Risk factors in the trading room

Risk factors: huge subject, where human and technical risks are intermingled, along with certain organizational biases. Among the masses of difficulties inherent to the professional management of electronic trading, let us concentrate on tools and systems. We will leave aside, without underestimating them, the «human risk» which goes with the trader's handling of tools, as well as the consequences of the current credit crisis affecting the financial sector.

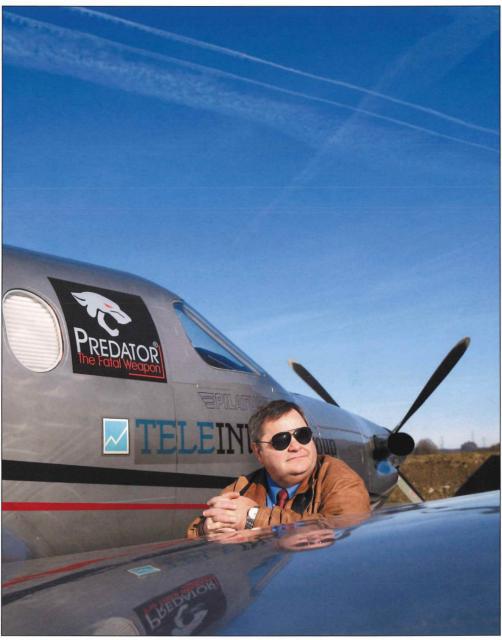
Aurel DAN*

The Constraints of interdependence

All banks are confronted with the "patchwork" phenomenon. This term indicates the inevitable juxtaposition of isolated or proprietary modules gradually added to the historical core of central information systems. Our grandmothers excelled in patchwork, those blankets made of bits and pieces. The diversity of fabrics and colours – in more technical terms: the heterogeneity of the components – led to a kind of glistening unity. A picturesque effect for quilts! A dangerous result, and a difficult one to control in IT.

Nowhere else is the danger more obvious than coupling a trading platform with a bank's central computing system. Essentially an independent system, the platform becomes an integrated element and its "unnatural" subordination is reflected at the organizational level. To be straightforward: trading must be managed in an autonomous way by an independent unit which is separate from the IT department.

The risk of not being able to act on, or to react to the market at all times is far too important and the consequences far too serious to tolerate even the slightest external inertia, or paralysis. The consequences can be disastrous if trading is disrupted or, worse, unable to carry out its decisions if only for a few minutes, or hours. Why? Because of an unfortunate breakdown which is external to the trading system.



Aurel Dan

The developments in the trading of financial instruments, the exponential growth in volumes, the acceleration of execution times (below the second), the increasing regulation constraints (MiFID for example), all of these new realities call for the total automation of the trading process and the use of highly specialized elements. Elements well isolated from the rest of IT.

The vital importance of communication networks

The trading system is connected to the other elements of a complete circuit formed by the Stock Exchanges and other market places. There can be no tranquillity, no security without leased lines of good quality, if possible with routing and alternative suppliers. In parallel, it is desirable to have a local network solely dedicated to the trading activity, and not involved in third party operations. Cuts in communication imply the loss of opportunities and dangerous exposures of unwanted open positions.

Small equipment, great software

Gone is the time when cumbersome "hardware" took up as much space as the market room itself. It was certainly cumbersome, but especially exorbitant. Nowadays, it is possible to make substantial savings without giving up on the quality of the equipment, which is essential. Among the conditions for doing this is the choice of the technology, and therefore of the "software". Let us remind, but without discussing it, that the state-of-the-art in this field is VMware, for the virtualization of machines. The concept stems from the ecological intention to reduce environmental pollution caused by the heat generated by computers and the un-recycled waste that they produce. Today, it seems to us that it is premature to evaluate the specific risks related to this development.

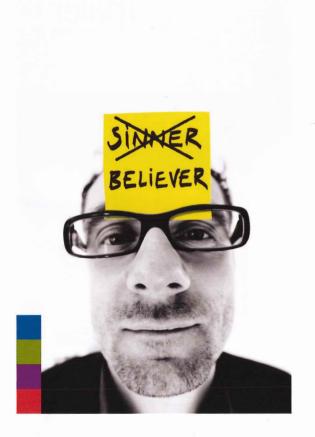
A lot depends on the architecture

Nothing aggravates a trader more than a system that breaks down and bugs fre-

quently. And nothing pleases a banking client more than IT developments conceived and installed in a productive way, without major delays and endless adjustments. Easy to say. More difficult to do!

The architecture of the trading platform is the key to success. But what do reliability, robustness, safety and performance depend on? Above all, on the coherence of the different functional elements, from the design and the basic concept. And also on the software's construction and its development according to a single, unique logic....like our children's Legos.

