Business Situation

Investment banks today face a multitude of business and operational challenges. Apart from surviving regulatory pressures, they must meet the challenges of high transaction volumes, complex financial instruments processing and increased cross-border trades, making it absolutely necessary to have a robust and scalable architecture.

Our client is a global bank aspiring to build a global strategic settlements platform that would help remove the bottlenecks of the current state, optimise its operations, meet the evolving regulatory requirements and provide a sound base for its growing business lines. As such, it needed to:

- Align the settlement processes and platforms with firm-wide initiatives undertaken to restructure the bank’s legal entity hierarchy.
- Integrate a fractured legacy systems architecture, which was made up of a hybrid of over 320 legacy and strategic components across four regional platforms; the core platform is over 20 years old. This made it difficult for the firm to scale up to meet the future business needs.
- Make good on previous incomplete attempts to migrate from the legacy platform to modern systems, which resulted in a complex and duplicate interim control model, with high development and maintenance costs.

AT A GLANCE

We partnered with a global investment bank on a multi-disciplinary agile program to build a scalable, global platform for cash securities settlements.

Highlights of the project:

- Global securities and cash settlement platform allowing for architectural simplification and reduction of total cost of ownership.
- Enhanced support of legal entity realignment and regulatory requirements.
- Applied an Agile development methodology across the entire implementation.
- Used end-to-end process reengineering discipline to implement straight-through processing and position management.
• Rationalise regional and entity-level differences that led to duplicate functionalities, volume constraints, a non-scalable platform and a dwindling resource pool.

The programme was a part of a set of strategic initiatives across the bank with the objective to fulfil regulatory requirements, resolve inefficiencies of legacy platforms while establishing a state of the art architecture to support the bank's expansion objectives. The aim was to deliver a global, scalable, entity-agnostic strategic securities processing architecture, which included transaction capture and controls, position management and transaction settlement. It was a strategic programme with the potential to influence the industry to adopt a similar system rationalisation/optimisation approach. There was an additional larger aspiration to build a standard platform employing industry best practices, in order to offer ‘securities operations’ process as a service to the market.

The programme's initial scope was specific to the investment banking (IB) operations of the bank. Within IB, the programme had a global spread including EMEA, the U.S. and APAC regions, with the APAC legal entity being of initial focus. Equities, fixed income, repos and stock borrow/loans were included in the remit of this programme. For the future, the programme was to be expanded to include cash products (OTC, FX, etc.) within its scope. The program had a four-year roadmap and was to be implemented in multiple phases.

Challenges

Implementing a multi-year global programme involving multiple legal entities, products and markets on a global scale, while at the same time covering all the regional variations, has its own challenges. Our ability to bring breadth and depth of experience, in terms of domain expertise as well as project management skills, greatly helped our client to navigate these unique challenges. This included:

• Multiple initiatives across the firm, running in parallel, each with its own business goals, timelines and implementation methodologies. It was a challenge to manage the numerous interdependencies between these programmes.

This required us to maintain open channels of communication with various parts of the firm and ensure that the programmes aligned with the greater objectives of the firm.

• In addition to keeping the current business activities active, the migration to the new system mandated the need to take care of the legal entity realignment initiatives that focussed on aligning the businesses to the appropriate legal entities.

• The existing legacy framework has evolved gradually over the past two decades with various organic and inorganic additions to the landscape. This resulted in numerous duplicate applications, inefficient processes, manual workarounds and short-term tactical fixes. Our knowledge of the legacy applications played a key role in designing a robust platform to resolve the shortcomings of the legacy framework.

• Existing settlement processes involved numerous manual touchpoints and workarounds. Automating these complex process flows and achieving straight through processing (STP) from front to back was yet another challenge.

• A large multi-year program of this magnitude inevitably required many changes in the team structure and membership. We addressed this challenge with a well-defined knowledge management framework and transition plan.

The Solution

We played key roles across the programme, throughout the planning, analysis, development and QA stages.

Solution Framework

The programme envisaged the creation of a global strategic settlements and position platform addressing the needs of the firm's three main regions - EMEA, the U.S. and APAC. This strategic platform was designed to enable STP of settlements with minimal manual touch points. The overall IT architecture was greatly simplified by the elimination of over 100 legacy applications.
The programme also implemented service-oriented architecture by developing a number of shared services and components across multiple entities and businesses.

