Data Center News:

U.S. Census reins in data center sprawl

By Matt Stansberry, Site Editor
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The U.S. Census Bureau is known for taking count of the U.S. citizenry every 10 years, but it does a whole lot more. In fact, the Census Bureau is the primary source of basic statistics about the population and economy of the nation -- labor statistics, housing, the Internal Revenue Service. It's a huge number-crunching shop.

Unfortunately, the organization was suffering from a decentralized IT department and a very mixed data center. "You name a hardware manufacture, it's like Prego, it's in there," said Tom Berti, assistant chief for the computer services at the bureau. "I can't emphasize the complexity of this environment enough."

Craig Newell, director of utility computing at TranTech Inc., an Alexandria, Va.-based consultancy working with the bureau, said business units at the bureau defined and bought their own computing systems. Separate IT staffs had separate contracts for support services, separate maintenance and software licensing agreements -- and even separate budgets.

"We ran into 20 different support contracts for a single vendor," Newell said. "We weren't getting economies of scale, and software licenses were very difficult to manage."

The end result was over 74 different operating systems, critical applications running on obsolete platforms and security requirements that were impossible to meet. Also, the staff had a lot of specialized expertise and Berti said the bureau didn't have the depth required to support this environment.

Facing those conditions, the Census Bureau began to research how to get back on track. The organization started doing its homework, researching best practices and putting vendors through the paces.

The Census Bureau decided to build out a utility computing architecture on blades based on Advanced Micro Systems processors and a centrally managed SAN environment. There would be two operating systems: Red Hat Enterprise Linux and Microsoft Windows, with one overlying management and monitoring program, Hewlett-Packard Co.'s (HP) OpenView.

The first step of the migration process was to decide on a hardware vendor, so the Census Bureau set up a lab with Sun Microsystems Inc., IBM, HP, RLX Technologies and Egenera -- kicked the tires and found strengths/weaknesses of the manufacturers. They settled on blades from Marlborough, Mass.-based Egenera for the high-performance needs and IBM

BladeCenter for everything else. Right now, the Census Bureau has approximately 150 from blades from Egenera and 160 from IBM.

Berti estimated that 80% of the bureau's applications were on Sun and HP equipment, and most of those could migrate to Linux. "We chose RedHat as a baseline. Most of our staff was more familiar with Red Hat," Berti said. "Of course there is the HP VMS system which is really tough to port and mainframe is tough. We plan to do it, but it's going to take a lot of effort and money. A lot of applications need to be rewritten."

But once the organizations nailed down the hardware, they had to upgrade the data center because it couldn't support blades in its current environment. The facility engineers gutted the old data center. The Census Bureau deployed six new power distribution units, hot/cool aisles with 120 tons of additional cooling, redundant network switches, Fibre Channel patch panels, director-class SAN switches and new underground cable troughs and patch panels.

"It's going well right now, but we still have a long way to go," Berti said. "IT is excited and we have buy-in from our customers. It's been really tough but I'm confident that this is going to be a very streamlined process in the future. The Census bureau I think is a very forward looking organization."