

# TLM® Corona



## Delivering visibility and control to multi-product reconciliations

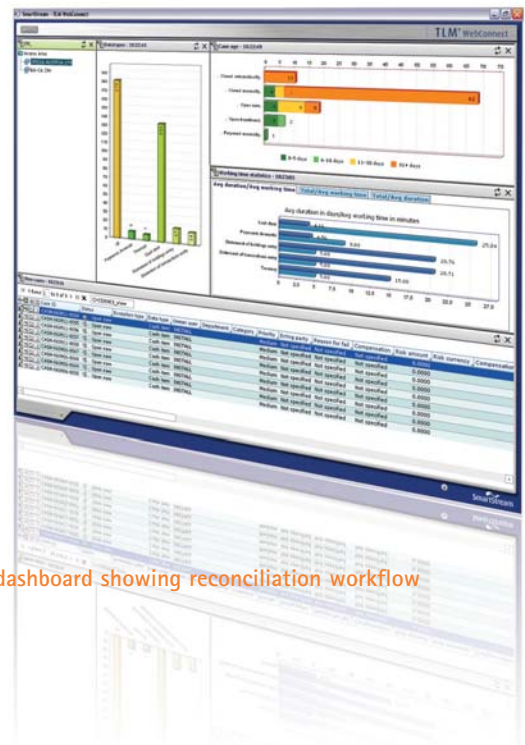
### Executive Summary

A combination of factors is forcing financial institutions to examine transaction management processes in order to reduce operational risk and cost. There is an ever present pressure to realise cost and efficiency gains by replacing manually-intensive, paper-based processes with automated solutions that can increase straight through processing (STP) rates.

SmartStream's TLM® Corona is designed to automate multi-product reconciliations to deliver greater control and visibility into transactions. TLM Corona is a SWIFTReady Gold accredited, modular application that addresses the reconciliation needs of institutions of all sizes to provide greater transaction management control.

TLM Corona's modules provide a range of advanced functionality for the intra-day reconciliation of cash transactions, securities messages and confirmations. It delivers comprehensive functionality out of the box, enabling firms to significantly reduce their time to benefit.

TLM Corona delivers greater operational efficiency while reducing operational costs and risk through exception detection and enhanced transaction management. Identifying and raising exceptions at an earlier stage of the transaction, pre rather than post settlement, provides a more accurate view of positions, enabling institutions to make more informed funding decisions.

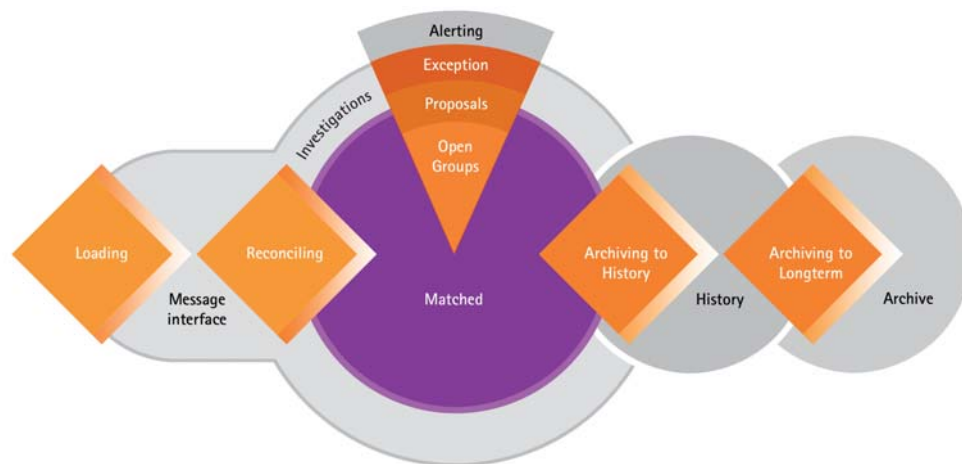


TLM Corona dashboard showing reconciliation workflow

Available on multiple platforms, it supports firms to meet their transaction processing requirements, irrespective of their size, business lines or existing IT infrastructure.

It is also designed to provide institutions to deliver secure remote access – providing customers and partners with secure access to internal staff screens. This enables greater control of risk exposure while also supporting improvements in customer service.

