

Data Center News:

Data center physical consolidation shrinks two facilities to one in 24 hours

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12 Apr 2006 | SearchDataCenter.com

The University of Texas at Arlington (UT Arlington) and Sun Microsystems Inc.'s Data Management Group (DMG) teamed up for a data center consolidation project in which 650 servers and 16,000 data tapes were moved from two outdated data centers into a new facility. Although planning for the consolidation took six months, the physical move from each data center took 12 hours from the time the machines were shut down until they were brought back online -- a total of 24 hours.

John Harris, director of enterprise operations and systems at UT Arlington has been involved with IT for over 40 years -- but called this data center consolidation the crowning achievement of his career.

Harris took the position at UT Arlington three years ago and one of his first projects was to assess the data center growth plan. There were two data centers on the campus -- one for the college's business applications and one for research -- with a combined square footage of 10,500 feet.

Harris' growth model determined those facilities weren't going to sustain the university's expansion. "The data centers were at the end of a 25-year life cycle -- HVAC, PDUs, CRAC units. It was apparent we had to do something," he said. "We had a new president that thought IT was arterial to higher education and he backed it up."

UT Arlington had options: find an old building on campus and retrofit it or build a new data center, but both seemed cost prohibitive. So Harris, thinking outside of the box, started looking off campus at existing facilities in the Dallas/Ft. Worth area.

The first location Harris found wasn't optimal. It would have put the data center on the 12th floor of an old building with an atrium running through the middle of the facility. And the hexagon shape would have caused a lot of grief for equipment placement.

Then, Harris found another building that had been used by a bank as a disaster recovery site. The bank had been forced into that building for five years by a tornado that had torn through Ft. Worth, Texas, and it was ready to move. So the University of Texas bought the building.

The facility had 16,500 square feet of usable raised floor on the first level with room

upstairs for offices. Harris also found the risk assessment very attractive. As a disaster recovery site, it was built to withstand 200 mph winds, was out of the flood plain (second highest elevation in the county) and was retrofitted with uninterruptible power supply and surge suppression.

Enter StorageTek's services arm (UT Arlington started discussions before the company was acquired and rolled into Sun DMG).

Harris needed to move a 5,000 tape silo and an 11,000 tape library. StorageTek offered to do an asset swap, building a silo at the new location and moving the drives. From that point Harris pulled them in to help plan the whole move.

On a tight deadline, Harris was scheduled to begin a PeopleSoft/Oracle campus software implementation, so he only had six months to plan and pull it off. "We came up with a goal to move the two data centers in two weekends with no unplanned downtime. We started negotiating with StorageTek and Sun DMG, and we came to a compromise that we were going to do a lot of the work, but Sun DMG was doing the heavy lifting."

Harris' staff alone spent 3,600 hours in planning, and Sun DMG did at least half that. They came up with a formal project plan, every step and process mapped out. Every machine and cable was marked with radio frequency identification tags.

The bottom line results: each data center took 12 hours to move. Sun DMG packed up UT Arlington's 650 Dell Inc. machines, the tape data and ancillary equipment, and put it on air-shock equipped trucks. And the only incident Harris had was one wheel broke off a rack.

Harris didn't want to give cost for the services because he said the great deal he got might give people the wrong idea of what to expect. He said the higher education bracket gets special prices, plus his staff of 16 did a lot of the work through strong negotiations.

"People have asked me time and again -- if I had to put in one word on why it went so smooth, it was planning," Harris said. "I would have to say in my 40 years, this is as close to a project that went perfect. I can't think of anything I would have done differently. The ultimate project of my career -- worked like a ballet or a military exercise."