Success Story

EFILM
A Deluxe Company

EFILM Delivers Picture-Perfect Movies With SGI® Visualization Systems

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– Joe Matza, President, EFILM

A host of blockbusters, including *Daredevil*, and a number of Hollywood releases—*We Were Soldiers, Spy Kids 2, Crocodile Hunter, XXX, Blue Crush, 8-Mile, 25th Hour,* and the Academy Award®-winning *Frida*—are among the first feature films ever to be entirely digitally mastered in the United States. The digital masters were created by EFILM LLC, a cutting-edge digital film laboratory in Hollywood, California, which is a subsidiary of Panavision and wholly owned by Panavision and Deluxe Laboratories.

EFILM is using SGI equipment to create digital intermediates, which include high-resolution scanning, color correction, laser film recording, and video mastering, and to create high-resolution digital distribution masters that can be used for film output, digital cinema releases, and home video/DVD. EFILM President Joe Matza, who has used SGI computers in the film industry for more than 15 years, chose three 16-processor SGI® Onyx® 3000 series visualization systems with HD-GVO (high-definition, graphics-to-video option), 30TB of SGI® Total Performance 9400 (TP9400) storage, and the high-speed connectivity to link its three colortiming suites with three simultaneous streams capable of real-time (24-frames-per-second), 2K resolution film images. Recently, EFILM added four SGI® Origin® 300 servers and increased its Brocade® Fibre Channel switches to 13 as it enhanced its storage area network (SAN) with the shared filesystem capability provided by SGI® CXFS™ shared filesystem. In this new configuration, EFILM can gain even greater productivity by sharing files between a number of applications running on different operating systems without replication of data—saving time and money.

"Our technology team selected SGI because it's the only supercomputing company that can provide a robust development environment and handle our high-speed data requirements. The graphics processors in the Onyx 3000 system allow us to display our images at up to 2K resolutions and in real time," says Matza. "We need to move a lot of data extraordinarily fast to meet our clients' needs. SGI systems, in combination with our proprietary Elab software and hardware, allow EFILM to design and configure multiple systems for multiple tasks. We are not trying to build a single suite but rather multiple systems, each working on a different project with a number of parallel processes all happening at the same time. SGI met the spec we needed."

The most important aspect of digitally mastering feature films with this new technology, according to Matza, is that, "It presents a new visual palette to the director of photography and the director. Primaries, secondaries, multilayered windowing, and a multitude of other powerful visual processes all become part of the tool set for the feature filmmaker. Creatives and producers can now bring better content to the screen. The SGI visualization systems and storage and the fundamental flexibility of the SGI architecture system play an important role in helping EFILM make all this happen."

Breaking Digital Ground On *We Were Soldiers*

Using a Silicon Graphics® Onyx2® system and proprietary color-correction software, EFILM became the first digital laboratory in the United States to digitally color-time a film entirely on a computer—Paramount Pictures' *We Were Soldiers*. "We scanned the film at a true 2K," recalls Matza. "In fact, the film was double oversampled at 4K and then converted to 2K images, which is the best way to actually acquire film images and digitize them. This helps assure higher-quality 2K scans without causing the storage and I/O obstacles that come with working with features scanned at 4K."

The film was delivered to EFILM as cut negative and then placed onto one of the lab's three IMAGICA® IMAGER XE® scanners. Scanning the film took about five days. The next step was to put the frames on EFILM's proprietary color-timing system, a system designed for supercomputer use that EFILM, in collaboration with ColorFront, has been developing on the SGI® IRIX® OS for more than two years. *We Were Soldiers* Director of Photography (DP) Dean Semler worked with EFILM artists to color-time the film, which was then output directly to three Kodak® Estar® negatives.

"It was the first time in the history of the world, I believe, where a digital negative was created onto Estar," says Matza. "From that Estar negative, Deluxe Film Laboratories made first-generation prints for release. And then, finally, we created digital video masters from our 2K files for video release—in HD, NTSC, and PAL—and that was another first."

SGI played an important role, according to Matza. "SGI was very supportive throughout the entire process, and it worked quite well on an Onyx2 system. However, we wanted more flexibility andspeed, so we started discussions with SGI on its new Onyx 3000 and SGI Origin 300 systems and high-speed disks. We did a lot of benchmarking and had many discussions, and that has brought us to this powerful new technology system that allows filmmakers to much more precisely color-time and finesse their images, do certain types of dissolves, digital opticals, and repositions, and actually create new frames."

The Next Level of Innovation

With three SGI Onyx 3000 systems installed, EFILM has delivered digital masters for a number of Hollywood movies, which are among the first feature films ever to be entirely digitally mastered in the United States. These include:

Spy Kids 2 The Island Of Lost Dreams (Miramax), directed and photographed by Robert Rodriguez; *Crocodile Hunter* (MGM), directed by John Stainton and photographed by David Burr; and Universal Pictures' surfergals movie, *Blue Crush*, directed by John Stockwell and photographed by David Hennings.

Columbia Pictures' espionage thriller *XXX* was shot by *We Were Soldiers* DP Semler,

who knew he would be returning to EFILM. "Dean Semler shot *XXX* with this technology in mind and created beautiful imagery," says Matza. "It's just spectacular. Rob Cohen, the director, was very involved, and I know that he loved the process as well. It's exciting, because filmmakers can paint their images much more precisely than they can with traditional lab timing. And they make a better movie; it's just that simple."

EFILM's second project for Miramax was *Frida*, which just garnered two Academy Awards, in addition to being named one of the top 10 films of 2002 by the American Film Institute. DP Rodrigo Prieto and Director Julie Taymor used EFILM's system to not only finesse their images, but also to actually create new frames using the SGI Onyx 3000 system and EFILM imaging software. Their peers also recognized Prieto: *Frida* has been nominated for an Outstanding Achievement Award from the American Society of Cinematographers.

The latest digital mastering projects from EFILM include *8-Mile* (Universal), directed by Curtis Hanson and photographed by Prieto; *25th Hour* (Disney), directed by Spike Lee and photographed by Prieto; and *Daredevil* (20th CenturyFox/New Regency), directed by Mark Steven Johnson and photographed by Ericson Core.

"It's an emerging market," Matza concludes. "There's not an overabundance of films right now that want to be completely finished digitally. However, I don't think there is any doubt that several years down the road most films will be finished in this fashion."

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