That's Refreshing

Dell Asset Recovery Services supports the research endeavors at the Center for Computational Research by helping to make a cluster upgrade easy and economically attractive.
imaging. Plus, we support research in data mining, including analyzing retail shopping trends. And we render animation. So, needless to say, we run a variety of applications on the cluster. In addition to the computational resources, our support staff also provides software engineering, database administration, scientific computing, and visualization support to researchers throughout the university.

Expanding research necessitates a cluster upgrade
For the past several years, the Center for Computational Research used a high-bandwidth cluster built around Dell™ PowerEdge™ servers to crunch data for its many workloads, but as life sciences research assumed increasing importance, the center began to investigate expanding the cluster. “As we discovered, much of life sciences research does not involve large parallel jobs where a single big problem is solved by multiple processors working simultaneously,” explains Furlani. “Instead, many of the applications in life sciences run effectively on only one or few processors but are RAM- or disk-intensive. It is a bit of overkill to utilize a large cluster with a high-bandwidth interconnect to solve these types of problems. We didn’t want to tie up the resources of our high-bandwidth cluster unnecessarily, but we still needed to address the research needs of this important segment of our customer base, so we began evaluating new potential cluster solutions.”

Ultimately, the Center for Computational Research decided to upgrade the cluster and the PowerEdge servers that comprise it. “We made the decision to add to the existing system and to replace some of the old, off-warranty servers,” explains Furlani. “Recently, we installed 256 dual-processor Dell PowerEdge SC1425 servers. The additional S12 processors do not use a high-bandwidth interconnect, but rather utilize a standard Gigabit Ethernet interconnect. In addition to sequential jobs, this interconnect is fine for many of our small 2–16 processor jobs. An added advantage is that the cost savings realized by going with a Gigabit Ethernet interconnect can be used to purchase additional compute nodes, thereby increasing the overall computing capacity we can provide our users. The new 256-node cluster was merged with the older 800-node high-bandwidth cluster to form a single large cluster that is designed to meet the computing needs of the center’s researchers and business partners.”

As a consequence of the decision to install new PowerEdge servers, the Center for Computational Research needed to remove and remarket 2,300 used high-performance servers in preparation for the upgrade. Furthermore, the removal of the old equipment needed to be seamless—creating little disruption to ongoing research. And the Center for Computational Research wanted to maximize the value it received in return for its used servers.

Dell Asset Recovery Services offers easy disposition of used IT equipment
In order to meet the needs of the Center for Computational Research, Dell ARS designed a customized solution that delivered the rapid, easy, and secure recovery of 2,300 servers. All told, Dell ARS made four pickups of about 60 racks per pickup, utilizing 79 custom-made pallets to recover the 2,300 servers. The solution allowed the servers to remain in their racks while they were rolled into a convenient loading area, screwed into the custom-made pallets, and surrounded in foam—helping to ensure maximum protection of the assets for a high resale value.

The custom nature of the recovery helped ensure an easy and problem-free upgrade for the Center for Computational Research. “At some point, the old equipment doesn’t have that much value in terms of computing throughput,” Furlani explains. “So what do you do? Dell Asset Recovery Services makes a very compelling case for trading in the old servers for new equipment. That solves two problems for us: it helps get rid of the old equipment in a cost-effective way, and it allows us to get new, faster equipment that is under warranty.”

Dell ARS delivers data security and environmental compliance
Aside from the custom nature of the Center for Computational Research recovery, Dell ARS engagements appeal to customers because Dell ARS solutions feature intense data-security protection. During the engagements, all systems are prepared for remarketing or recycling through a closed-loop batch process, meaning that the systems are tracked and reconciled one customer at a time throughout the entire process. In addition, Dell ARS ensures hard drive data is destroyed by performing a three-pass hard drive overwrite in accordance with U.S. Department of Defense standard 5220.22M. Going a step further, Dell ARS performs
sector verification of the hard-drive wipe to further confirm all data removal was successful.

Dell ARS also complies with all local, state, and federal environmental regulations and strives to achieve peak environmental stewardship in the recycling industry. Dell ARS maintains a zero landfill policy—meaning that all equipment that is unable to be resold is broken down into component parts and re-distributed back into the primary materials manufacturing market. Dell ARS also holds to a zero trash export policy, so no equipment ends up in landfills inside or outside the United States. And Dell ARS delivers five-layer auditing of recycled material to ensure partner adherence with its commitments to environmental responsibility.

The Center for Computational Research enjoys a big windfall
For the Center for Computational Research, the benefits of the Dell ARS approach to asset recovery are many. Because the center didn’t want to incur additional de-installation costs, Dell designed a customized process that allowed the center’s staff to roll the servers in their racks directly onto custom-built pallets. Due to Dell’s global reach and impressive resources, Dell ARS was able to scale its logistics to pick up 79 server racks in only four visits—thereby minimizing customer oversight hassles and downtime.

The Center for Computational Research is not alone in enjoying the benefits of Dell ARS. A 2006 survey of customers confirms a 93 percent satisfaction level with Dell ARS, as well as the fact that 99 percent of Dell ARS customers plan to repurchase the services.

While listening to the voice and needs of its customers helps set Dell ARS apart from the competition, from a customer perspective, the financial benefits Dell ARS delivers are probably even more persuasive. To wit: Dell was able to identify buyers for the 2,300 servers and related equipment, defraying US$600,000 of the cost of the new cluster for the Center for Computational Research. “Dell ARS helped us get rid of our old equipment, which was out of warranty and had a diminished computing throughput, and the financial benefits of using the services allow us to expand our cluster with faster, more energy-efficient nodes,” Furlani concludes. “That helps us provide even more compute power for vital medical research and local business purposes at a lower operating cost.”