

MARC AND MACHINE = MAGIC

From falling bodies to searing death rays, Marc Leidy uses Dell Precision workstations to create visual effects, and has doubled his revenue each year



SOLUTIONS

- MULTI-PROCESSOR
- OPENGL 3D GRAPHICS
- DELL PRECISION MOBILE AND DESKTOP WORKSTATIONS



CUSTOMER PROFILE

COUNTRY: United States
INDUSTRY: Media (Entertainment)
FOUNDED: 2004
NUMBER OF EMPLOYEES: 1
WEB ADDRESS:
www.lightdogfilms.com

CHALLENGE

Drive software solutions that enable imaginative feature-film quality visual effects to be created within tight time and budget limits.

SOLUTION

The speed of a Dell Precision™ mobile workstation for the field and the power of a Dell Precision desktop workstation for the office enables visual effects to be refined and optimized for the biggest impact.

BENEFITS

GET IT FASTER

- Quick results achieved without steep learning curve by using commercial and freeware applications from the PC community
- Doubled field productivity using Dell Precision M6400 mobile workstation's fast, full rendering

RUN IT BETTER

- Successful visual effects practice enabled by Dell Precision power and flexibility
- Rendering in minutes instead of hours adds more value through increased collaboration

GROW IT SMARTER

- Doubled annual revenue each year since using Dell Precision workstations
- Projected acceleration in revenue growth due to Dell Precision workstation speed

EXTERIOR, NIGHT: A GLITTERING CITYSCAPE

On a skyscraper rooftop, a fight abruptly ends as two people tumble over the edge, plunging dozens of stories...

“USING DELL PRECISION WORKSTATIONS, I’VE DOUBLED MY REVENUE EACH YEAR.”

Marc Leidy, Owner, Lightdog Films

As you watch this exciting scene while eating popcorn in a theatre, it seems so real that it never occurs to you that the city backdrop you’re seeing, and the building where it lives never existed—except in the mind and eventually on the computer of a gifted technology artist.

Enter Marc Leidy of Lightdog Films.

In Hollywood, where visual effects are labor intensive and often built by teams of specialists, Leidy takes a different approach. He’s a one-man visual effects operation, ready to tackle a challenge offered by many producers: “They tend to have a tight deadline, not a lot of budget, and have a very specific visual requirement in mind,” Leidy notes. “I can respond with a nimbleness that perfectly suits the multiple visual effects demands at hand.”

“I’m not knocking having a team—when it’s necessary I get one,” Leidy notes. He managed a team as visual effects supervisor for *CSI: Miami* in its first season. “With my production experience, I can walk on a set and shoot or acquire exactly the elements I need—and I know because I’m also the person who will composite them. I can hit deadlines because there’s very little wasted time.”

THE RIGHT PARTNER

Leidy does have a technology “team” he partners with every day—his Dell

Precision M6400 mobile workstation in the field and a Dell Precision T5400 workstation at his office.

About four years ago he worked on a Mac, as did many others in the media industry. “But some critical effects applications were only available on the PC. I decided to switch to the PC and gravitated to Dell because I needed something solid and robust. It’s turned out to be a good fit.” His move from Mac to PC continues to pay off, he says. “Yesterday, for example, I needed to generate a special kind of texture map. I found that someone had written a little freeware application for the PC that produces what I needed. I downloaded it and was done in minutes. If I had to generate that map from scratch, it might have taken all day.”

CHANGES ON THE FLY

With Dell technology, Leidy can run more iterations faster. “As a visual artist, it used to take days to make the image in my head real,” he says. “Now with my Dell Precision mobile and its dual-core processors, I can chop that to hours, and sometimes, in extreme situations, minutes.”

On a tight deadline for a feature film called *SuperHero Movie*, for instance, he needed to design, model and render multiple views of a skyscraper behind two falling people—and he needed to make sure the speed of their fall was convincing. “On my Dell mobile

HOW IT WORKS

HARDWARE

- Dell Precision™ M6400 Mobile Workstation with Intel® Core™ 2 Duo Extreme Edition processors
- Dell Precision T5400 Workstation with Intel Xeon® processors

SOFTWARE

- Adobe CS4 Master Collection
- Maxon Cinema 4D R11 Studio
- Luxology modo
- SynthEyes 2008
- REALVIZ Stitcher Unlimited
- Imagineer Systems mocha
- Custom plug-ins and utilities

SERVICES

- Dell service and support

workstation I plug in my 3D camera and find that 55 meters per second—terminal velocity based on the actors’ specific body positions—is a little too fast based on the camera angle the director wanted. So I can tweak the effect quickly because I’m right on set with the director and the cameraman approving it on the spot instead of in a meeting days later.”

For another feature film called *SuperCapers*, he created effects such as digital fire, digital smoke, heat rays, freeze rays and other assorted energy effects. “Before, I’d have to send off

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particle animation to be rendered, and it might take a couple hours,” Leidy says. “Now on my Dell it’s so fast it’s almost interactive.”

By moving faster, Leidy finds he can also contribute more creative value. “I have the tools that enable me to execute, edit and then analyze the edit and anticipate needs the production team may not have thought of,” Leidy notes. “I can say ‘here’s the timing for this sequence based on this other element,’ and they say ‘yes, that makes sense. Let’s do that.’ The speed of my Dell Precision technology enables me, as an artist, to take extra steps that make me a more valuable collaborator.”

