At a movie’s heart

“Story is king,” says Animal Logic founder, Zareh Nalbandian. He told the website Urban Cinefile that this is a key learning of his 30-year film career.1

Back in 1991, when Nalbandian founded Animal Logic, computers were a long way from being a storytelling tool—and a very long way from being able to generate an entire feature-length film. Most monitors at the time couldn’t even display a color photo. Nalbandian, however, sensed the future of digital imagery.

He guided Animal Logic to win acclaim for visual effects in TV commercials. And starting in 1996, his team created computer-generated imagery (CGI) for movies that include *Babe, The Matrix, Moulin Rouge, Harry Potter and the Goblet of Fire,* and *300.* Each time out, the company’s storytelling ability was sharpened.

Then, in 2006, working with Directors George Miller and Kennedy Miller, Animal Logic created *Happy Feet*—Australia’s first animated feature. The Boston Globe called it “one of the most visually ravishing CGI films yet rendered.”2 Story was king—*Happy Feet* was crowned with an Oscar for best animated feature.

So how do you top an Oscar?


Prepare to Fly: Top Animation Studio Taps HP BladeSystem for a Fourfold Jump in Efficiency

Readying its next project, Animal Logic turns to HP to potentially quadruple its compute power within the same data center footprint.

“With the HP BladeSystem, the same amount of compute power we used at the peak of preparing *Happy Feet* can now fit into a quarter of the space.” —Alex Timbs, head of information technology, Animal Logic

**Objective**
Maximize data center performance while minimizing the power and space footprint and operating costs

**Approach**
Replace another vendor’s infrastructure with the HP Adaptive Infrastructure, using low-power models of the HP ProLiant BL2x220c Server for high-density computing

**IT improvements**
- Significant reduction in server management time vs. previous infrastructure
- 500 servers maintained with one quarter of an administrator’s time
- Visits to server virtually eliminated by HP remote management
- Ability to re-image 500 servers in 50 minutes—many times faster than before

**Business benefits**
- Significantly lower power consumption than next nearest competitor in tests
- Enhanced flexibility from ability to deploy four times the compute power within the same data center footprint
- Reduced networking complexity using 10 Gigabit Ethernet stacking

HP customer case study: Adaptive Infrastructure, HP BladeSystem, HP ProLiant BL2x220c server blade

Industry: media and entertainment
Technology raises the bar

Animal Logic’s next project is well underway. *Guardians of Ga’Hoole*, scheduled for release in 2010, is based on a *New York Times* bestselling children’s fiction book series by author Kathryn Lasky. The story follows a young barn owl and his friends as they courageously escape the evil clutches of a band of rogue owls and embark on a journey to reunite with their families.

“Guardians has unique opportunities and challenges,” Nalbandian told the Australian website InsideFilm.³ “This is due to the complexity and believability of the world we are creating, the scale and camera techniques of our world of owls and other creatures, and the spectacle and non-earthbound nature of the flight scenes and action scenes in flight. A lot of invention will be required, both creative and technical to do justice to the opportunity.”

Hundreds of 3D artists are now at Animal Logic working on these challenges. Alex Timbs, head of information technology, is fine-tuning the infrastructure that will turn their vision into a film.

What does the new infrastructure need to do? “After *Happy Feet*, we reviewed our options to see how we could make our infrastructure more efficient,” Timbs says. “Could we use high-density servers to reduce the total square meters at our collocation facility? What’s the most efficient technology out there? And what offers the most streamlined management?”

The consequences of server choice are enormous. “The heaviest rendering work is typically in the last 6 to 12 months of production,” Timbs explains. “By then we’re doing non-stop 24x7 rendering. The task is being handled now with 500 servers and that number may increase to 1,000 before production is complete. A server’s operational costs—especially when dealing with this scale—is a consideration.”

Twice the density, four times the power

The team reviewed a number of vendors’ solutions. “Some were more traditional blade offerings,” Timbs recalls. “HP has the HP ProLiant BL2x220c server blade. Using a standard chassis size, it packs double the number of blades into the same area. That meant we could take advantage of larger and fewer DC power supplies.”

Twice the density, four times the power

“The smaller server footprint would eliminate the cost of renting data center space should it be needed to expand further,” Timbs points out. “With the HP BladeSystem, the same amount of compute power we used at the peak of *Happy Feet* can now fit into a quarter of the space,” he says. “That gives us the flexibility to expand to four times the number of servers we have now without having to increase our data center.”

But what about power—which vendor’s solution would be the most power-efficient? The team ran equivalent rendering on all solutions being evaluated. “In our testing, the HP BladeSystem consumed markedly less power than its nearest competitor,” Timbs reports.”

³ InsideFilm.com, September 12, 2008, visited April 6, 2009.
More efficient management
Another key requirement was easier management. “HP has some excellent management tools which we feel will reduce the total cost of ownership by reducing the number of people needed to maintain the cluster,” Timbs says.

HP Insight Control Suite gives the team comprehensive system health, remote control, operating system deployment, power management, vulnerability scanning, and patch management capabilities.

“With the HP Insight Control Management Suite, we project we can maintain the 500 servers with about a quarter of a person’s time,” explains Timbs. “In our previous infrastructure, it was more difficult to determine the cluster’s health, and the tools to do so were certainly not as intuitive as HP’s Adaptive Infrastructure. Five hundred servers took more time to maintain.”

One key gain is that more can be done from a central console. “Without HP remote management we would probably require a desk at our collocation,” Timbs adds. “With HP remote management, we can control everything from power management to reformatting and imaging the blades and even installing BIOS updates remotely, and across the entire farm at once if we desire. We can re-image the entire farm in around 50 minutes if needed. This is many times faster than we could have completed the same task previously. In addition, the image capture process itself for the Windows® environment has been vastly simplified, essentially down to the level of point and click.”

“In our testing, the HP BladeSystem consumed markedly less power than its nearest competitor.”
—Alex Timbs, head of information technology, Animal Logic

10 Gigabit networking for less
Animal Logic worked closely with HP to come up with a 10 Gigabit Ethernet network solution. “With so much compute power, the last thing you want is for your network to become the bottleneck,” Timbs says. “We didn’t want to starve the blades, and we didn’t want to overprovision. By leveraging HP Virtual Connect and some of the stacking options that come with HP server blades, we are able to have redundancy. With three BladeSystem c7000 Enclosures in a rack, we could lose the 10 Gigabit connection to one without losing the other two. HP Virtual Connect has made this kind of redundancy very cost effective. That’s important, because a 10 Gigabit port is still expensive.”
Ready to lift off
With a new HP infrastructure, Alex Timbs and the rest of the Animal Logic team are ready to prove in a new way that story is king. Says Timbs: “Technology today will allow us to do more complex effects—more particle simulations for flame, water, air and wind—a more realistic, detailed, high resolution image to go into a film than we could have previously. And developers can design tools now which they wouldn’t have dreamt they could do before—because now we have the rendering power to run them effectively. The power is opening up new possibilities.”

In 2006, it was Happy Feet. In 2010, be prepared to fly.

Solution at a glance

Hardware
- HP ProLiant BL2x220c server blades
- HP BladeSystem c7000 Enclosures
- HP Virtual Connect

Software
- HP Insight Control Suite
- HP Integrated Lights-Out (iLO) Management
- HP Systems Insight Manager

Operating systems
- CENTOS
- Microsoft® Windows Server 2008

Network protocol
- 10 Gigabit Ethernet

Services from HP
- HP service and support

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