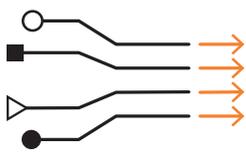


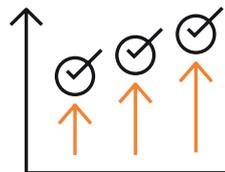
TLM[®] Aurora

Trade Process Control

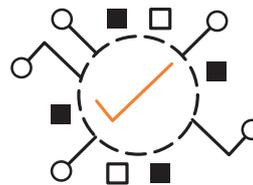
A powerful control layer that consolidates fragmented infrastructures across asset classes and business lines – ensuring that all trade processing steps from execution through to settlement are based on correct and verified data



**CONSOLIDATED
POST-TRADE
ENVIRONMENT**



**PROACTIVE
EXCEPTION
MANAGEMENT**



VERIFIED DATA



**ERRORS DETECTED
AND RESOLVED
PROMPTLY**

Executive summary

Post-trade processes, with their layers of legacy technology systems, infrastructures and workflows, are currently complex and inefficient. They are costly, too, with billions of dollars now spent by the financial industry on trade processing. The need to cut overheads, improve profitability and establish greater operational resilience is making increased efficiency in this area more imperative than ever.

Tier one global institutions have worked with SmartStream to de-silo their operations and reduce the number of systems involved in trading processes. Drawing on past experience, SmartStream has created TLM[®] Aurora Trade Process Control to provide this technology and expertise to both sell-side firms and to buy-side participants such as asset managers, fund managers, private banks, hedge funds and fund administrators.

The solution delivers a powerful control layer, which rapidly integrates with in-house and third-party applications, utilities and services. It consolidates reconciliation, exception management and process flows into a single application, capable of handling a broad range of asset classes including equities, fixed income, foreign exchange and money markets.

Highly scalable and flexible, Trade Process Control addresses post-trade allocation, confirmation, clearing and settlement needs, automating the transaction lifecycle across the entire middle- and back-office from the point of execution through to settlement confirmation.

A packaged solution that incorporates industry best practice in predefined business processes, Trade Process Control creates a volume-insensitive, instrument-agnostic post-trade environment. It ensures that processing is carried out only with verified and checked data, allowing exceptions to be picked up and resolved as early as possible, and preventing them from occurring again downstream.

Enabling firms to break away from rigid and inefficient ways of working, the solution allows users to be assigned to assets, markets and counter-parties instead of splitting the control function into the traditional middle and back-office silos. It is also flexible enough to cope with market volatility and regulatory demands.

Business challenge

As trade volumes increase, many firms are struggling to maintain a post-trade processing environment capable of handling complex transactions that consist of a diverse set of instruments. Middle- and back-office operations are suffering from trade confirmation backlogs, as well as reconciliation and exception resolution issues. As a result, firms are left open to operational risk and process inefficiencies that threaten to lower profitability and undermine customer service.

Solution overview

TLM Aurora Trade Process Control enables firms to take back control, addressing the post-trade allocation, confirmation and settlement needs of participants in the global securities, foreign exchange and money markets. Massively scalable and highly flexible, the solution consolidates reconciliation, exception management and workflows into a single application to process a wide range of asset classes, including: equities, fixed income, foreign exchange and money markets. It supports the entire transaction lifecycle from the point of deal capture through to allocation, confirmation, settlement and beyond.

