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Kids in a Candy Shop

JPMorgan's broker-dealer services
division gets \$100 million to
re-architect its broker workstation
using rich Internet technology.

By Emily Fraser

From left:
Tim Foley, Joseph Triarsi
and Russell Cassar

In times like these, it is not often you see a senior technologist from an investment bank beaming from ear to ear. It is even rarer that you should hear one describing his current position as a “technologist’s dream.”

But that is the case for Russell Cassar, managing director, investment banking technology in the broker-dealer services unit of JPMorgan. Cassar began his career writing code for Bear Stearns and worked on building out the now-defunct firm’s broker workstation. When the venerable investment bank collapsed in the spring of 2008, its new owner, JPMorgan, looked at the firm’s global clearing services division and liked what it saw.

JPMorgan did not have its own fully disclosed correspondent clearing business until that point. “JPMorgan had always looked at this business, and done studies on it two or three times, but decided you just can’t get into it unless you have scale or critical mass. To build it from scratch and then hope customers come in is really not a prudent way to build this business,” says Joseph Triarsi, managing director of the broker-dealer services division. The firm was therefore pleased to acquire a mature business with a solid reputation that it could scale.

The heritage Bear Stearns private client services division internally used a thick-client version of the previous broker workstation, and offered a Java-based thin-client version to clients over the Internet. This platform, while robust, was becoming outdated, and was lacking the high-end functionality Web users have come to demand. CEO Jamie Dimon recognized the importance of having a cutting-edge technology platform and did something extraordinary. He gave the broker-dealer services division \$100 million spread over two years to re-architect the broker workstation from the ground up, using the latest Web technology.

“I’m a kid in a candy shop,” says Cassar. “I’ve been building broker workstations my whole career. And we always did it in little chunks. You wheeled out this new tax lot accounting piece or another piece. And now it’s all of this together.”

The revamped workstation, known as Morcom, is a front-to-back trading and clearing platform. It handles equities, options, mutual funds, and a new online fixed-income trading system is also being

added. The system includes both foreign and domestic capabilities, with multi-currency screens for professionals and also their end clients.

“The broker workstation is the face of the business and touches all aspects of the investment bank front to back—trading almost every product, operational workflow, account opening, checks, wires, corporate actions, dividend reinvestments—all types of money movements, journals, review of activity, customer performance, online documents, statements and confirms,” just to name a few of its functional capabilities,

Adobe to offer multi-media content, such as video streaming. “We like the performance of the pipe itself, the ability to pull up the positions, the balances and transactions very, very fast,” says Tim Foley, executive director, broker-dealer services, who is in charge of product development. “We haven’t moved to getting talking heads on the desktop—we’ll see how far off that is—but mostly we’re just aiming for a very high-performance, very flexible system.”

Enthusiasts of RIA technology appreciate its ability to deliver robust, high-performance software over the Internet. Previously,

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Cassar says. The application also features a dashboard that shows a lot of the operational functions and workflows, he adds.

RICHER EXPERIENCE

Morcom has been built using the latest rich Internet application (RIA) technology from Adobe, called Flex. It leverages the heavy-lifting data processing capabilities of Flex to interlink many disparate databases and applications and bring them all together, in real time, into a unified interface for their clients. “We can take down 10,000 rows into a data grid in under two seconds. That’s all because of the way Flash processes data. We weren’t able to accomplish that in any other Java framework,” says Cassar.

It has the look and feel of a portal with several portlets, but Cassar stresses that it is in fact so much more. “It’s a set of very tightly integrated applications in a container,” he says. “The problem with the portal technology is that usually the interaction between the portlets isn’t there—they each kind of stand alone. They have to run in their own browser sandbox, whereas this really allows for the more tightly coupled interaction.”

When most people think of Adobe they think of it as a way to get the most out of the Internet. Interestingly, JPMorgan is not using the Flash capabilities provided by

the only choices were installing enterprise software locally on clients’ machines, or providing limited transactional functionality via portals or Web sites. With Flex’s RIA technology, you can have the best of both worlds.

Flex from Adobe and Microsoft’s Silverlight are the main platforms for building RIAs today. A main reason JPMorgan chose Flex was that it is already available on a majority of desktop PCs and therefore does not require a software download, in contrast to Silverlight. However Vivake Gupta, managing director of Lab49, says this temporary advantage will not last long and says both are seen as strong and viable options for building top-of-the-range applications, where delivery over the Web is required.

