

Force10 Networks Helps Stan Winston Studio Hone Special Effects

Customer PROFILE

Customer

Stan Winston Studio

Industry

Film and Video
Special Effects and Animation

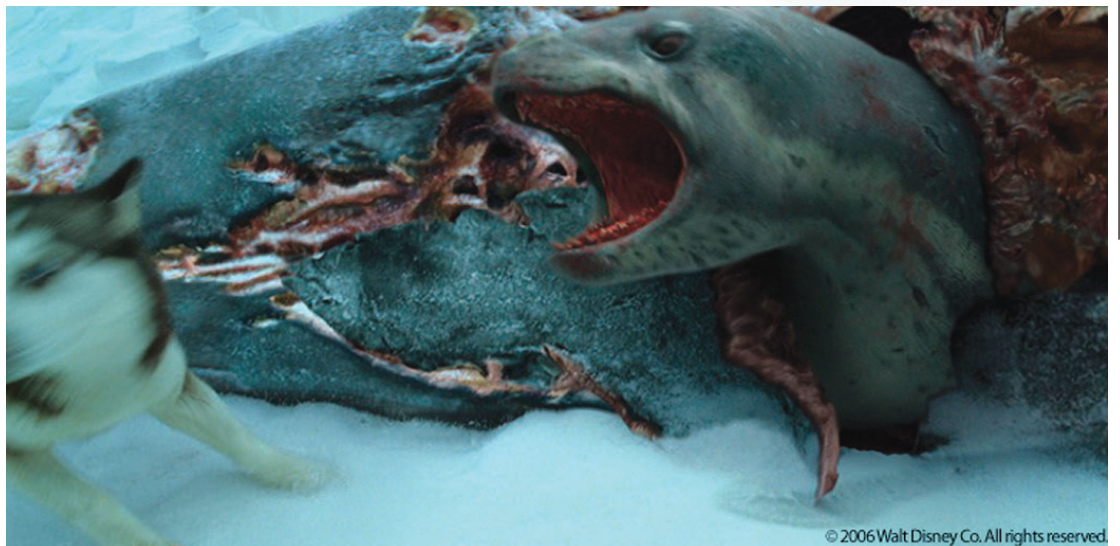


Application

Core Router

Highlights

Stan Winston Studio deploys the TeraScale E-Series E600 in its production pipeline to streamline operations and maximize network uptime and artist visual effects.



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Image from the film *Eight Below* courtesy of Walt Disney Co.

“Artists tend to complain when things aren’t perfectly right. Force10 helps us keep the noise down.”

Bob Monaghan
Head of Systems,
Stan Winston Studio

Top-notch visuals, such as those in the recently released film *Eight Below*, are what give Hollywood special-effects house Stan Winston Studio its competitive edge. For more than 30 years, Stan Winston Studio has developed characters, creatures and special effects for movies, television, commercials, and music videos, including the Budweiser frogs and lizards, *Aliens*, *War of the Worlds*, *Terminator*, *Jurassic Park*, *Galaxy Quest*, *The Sixth Sense*, and *Edward Scissorhands*.

Achieving lifelike characters and effects requires artists to produce many renderings of each image, which in turn requires significant computing and networking muscle. Unfortunately, an underpowered network was slowing down that iteration process. With commercial work increasing, the company expanding into the gaming market and other new lines of business, and production on *Eight Below* looming, the IT team knew it was time for a network overhaul. Investigations into switch alternatives led Stan Winston Studio to Force10 Networks and the TeraScale E-Series E600.

“The E600’s immense backplane and line-rate performance caught my attention,” notes Bob Monaghan, Head of Systems at Stan Winston Studio. The IT team wanted a line-rate, non-blocking core device that could handle the typical load on the network, including spikes in traffic during a production cycle, as well as accommodate traffic increases over time.

“We have periods, such as the end of a movie, when people are working really long hours, pushing huge amounts of data,” Monaghan says. “It’s crucial that the network have the capacity to handle that, and be scalable enough to support our business growth so we’re not forced to upgrade in a couple years.” And being able to drive the network at line rate yields an important benefit: It allows artists to produce more iterations and therefore more realistic images.



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Pushing More Data

In planning the network upgrade, Monaghan ruled out higher-end switches from the existing network vendor because even those boxes lacked the throughput and redundancy characteristics he needed. And they were expensive. In contrast, the Force10 E600 provides "more bang for the buck," Monaghan says, delivering the performance, scalability, and resiliency he needs in a cost-effective platform.

"The artists' workstations are I/O intensive and use the full 1 Gigabit line rate most of the time," he says. "We're driving 24 frames a second, and there may be many layers in that one film image — one still frame could have five or six different 12 meg files. That's a lot of data."

Monaghan estimates that the E600 can handle three times the amount of data the studio is currently throwing at it. He also notes that network latency is lower with the E600 in place. Even with servers connected at 10 GbE and workstations and rendering nodes tied in with 1 GbE links, the E600 has plenty of capacity to spare, allowing for growth in traffic as well as use of future high-speed interfaces.

Designed for scalable performance, the E-Series line cards, switch fabric, backplane, central processor and operating system have been optimized to process terabits of traffic at line rate in a reliable, predictable fashion. One of several chassis in the E-Series, the E600 features a 900-Gbps non-blocking switch fabric with a forwarding capacity of 500 million packets per second.

Each E600 has seven line card slots, which can be configured with a mix of Gigabit Ethernet (GbE) and 10 GbE cards. In terms of density, the E600 can accommodate up to 336 line-rate, non-blocking GbE ports or a total of 630 GbE ports, for example, or be configured with up to 28 line-rate, non-blocking 10 GbE ports or a total of 112 10 GbE ports.

In addition to providing much needed capacity and room to grow, the E600 allowed the IT team to simplify the network design and streamline the cable plant, making operations more efficient and lowering operations cost.

Sharpening the Competitive Edge

Not only has the E600 eliminated network slowdowns and streamlined operations, but its resiliency features are ensuring maximum network uptime, another critical requirement for Stan Winston Studio. Engineered for carrier-class switching and routing, the E-Series has a patented three CPU architecture, with switching, routing and management functions running on three distinct processors. This fully distributed, multiprocessor design protects each control plane process, allowing a fault in one control plane to be contained while protecting other parts of the system.

In addition, all key systems in the E-Series are redundant, including the route processor module (RPM)s, switch fabric modules, and power, and all memory systems are ECC/parity protected. Stan Winston Studio has configured its E600 with redundant RPMs, switch fabrics and other components, ensuring non-stop operation.

It's a real plus, Monaghan notes, to be able to reconfigure the E600 and perform upgrades, such as installing new software images, without having to take the system down. Not only does it ensure that film production work isn't interrupted, but it keeps users happy. "Artists tend to complain when things aren't perfectly right," he notes. "Force10 helps us keep the noise down."

The E600's combination of cost-effective, high-performance hardware, operational simplicity, and uptime has enabled Stan Winston Studio to lower its total cost of ownership. But the ultimate benefit is that the new network gives the studio the ability to get more work done within the same time constraints, enabling artists to maximize visual effects.

"Our goal is to create fantastic and believable characters. Being able to crank out more versions of the same shot lets the artists really hone an image," Monaghan says. "With the E600, we can move more data faster, which allows us to get more rendering iterations done before a deadline. Often the best part of the shot is the little detail we're able to add at the end that makes an effect jump from just OK to eye-popping or believable."

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Force10 Networks, Inc.
350 Holger Way
San Jose, CA 95134 USA
www.force10networks.com

408-571-3500 PHONE
408-571-3550 FACSIMILE

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