When Leidy needs an especially large processing capacity, he heads back to his office. “Every time I see the eight cores in my Dell Precision T5400 workstation rendering in Cinema 4D, it’s a beautiful thing,” notes Leidy. “I can set up a scene up for a client, and quickly turn versions around, for a more collaborative process.”

If there are added changes, it’s not a problem, Leidy says. “I tested the Dell Precision T5400 workstation, and found it to be 60 times faster than the system I used on the *CSI: Miami* set in 2003. That’s ridiculously fast. Where, I wonder, are there limits?”

DISSOLVE TO: MAJOR SURPRISE

Leidy tested the limits in an upcoming Hollywood blockbuster, where two men are in a fight. One jams a knife into the back of the other’s head, and out comes an eruption of sparks and smoke. It turns out the second man is a robot. Smoke drifts through the room as the first man recovers.

The production challenge in this scene is tough: how can the smoke look realistic, yet not obscure the actors’ faces? How can it move where needed, in take after take for all the different camera angles needed to make up the two-minute sequence?

Real smoke won’t work. It must be added digitally in post-production. Could Lightdog Films do the job?

It was a classic case of jumping in and saying “yes,” Leidy recalls, while being unsure exactly how it could be done. At the same time, he had the new Dell Precision M6400 Covet Workstation to test. It lets him run Intel® Core™ 2 Duo Extreme Edition processors with eight gigabytes of RAM and 64-bit processing.

“It’s not an easy thing to move smoke around to the requirements of a live action scene,” Leidy says. “To make the smoke move realistically, fluid dynamics are involved. I can’t just say I want it to go from here to there. I need to choose parameters that will give me a usable result. Pressure fields? Heat fields? Wind?”

Given the fine granularity needed to make smoke realistic on the big screen, the fastest simulations took 40 minutes, Leidy reports, and four to eight second sequences can take seven to ten hours to render. “Can you imagine touching up a Photoshop document, deciding to tweak a color, and having to wait 40 minutes or seven hours to see the results?” he observes.

THREE TIMES MORE CAPACITY

In this case, however, Leidy had capacity he never had in a laptop before. “With eight gigabytes of RAM

and 64-bit processing on the Dell Covet, I can run 21 million grid cells—a unit of 3D space—for 10 hours without a hitch. That’s about three times more capacity than if I had four gigabytes of RAM and 32-bit processing, which would give me an eight million cell limit. With 32-bit architecture, there’s no way I could have even touched this.”

Leidy now has the ability for extended previews. “I can preview maybe a 200 frame sequence before committing it to rendering,” he says. “In the 32-bit world, I would be limited to maybe a 100 frame preview. What Covet allows me to do is see the shot continuously. I can deliver better work. I don’t have to do all my cheats like making a shot smaller.”

The job is almost done. “I’ve been beating up the Covet like you wouldn’t believe. And it’s really delivering with flying colors. I’m at the point where I expect it to deliver, which is very exciting.”

EIGHT GIGS OF MEMORY: \$1,300 LESS

He’s also working more inexpensively. The Dell Precision Covet mobile workstation has four memory slots instead of the two slots most other notebooks have. This enables him to use lower cost commodity memory chips. Online at dell.com, for instance, an eight gigabyte RAM configuration using four chips costs about \$1,300 less than if he had to use two chips. And Leidy can expand to 16 gigabytes of RAM if the need arises.

Leidy’s Dell Precision mobile workstation also gives him more flexibility about where to work. “It improves the quality of life because I

can go home at night, play with my kid, and after everybody's gone to sleep, I can punch out crazy stuff to check on the following morning while I'm having breakfast. And we're talking about a 1920-by-1200 pixel screen. I can review HD stuff on this thing."

Leidy can also use the Dell Precision docking station to run up to two 30-inch screens along with a detached keyboard and mouse if he desires. But he prefers to keep mobile. "I like not having to sit in one specific place," he says.

Other industry professionals are taking notice. "The visual effects supervisor on this film has been around the block a few times, and he knows his stuff," Leidy says. "He watched the *Covet* work and said 'that's 100 percent digital smoke meeting the resolution requirements of a major motion picture coming off of a laptop.' He was astonished. And now I couldn't conceive of doing a project like this any other way."

DOUBLING PRODUCTIVITY

Sometimes a company hires Leidy to come in and develop at their own workstations. "I bring my mobile along as a secondary system," he says. "Producers aren't used to seeing workstation performance in a mobile unit. I show them I can run a 3D matchmove or a 3D render on the Dell while doing a composite for another shot on their box. Suddenly I've doubled my productivity at that facility."

This came in especially handy, when he was hired to help turn teenage girls into witches by equipping them with magic

effects for Disney's cable movie *Twitches Too*. "We were on a tight deadline and were almost done when there were a number of new requests," Leidy recalls. "The company's workstation resources were already at maximum capacity. I told them my mobile workstation had a full suite of high-end effects applications that could punch out the new shots. We went from concept to completion overnight, passed our work to executives at Disney, and they responded enthusiastically. It was hard work, but we made it look easy. It still amazes me that you can deliver TV feature presentation-quality effects and even feature films on a mobile computer."

Leidy looks back over the business value he's achieving with Dell solutions. "In my first three years of using Dell Precision workstations, I've doubled my revenue each year," he says. "And since getting the Dell Precision T5400 a few months ago, I've taken on several projects I would not even have attempted before, and I'm growing my revenue even faster. Dell continues to be an exceptionally rewarding technology partner. I don't worry about the technology anymore. I just focus on how to use it."

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