

GLOBAL TECHNOLOGY STANDARDS FOR EXCHANGES

**by André Cappon, The CBM Group, Inc.
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The world's exchanges are now evolving in "fast-forward". The unexpectedly rapid penetration of electronic trading in listed derivatives in Europe (DTB's takeover of the Bund from LIFFE over the last 12 months, MATIF's transition to electronic trading in a few short weeks, LIFFE's intentions to accept electronic trading and demutualize) are dramatic examples.

The penetration of electronic trading, notably on futures exchanges, requires, in many cases, a major technology change. This technology change represents a strategic crossroads for these exchanges: they now have the opportunity to join one of the emerging global standards in trading and clearing systems. Doing so makes tremendous sense and promises to restructure the world's capital markets for many years to come.

There are strong economic reasons for standardizing exchange and clearinghouse technology.

The globalization of capital markets has been accelerating for some time now. Globalization means that the investor community and broker dealers insist on round-the-clock, user-friendly, efficient access to various markets worldwide.

Only a global network of "liquidity centers" - strategic alliances of exchanges, tied together, via technology, can effectively respond to this demand. In fact, this interconnected or "wired" world of investment will include not only traditional exchanges but also over-the-counter interdealer brokers and broker-dealer firms.

Cost effectiveness will be a fundamental requirement for this new world of investment. All participants in the capital markets, be they broker-dealers, exchanges, interdealer brokers, clearing, depository and custody organizations will continue in relentless pursuit of lower costs.

Ultimately, cost effectiveness requires the minimization or simplification of interfaces between different information systems, in other words, seamless connectivity among the liquidity centers. Therefore, standardization of systems and of the interfaces among systems is called for, both for exchanges and their members.

As in other areas affected by information technology, there will be a battle between closed and open technology architectures for exchanges and capital markets in general.

In every single contest between closed and open architectures - e.g. Betamax vs. VHS, Apple vs. Microsoft, "proprietary" ATMs vs. ATM networks - the open approach

eventually won, even though the closed architecture technology was often the pioneer and sometimes offered a better technology.

Closed standards are unsatisfactory, since they typically force the user into a vertically integrated model which is eventually limiting. Open standards are usually superior, because they support broader and more diverse markets and needs. They appeal to many more users, to “complementors” (e.g. application software vendors) and end up creating more value for all participants in the long run through economies of scale and so-called “network economies”.

It is a fair bet that open architecture technologies will also eventually win in the world of exchanges.

Closed-architecture technologies may well be successful in the initial stages of transition to electronic markets, as demonstrated by DTB’s conquest of the Bund.

At the same time, closed-standard technologies are threatening, because they are monopolistic by nature and correspond to a logic of hegemony. They imply that one exchange and its clearinghouse install a network of closed architecture terminals all over the world, going directly to members of other exchanges, converting them to “remote member “ status - which dilutes the value of membership all around - and eventually (why not?) opening the network to end-users, who would find it natural to become “trade members”. In this model, we are likely to evolve towards a single very powerful “central” exchange *cum* clearing organization, whose membership includes both brokers (whose value added is becoming *de minimis*) and end-users or investors.

It is not in the interest of members or investors to allow such a concentration of power.

Open architecture technology standards are preferable because they naturally support a “pluralistic” future for exchanges.

Exchanges are evolving in ways that will require them to connect seamlessly to a broad variety of players: global broker-dealers, who tend to be members of most exchanges, independent clearinghouse organizations, such as LCH, interdealer brokers and payment systems.

Exchanges will also increasingly need to connect seamlessly with *other exchanges*. Strategic alliances of exchanges, which are occurring at an increasing pace, are a natural consequence of globalization and of the need to offer investors access to a variety of markets. A strategic alliance of several exchanges, sharing a common technology for market access, trading and clearing is the most efficient way of achieving this.

In such an architecture, each exchange can maintain membership values - membership equals badge of professionalism - and through cross-membership agreements can offer its members effective access to multiple markets. With open standards, several exchanges can share a common clearinghouse or may decide to introduce cross-clearing

arrangements, such as mutual offset. They can share common electronic access networks and even share a common trading engine if they so choose.

While this may constitute a “virtual merger” of exchanges, it offers the benefit of *plurality*: multiple exchange organizations can coexist, competing on some grounds, such as products, and cooperating on others, for instance by sharing large-ticket technology costs. Such an arrangement has a better chance of preserving a special role for members, which means that it is likely to support more liquid, hence more efficient markets.

There are two major open architecture technology standards for exchanges today: The Swedish OM Click system and the Franco-American NSC-Clearing 21.

Both have been successfully installed in multiple equities and derivatives exchanges around the world and are actively competing with each other. NSC- Clearing 21 is particularly promising: it is technically advanced, can handle the high volumes of a large exchange and, most importantly, it is supported by several top exchanges including the Paris Bourse (NSC developer) and the Chicago Mercantile Exchange / NYMEX (Clearing 21 developers). It will also be made available on a cooperative basis, through a technology consortium, which other bourses can join. The cooperative philosophy of the enterprise will make it very attractive for new exchanges to enter into what is likely to emerge as the leading technology standard for exchanges and clearinghouses.

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