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OPEN SOURCE TECHNOLOGIES

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Do More Than Just Keep the Lights On

The new mandate for successful investment banking technology architectures is clear-they have to be fast, flexible and cheap. We live in interesting times. Program trading volumes continue to climb while the world is in the worst recession in more than half a century. IT budgets are being slashed and cutting back to keep the lights on won't foster prosperity or even guarantee survival. In this climate, building or continuing to evolve new trading system architectures is a remarkable opportunity for IT leaders in firms of all sizes. I'd like to take a quick look at the drivers, constraints, and opportunities that will face investment banking architects from 2009 through 2011.

Many sources of income for firms have gone away and won't be back for a while. The debt markets are close to dead and they won't be major drivers for IT in the coming year or two. Packaging and syndication of debt will remain necessary but the way it is done will be restructured and we will see greater regulation at every turn. The wild card is that we don't know exactly what these new regulations will look like or what the cost of remaining compliant will be. Flexible, auditable, risk control systems will need to be developed quickly. Some will be short-lived, but necessary, to clean up the current mess.

Not every sector is as bleak. Activity in 2009 will be focused on the equities side. Firms are increasing their emphasis on exchange-traded equities as well as options on those securities. The industry is becoming dominated by program trading-one telling statistic is that over 70 percent of New York Stock Exchange (NYSE) volume is currently generated by applications, not traders. New entities like dark pools of liquidity continue to appear with more frequency. Volumes in worldwide equity markets continue to climb and volatility will further accelerate the arms race in low-latency, front-office market data and trading systems. Program trading-especially algorithmic trading-is driving the demand for new investment banking architectures and will continue to influence requirements for the next several years.

The areas of necessary investment are also areas where requirements continue to evolve quickly and trading strategies will have to rapidly adapt to markets that will remain in flux. This will put additional emphasis on the flexibility of application, network and system architectures to adapt more quickly. This strongly dictates the need for open standards and implementations-proprietary application programming interfaces (APIs), messaging, and network standards impose a burden of inflexibility and cost that firms can no longer afford.

Exploiting Open

Just as the industry lowered costs and improved performance by exploiting open-source software and commodity hardware during the downturn in 2001 to 2002, open standards and open source look to be key new elements at the application architecture level in 2009. Firms need to invest in functional differentiation and applications that yield competitive advantage, not just in the areas that keep them on the level playing field. Collaborating within the industry to define and implement standards becomes necessary if firms aren't going to duplicate expenses up and down the Street.

In 2009, we will continue to see the backlash in the industry against products that are proprietary when they should be commoditized, or at least built around open standards. In selecting new independent software vendor (ISV) applications and critical software components, open source and collaboration mitigate vendor risk during sustained economic downturns. Vendors have reduced access to capital and a more difficult sales cycle than they had a year ago. The risk of adopting technology that could be without support or unable to fund its roadmap is high. Even successful vendors can be acquired, leaving investment banks with greater restrictions on use and

higher licensing costs, or leaving them tied to other products and services that they had no intention of adopting. New generation open-source architectural components can be adopted from multiple sources: vendor-created applications, such as Marketcetera's order management system (OMS); transfers from other industries, such as middleware vendor RTI's implementation of the Object Management Group (OMG) specification that was developed by the U.S. Department of Defense; high-performance message switches that leverage open-source feed handlers, such as Tervela's messaging platform; and pure-play collaborations that develop new industry-specific solutions.

Too often, creating a unique and effective application stack with products from multiple proprietary software and appliance vendors feels as effective as trying to staple eight snakes together in order to get an octopus. Open-source software almost always has the advantage of not only being built to standards, but is typically designed to integrate and interoperate-a process that is in any case easier when you have access to the code. Being able to extend and customize for your environment using in-house, vendor, or consulting resources makes creating a differentiated and competitive architecture more cost-effective than attempting to integrate proprietary technologies that are delivered in binary or have licensing restrictions.

The financial firms smart enough to know when to collaborate and when to specialize are the ones who will outlast the downturn and continue to thrive-building on fast, flexible, and inexpensive technical architectures.