storage and render farm capacities of the facility in order to meet extremely demanding production schedules. This is where BlueArc really delivers for Image Engine."

The results of having the BlueArc solution in place have been both tangible and intangible. Internally, the artists at Image Engine are able to work much faster and more productively. The backbone network at Image Engine is 10-gigabit Ethernet, which helps to keep things moving apace. "Uptime is huge for us," Bates says. "BlueArc brings a concrete level of stability that is important behind the scenes with respect to the amount of time IT needs to maintain the system. Before BlueArc our team spent a lot of time generating more space for artists. The IT team can now focus on other issues knowing that BlueArc has our back. We monitor disk usage and we can scale up in a matter of seconds. If we need to expand the storage pool, it's just a matter of ordering disks. From my point of view nothing is foolproof and the support team at BlueArc has been extremely reliable and is also very good at keeping us up to date on any new developments.

The Conclusion

One of the exciting things about being in the world of visual effects is that it is in the throes of change that is producing breakthroughs all the time. One of the major changes Image Engine has seen in the past couple of years has been the move to stereoscopic technology for 3D imaging. With stereoscopic films, the visual effects studio has to create two image streams, which could double the amount of storage. "If we need to scale up, BlueArc can do that without affecting the footprint and without impacting production," says Dowdeswell. "In terms of how it manages data, BlueArc is unique: It leaps and bounds over any other competitor right now. What's extra nice is that we can only guess how much we're going to need to grow – with expansion to the business and advancement in technology. As we grow and continue to innovate creatively and technically, it's important to know that we have the right storage architecture in place no matter what the future holds. It really puts us at ease."



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