

THE BODY ELECTRIC

eHuman accelerates anatomical data processing five-fold with Dell servers and Dell Certified Partner Rev2 Technologies

The human body—such a complex, varied landscape. Like geographic information, biological data can be analyzed and manipulated to create realistic, 3-D image simulations to provide medical and dental students with experiences similar to an aviation student using a flight simulator.

eHuman, Inc., a Bay Area company founded by Stanford University researchers, is creating the world's first "clickable human"—think Google Earth for the human condition—complete with Internet-based navigation features, learning and exploration functions, and annotation capabilities. The technology has the potential to fundamentally change medical education and research.

WORTH A THOUSAND PICTURES

When eHuman launched in 2000, it had to use expensive, proprietary UNIX-based workstations to process the vast amount of data involved in creating the simulations. "I think the best analogy is that if a picture is worth a thousand words, then a three-dimensional interactive simulation is worth a thousand pictures," says Dr. Kevin Montgomery, CEO of eHuman. "But processing anatomical data into computerized models takes a lot of computing power."

Because eHuman is funded by grants from the National Institutes of Health (NIH), it must watch its budget very closely. Due to the cost of the proprietary workstations, eHuman had to limit the number of machines it purchased. The go-to machine was a \$100,000 server from a well-known vendor—but it was the only machine eHuman had that could handle its computational needs, which created a bottleneck for researchers.

"In order to generate more content, we wanted to have multiple people processing multiple data sets at the same time," says Montgomery. "We also wanted to improve our ability to reliably serve that content to our customers online. But for those things to happen, we needed more servers."

RELIABLE, POWERFUL SERVERS—FOR 15% LESS

Montgomery and his business partner, Dr. Paul Brown, president and founder of eHuman, began looking for more affordable, x86-based servers that could handle the load. The company approached Rev2 Technologies, a Dell Certified Partner, for assistance.

"We needed very cost-effective, reliable servers," says Montgomery. "And if you want power, reliability and great value, you go with Dell. You can't argue with the model. They produce a great product with superior quality control, and their servers are on average about 15 percent more cost effective and better value than comparable servers from other vendors." Combining this product value with dependable, personalized support and service from a local Certified Dell Partner is a winning strategy.

eHuman[™]
DIGITAL ANATOMY

CUSTOMER PROFILE

COUNTRY: Portola Valley, CA (USA)

INDUSTRY: Technology

FOUNDED: 2000

NUMBER OF EMPLOYEES: 22

WEB ADDRESS: www.ehuman.com

CHALLENGE

With only one legacy server powerful enough to handle its data-intensive computational requirements, eHuman wanted servers that were powerful enough to meet its needs, yet affordable enough to make a multi-server infrastructure practical.

SOLUTION

Dell channel partner Rev2 Technologies installed Dell™ PowerEdge™ servers to allow multiple researchers to analyze datasets simultaneously.

BENEFITS

GET IT FASTER

- Dell Certified Partner Rev2 provides fast delivery and solution support

RUN IT BETTER

- Able to process 5 times as much anatomical data for simulations

GROW IT SMARTER

- 15% more cost-effective over comparable servers from other vendors
- 70% annual growth in sales due to faster data processing

HOW IT WORKS

HARDWARE

- Dell™ PowerEdge™ R300 servers with Intel® Xeon® E3113 series processors
- Dell PowerEdge 2900 server with Intel Xeon 5300 series processors
- Dell Latitude™ D820, D810 and D620 laptops with Intel processors
- Dell OptiPlex™ 745 and 330 PCs with Intel processors
- Dell UltraSharp monitors (various models)

SOFTWARE

- Microsoft® Windows Server® 2003
- MySQL® database

SERVICES

- Dell ProSupport
- Requirements consultation and pre-sales configuration analysis
- Post-sales technical assistance



“IF YOU WANT POWER, RELIABILITY AND GREAT VALUE, YOU GO WITH DELL.”

Dr. Kevin Montgomery, CEO, eHuman, Inc.

DOING 5 TIMES THE WORK IN PARALLEL

To supplement the aging workstation, Rev2 recommended, configured and installed five Dell PowerEdge R300 servers with Intel Xeon E3113 processors running Microsoft Windows Server 2003 and one Dell PowerEdge 2900 with Intel Xeon 5300 series processors as a MySQL database server.

“Rev2 is a great partner,” says Brown. “I’m not a technical expert with computer hardware, so it helps to be able to lean on Rev2 to do our homework for us. They have in-depth knowledge of Dell products and services, and are able to design solutions that enhance both our production and test/dev environments.” Rev2 also provides front-line support for eHuman’s Dell ProSupport contract, which guarantees a four-hour response time for the business-critical production servers.

The Dell servers have expanded eHuman’s research capacity five-fold—and enabled five independent researchers to work in tandem. “We now have more redundancy, more robust hardware, and we’re able to process five times as much data,” says Montgomery.

CUSTOMIZED DESKTOPS SPEED ANALYSIS

Much of eHuman’s work is done in collaboration with Stanford University’s National Biocomputation Center using Dell OptiPlex 330 desktop PCs and OptiPlex 745 minitowers with Intel processors, as well as various models of Dell UltraSharp monitors. “Rev2 configured the PCs specifically for our intensive technical requirements, so we could start using exactly what we need right away,” says Brown.

“In pre-processing the data, we use a number of different programs for turning CAT-scan or MRI data into computer models, most of which now run on PCs,” Montgomery explains. “The Dell OptiPlex desktops have been a very solid platform for number-crunching performance.”

For reliable mobile computing, eHuman uses Dell Latitude D820, D810 and D620 laptops with Intel processors.

DRIVING 70% ANNUAL REVENUE GROWTH

Even in the current economy, demand for eHuman’s Web-based application is brisk. Sales revenues have grown by 70 percent each year since installing the Dell servers. “We’re poised to dramatically parallelize our development efforts, and we’ll be able to come out with many more products much more efficiently,” says Montgomery.

“Thanks to Dell and Rev2, we know we’re getting the best hardware, software and the best service for our dollar,” Brown concludes. “We couldn’t have come this far without them.”

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