



## Smart HPC Solution for a Big Name University

*When compared with competitors like Dell and HP. Ace was 1/2 to 1/3 less. I haven't noticed any compromise in performance. If you look inside, you can see that the components you are getting are the same as everyone else's.*

Daven Henze, University of Colorado Boulder

### The Situation

Ace Computers performed the first cluster install for the University of Colorado in 2010. It was a 32-node cluster that ran on a Rocks platform. Recently Daven Henze, an associate professor of mechanical engineering, contacted Ace Computers again with an additional order for 8 nodes and a request to relicense the entire cluster with an updated Rocks platform. Daven and Ace Computers' Director of Technology Dan Arendt and sales executive Mike Leach discussed hardware options that would take full advantage of Intel's newest Haswell E series processor.



### Their Challenge

Dan suggested replacing Rocks with Bright Cluster Manager. The CU Boulder team was interested, so Bright provided a free 1-week trial version. "We needed more hardware and that also meant upgrading our operating system license," Daven explained. "I had never heard of Bright at that time, but I was not opposed to the idea. So we just approached Bright with a blank slate. We did some research and then we were able to try it out." That's all it took to get CU Boulder fully onboard with Bright.

### Our Solution

CU Boulder obtained quotes from 6 different companies and chose Ace Computers, not only for the price, but for their proven track record of quality and service. Ace Computers added 8 nodes to the existing 32-node cluster and converted the entire system from Rocks to Bright.

"Their price was very competitive, in fact it was excellent," Daven said. "When compared with competitors like Dell and HP. Ace was 1/2 to 1/3 less. I haven't noticed any compromise in performance. If you look inside, you can see that the components you are getting are the same as everyone else's. In short, you are getting the same performance and quality, and the same or better customer service for significantly less money."

As Dan worked onsite with the installation, he ran into a couple of unexpected issues involving compatibility between Bright and the older nodes. He was able to quickly resolve the problems. "We have been working with Bright for about 4 years and are very enthusiastic about their products and support," he said. "I consider Bright to be the Swiss Army knife of cluster management software. It's easy enough for beginners, but powerful enough for advanced users."

Daven was impressed with Dan's expertise and also with Bright's support team, which seamlessly resolved minor issues on their end. "Bright was able to remotely log into my console and share the screen with me," he said. "It allowed me to see what they were doing and learn to do it myself the next time around."

He added, "Bright's customer service is great. During the installation process and the few days after that, there was a lot of communication with Bright. They were able to work remotely on our computer. We had a system from 2010 and we were doing a mix and match. So there were some compatibility issues and things that need to be upgraded, but they obviously knew what they were doing."

### **Their Success**

Daven said, "The addition of nodes is much quicker with Bright than with the software we were using. From our end, the main difference is there is a much better GUI cluster management tool with Bright. It makes it much easier to get up and running and also to manage."

Benefits that Daven and others at CU Boulder have noticed with Bright include:

- A performance boost of 10% or more
- The modules circumvent issues with conflicting libraries
- The newer tool chain supports newer software
- The GUI is very convenient and easy for configuring and managing
- There is remote access to the GUI
- The manuals are easy to understand, comprehensive, and regularly updated
- Bright's YouTube Channel has easy-to-follow videos on configuration subjects
- Great customer support; including fast response to emails and phone calls and the *request remote assistance* feature (which Daven especially likes)

"The customer service at Ace has always been excellent," Daven said. "They are very quick to respond and they've been very helpful. I would definitely recommend Ace Computers. In fact, I have. You get a lot of hardware and support for the money. And as soon as the opportunity to recommend Bright comes up, I definitely will."

\*\*\*\*\*

#### **About University of Colorado Boulder**

As the flagship University of the State of Colorado, CU Boulder is one of only 34 U.S. public institutions belonging to the elite Association of American Universities. The school has a tradition of academic excellence, with four Nobel laureates and more than 50 members of prestigious academic academies. Today, CU Boulder's goal is to become the standard for the emerging generation of great comprehensive public research universities.

#### **About Ace Powerworks**

The Ace Computers Powerworks family of enterprise class servers features the following standard criteria: rackmount or tower; multi-CPU designs (1/2/4/8 socket); Intel Xeon or AMD Opteron; memory expansion up to 96 DIMMs and 6TB; standalone, cluster, or datacenter; extensive storage options (HDD/SSD) in LFF/SFF; RAID solutions with up to 4GB cache; battery-backed write cache options; environmentally friendly CacheVault (NAND Flash and Supercapacitor) cache options; and connectivity requirements (40GbE/10GbE, FDR/QDR Infiniband, 16Gbps/8Gbps/4Gbps Fibre Channel). Ace Computers' Powerworks servers are aggressively priced, and utilize an ISO 9001:2008 quality-controlled assembly and testing process.

#### **About Bright Computing**

Bright Computing provides comprehensive software solutions for provisioning and managing HPC clusters, Hadoop clusters, and OpenStack private clouds. In addition to their software, they provide a range of services including support, training, certification, and consulting.

#### **About Ace Computers**

Leading custom computer builder and HPC specialist, Ace Computers currently holds the following contracts: SEWP V, GSA, NITCP, DOS (Department of State), WSIPC, PEPPM, State of Wis., State of Ga. The company is a Woman-Owned Small Business custom technology systems manufacturer and reseller for the public sector as well as the commercial sector. Channel partners include Intel, Supermicro, NVIDIA, Mellanox and Samsung among others. They have been an industry leader since 1983. In addition to some of the finest academic institutions in the U.S., long-term clients include the U.S. Department of Energy and the U.S. Department of Defense. In addition to our Greater Chicago headquarters, Ace Computers has locations in New Jersey, Virginia, and Pennsylvania. To contact Ace Computers, call 1-877-223-2667 or 1-847-952-6900 or visit <http://www.acecomputers.com/TopProducts.asp>.