## TLM Corona – Solution overview



### Lifecycle of data flow

TLM Corona is a comprehensive, modular solution for effectively reconciling cash transactions and securities messages, and confirmations to deliver complete transaction management and control. The integration of corporate actions reconciliation, detection of exceptions leading to investigations and system performance applications enables institutions to reduce operational risk and cost through continual process improvement.

Providing transaction processing capabilities through a flexible design, TLM Corona is easy to integrate into existing architectures yielding significant improvements in processing efficiency. TLM Corona can reconcile transaction data in any format from any source to deliver:

- End-of-day and intra-day cash reconciliations
- Security messages reconciliations
- Confirmation reconciliations
- Precious metals confirmations reconciliations
- Intersystem and universal data reconciliation
- Proactive exception alerting
- Integrated exception discovery and investigations processing

TLM Corona's comprehensive reconciliation, exception highlighting and investigation capabilities help to deliver complete transaction management control and optimised risk management. As a result of this integration, operational control is strengthened and risk reduced as financial institutions gain greater visibility into transactions.

### Automated matching

TLM Corona's sophisticated matching functionality enables financial institutions to achieve the highest possible STP rates. Users can define their own matching sets and tolerances. The system can be configured to match on an unlimited number of fields and can perform multiple matching cycles, each using different fields and / or tolerances. This ensures that the number of transactions requiring manual intervention is kept to an absolute minimum, increasing STP.

The matching process is triggered as soon as new data is loaded into the system. One-to-one, one-to-many and many-to-many matching are standard features of TLM Corona.



### Pseudo references

Financial institutions are only as good as the data they receive. Misquoted information often makes automatic matching impossible, increasing the need for costly and time consuming manual intervention.

To help overcome some of the operational issues associated with poor data, TLM Corona deploys pseudo references that can translate misquoted information into comparable data and deliver a considerable increase in STP rates.

### Intra-day reconciliation

TLM Corona incorporates reporting functionality across the reconciliation and investigation modules, providing accurate, real-time cash positions that reduce exposure to interest penalties. Intra-day reconciliation allows banks to identify potential problems as early as possible, reducing the risk involved.

### Automated exception handling

Exceptions can account for a large proportion of back office costs. By delivering fully integrated, cross-product exception detection, including proactive alerting and investigation processing, TLM Corona enables this figure to be vastly reduced, realising increased capacity, improved operational control and reduced risk.

### Pre-settlement exception resolution

TLM Corona's ability to reconcile data in real-time across financial instruments means that any discrepancies in the matching and reconciliation process are identified pre- rather than post-settlement. Exception details are automatically

forwarded to TLM Corona's investigation module for quick and efficient escalation and resolution.

By automating the exception process investigations teams are freed up to focus attention on the exceptions that pose the most risk. Investigations can be generated automatically, in batches at pre-determined times or manually.

### Transaction monitoring

TLM Corona's modules track transactions, delivering timely alerts to users and highlighting issues that require immediate attention. This removes the need to manually run inquiries and reports. This approach is delivered through TLM Corona's system-wide monitor, Corona Active, ensuring issues are escalated before they become a problem, further increasing operational efficiency and risk control.

By continually monitoring the underlying activity in the core TLM Corona modules, users are alerted to issues that require attention before they become a problem. Alert criteria are fully user-defined and can be used to highlight a full range of issues, from system performance to transaction breaks.

For example, Corona Active can be configured to proactively notify users of overdue confirmations. Once alerted, users can access all the data relating to the underlying confirmation through a comprehensive drill down function, supporting an efficient resolution of the highlighted issue.

Corona Active also acts as a continuous system performance check. By replacing batch-based reporting, users are alerted when matching rates drop below expected thresholds, enabling firms to take efficient action and ensure optimal operational performance.