Reconciliation of trade instructions and confirmations

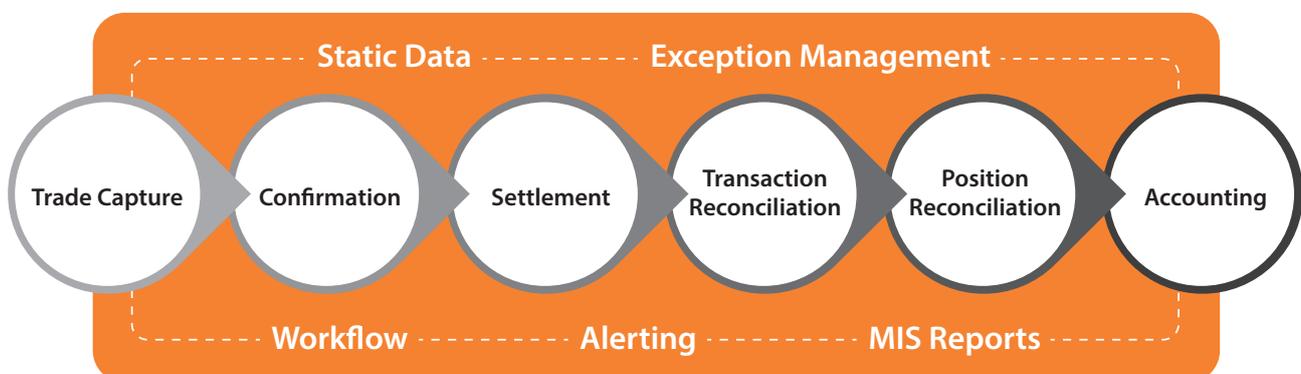
Trade Process Control loads and validates trades from an upstream order management or deal capture system, then normalises trade data into a standard internal representation of a trade instruction. Following this step, it reconciles the trade instruction against the trade confirmation received from the broker or counter-party.

The reconciliation process supports cancellation and amendment message processing, driving up automation levels both in the organisation itself and with its counter-parties.

Catching exceptions as early as possible

Trade Process Control has exception management capabilities which will pre-empt issues at the earliest possible stage. If any data does not match counter-party information, an exception case is created and assigned to a user automatically. The operative can then deploy solution capabilities to exchange messages both internally and externally, or post corrections (system messages), in order to resolve the exception. A clear audit trail is created, and a date range is made available with a set period to resolve a failing trade.

Once the trade instruction/confirmation has matched, or the exception has been resolved and matched, the system will provide the data required to proceed to the settlement instruction.



Trade enrichment

Additional data is often needed for settlement processes. The solution enriches a trade whenever necessary by retrieving details, such as standard settlement instructions (SSI), from both internal and external reference data sources.

Next steps based on correct and verified data, throughout the trade lifecycle

This process of reconciliation followed by exception management continues throughout the trade lifecycle, including: trade instruction/confirmation, settlement instruction/confirmation, daily transaction statements, daily or periodic holdings, payment and nostro.

The system ensures that a process step can only occur once the previous stage has been verified to be correct, preventing a subsequent stage from being undertaken using inaccurate information. It ensures exceptions are picked up and resolved as early as possible.

In addition, the solution joins – in effect – securities middle-office, securities back-office and treasury or payment back-office, bridging these functions as one continuous stream.

Proactive exception management

Driven by flexible business rules and state management, transactions are tracked throughout their lifecycle against state, time and value. Transactions that exhibit potentially erroneous behaviour are identified at the earliest possible stage by means of an alerting service which highlights actual and likely error conditions to internal and external parties. Once trapped, failing transactions can be repaired according to user-defined prioritisation and categorisation rules that set out the relative importance of the different exception types.

Filtering enables a firm to determine information views for specific groups of users. Data can be suppressed to allow management by exception – highlighting only those items that matter. They can then be assigned to specific individuals or roles, alternatively assignment can be determined based on the attributes of a transaction. Where the remedial action is well defined, Trade Process Control eases the repair process by invoking an initial automated resolution step.

The exception management capabilities provide vital insights into where added efficiencies can be achieved. Exception types, reason for fail, erring party, compensation, impact, resolution times, and ageing analysis provide valuable strategic information that assists institutions to make informed decisions about where process re-engineering or counter-party selection can improve efficiency and provide the highest returns.

Escalation rules allow items left unresolved for a defined length of time to be dealt with promptly – automatically alerting, re-routing and prioritising transactions.

