

Diskeeper[®] Reclaims Lost Productivity at Leading Engineering Firm

THE CLIENT

Based in Houston, Cobb Fendley & Associates is a multidiscipline engineering firm that provides an array of professional services including civil engineering, surveying, construction management, transportation consulting, right of way acquisition, and water distribution systems design. Founded in 1980, the company practices effective communication at all levels of the engineering process. Clients encompass both the public and private sectors and include the cities of Houston and Austin, Texas Department of Transportation, University of Houston, Houston Independent School District, Southwestern Bell Telephone, and Centerpoint Energy.

With nearly 200 employees, projects are assigned to team members based upon the project's particular requirements. Teams are headed by experienced engineers and surveyors. Nearly 120 professional, engineering, and technical associates staff Cobb Fendley's broad spectrum of civil engineering projects. These engineers and technicians rely on high-end engineering workstations and servers that run various versions of the Microsoft[®] Windows[®] 2000 and Windows XP operating systems.

THE CHALLENGE

Complex civil-engineering projects require drawings and plans that contain an extraordinary amount of detail. To get the job done, Cobb Fendley relies on two key engineering design software products, AutoCAD, from Autodesk, and MicroStation, from Bentley Systems. Not only are the files they create large, they continually grow larger and smaller as engineering

details are added, modified, and sometimes deleted, according to Cobb Fendley Technical Support Specialist Wes Jackson.

"Working with design and reference files creates a significant amount of data shuffling on our servers and engineering workstations," he says. "In addition, both products create numerous temporary working files on individual workstations leading to frequent hard-drive read and write operations." Over time, these combined factors led to performance degradation with drives churning for increasingly longer periods to save and retrieve files.

"Workstations and servers started to slow down with access times to the hard drives getting longer and longer," explains Jackson. "When a system slows down, it is a major headache for the individual user and also for the IT department that has to provide support."

And it's equally serious for the corporation as a whole. Disk defragmentation is not just a technical issue, it is a core business issue, an enormous robber of productivity. The math is simple: 120 employees losing just 4 minutes per day is an aggregate productivity loss of 2,080 hours, the exact equivalent of one full-time employee. Cobb Fendley was, in essence, paying a top-dollar, full-year salary to a phantom civil engineer. "That just wouldn't do," says Jackson.

Thought originally to be a result of systems getting older, investigation revealed that the true culprit was file fragmentation, where files are stored as small chunks of data scattered throughout a hard drive instead of as a

unified whole occupying a single contiguous area. As deleted files open up areas of a hard drive for re-use, new and modified files are saved to the first available open areas, resulting in fragmentation. As files become increasingly fragmented, access times grow longer as the drive's read head shuttles back and forth, reading file fragments in order so they can be re-assembled in the computer's memory. The continual creation, modification, and deletion of temporary files heightens this problem. Files can be broken into dozens, hundreds, and sometimes even thousands of pieces.

"Performance degradation is a serious issue for any computer user, but especially for our CAD operators," says Jackson. "Their needs prompted our IT department to seek out the best solution possible and implement it without delay."

THE SOLUTION

Aiming to improve the performance of its servers and workstations, Jackson, assisted by Network Administrator Russell Stoddard, examined several disk-defragmentation products, Diskeeper from Executive Software among them. Demanding a solution that was easy to install and that worked without disturbing users, the pair also required a product that caused no interoperability problems with the application software already in use.

After comparing products, the pair selected the advanced technology offered by Diskeeper. With its Set It and Forget It® feature, Diskeeper can be configured for full automatic operation, eliminating fragmentation-related slowdowns, and doing it without intervention from individual users. The Diskeeper boot-time mode defragments critical system areas of the drive that are beyond the reach of Windows' built-in defragmenter. Jackson and Stoddard especially liked Diskeeper's Terabyte Volume Engine (TVE), a component of the Diskeeper Server Enterprise Edition. TVE is powerful defragmentation technology designed specifically for the large storage volumes increasingly common on today's enterprise servers.

In a single weekend, Jackson and Stoddard installed Diskeeper on every Windows-based engineering workstation and server. When employees arrived for work

on Monday morning, their workstations no longer showed signs of the disk problems that had slowed performance to a near crawl.

THE BENEFITS

"We noticed an immediate improvement," says Jackson. "File retrieval times became much faster, and the number of calls to tech support dropped significantly." Cobb Fendley's engineers noticed that waiting times were reduced and that the near-continuous churning of their hard drives had ceased. Best of all, Diskeeper operates completely transparent to users, requiring no intervention on their part. That means more time for engineering and less time spent on systems maintenance and phone calls to tech support.

For the corporation as a whole, the reclamation of lost productivity became a multifaceted financial boon. Cobb, Fendley reclaimed more than 2,000 hours of lost work time, the equivalent of a full employee. Fewer calls to tech support enhanced productivity even more. And, in an unexpected benefit, improved hardware performance allowed the company to keep its systems in service up to a full year longer than originally planned – good news for the IT department budget and less work for systems administrators.

Executive Software's Diskeeper, the industry's premier defragmentation solution, boosts productivity, extends systems life, cuts hardware expenditures, reduces the load on tech support personnel, and improves working conditions for professionals who rely on computers to get the job done and done on time.



7590 N. Glenoaks Blvd.
Burbank, CA 91504
800-829-6468

www.executive.com

Kings House, Cantelupe Road,
East Grinstead, Sussex RH19 3BE UK
(44)-1-342-327477

www.executive-europe.com

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