Co-Location + Connectivity. Just Add Community For Profit!

Pete Harris explores the development of co-location and proximity capabilities in the market and their relationship to the concept of community. What turns data centres and connectivity into a community, and who is leading the charge?

In the marketplace that is financial trading, enabling that marketplace to exist and prosper in an efficient way is paramount. Back in 1790, the efficient thing to do was to hang with one's trading peers at Merchants Coffee House in Philadelphia – the first location of the oldest stock exchange in the USA.

Onwards to 1850, and the efficiency of traders in Berlin was boosted by them getting closer to the action happening on the Brussels market. Specifically, news began to be delivered much faster than previously, due to the ingenuity of one Paul Julius Reuter, and some homing pigeons that he co-opted.

Now fast forward to today, and efficiency for most of the players at the cutting edge of electronic trading means deploying servers in co-location and proximity data centres, and connecting them via low latency fibre optic communications. Trading firms, exchanges and service providers all seek to leverage these technology approaches to establish themselves as leaders in the new communities upon which marketplaces are based.

Community is indeed the in-vogue word used to describe the crucial 'X Factor' that transforms those data centres and their connections from infrastructure into a platform for profit. Thus, creating a community – a vibrant one – or establishing a strong position within one (or more), is the goal of just about every player in today's electronic markets.

Some vendors have a head start on others, at least in connectivity, such as BT Radianz, Fidessa, Orc Software, SunGard and Tbricks. These providers have for a long time touted the community benefits of their extranets and networks. And now, those benefits are increasingly being felt in the co-lo and proximity space. Others in the connectivity world are also embracing the community approach, such as CFN Services, with its Alpha Platform.

Says Ganesh Iyer, senior manager, product marketing, at IPC Systems, which offers connectivity and partners with co-lo and proximity services: "The community aspect is critical – it is a magnet that attracts more market participants." And the more participants, the more opportunities there are for business, alongside cost benefits from economies of scale."

But before we look further into this community craze, it's worthwhile taking stock of current dynamics and trends in the co-lo, proximity and connectivity businesses themselves.

Low Latency at Any Cost. Not!

Perhaps the most fundamental market dynamic is the evolving attitude of trading firms towards striving for the very lowest latency. Just a couple of years ago, firms engaged in the oft cited 'low latency arms race' to be the fastest. Nowadays, they are more measured with their investments, weighing up benefits beyond latency and aligning their latency needs with their trading strategies.

According to IPC's Iyer: "While low latency is a very important element of the connectivity strategy for our customers, we have observed that market participants are increasingly adopting a holistic approach to connectivity. They are paying close attention to other equally vital aspects of connectivity such as dedicated bandwidth, resilience, high availability and low total cost of ownership."

That sentiment is affirmed by Karen Quinn, head of enterprise marketing at Geo Networks, who notes that the importance of business continuity is increasing in reaction to events like the tsunami in Japan. And security, she suggests, is not just a functional requirement but also a marketing tool for financial firms looking to build confidence in their customers.

With regard to the latency needs of different strategies, others have some things to say. Ary Khatchikian, president and CTO at EMS vendor Portware, notes: "Latency is certainly important for all market participants, but to varying degrees. Quant funds whose strategies depend on accessing market centres as quickly as possible will pay top dollar. For traditional asset managers, however, eliminating that last microsecond of latency is simply not a priority."

And while noting the need for very low latency to support high frequency trading (HFT), statistical arbitrage, exchange traded funds (ETF) arbitrage and options trading, Maria Angelica Latorre, product manager for Trading Solutions at Orange Business Services, sums up the emerging picture thus: "Electronic trading business owners do not tend to ask to go further in lowering latency because it would negatively affect their margin; at the latency levels reached today, the gaining of any microsecond advantage would be more expensive than the extra business it would bring in."

Affirming that view, Emmanuel Doe, global business manager at Thomson Reuters, suggests "The number of firms prepared to build and manage their own proprietary infrastructure in search of latency advantages is relatively small, and probably only stretches to the top 5% of firms that are deploying the most latency sensitive strategies."