WIDER TREND

This development points to a wider trend, according to Gupta. Recent technology innovations are now making their way into financial applications. There are many more RIA developments in progress across Wall Street, he says.

In the past, firms had neither the competitive pressure nor the means to provide rich applications via the Internet—now they have both. The only way to provide technology to clients that are



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geographically dispersed is via the Internet and until the advent of Flex and Silverlight there was no way to do this in any particularly exciting way. But more recently, the development of software as a service (SaaS) and cloud computing has enabled delivery of applications via the Web and the Flash capabilities of Flex deliver the real-time processing and data. Furthermore, the flight to quality following last year’s financial crisis has put some competitive pressure into the market, as firms seek to differentiate themselves and ensure customer loyalty, Gupta says.

Western International Securities (WIS) had been a client of Bear Stearns’ correspondent clearing division since 2004. It hires independent contractors to provide brokerage services to financial advisors. The firm is based in Pasadena, Calif., and has a total of 320 people working as either full-time employees or independent contractors. After a crippled Bear Stearns was acquired by JPMorgan in the spring of 2008, WIS took the opportunity to look around at alternative clearing providers. But after receiving assurances from JPMorgan that it was committed to the correspondent clearing side of the business, WIS reaffirmed its relationship with the firm.

WIS has been involved in beta-testing of

Morcom and so has been using it since February, ahead of the official launch. “It is 10 to 15 times faster,” says Don Bizub, the firm’s CEO. Features such as exporting to Excel and printing reports to PDF are a lot more seamless, he says. “You don’t feel like you are opening several different applications. It’s just more productive,” he says.

Massive rounds of Wall Street layoffs—and the diminishing appeal of deferred compensation and stock options offered by firms that were once strong but whose stock values had plummeted—have made it easier for WIS to attract top-quality Wall Street talent over the last year, from such firms as Goldman Sachs, Credit Suisse and Deutsche Bank, Bizub says. But it would have been difficult to keep the high-fliers without the cutting-edge technology platform and the prestige associated with the JPMorgan brand, he says.

Morcom was officially rolled out in March 2009, and new functionality is being added every weekend until summer 2010.

STRONG CUSTOMIZATION

The platform has been designed with many types of clients in mind. It will be used internally, as well as by small and midsize brokerages servicing institu-

tional and retail end clients—brokerages that do not have the resources or the desire to build a new system of their own. A lot of the functionality can also be used by the firm’s hedge fund clients or people who service them. Eventually, JPMorgan hopes to be able to leverage the technology platform throughout the firm. “It is going to be used across thousands and thousands of different users internally and millions of customer accounts across the entire franchise,” says Triarsi.

The wide variety of potential end users of the technology means that strong customization capability is needed to take into account users’ different needs and workflows. “With our clients it’s like herding cats trying to figure out what exactly they want,” says Foley. “With a couple of hundred firms that we deal with in addition to some internal potential users, they all like to think they do it the right way, and they all have a particular way that they want to do it,” he says. The product development team therefore works closely with the IT usability team to work through requirements and prototype things—either on paper or in the form of mock Web sites that look and feel like the end product.

Bizub was impressed by the firm’s seriousness and commitment to perfect-

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ing the application. “One of the analysts had to wear a camera gizmo on her head to monitor where her eyes traveled on the screen,” he says.

Some of JPMorgan’s broker-dealer clients, such as WIS, provide their own retail clients with access to a white-labeled version of the dashboard so they can see how their portfolios are trading. “It’s a different user interface that gets branded into the broker-dealer’s Web site. Their content surrounds pages we frame and that shows positions, balances, and gives them trading

capability if they want to entitle their end customer for that,” says Foley.

The work being carried out on the workstation is a huge and central focus for the technology team in the JPMorgan broker-dealer services division. The team currently has about 70 work streams in progress, around 60 of which are associated with the private client workstation strategy and the remaining

capacity is being achieved with the use of virtualized machines. “Fifty high-speed Linux-based Hewlett-Packard machines virtually will function as 450,” Cassar says. “It gives us almost turn the dial type of scalability. It’s very easy to add applications and to add users onto the infrastructure,” he adds.