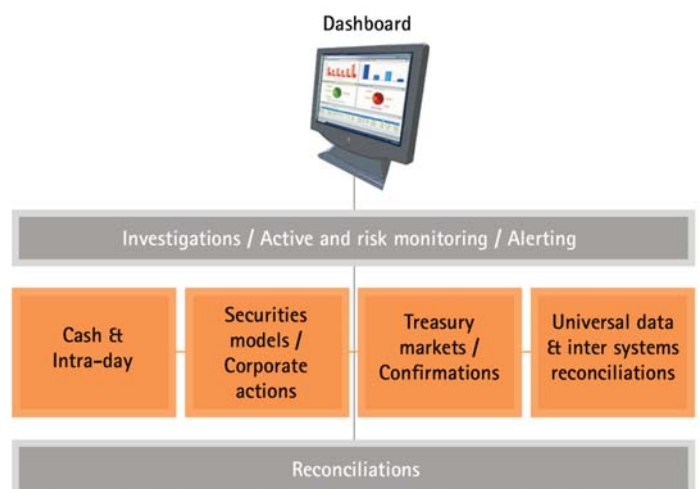
## Flexible technology and language support

TLM Corona delivers the following:

- Easy integration into existing hardware and software environments
- Ability to run on a variety of platforms: PCs, AS 400, IBM Mainframes, RS-6000, HP-9000 and SUN
- Relational database support: Microsoft SQL Server, IBM DB2 and Oracle
- A single integrated data repository for all transactional information
- Local language versions for French, German, Spanish and Chinese (simplified)

Support for relational databases means the software can be used concurrently by a large number of users without compromising system performance.

## TLM Corona Modules

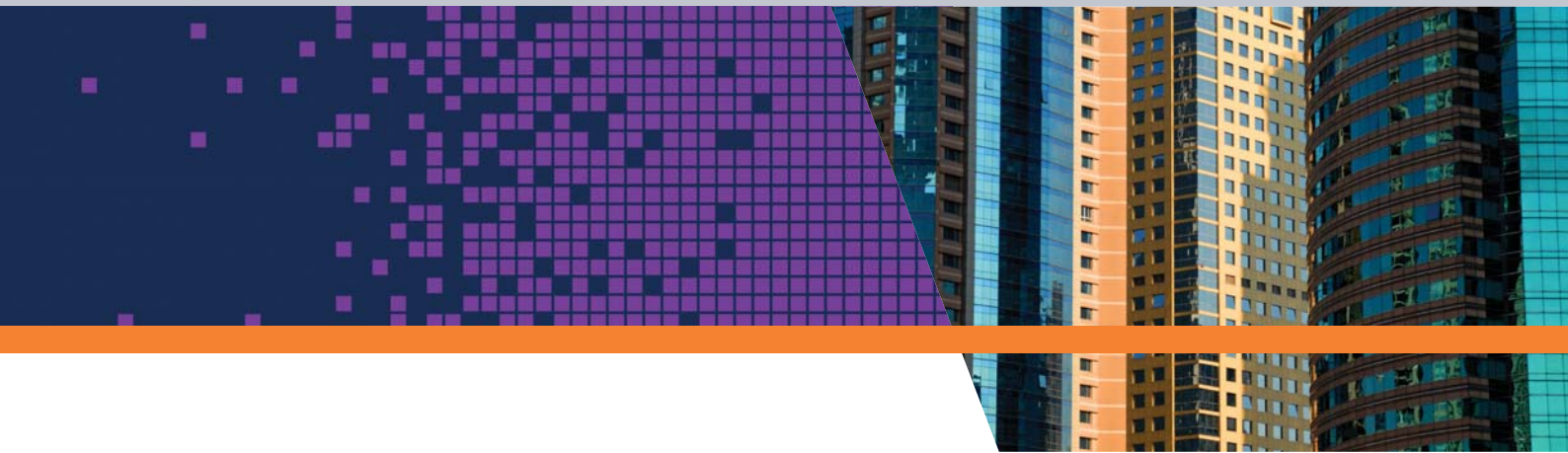


### TLM Corona – Integrated reconciliations and investigations

#### TLM Corona Cash

The efficient reconciliation of cash is vital to delivering cost-effective back office operations. TLM Corona aims to provide consistency and control through intelligent matching rules integrated within an intra-day platform.

Reconciling cash intra-day can significantly reduce risk exposure, as any problematic transactions can be proactively identified and escalated while markets are still open. TLM Corona is designed to support bank requirements for Nostro and Vostro reconciliations.



Any slow-to-settle transactions are identified as they occur, allowing firms to reduce their risk exposure. TLM Corona's flexible matching conditions additionally give firms tighter control of their operational risk management, ensuring that only true mismatches are identified as exceptions.

