

MQ Series in Finance Sector

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Overview

Strategic Thought have for many years undertaken projects in the finance sector, particularly for large financial institutions with database applications under development or with performance problems. As we are well known for this work we have often been called back into an existing customer often in a new organisation to perform further projects. The company has over the last two to three years developed its middleware business, primarily with MQ and MQSI products, with major project completed across all industry sectors. We are now increasing the level of work in the finance sector, bringing to bear significant and broad general experience capabilities in the design and development of high performance applications and our MQ experience. Below are some examples of the projects we have carried out, the shortest of one-week duration for one person and the longest being a 6 month project for 5 members of staff.

This note provides a record of a number of projects carried out in the finance sector related to MQ series:

- Large European bank.
- Major European bank.
- Major US investment bank.
- Major Investment management firm.
- Large UK insurance company.
- Large International Finance Organisation

Large European Bank

We were retained by a large European bank to undertake work to improve the performance of one of their large mission critical database systems. During the course of this program of work a plan was identified to implement a database replication mechanism through the use of MQ series. We provided consultancy to this organisation to assist in the installation of MQ series for the system being developed, and to address problems that could not be resolved by their staff. As a consequence of this consulting activity we have been retained by this organisation to undertake further MQ series development.

Major European Bank

A major European bank hired us to deliver a training workshop to initiate the take up of MQ series and MQSI V2.0 following a major purchase of IBM middleware products in the region of \$100M. This workshop provided:

- An overview of the MQ Series product so that staff new to this product could understand the range of uses that can be made of MQ and MQSI.
- The life-cycle considerations of designing and delivering an MQ / MQSI solution from system architecture through design and programming to roll out into production.

- System architecture issues to ensure that the appropriate long term decisions are made to enable the benefits of middleware to be leveraged.
- Set up and ongoing management of operational systems including MQ series.

Major US Investment Bank

Because of previous work in the finance sector we were invited to tender for work to address performance problems on an existing in house system. The problem was that this system was overloaded due to a mechanism that alerted client applications to the arrival of new data via a socket listener on each workstation. When an alert was delivered each workstation had to re-query the database to retrieve the full details of the data update. However, it was not the case that just the new data required was fetched but that a full retrieval of all displayed data was performed. This meant that the system performance was very 'lumpy' and when the system became busy the load on the system spiralled. As a consequence the user community were not happy with the system. Our solution was to implement a 'publish and subscribe' architecture based on MQ series. This was implemented in a series of stages. The first stage was to remove the Sybase OpenServer interface writing into a UNIX queue and replace it with an MQ Series publish and subscribe mechanism to initiate the existing alerter. This removed a Sybase bottleneck. The second stage was then to replace the existing alerter with a publish and subscribe mechanism that propagated a full message to the desktop. This removed any requirement to poll the database for updates.

When our customer became aware of our MQ expertise we were invited to undertake a major project to implement an electronic interface to an in-house global order management system. This project required us to build a FIX interface to the system supporting FIX 4.0 and FIX 4.2. Messages are received from clients and converted through a validation and enrichment process into a format that can be understood by the salestrader, and they are presented on an inbound message flow control screen where the sales trader can accept or reject the message. When executions are filled against the order, the fills and any subsequent amendments or cancellations are displayed on an outgoing flow control screen from which they can be released to the client. Other messages such as NOE replies in the various required forms to support the FIX protocol are automatically generated e.g. PENDING responses or manually generated responses such as Done For Day messages.

Major UK Investment Manager

We have been retained by a major UK funds management organisation to assist in a number of aspects of the rollout of MQ Series and MQSI within their organisation. To date we have delivered two programs of work:

- Workshop to identify the issues to be considered by the systems architecture team when designing an MQ/MQSI infrastructure.
- Consulting advice within a project team to implement the first deliverables of MQSI message flows required for the project and then to coach the team in their first message flows.

We are currently negotiating to undertake further programs of work to enable the architectural design and rollout of the enterprise solution.

Large Insurance Company

For a large UK insurance company we provided services to install the IBM software, then develop MQ and MQSI message flows.

Large International Finance Organisation

One of the worlds finance organisations providing a range of financial services to industry had embarked on a time critical project to improve their back office systems. This architecture relied on the integration of two systems running on disparate environments. MQ series had been selected as the middleware product to enable communications between the UNIX platform supporting the front end system and the AS/400 supporting the backend system. However the client teams responsible for the project had no MQ Series expertise. They hired us to lead the design of the MQ architecture and to assist them in managing their suppliers to enable the MQ interfaces to be defined, agreed and rolled out.

Our areas of responsibility remained wide and encompassed:

- Project management assistance.
- Design of first cut message definitions mapping data between the two systems.
- Initial installation of products across all required platforms, working with our client's staff on remote deployments, so that they became familiar with MQ series.
- Review of the current system designs and validation of the approach.
- Contribution to design revisions, and facilitation of problem solving to implement practical solutions involving the minimum change needed in each system that would enable a problem to be addressed.

About Strategic Thought

Strategic Thought Limited was founded in 1987 as a software development company specialising in enterprise applications. The company has achieved sustained growth in turnover and profits and is still privately owned with its shareholders direction employed in the business.

The company has grown significantly in the last two years, over 100% in the last year, as it's e-Engineering and .com development business practices have flourished.

Strategic Thought is now in the final stages of launching it's Active Risk Manager (ARM), risk system, which has been developed over the last 18 months and presents a very significant growth opportunity to the company.

For more information on Strategic Thought please visit www.strategictthought.co.uk and for ARM visit www.arm-risk.com

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