The investment has also enabled the IT division to expand its team of



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10 or so of which are “business-as-usual” projects that are running concurrently, Cassar says.

Roughly a quarter of the \$100 million investment is being spent on infrastructure. The infrastructure is moving out of two legacy Bear Stearns datacenters into a brand new virtualized JPMorgan facility. “We are creating capacity of five times what we have today in terms of desktops. We’re creating an infrastructure that will clear and settle four times the amount of accounts that we currently have today,” Cassar says. The extra

technologists. “My technology team has quadrupled in an eight-month period,” says Cassar. The firm was able to take advantage of last year’s troubled market conditions where even very talented Wall Street technologists were finding themselves out of a job. They were also able to hire selectively from within the firm as well as to ramp up their offshore development program.

New technology, a fresh start after a spectacular banking collapse and a budget of \$100 million: It’s an IT candy store indeed. ■

MORGAN STANLEY’S MATRIX

Another firm taking advantage of RIA technology is Morgan Stanley. Its Matrix trading and research platform—provided to the firm’s buy-side clients and launched June 8—leverages the same underlying Adobe Flex technology to provide video, chat and all the bells and whistles users expect from the modern Web experience.

“RIAs are game changers for the Internet—there’s no software to install on the client. It’s all delivered over the Internet with real-time data and pricing, and it can handle all the complexities of risk and pricing technologies that they require,” says Hishaam Mufti-Bey, global lead for client-facing technology.

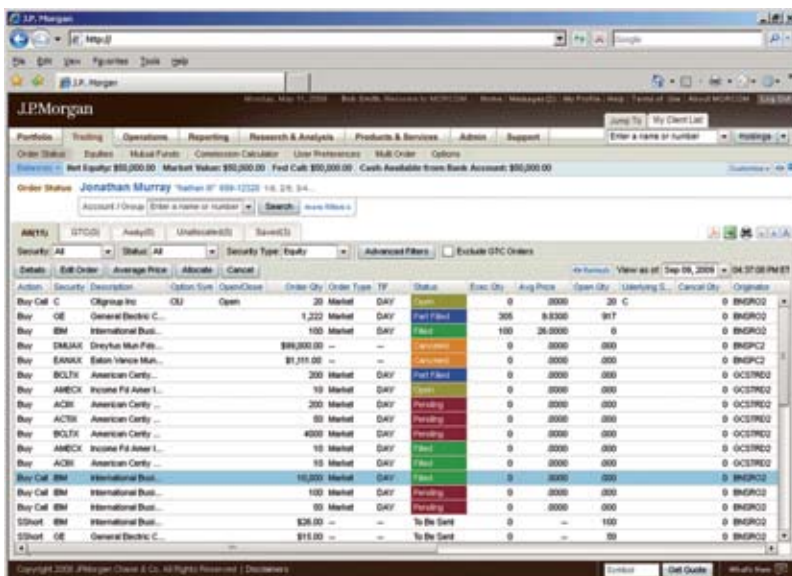
Having reviewed its own offering and those of its competitors, Morgan Stanley realized they were all a bit dated. “Some of our competitors had good platforms, but they were transaction-only. They are what I call ‘new legacy’ compared to what we can get done on the Internet today,” Mufti-Bey says.

Mufti-Bey describes Matrix as an attempt to leapfrog the competition using the newest technology and “put all our intellectual capital at the firm in one place online, over the Internet, securely, for our clients to interact with us.” The platform—hosted in Morgan Stanley’s cloud—is aimed at addressing some of the pain points the firm’s buy-side clients have when dealing with sell-side institutions, such as gaps in analytics.

With Matrix, clients can access market commentary, trading commentary, pricing, or market analysis straight out of Morgan Stanley’s research department. Previously, people had to wait until the end of the week or even the month to receive research reports.

Buy-side clients can also communicate better with sales staff. Before, sales staff would call 10 clients with a trading idea and hope that one would go for it. Now they can know what interests clients by seeing what content they are looking at. This enables them to offer a much more targeted sales pitch and increase the signal to noise ratio.

Matrix covers the whole trade lifecycle—pre-trade, trade and post-trade. It was initially launched to the European client base with a view to being launched in the US and Asia by the end of the year.



JPMorgan's Morcom broker workstation.