This is achieved through support for multiple SWIFT message types, including:

#### **Account reconciliation**

- MT940 – Customer Statement
- MT950 – Cash Statement
- MT970 – Netting Statement
- MT608 – Statement of a Metal Account
- MT575 – Statement of Combined Activity

#### **Payments reconciliation**

- MT103 – Customer transfer
- MT202 – General financial institution transfer
- MT400 – Advice of payment
- MT900 – Confirmations of debit

#### **Revenue reconciliation**

- MT210 – Notice to receive
- MT910 – Confirmations of credit

#### **Interim transaction reports**

- MT942 – Interim statement

TLM Corona's reconciliation model ensures cash positions can be closely monitored along with closing and value adjusted balances. Firms can project the ledger items expected to settle during the day and then monitor the flow of monies coming into the account, supporting more effective use of cash balances.

This supports institutions to forecast cash flows more effectively and manage liquidity on a real-time basis. By helping to automate processes and remove manually-intensive batch processing, firms can gain greater visibility into positions and control financial exposures.

Integration with Corona Investigations ensures that once identified, exceptions are automatically forwarded to the appropriate individual for a fast and efficient resolution. This is possible due to investigation teams having access to all of the reconciliation data they require on a single desktop.

TLM Corona Cash's integration with the wider TLM Corona product suite supplies banks with a holistic view into transactions, allowing them to monitor the different stages of a transaction within a single solution. The ability to view cash, securities and confirmations reconciliation data provides a complete transaction transparency and enhanced control.

This capability is particularly powerful when dealing with exceptions. Users can perform inquiries across the modules to enrich the standard data received during the reconciliations process, and ensure that a greater number of transactions proceed smoothly to settlement.

Using Corona Cash, institutions gain a wealth of statistical data to enable the continual improvement of STP rates and operational efficiencies. For example, information on matching rate statistics and ageing period statistics can be used to measure the quality of the matching rate parameters and the data being received from partners, facilitating the continual improvement of matching rates.

## TLM Corona Securities

As transaction volumes continue to rise and settlement cycles shorten, institutions need to efficiently reconcile securities to reduce risk exposure. TLM Corona offers real-time automation to replace manual processes, delivering greater visibility and control to the securities reconciliations process.

Automating the securities reconciliation process with TLM Corona increases matching rates and supports higher STP rates. TLM Corona's automated, real-time reconciliation of transactions allows a greater volume of transactions to be processed more efficiently, while at the same time enabling exceptions to be identified and dealt with as they occur. This is critical during periods of market volatility and high trade volumes, when human error is more likely to occur.

TLM Corona Securities supports firms to effectively manage risk exposures through the rapid identification of position breaks and failed trades, while providing real-time access to information on all securities transactions and positions. TLM Corona monitors the reconciliation and pre-settlement status of securities traded against pending transactions, problem notifications and confirmations of delivery / receipt. This enables institutions to focus on exceptions at the earliest opportunity, with the aim of reducing operational risk.

Using TLM Corona Securities, the user gains greater control over the matching process. The system can be configured to match on an unlimited number of fields and will perform multiple matching passes, each using different fields and / or tolerances, to ensure that the number of transactions requiring manual intervention is kept to a minimum. As unmatched items are highlighted, they can be immediately dealt with by TLM Corona Investigations.

TLM Corona Securities is ISO 15022 compliant, capable of handling the complete range of settlement messages, messaging formats and statement types, including:

### Trade confirmation messages

- MT502 – Instruction
- MT509 – Processing Status Message
- MT515 – Confirmation

### Settlement messages

- MT540 – MT543 - Instruction
- MT544 – MT547 - Confirmation
- MT548 – Processing Advise Status Message