Try putting together Lego and Meccano pieces! As soon as you start buying, here and there, modules that are supposed to function together without any flaws, and which are then supposed to evolve in parallel, you risk running into serious problems. Of course, computer wizards can always "fix it up" and superimpose layers of patches intended to make up for defects, but at what price and how secure is the result?



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FOCUS

"Low latency" - "high risk"

Customers and suppliers demand, or announce increasingly shorter execution times. From the origination of an order to its confirmation, a second seems like an eternity. Don't we speak in milliseconds or even microseconds today?

Superb accelerando, but which doesn't make any sense if your platform's architecture cannot handle a high volume of messages without causing slowdowns, if your communication network is not reliable, or if you do not possess the ultimate tools for current and future work, like a SOR (Smart Order Router) or a machine capable of generating algorithmic orders. These "gadgets" have become the norm. Remember that on large traditional Stock Exchanges, and even more so on the new ones (MTF), about 50% of orders are already "algo". Within the next two or three years, this proportion could reach 80 to 90%. For latecomers, or for those who are unable to keep up, the risk is serious. They either give up and find themselves "out of business", or they have to rely on a third party: a broker or a competitor who will sell them the know-how.

After-sales service and technical support

Without adequate maintenance and service, the best of systems in terms of SW/HW can be fragile. The first level of technical support is generally found within the bank or financial organization. This endogenous "first level support" implies the training and availability of at least one person who knows the platform and the users. This same person is also the link between the company and the supplier. External support, in terms of guaranteed intervention and responsiveness, is the responsibility of the seller. Given the risks, is this kind of support worth it? Its possible weakness leads to an often underestimated level of insecurity. One should never skimp on the quality or immediacy of outside intervention. Of course, this has a price, but it is not comparable to the cost of accidents. Remember the old saying: "What does not cost anything, is not worth anything". In this case: what seems not to cost anything. Squeezing the supplier may prove to be counter-productive.

A specialist's global approach

The Studies in "quality assurance" show that, in the field which interests us, as in all human activities, the various risk factors cannot be completely eliminated. However, it is possible to avoid the majority of them and compensate for the others by a thoroughly professional approach.

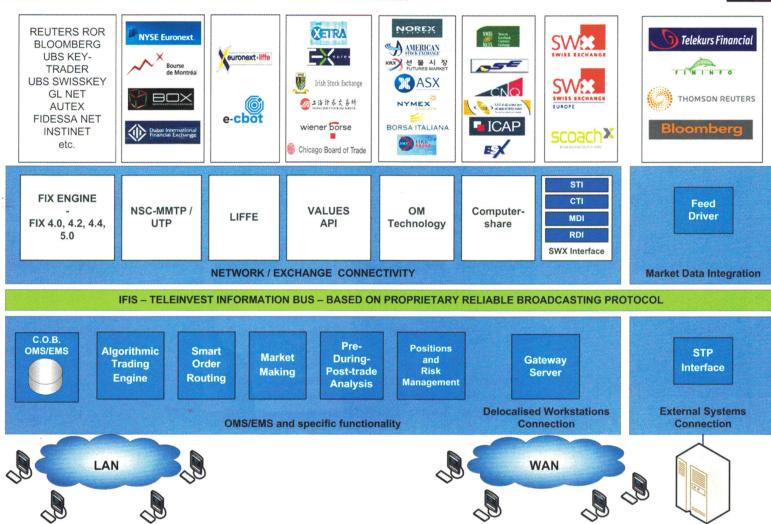
Given that the trading room is of paramount importance to the bank, it seems logical for its installations and tools to be a priority. Everything begins with the heart of the system: the trading platform. If, at this stage, short-sighted management contents itself with "second best" solutions which are apparently cheaper, the whole system is undermined. Moreover, such a policy will



Banking system

Predator Multi-Market OMS/EMS Architecture





have consequences on other essential elements like the choice of the hardware, the network and the organization.

LAN Workstations

Professionals would not tolerate any uncertainties on their work tools. Be it a gardener, pilot or trader, he duly expects the best, and this has always been the case since Homo erectus began carving flint.

Teleinvest group specializes in a niche: the processing of financial instruments and, more specifically, the trading of these through automated trading systems in real time. The company has always mastered and continues to control all of the modules that it has developed and provides complete maintenance. Such a commitment requires the availability of computer scientists, financial expert and mathematicians of the highest level. Security is guaranteed

by the logic and the homogeneity of a unique architecture, supporting consistent and perfectly adapted modules. Security also means that if necessary, the expert responsible for the customer will be flown in by private plane.... Good cooking tolerates a mix of multiple ingredients, on one condition: that everything is orchestrated by a single chef. By controlling the purchase, preparation, composition, cooking and presentation of dishes, he applies a philosophy which is also unique. The creation comes from one thought. Dining on a meal composed of several styles, by several chefs, and from several cultures could lead to a serious indigestion.

A.D.

WAN Workstations

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^{*} Founder and CEO, Teleinvest Group