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Title: **Gearing Up**

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Small, Dallas-based agency brokerage Capis has spent over \$10 million to overhaul its infrastructure. *By Emily Fraser*

For a provincial US agency brokerage, it used to be essential to have an office in New York-but that is no longer the case. As technology improved and became more critical to how firms do business, Dallas-based Capis shut its once-bustling office in the country's financial capital and now conducts all of its business from its headquarters in the Lone Star State. Just three traders remain offsite to operate a trading desk on the New York Stock Exchange (NYSE) floor.

Recognizing the importance of technology to its business, the firm recently spent upwards of \$10 million transforming its IT infrastructure.

It started with the order management system (OMS). Capis replaced its proprietary OMS that was built in 1997 with an outsourced solution from Fidessa. The proprietary OMS was originally built to handle domestic equities, but had since been tweaked to support fixed-income securities, options and instruments in foreign markets. "Being that it was 10 years old, we faced the challenge of rebuilding the product to comply with Regulation NMS and to handle the increased volumes, ticker feeds and pricing to do algorithmic trading properly," says Jim Morrow, the firm's COO.

Having decided to outsource its domestic equities trading system, Capis started to examine the rest of its technology footprint. Fixed-income securities will henceforth be traded on Bloomberg's Trade Order Management System (TOMS) and international instruments will be traded on a system called Fast Fill from Global Brokerage Corporation.

## **REAL ESTATE UPGRADES**

Capis relocated to a new site in Dallas last month, a new building with larger spaces so that sales and trading staff can sit together on the same floor. "We wanted a tier-one building with better power, phone lines and support for IT infrastructure," Jim Morrow says.

Capis is consolidating its data center space from two existing data centers-one in the corporate office and one in Irving, Texas, totaling 2,500 square feet-to about 500 square feet in a collocation facility hosted by managed services provider DataBank in downtown Dallas. "Our goal was to move to Fidessa and these different OMSes, all of which are hosted, and then we could downsize our footprint considerably and reduce our costs," says Marcia Morrow, head of IT at Capis, and of no relation to COO Jim Morrow. The two existing data centers will eventually be shut down.

The contract was signed with DataBank last summer and the core network and connections to Fidessa were put in place for testing and customization. This summer the firm also moved the majority of its surviving server platforms to the new facility. Those running the proprietary OMS will be retired. To consolidate its hardware further, Capis is introducing VMware and hopes to virtualize about 20 percent of its current server environment. The firm is aiming for 80 percent virtualization over the next two years. "At this point we're working with a VMware Infrastructure 3 platform to virtualize our Windows and Linux environments. We also have an older AIX/UNIX environment-they do have virtualization opportunities in their platforms but we haven't looked at those yet. Due to our move to Fidessa Hosted, we are focusing our efforts on the .Net and Web-based environments and will address these back-end systems later in 2009," Marcia Morrow says.

Server deployment in the new data center will be significantly faster than in the old facilities. Thanks to the adoption of VMware virtualization tools, new servers can be deployed in around 10 minutes-a task which previously took a good portion of a day. "These virtualization tools allow for templates to be created ahead of time, which facilitates rapid deployment of new server platforms," Marcia Morrow says.

The new data center will operate as a lights-out facility, meaning control of the servers will be handled remotely. A network operations center has been built in the new corporate office complete with remote control tools and a network camera. The move will take place in phases so as not to disrupt the business, and monitoring tools will help the network administrator keep an eye on everything. "It will be a four-week process to move our system onto Fidessa and relocate the company," Marcia Morrow says.

## **COMMUNICATION NETWORKS**

As the firm moves its corporate office and data center, it is changing to a voice-over-IP (VoIP) phone system provided by ShoreTel. Capis used the Alliance 3000 turret system from communication systems vendor IPC on the old trading floor that offered VoIP via a dedicated connection but was not integrated into the backbone of the network. The new phone system will be fully integrated and will offer traders greater flexibility. "With VoIP they can hot-foot-move around and take their phone configuration with them, including their automatic ring-down (ARD) circuit, their hotline to the client," Marcia Morrow says. Under the old system, voice communications were recorded but on a per-station basis. Traders had a configuration file on their particular station and were not able to move their profile to another phone.

