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TD Securities Opens Up Grid

LONDON – Toronto Dominion (TD) Securities, the capital markets subsidiary of TD Bank Financial Group, is expanding the use of its global computing grid by allowing more of its legacy credit derivative pricing applications to access the shared computing resources of the firm.

Barry Childe, TD Securities' vice president and director, systems engineering, is leading the project out of London. TD Securities offers products and services for its investment banking, debt capital markets, institutional equities, private equity and foreign exchange (FX) businesses.

At the same time, the bank is moving onto the latest release of the DataSynapse grid computing engine, GridServer Virtual Enterprise Edition, version 4.11, that oversees the grid, say TD officials. DataSynapse officials confirm that TD Securities is a customer.

Childe says that the bank's grid is global project with six centers in total. "We have two in North America, two in Europe and two in the Far East," he says. "We're migrating to version 4.11 now," says Childe. TD originally started on version 3.2 and has deployed all of the versions of the software since last year. Willy Ross, DataSynapse's managing director for EMEA, confirms that TD signed up at the end of March 2004 and was in production with the software a year ago. He says the next major release of the technology version 4.2 will be available later this autumn.

In addition to upgrading its GridServer implementation, TD is migrating a range of legacy trading floor applications onto the grid. "These are generally based around a {Microsoft} Excel front-end, and normally call in C++ libraries," says Childe. "What we're doing is migrating a bunch of those libraries to service-based code. It's a mixture – we've got services in Java, {Microsoft} .Net, and C++, and, of all things, {Microsoft} Visual Basic," he adds.

The prototype services have already been completed, and the bank is in the process of moving them into production, Childe says.

He adds that there are a number of ways that Excel models can run on a grid. "One of the main ways is using services to call server side processing. There is also something called an Excel service, and there is also the COM (common object model) driver. Any of these things can be used to actually execute Excel on the local workstation or on the grid," Childe says.

As the range of applications accessing the grid has grown, so too has its computing power. About a year ago, the grid started off with approximately 10,111 megaflops in computing power. "Now we're at about 60,000 megaflops, with about 160 processors up and running," says Childe. "We'll be increasing the power to accommodate the new applications coming onto the grid.

The 60,000 number isn't static. We were discussing adding another 32 servers to the grid, which would mean adding another 64 processors." The bank generally runs, on average, between 2,000 and 3,000 daily services via the grid. "They're all sorts of different shapes and sizes and they're all different technologies as well. Some are parametric driver, script-based; some are service-based; and some are COM-based," says Childe.

He notes that grids are agnostic to the choice of technology platform in use. "There is no right or wrong grid hardware," Childe says. "I've used everything from banks of workstations, to blade servers, micro-blades or PC blades, and full-end eight-way servers. As far as I'm concerned, computers are commodities to a grid. These are multi-platform machines as well. I've used everything from {Microsoft} Windows, Linux, Sun Solaris and we've even used OSX from Apple in our labs." However, despite the agnostic nature of the grid, TD has production systems running against only Intel CPU based systems at the moment.

Childe says the grid enables the bank to do things that were previously beyond its reach. "The grid allows us the possibility to trade more complex products," he says.

For banks that trade in increasingly complex products such as credit default obligations (CDOs), including CDO2 and CDO3, the volume of trading that can be done is often constrained by the length of time it takes to run risk reports. Better utilization of computer resources can address this problem, officials say. As computer power continues to evolve, "Today's exotic becomes tomorrow's commodity," says Ross.

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