The differing latency requirements across the broad spectrum of financial trading firms was the driver for Spread Networks to expand its offering beyond its super fast Chicago to New Jersey dark fibre service. While that offering has a roundtrip latency of 13.33 milliseconds – and a big price tag – the company has rolled out less expensive lit services, at latencies of 14.75 and 15.9 milliseconds.

The Co-Lo Way To Community

For many firms, the route to lower latency will usually take them to exploring co-location and proximity strategies. Co-lo reduces latency the most by allowing a trading firm to place its servers into the same data centre that houses an exchange matching engine – essentially cutting out propagation latency altogether. But it's only suitable for running trading strategies against the matching engines located in that facility.

Proximity, on the other hand, is more suited for trading operations looking to execute on multiple markets within a confined geographic area, and so a best compromise approach is required, and it takes some research, as Thomson Reuters' Doe points out: "It means carefully study-ing each financial centre, identifying the geographic location of key liquidity pools and areas of customer concentration, and adopting an optimised hosting strategy that minimises the physical distance that data needs to travel to reach its intended destination."

While co-lo services are typically provided by exchanges (or other market centres, such as trading hubs for equities, fixed income and foreign exchange) and command a pricing premium (in part because space is generally more limited and so supply/demand laws are in evidence), proximity services are generally offered by third parties looking to build that all important community. But the co-lo/proximity lines often blur as exchanges partner with third parties to host matching engines and provide joint services.

Thomson Reuters in fact offers both co-lo and proximity services as part of its Elektron hosted services offering. And hosting providers Equinix and Savvis also blur the lines of co-lo and proximity, since their New Jersey data centres house matching engines from Direct Edge, BOX and CBOE in the case of Equinix, and Bats Trading and EBS for Savvis. Both are examples of communities in operation.

In Europe, the community that runs out of Equinix's Slough data centres – including the likes of Bloomberg, Currenex, Fixnetix, Icap, Knight Europe, Options IT, QuantHouse and Thomson Reuters – was quite likely a factor in Bats Europe's decision to move there as it seeks to acquire Equinix customer Chi-X Europe.

Also in Europe, Interxion has been successfully building communities within its data centres, attracting market centres such as Equiduct, Plus Markets and Quote MTF in London, and Burgundy and the Nordics Derivatives Exchange in Stockholm.

In the view of Rutger ter Hoeven, Interxion's financial services marketing manager: "The benefits of community data centres are a proven reality and are being recognised by the industry, as illustrated by the fact that most market participants have chosen to co-locate in these community data centres rather than in other data centres."

Despite being a global player in the financial information and trading sys-

tems world, Thomson Reuters is one of the newer players in the community data centre space, with its Elektron offering.

Available within data centres globally, Thomson Reuters' Doe characterises Elektron as providing: "Hosted data and application solutions, supported by latency and systems management technologies from our partners, Corvil and ITRS."

But Elektron is not just about Thomson Reuters services, since it's adding third parties to its communities. "We have integrated many critical front and back office applications with our data so that we can offer our clients a service model with faster time to market. We are also working with key application providers, including StreamBase Systems, Redkite Financial Markets, Panopticon and Portware, to deliver a fit for purpose quantitative research and trading stack of solutions," says Doe.

Another relatively new entrant to the community space – but with big ambitions – is NYSE Technologies, the commercial information and trading systems arm of NYSE Euronext. With two huge data centres – in Mahwah, NJ and Basildon, near London – now running, there's plenty of space for third parties alongside the exchange's matching engines.

As well as traditional co-lo space, NYSE is also introducing its Capital Markets Community Platform – an infrastructure as a service offering, providing both physical and virtual servers and storage for customers to run their applications.

The exchange is working with Intel, EMC and VMware to provide the platform, which has low latency access to market data, pre-trade risk and transaction services. Says NYSE Technologies' vice president of platform development Feargal O'Sullivan, customers with applications that need processing times of less than a millisecond – such as order routing - are likely to go with physical servers, while those running back testing and other less latency-sensitive applications would more likely go the virtual route.

Coming soon, says O'Sullivan, will be the first third party applications, which will be available to the platform community on an on-demand basis. Bringing these services on board – as well as hosting other liquidity pools – is a strategic imperative. Echoing the view of others, O'Sullivan emphasises: "Community is critical."