

JAK Films: Gig To The Desktop

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The use of sophisticated computing technology has become standard procedure in most, if not all, of the major motion pictures produced in the film industry today. But leave it to Star Wars creator George Lucas, and the creative artists at JAK Films, to find new and innovative ways to employ powerful computer workstations and software to save time, money - and a lot of sweat and tears - in the creative process of producing a blockbuster films such as the Star Wars episodes.

The Process Behind the Movie

JAK Films is the production arm of the Lucas empire. For episodes 1 and 2 of the Star Wars series, JAK Films shot the scenes that made up the finished movie. In addition, they are the first to bring to digital life the new and creative ideas that spring forth from the Lucas imagination. They do this by producing electronic, live-action storyboards, which are an essential part of the creative process for the Star Wars films. Storyboarding has been around as long as movie making has. In its traditional form, storyboards are still-frame representations of each scene and shot in the

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movie. Production crews use them as guides on how each scene should be shot.

But now with high-powered workstations, and the operational and artistic skills of the JAK Film artists, storyboards can come to life in moving three-dimensional, live-action scenes in what are called "animatics".

"The animatics process was started in Star Wars, Episode 1 and really expanded in Episode 2. There were very few traditional written storyboards for 'Ep 2'; most of the conceptual work was done with full-motion rendered animatics. By using full motion images, the director and editors are able to pre-visualize the final look and feel of the movie with much greater accuracy. Some of the completed animatics scenes are almost as good as they will look in the final release of the film," says David Dozoretz, Director of JAK Film Animatics for Episode 1 and 2.

Once the scenes are just right, they are sent for approval to the Lucas production editorial department. The movie magic doesn't stop there. Other groups of the Lucas Empire add their own specific magic to make the finished Star Wars episodic masterpiece.

The Need For Speed

"The film industry is taking a giant leap into the digital future. We saw that we could not successful make a digital movie with being able to network our production staff together at very high speeds. We had originally tried to just 'make do' by using our older network equipment, but we quickly realized that for a project of this size and scope, it just was not



going to cut it," says Rick McCallum, Producer for Star Wars, Episode 1 and 2.

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So what kind of network does it take to support JAK Films and their truly revolutionary process of animatics? JAK Films needed wire-speed network performance, and a network infrastructure that can handle multiple gigabit throughputs without a blip. That's why they picked Foundry Networks.

"Terabits of data pass back-and-forth across our network on a daily basis," says Peter Hricak, Manager of Network Services at JAK Films. "Foundry Networks is the only switch/router vendor who could provide the performance we needed"

Network connectivity starts at gigabit speed at each artist's desktop, progressing into multiple gig links throughout the network on Foundry FastIron II Plus and BigIron 8000 switches. Each artist's workstation is outfitted with a gigabit Ethernet copper link back to multiple Foundry FastIron II Plus switches installed with gigabit copper ports. The switches are connected to storage servers and rendering servers throughout the network in multiple aggregated Gigabit links networked by BigIron 8000s. With up to 30 artists passing animatic files back-and-forth during the development of a scene, traffic on the network can build to saturation levels very quickly. Typically this process will occur many, many times for just a single scene.

"We have a massive gigabit copper workgroup," said Hricak. "Our network can spike up to 80% capacity and just hum there for five or six hours at a stretch on any given day. The FastIron and BigIron switches can handle it - no problem."

The Foundry FastIron II Plus Gigabit Copper (GC) used by JAK Films, supports up to 64 Gigabit Ethernet Copper ports for high speed Gigabit Ethernet connectivity for high-end servers and desktops. Other products in the FastIron product family include the FastIron II and FastIron III offering 32 and 120 Gigabit Ethernet Copper ports, respectively.

Based on Foundry's unique IronCore ASIC architecture, the FastIron II, II Plus and III product families deliver hardware-based distributed switching that increases total bandwidth to support next generation bandwidth intensive applications, including JAK Films scene animatics.

By providing high-performance throughput to every node on the network, Foundry FastIron II Plus and BigIron 8000 switches make it possible for JAK Films to produce movie magic in the Lucas tradition.

About Foundry Networks

Foundry Networks, Inc. (NASDAQ: FDRY) is a performance and total solutions leader for end-to-end switching and routing including Layer 2/3 LAN switches, Layer 3 Backbone switches, Layer 4-7 Web switches and Internet routers. Foundry's 3,750+ customers include the world's premier ISPs, Metro service providers, and enterprises including e-commerce sites, universities, entertainment, health and wellness, government, financial, and manufacturing companies.

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