

Success Story

CapitalFX



CapitalFX Speeds 2K and 4k Workflow on Major Hollywood Movies using SGI InfiniteStorage Technology

With seven digital film recorders running 24/7 and more film directors requesting the stunning visual fidelity of the 4K digital intermediate process, Capital FX, one of the UK's leading post-production companies, selected Silicon Graphics as the storage and cross-platform networking solution provider for its new digital intermediate (DI) theatre. Housed in London's Mayfair district, close to the heart of UK film and television production in Soho, Capital FX now has the ability to complete the film-making process from the digitization of raw shot rushes, through colour grading, dust busting, editing, visual effects, compositing and film write-out at 2K or 4K resolution.

Installing a SGI® InfiniteStorage RM660 SAN with SGI® InfiniteStorage Shared Filesystem CXFS™ software means that Capital FX has centralized its digital workflow, allowing multiple operations to be performed simultaneously on multiple

operating systems in different suites in the facility. This reduces the requirement to copy data—critical in this market, where a 90-minute feature film in 4K resolution generates up to 12TB of data.

“With the SGI InfiniteStorage RM660 system we have converged the entire workflow to work on one feature at a time, and we don't have to copy two or three sequences to various locations on the network while different departments work and then convert the changes,” says George Ilko, IT director, Capital FX. “Initially, we selected SGI for the proprietary CXFS shared filesystem, so that we all can work simultaneously. We also based the decision on reputation, technical expertise, and products we knew to be robust, as well as for SGI GRIO software, which provides the ability to play back a 2K scanned full-length feature, which is 2.5 to 3TB of data, in real time, or a 4K scanned feature, at around 12TB of data, proxied to 2K in

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real time. We run the ARRISCAN, ARRILASER film recorders, and ARRI Color Management Software in addition to Autodesk software. Between ARRI, Autodesk and SGI we've got a really good partnership and very good integration between the three companies' systems."

The Digital Intermediate Theatre

The DI theatre at Capital FX is an Autodesk Discreet® Lustre® 2K/4K digital grading and color correction system. Designed as a complete preview theatre with full Dolby® Digital 5.1 surround sound, it features a Barco® D-Cine DP100 digital projector and a Kinoton FP35 film projector for side-by-side comparisons on the 4-metre-wide screen. The SGI InfiniteStorage RM660 SAN with 40TB storage uses SGI CXFS shared filesystem to link to the entire facility. The DI theatre, with Lustre running on Windows® XP, is

networked to a Discreet® Smoke® editing/finishing system running on an SGI® IRIX® OS-based, 4-processor Silicon Graphics® Tezro® visual workstation for film, HD and visual effects, and is also networked to the post-production suite, which primarily runs Discreet® Combustion®, along with Apple® Shake®, and Eyeon Software's Digital Fusion®. Capital FX's own in-house art department, which creates original title sequences and artwork on Apple® Macintosh® systems, is also linked by the SGI SAN. SGI CXFS shared filesystem ensures seamless workflow between any and all of the suites, regardless of operating system.

SGI® GRIO V2 quality of service (QoS) reservation software is in the process of being added. GRIO V2 allocates network bandwidth for 2K and 4K content ensuring real-time DI to film output.

Major Filmmakers Require 2K and 4K DI

The recent addition of the Lustre suite with SGI RM660 storage and SGI CXFS has proved a tremendous success. Capital FX has used the theatre suite to finish not only the DI and color-grading but extensive original work on a number of late summer and early fall releases, including foreign versions of *Stealth*, scanned in at 4K, and *Asylum*, *Ripley Under Ground*, *The Bridge*, *Dead Man's Card* all scanned in at 2K.

Additionally, Capital FX has just finished recording out *Silence Becomes You*, a Dragonfly Films production starring Alicia Silverstone. The film is the first full-length Hollywood feature entirely shot on the Thomson Grass Valley Viper FieldStream™, a 1920x1080 high-resolution digital camera designed to deliver data right into the heart of the digital process.



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“We just took graded data and recorded it out; it never left the 2K realm,” says Ilko.

SGI InfiniteStorage Systems Allow Easy, Constant Growth

Almost as soon as the DI theatre was operational, Capital FX realized demand outweighed their capacity. Warner Bros.’ *Charlie and the Chocolate Factory* came in as a 2K project, requiring rendering to 4K, plus subtitling and final output to film for 21 different language versions. The facility has also taken the first floor in the Mayfair building to construct an additional two DI theatres, and is rapidly proceeding to purchase additional SGI InfiniteStorage systems and related networking hardware and software. The expansion is, in part, to ensure Capital FX is ready to handle

another major 4K DI project, Warner Bros’ *Harry Potter and the Goblet of Fire*, released in the US in mid-November. The *Harry Potter* job included original end title design plus foreign language front and end credits and foreign feature reel outputs with many different language versions as well.

“With the current push for a larger venue DI theatre, SGI’s scalable InfiniteStorage systems are an important benefit, allowing us to add nearline storage very quickly. That’s a huge need of ours, to constantly grow the network,” concludes Ilko. “We have recently doubled the online storage to 40TB, and will be switching on GRIO, we have installed a 68TB TP9700 nearline storage device and clustered our SGI

InfiniteStorage gateway servers. We’ve also purchased SGI Data Migration Facility, which will allow us to automatically dual-state data, meaning it is copied to online and nearline storage simultaneously, as it arrives into the network. DMF also monitors the threshold of the online SGI RM660 storage, and as that gets to about 80 percent capacity, the data is automatically migrated to the more cost-effective SATA nearline storage. The scalability of SGI InfiniteStorage is critical to ensuring growth.”

Capital FX was founded in 1990 as a film optical house, and transitioned to digital film mastering and an IT infrastructure almost six years ago. The facility’s primary business has always been foreign

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versioning title work and it offers the only laser subtiting in the UK. Using CELCO Fury™ film recorders, which run Silicon Graphics® Octane2™ systems, as well as ARRILASER digital film recorders, the facility has the biggest film output in the UK, and handles the foreign title versions for almost all of the major features distributed by Walt Disney Studios, Warner Bros., Universal Studios, Sony Pictures and United International Pictures.



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