



# HKS

## The TeraStack® Solution Reduces Physical and Carbon Footprint

As a worldwide leader in architecture and engineering, HKS Inc. knows the importance of saving their electronic data as well as their money.

Operating in 23 offices worldwide with headquarters in Dallas, Texas, HKS Inc. has completed construction projects totaling more than \$45 billion in more than 900 cities located in 46 states, The District of Columbia, and 54 foreign countries. They are a leader in environmentally friendly construction designs in the health care, education, workplace, hospitality, and sports sectors.

### Growing Pains Force IT Department to Seek New Solution

With the increased use of 3-dimensional design software, project files started to grow exponentially demanding more disk space per project. As project files increased, the IT department's existing tape library backup solution began to burst at the seams. They only had two weeks of data retention and were running out of floor space for more equipment. A hard drive solution would consume too much electricity and a new tape library would not fit in their server room.

Senior Vice President, E. Davis Chauviere, commented that they "could not justify the initial cost of maintaining our desired data using conventional disk-based storage, we had reached the limitations of our existing server room based on space, energy, and cooling capacity, and we had concerns about managing the complexity of any system that could meet our needs with our existing technology staff." HKS needed a

more dense solution that would operate within their constraints to fulfill the increased data storage volume.

Not only did project files grow, they needed to be accessible for a many years. As projects aged, HKS began to offload data from the second tier Storage Area Network (SAN) consisting of 30 terabytes in hard drives to CDs and DVDs. Each disc had to be compiled, burned, labeled and cataloged in a filing cabinet all by hand. Over time, they had accumulated thousands upon thousands of discs. Not only did it take a significant time to process archives, but it took even longer to find and restore the files. Finding an individual file on a single CD or DVD took hours. It became obvious that their current work flow was inefficient. "Being a multi-billion dollar architectural firm, with 200 to 300 projects active at one time, it is important to have near line (or searchable and accessible) data for easy access," said Rod Lanham, AIA, Vice President/Director of IT, HKS, Inc. . It was clear that they needed a solution to automate their long term archives while also giving them improved nearline access to their data.

### The Solution to Fit Their Needs

The TeraStack® Solution was just what the doctor ordered. The first unit completely replaced their CD/DVD archive and restore. As the TeraStack® Solution managed the SAN, HKS was able to reclaim 12 terabytes of drive space all while fitting into their existing server room. Rod Lanham commented that "the physical footprint of the TeraStack® Solution is only 15U rack in size and requires the same amount of

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electricity as a personal computer eliminating the space, power and hard disk drive recycling requirements typical of major data storage arrays."

Then as HKS expanded operations nationally and internationally, e-mail quickly became the preferred mode of communication. The IT department responded by implementing a second TeraStack® Solution to run nightly backups for every e-mail account on the HKS worldwide network. The second unit also performed nightly data backup jobs that were previously on their tape library system.

Both units solved their current lack of power, space, and density problems and, at the same time, automated their work flow processes to give the IT department more time to focus on other tasks.

#### Using Blu-ray to Their Advantage

The key factor behind the TeraStack® Solution is the coupling of Blu-ray optical technology and the Hie Electronics proprietary file management software that indexes and catalogues all files when written to Blu-ray media giving the user nearline access to the files within 60 seconds.

By putting information onto Blu-ray media, the files become energy passive and are safe for 50 to 100 years. File migration is completely eliminated due to the enormous life span of Blu-ray media. Previously with conventional hard drives and tape drives, files had to be transferred from old media to new media every 2-3 years before they crashed to ensure data longevity. This was the process that the IT department hated the most. After the implementation of both

TeraStack® Solutions, they sighed in relief, "no more long evening hours moving data from one server to another or from one tier to another." They were happy to have their biggest problem solved so easily and efficiently.

#### Going Green To Save Time and Money

Operating at a maximum of 800 watts, the TeraStack® Solution is considered the leading green data storage product. "As a leading designer of green architecture, addressing our own data storage requirement with a green solution was the way to go," said Lanham. Nationwide there is a focus on decreasing IT data center electric power use, which the Environmental Protection Agency recently discussed in a report to Congress. The EPA reports that 2 percent of our nation's electrical energy grid is consumed annually by data centers. The TeraStack® Solutions significantly reduce environmental requirements for the HKS data center.

"The social, environmental and economic impact of our data storage product is significant. The TeraStack® Solution extends and expands data storage for users with long-term and large data object size storage demands like HKS," said Pat Humm, CEO of Hie Electronics.

HKS now has more time to focus on the projects at hand instead of worrying about where their data is being saved and if it will be there in the morning. Their data is saved every night onto Blu-ray optical media inside the TeraStack® Solution giving their data a shelf life of 50 to 100 years all while saving them money in electricity and man power.

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Innovator of the TeraStack Solution