The programme adopted a ‘fresh start’ approach where process flow was built without directly translating the legacy processes. This provided an opportunity to resolve current inefficiencies and design a more robust system. As part of this approach, our Cognizant Business Consulting (CBC) team played a very important role in bringing together the diverse stakeholders across the programme, holding workshops and brainstorming sessions that defined new strategic functionalities and process flows. We were instrumental in building frameworks and defining solutions for key functionalities related to post-trade processing (see Figure 1).

Business Capability Delivery

- **Trade confirmations**: We designed the target operating model for the global strategic trade confirmation process across selected asset classes (equities/fixed income/repos). We also led the target state analysis for the trade confirmations system defining workflows, exceptions management, reference data, messaging standards and UI.

- **Messaging Standards**: We defined internal messaging framework for exchanging trade and settlements information.

- **Data Management**: We created a golden data source of settlement obligations and cash/stock positions as shared components. We identified the reference data requirements and established a standard reference data sourcing strategy.

- **Standard Settlement Instructions (SSI)**: We resolved standard settlement instructions based on products, markets and counterparties.

- **Operations Reconciliation & Control**: We reconciled the front and back offices to significantly improve data quality.

- **Quality Assurance**: We developed a comprehensive QA strategy for the entire programme with particular focus on automation and regression test suites.

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**Figure 1. Investment banking high level trade process architecture with focus on back office operations.**
Engagement Delivery

Unique to this programme was the use of the agile methodology - Scaled Agile Framework for Enterprises (SAFE). We mobilised teams across APAC, EMEA and the U.S. to align with the agile organisation and approach, with a particular focus on delivering capabilities as opposed to discrete IT components. We managed stakeholders by information dissemination through Scrum artifacts, such as burn down charts and custom dashboards, using tools such as Atlassian’s JIRA and Confluence.

The programme adopted a phased implementation approach to ensure that the platform could be gradually scaled. Combined with the SAFE method of implementation, our phased approach brought about many advantages:

• Operations was migrated on to the new platform in a staged manner with a defined set of capabilities. This facilitated easy course correction and improvements while ensuring low cost of failure.
• The programme ran in parallel with various other programmes across the organisation. This methodology helped tackle multiple dependencies that originated with other programmes running across the firm.
• The legacy architecture consisted of a huge spread of hundreds of applications. Adoption of agile methodology enabled a measured scale down of the legacy platform, with gradual scaling up of the new platform.
• This model has also helped the bank realise the success of this programmes in the shortest time possible rather than waiting for the entire programme to be completed.

Roles And Responsibilities

We were involved in multiple work streams across the breadth of the programme. Our teams performed a variety of roles within the programme including, but not limited to, business architects, business analysts, Scrum masters, team leads, product owners, functional test leads, functional architects, QA strategists, etc.
**Cognizant Business Consulting (CBC) - Span of Engagement**

