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CAPIS Transforms Its Data Center

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CAPIS, an institutional broker specializing in global agency trading and commission management for asset managers and plan sponsors, recently completed an IT and data center transformation aimed at improving the performance of its trading platforms. The Dallas-based brokerage installed new trading technology — including Fidessa's sell-side order management system for the equity trading desk; Pivot's 360 online collaboration, messaging and automated trade entry software; and Nocturnal, a new algorithm for clients seeking to access dark pool liquidity — traded its in-house data centers for a colocation facility, virtualized production servers, installed a 10 gigabit Ethernet and upgraded storage.



CAPIS runs its new data center, which is housed in a colocation facility, in a lights-out, remote fashion. In mid-September, CAPIS closed down its two in-house data centers and started up with all new equipment in a 36,000-square-foot data center that DataBank set up last year in a Federal Reserve building in Dallas. CAPIS is running the new collocated data center in a lights-out, remote fashion with the use of network KVM and Cisco management tools.

In evaluating colocation facilities, CAPIS' top criteria were high-speed access to the Internet, redundancy and high availability, and, most important, sufficient power supply, according to Marcia Morrow, the firm's VP of technology services, who notes that other Dallas-area facilities actually have run out of power. Finding a colocation facility that could handle multiple telecommunications carriers also was important, Morrow adds, explaining that CAPIS has installed several types of network transport between the data center and its office. "We partnered with Qwest to put in an MPLS network [multiprotocol label switching, an operating scheme that can speed up the flow of traffic on a network by making better use of available network paths] ...

that will allow us to expand as rapidly as we need to anywhere in the world," she says.

Capis also installed a 10 gigabit Ethernet network at the data center facility, its corporate office and its new trading floor, a step that's quite avant garde given the fact that many large firms and exchanges consider 10gigE networks too expensive. "We chose that because we wanted to have a five- to seven-year solution — that's our lease on that facility — and we wanted to make sure we could handle streaming video, market data delivery or anything else we might need to provide on the trading floor," Morrow explains. For instance, traders on CAPIS' new trading floor will be able to watch Bloomberg TV on their desktops.

Morrow notes that the problem firms often run into with 10gigE is that many older switches aren't designed to accommodate the connection; as a result, moving to 10gigE in an existing infrastructure is difficult without ripping out what you have. But because CAPIS was going to an all-new implementation, it was able to deploy the right interfaces at the start. Scalability, Morrow says, is probably the No. 1 benefit CAPIS will gain from the faster network.

Virtual Gains

On the storage side, CAPIS previously used more than 80 servers with direct-attached storage in its in-house data center. The firm was running out of disk space and was looking to more efficiently manage its decentralized storage system, Morrow reports. In addition, the lights-out nature of the new data center called for a storage system that would continuously and automatically replicate and protect data in real time without employee intervention. The firm chose Xiotech's Emprise 5000 virtual storage platform.

"Virtualization of storage is wonderful — you can move things, you can change RAID levels, do anything you want in the middle of trading and not impact applications," Morrow says. "Long term, it will help us with disaster recovery."

CAPIS also has begun virtualizing the first group of its production servers onto a newly purchased VMware Infrastructure 3 platform; this is the first phase in a two-year effort to virtualize 80 percent of the firm's servers, according to Morrow. "We ran the VMware evaluation on our network for 30 days. It looked at application usage and it told us which platforms to virtualize on the same machine" based on how closely they work together, Morrow says.

Of course, virtualization also helps keep energy consumption — CAPIS' biggest cost in the new data center — in check. To further reduce energy costs, Morrow adds, the facility uses [flywheel](#)-based uninterruptible power systems, which are more efficient than battery-based systems.

But how was CAPIS able to afford to make all these investments during a market downturn? "We're an agent broker, so we don't have any market-making proprietary trading that would cause us to lose money with the drop in the stock market, and we're not involved in the subprime loan business," explains Jim Morrow, the firm's COO. "The volatility has led to more trading. As a firm, every month we've grown revenue-wise over the last year. ... We're trying to expand and make the best use of our competitive advantage."