SUNGARD FRONT ARENA

WHITE PAPER SERIES

The Goal Posts are Widening:

Addressing the ever increasing need for performance

by Nils Undén, cto, SunGard Front Arena

The Goal Posts are Widening:

Addressing the ever increasing need for performance

ABOUT THE AUTHOR

Nils Undén, cto, SunGard Front Arena.

Prior to joining SunGard Nils held the position of VP Application for Frameworx. Before Frameworx he was director of business architecture, at IMI, responsible for establishing and enforcing a consistent product architecture across the suite of products in IMI's portfolio. He has also worked for the Swedish arm of both IBM and Logica as a consultant and architect.

Financial Institutions want more accurate calculations delivered at a quicker rate for more complex instruments and in greater volumes than ever before. And they want this all achieved through one, high performing, cross-asset system. Nils Undén explains how new technology and techniques from other industries and markets can be applied to financial technology systems in order to address these performance issues.

System performance is not a new issue in any market but for financial institutions it has gradually become a highly topical and pressing concern. In part this is due to the nature of financial institutions and their competitive nature. The systems are always run to their limit and the more performance is improved, the more is asked of them. It is akin to the owner of a Ferrari. The cars are always fast but the drivers always want them to be faster.

In other ways the concern stems from current market conditions. Volumes have increased massively of late thanks to the advancements in electronic trading and fervent consolidation. At the same time instruments have become more complex and more varied, resulting in portfolios of increasing size, variation and sophistication. Furthermore the pace and competitiveness of the current market means that calculations not only have to be more accurate than ever before, they also have to be delivered within an ever-shortening timeframe, for instance within market making where times are measured in microseconds.

For vendors that are supplying large scale financial systems the issue of performance is paramount – to deliver solutions for highly computational and intensive applications; to keep up with the continually escalating trade volumes; and to provide consistently accurate pricing for all possible contracts.

Calculation speed has become the defining property for any trading and risk management system but due to size and complexity of the average trading portfolio and the pedestrian nature of traditional numerical methods such as Monte Carlo simulation, vendors have had to reinvent their offerings.

For example, a typical portfolio will contain a substantial number of positions and a cross-asset mix of financial instruments each with their own associated financial model ranging from slow to fast in terms of calculation rate. As for the environment in which these instruments are traded in, the constantly changing values of stock and the need to recalculate any portfolio analytics accordingly creates a significant computational challenge.

Vendors have also had to rethink the architecture behind their systems.