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<th>Role</th>
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<tr>
<td><strong>Business Analysts</strong></td>
<td>• A very key role bringing together all the major stakeholders and defining the core process flow within the program in the form of use cases and deconstruction diagrams.&lt;br&gt;• Facilitating the dialogue between various stakeholders of the program through joint workshops, brainstorming sessions and deep dive sessions.&lt;br&gt;• Collaborating with the front office teams in defining the proprietary trade message format.&lt;br&gt;• Working with reference data golden sources to establish a standard reference data management strategy.</td>
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<td><strong>Business &amp; Functional Architects</strong></td>
<td>• Documentation of the target architecture for the entire program, including the interactions with interfacing parties within and outside the bank.&lt;br&gt;• Creation of Design Authority Model for management of adherence to architecture and design principles.&lt;br&gt;• Providing domain expertise to help identify enterprise functions, interactions and the corresponding IT needs.&lt;br&gt;• Creating the internal messaging format to exchange settlements data between the various components within operations space.&lt;br&gt;• Supporting the streamlining of the overall data model with strategic changes as proposed by the data architects.</td>
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<td><strong>Product Owners, Product Managers, Scrum Masters</strong></td>
<td>• As product managers, work with program stakeholders and business sponsors to agree on business capabilities, roadmap, scope, priorities and program delivery.&lt;br&gt;• As product owners and scrum masters, manage scrum team plans, daily stand-ups, risks, issues and dependencies for agile teams within the program.&lt;br&gt;• Liaison with stakeholders and project teams across the firm on front-to-back strategic initiatives that have an impact on the program solution and timelines.</td>
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<td><strong>Functional Test Leads &amp; QA Strategists</strong></td>
<td>• Leading the functional testing and integration testing activities throughout the program implementation.&lt;br&gt;• Supporting the QA team in creating functional and regression test packs.&lt;br&gt;• Managing the User acceptance testing not only by the operations users but also by other consumers outside the program such as front office, finance, risk and regulatory reporting.</td>
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<td><strong>Transaction Capture &amp; Controls</strong></td>
<td>• Leading the overall work stream, managing requirements and defining key functionalities across&lt;br&gt;  • Trade Capture and Validation&lt;br&gt;  • Trade Allocation&lt;br&gt;  • Trade Confirmation&lt;br&gt;  • Managing the requirements analysis and implementation of the Front office – Back office reconciliation processes and system controls&lt;br&gt;  • Liaising with operations users in defining the user interface and dashboard functionalities</td>
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<td><strong>Transaction Settlements</strong></td>
<td>• CBC has been a crucial partner for the business engineering and change teams in defining a strategic platform for securities clearing &amp; settlements&lt;br&gt;  • Performing lead roles in various multidisciplinary teams providing solutions for key settlement functionalities such as resolution of standing settlement instructions, processing of unadvised transactions, settlement of non-trade transactions, management of manual settlements, handling exceptions etc.</td>
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<td><strong>Position Management &amp; Asset Servicing</strong></td>
<td>• Supporting the delivery of a clear and distinct stock and cash record for securities position across the firm on strategic platforms eliminating legacy systems&lt;br&gt;  • Helping the existing asset servicing platform to integrate with the new global settlement platform and deliver a high quality corporate actions announcement, notification and processing services for the bank and its clients</td>
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<td><strong>Data Provisioning &amp; Shared Components</strong></td>
<td>• Leading the product management team responsible for defining the data delivery requirements to downstream consumers&lt;br&gt;  • Supporting the design and delivery of a global data access layer that will connect the platform to client, product and entity reference data golden sources in the firm&lt;br&gt;  • Providing functional expertise in designing and implementing shared components</td>
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Figure 2. Cognizant Business Consulting (CBC) - span of engagement.
Benefits

The new architecture was initially deployed on a limited scale in an APAC legal entity of the bank enabling the programme to gain real life user experiences and make necessary improvements in the subsequent iterations. While the programme has already started delivering the expected benefits, the benefits are expected to accrue further as the platform is deployed on a much larger scale in other legal entities across geographies and products.

Initial advantages achieved include:

• The STP architecture simplified process flows with minimal manual touchpoints and facilitated near real-time position management.

• The programme along with other aligned initiatives, such as front-office sourcing and legal entity realignment, enabled more accurate regulatory reporting and compliance.

• The emphasis on a utility/shared services model enabled the reuse of functionalities, thus avoiding redundancies and delivering enhanced cost and effort savings.

• The programme established golden sources of trade and reference data leading to better data integrity and consistency throughout the trade life cycle.

• Decommissioning of expensive legacy infrastructure eliminated numerous manual processes, improved system performance and reduced the number of breaks between front office and back office.

• Rationalisation, standardisation and simplification reduced costs and complexity. This helped realise a scalable architecture which can be implemented and supported consistently across all entities.

The UK & Ireland Banking and Financial Service Practice is built on a client-first mindset and a proven ability to turn informed thinking into practical, measurable value. This focus is underpinned by deep industry domain expertise across the Retail Banking, Capital Markets and Cards & Payments sectors. Our capabilities range from core technology, to consulting, infrastructure, data management and outsourcing services. Increasingly we are the strategic partner of choice, helping clients navigate the shift to become the digital institutions of the future. Today we work with four of the top five UK banks, nine of the ten top European banks and fifteen of the top twenty North American financial Institutions.

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