Essential to the resolution process, Trade Process Control maintains a link to the underlying transaction in order to permit changes in the state of business data to be reflected in the exception management sub-system. Messages produced as a result of any identification and repair may be subject to authorisation prior to their release to the relevant systems. This process authorisation functionality is flexible and roles-based, allowing firms to specify a hold over certain types of message and ensuring only those members of staff with sufficient privileges are able to release them.

Management is presented with summary-level statistics derived from exception data captured at point of detection. Trade Process Control produces an audit trail for the identification and repair process that retains a time-stamped record for each processing step, detailing which individuals undertook what specific actions, and when.

Automated settlement messages

Settlement messages are automatically constructed from matched allocations, enriched with standing instructions from any proprietary instructions database or from within the application itself. Settlement messages can be instructed via SWIFT or through proprietary networks.

Tracking settlement status

Trade Process Control tracks settlement status update messages received from a custodian to ensure that a transaction remains on track. Where messages indicate that a problem may have occurred, an exception is raised. Where the custodian status update indicates that a problem is about to occur, alerts can be issued to assist in pre-empting an exception.

Reconciliation of settlement notifications

The solution reconciles settlement notifications, verifying a firm's own view of each trade against its counter-party and providing an accurate view of overall positions.

Transaction and holding statements

Trade Process Control posts successful settlement to a firm's portfolio management system, position keeping system or fund administrator, also providing the capability to reconcile daily transaction statements, as well as daily or periodic holding statements against counter-party statements.

Payments and nostro statements

The system is able to take the reconciled and verified settlement or treasury confirmation information and enrich it with standard payment instructions. This can be retrieved from a proprietary instruction database or held within the Trade Process Control database – the data is utilised to create payments to an organisation's correspondents. Payments can be reconciled in real time, while nostro reconciliations may be included as part of the trade lifecycle.

Exporting transaction results to downstream systems

Transaction results may be exported to downstream accounting systems, databases or applications. The solution allows the specification of export rules that trigger the export of trade data in XML format for delivery to external databases and systems.

Integration and connectivity

Clients can be confident that Trade Process Control delivers a standards-based, flexible platform to meet industry demands and regulation – of both today and tomorrow. Underpinned by a robust, functionally rich enterprise

application integration layer, the solution provides rapid connectivity, integration and transformation. With a wide range of technical adapters, 'point and click' transformation, and industry standard message formats (including SWIFT, FpML and FIX, OMGEO CTM) built in, Trade Process Control can rapidly integrate with in-house, third party applications, utilities and services.

Benefits

By deploying TLM Aurora Trade Process Control, firms can establish far closer control over their post-trade processing activities. The solution allows financial institutions to consolidate fragmented infrastructures, giving them the opportunity to get the most out of their current technology, as well as to surmount the inefficiency and rigidity created by traditional silos.

Once installed, the solution delivers a powerful lift to efficiency by standardising the way in which firms manage trade processing. It also improves STP levels as the trade enrichment process draws on a single 'golden' source of static data. Importantly, by introducing greater automation and enhancing control, Trade Process Control assists firms in lowering operational risk and cost.

Thanks to the solutions highly proactive approach to exception management, errors can be detected, investigated and resolved promptly, preventing costly settlement fails. A boost is also delivered to productivity through the sophisticated investigation tools that are available across the entire lifecycle and automated process workflow.

About SmartStream

SmartStream is a recognised leader in financial transaction management solutions that enables firms to improve operational control, reduce costs, build new revenue streams, mitigate risk and comply accurately with regulations.

By helping its customers through their transformative digital strategies, SmartStream provides a range of solutions for the transaction lifecycle with artificial intelligence and machine

learning technologies embedded – which can also be deployed in the cloud or as managed services.

As a result, more than 2,000 clients – including 70 of the world's top 100 banks, rely on SmartStream Transaction Lifecycle Management (TLM®) solutions to deliver greater efficiency to their operations.

For more information about SmartStream visit:
smartstream-stp.com