SGI Solutions Provide Performance and Scalability to Deluxe Digital London

deluxe® digital London
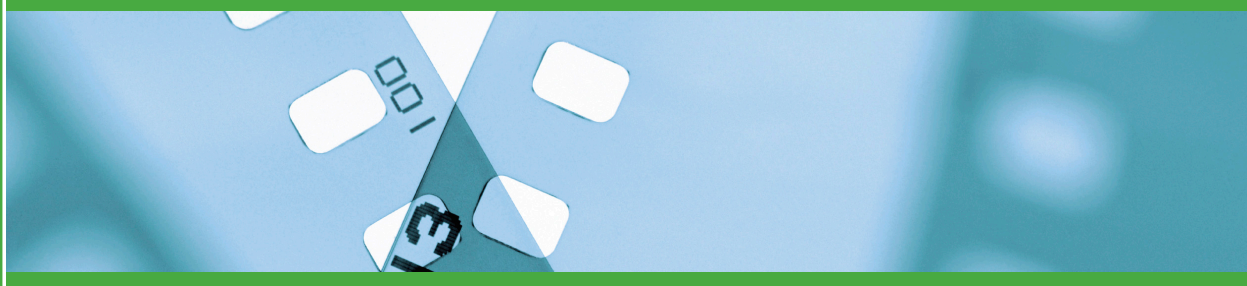
> "Speed and consistency is of the essence when digitizing film stock – with integrated SGI Altix and InfiniteStorage solutions we can process and store film faster and in much higher quality."
>
> — Peter Guyan, Production Systems Manager, Deluxe Digital London

Key Facts

Organization – Deluxe Digital London

Location – London, England

Applications – Digital film conversion, process and effects

Solutions – HPC servers and storage:

SGI® Altix® 450

SGI® Altix® 250

SGI® Altix® 210

SGI® InfiniteStorage 11000

SGI® InfiniteStorage 4600

Background

Deluxe Digital London specializes in digital post production services and is part of the Deluxe Group—one of the world's oldest and best known providers of technical solutions for the film and entertainment industries. Requiring substantial computing power to convert and process analog film into digital, Deluxe Digital London selected a comprehensive SGI server/storage solution.

Business Challenge

Deluxe Digital London, founded in Fort Lee, New Jersey in 1915 by William Fox of the Fox Film Corporation, has been a leading name in film services for nearly 100 years. Since 1943, Deluxe has received wide ranging industry recognition, including ten Academy Awards for technical excellence. Since its founding, the company has continued to grow and now has a large number of offices across the USA, Canada, Europe, Australia, Asia and India.

Two of the company's specialties are digital film processing and conversion—both functions rely on advanced and powerful computing solutions. The Deluxe Group and Deluxe Digital London have long trusted SGI and admired its pedigree and high regard that SGI solutions enjoy in the motion picture industry. To keep pace with the continued growth in demand for digital film services, and to improve work-flow and efficiency, Deluxe Digital London selected a comprehensive SGI server and storage solution to help provide state-of-the-art services in analog-to-digital/digital-to analog film conversion, title effects and other data intensive film processes.

Technology Solution

The integrated SGI installation at Deluxe Digital London is a complete solution consisting of multiple servers from the SGI Altix product portfolio and high performance InfiniteStorage RAID products. SGI Altix supercomputing servers are designed with non-standard and demanding processing requirements in mind, providing businesses with flexible, scalable

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and extremely efficient, designed-to-order solutions. For example, the modular blade design of the Altix 450 enables businesses to specify the most appropriate up-to-date components for specific applications, delivering a much more relevant solution that drives a much lower TCO. Because of this, Deluxe Digital London can now achieve extremely high film processing rates, enable faster work-flow and enjoy the expanded ability to take on more projects.

"Speed is of the essence when you're digitizing film stock, said Peter Guyan, Production Systems Manager at Deluxe Digital London. "The SGI Altix and InfiniteStorage solutions enable us to read data at up to 1,600MB/s—effectively allowing us to render four concurrent 24fps streams in real time or faster."

A customized SGI storage solution works seamlessly with the Altix servers. Deluxe Digital London relies on storage products from the InfiniteStorage product line to support escalating storage demands for high-bandwidth applications requiring extremely high recall and transfer speeds.

The SGI InfiniteStorage 4600 storage solution is used for the ingest of film data via film scanners – each frame is converted to an uncompressed image file and then processed. This processing can involve dust and scratch removal, color correction, editing, compositing, adding visual effects, subtitles, credits, etc. As the InfiniteStorage 4600 is incorporated in a CXFS environment, high speed shared access allows multiple hosts to access the same data—there is no need to transfer terabytes of data to enable the next stage of film processing. Technicians at each stage simply works on the same data set.

The SGI InfiniteStorage 4600 is ideal for these data-intensive applications. With a choice of InfiniBand or Fibre Channel connectivity, the InfiniteStorage 4600 is an ideal storage solution for low-latency, high performance tasks such as real-time rendering, conversion and

processing. Furthermore, because different hard drive types can be mixed in the 16-bay trays, users can also achieve a tiered storage environment that accommodates RAID block storage and virtualization initiatives among other data management configurations.

Deluxe also employs an InfiniteStorage 11000 to allow real-time quality control. A movie is transferred to the InfiniteStorage 11000 via CXFSCP—a fast, multi-threaded data copy utility developed by SGI. Following this, each movie can be displayed in a play-out theater enabling the detection of potential imperfections in the movie. The movie can be stopped, and the imperfection precisely located and noted. Such a process enables rapid correction—vital when working to tight deadlines. The SGI InfiniteStorage 11000 has sufficient performance and capacity to allow for multiple movies to be simultaneously reviewed at real time speeds.

SGI InifiniteStorage solutions assure zero downtime for critical applications. They allow continuous access to user data during administrative tasks—including expansion and maintenance of the system.

Business Results

Deluxe Digital London's performance and capacity requirements are representative of the extremely demanding, data-intensive and storage-hungry applications that face modern businesses. Not only has vast storage capacity, high processing speeds and low-latency become mission critical, energy efficiency and lowering associated system operation overhead remains at the top of the business agenda. The SGI equipment easily satisfies all these requirements.

The SGI installation at Deluxe Digital London successfully allows the company to sustain an extremely demanding workload and enables the company to work at greater speeds with improved accuracy—so that Deluxe Digital does not drop any frames, each appearing every 40ms. Additionally, given the space-saving and energy efficient aspects of the equipment's design, the company has driven down the physical footprint of its equipment and reduced its power costs by half.