But IP brings with it new challenges. "You have to be concerned about quality of service and make sure that you don't have interference from your applications on your voice traffic," Marcia Morrow says. The firm must be careful to prioritize the voice traffic and make sure it has reserved enough bandwidth, she adds.

Also on the communications side, Capis has integrated the new Fidessa OMS with the IMTrader tool from Pivot. This converts instant messages (IMs) sent from customers into FIX messages, which are then routed directly into the firm's OMS. "The theory is that traders are often communicating orders through IM but there is some risk that an order coming thru IM could disappear under a page," says Jim Morrow. But if it is converted

into a FIX order, it goes into a trader's blotter, reduces errors and makes it a little quicker, he says.

The solution was previously integrated with the firm's proprietary OMS and is now hooked up to Fidessa, but Capis faces a challenge getting clients to use it. "We only have a few clients that actively use it," says Jim Morrow. "We'd like more to use it because we think it's a safer way to communicate trades over an IM system. The challenge for us is just convincing someone to change a process-people get comfortable with the way they do things," he says.

The firm will have a highly available, high-speed Internet connection, which will allow it to run the Thomson quoting system via the Internet and stream Bloomberg TV on all the trading desktops. "The data center provides us a 1-Gb Internet connection, which gives us ultra high-speed access. The service is blended between five providers, which gives us resiliency for our Internet-based applications so our institutional clients will always get the best connection," Marcia Morrow says.

The firm has installed a 10-gigabit (Gb) Ethernet core network, which will enable it to deliver more data, faster. "Last year when we chose the data center, we made a choice to invest in the 10-gigabit solution, which was fairly new at the time," says Marcia Morrow. "It is a solution that we felt was for the long term, not knowing what was coming," she says. The firm was using a fast ethernet network before, which was considerably slower. The new network offers 10 times the bandwidth, enabling the firm to combine voice and data along with market data. The extra bandwidth will also enable the firm to use more data-intensive applications.

## **ALGORITHMIC STRATEGIES**

At the same time, Capis is revamping and relaunching its proprietary algorithm, Nocturnal, which searches the primary markets and 19 dark pools for the best execution price. Nocturnal is a pure agency algorithm, which some customers prefer over broker dealer-owned algorithms. "Some clients fear the algorithm that goes through a bulge-bracket firm. They may fear that a prop desk is getting the first look at an algorithmic order, or that the broker dealer is internally crossing the order with its clients, even though the broker says it is not," Jim Morrow says. The new version of the Nocturnal algorithm was made available in September and will officially launch in October, along with the majority of the other new implementations.

Capis sees most demand for its US equities trading algorithm. However, there is dramatic growth in the use of algorithms for the international equity markets and the firm is beginning to see increased demand for options algorithms.

The firm also offers clients direct access to the algorithms of four bulge-bracket firms- Credit Suisse, Goldman Sachs, Bank of America and Merrill Lynch-as well as nine proprietary pure agency algorithms created with Fidessa's algorithmic strategy development tool. These include VWAP, TWAP, Buyback, Arrival, Closer, Pacer, Stack, and Swoop and Slide algorithms.

Capis will focus on developing algorithms for small to midsize buy-side firms, a segment that has been underserved until now, says Jim Morrow. "They can use standard algorithms but they weren't really built for them," he says. Capis has several of these relationships and intends to consult with them on their trading process, he says. Many of

these traders have a manual process for sending electronic orders at different points in time to different markets. Whether it means plugging into an agency smart router or a bulge-bracket smart router, Capis will consult with these small to midsize firms and create custom algorithms to help with business process decisions as well as assist in finding the best price in the market, he says.

**CAPIS STATS****Founded:** 1977**Employees:** 110**Locations:** Office in Dallas and a trading desk on the NYSE floor**Trades:** US equities, fixed income, options, international securities**Serves:** Institutional buy-side only