### Transactions

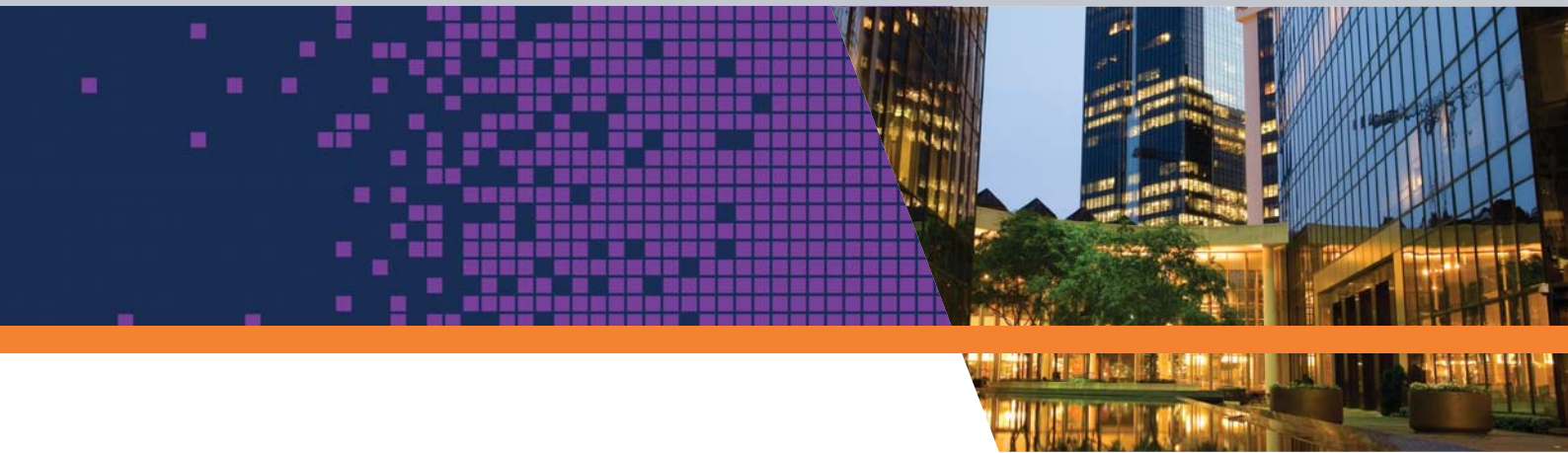
- MT536 – Statement of Transactions
- MT537 – Statement of Pending Transactions

### Holdings

- MT535 – Statement of Holding
- MT538 – Intra-day position Advise
- MT575 – Statement of Combined Activity

### Corporate actions

- MT564 – Event Notification
- MT565 – Instruction
- MT566 – Confirmation
- MT567 – Processing Status Message



## TLM Corona Confirmations

Traditionally, the reconciliation of confirmations has relied heavily on a manual input. This is costly and prone to error, often significantly slowing settlement times and increasing exposure to risk.

TLM Corona Confirmations provides real-time matching and management of foreign exchange, derivatives, precious metal confirmations and money market confirmations as well as supporting CLS trades. TLM Corona can deliver two-way, three-way and four-way matching of these trades, supporting institutions' efficiency drives, while helping to reduce operational overheads and risk.

The ability to reconcile confirmation messages in real-time and alert users to outstanding confirmations as they occur ensures minimal manual intervention. Through automatically converting continuously misquoted account or bank details and handling all code words for cancellation or amendments, TLM Corona Confirmations can achieve industry leading matching rates.

When an error arises, integrated alerting and investigation tools can alert the user to the mismatch. This provides a full audit trail to streamline operations, help ensure a rapid resolution and further reduce operational risk.

By automating the confirmation matching process and highlighting trade discrepancies early, TLM Corona Confirmations helps to ensure the smooth and accurate processing of all trades. It can process the full range of standard payment instructions, SWIFT confirmation messages and retrievals applicable to MT3xx messages and equivalents:

### Foreign exchange & general

- MT300 – Foreign exchange confirmation
- MT021 – Retrievals containing MT3xx messages

### Money market

- MT320 – Fixed loan / deposit confirmation
- MT330 – Call / notice loan / deposit confirmation
- MT350 – Advice of loan / deposit interest payment

### Derivatives

- MT305 – Foreign currency option confirmation
- MT340 – Forward rate agreement confirmation
- MT341 – Forward rate agreement settlement confirmation
- MT360 – Single currency interest rate derivative confirmation
- MT361 – Cross currency interest rate swap confirmation
- MT362 – Interest rate reset / advice of payment

### Precious metals

- MT600 – Precious metals trade confirmation
- MT601 – Precious metals options confirmation

TLM Corona Confirmations' in-depth statistical data enables continual improvement of STP rates and operational processes. For example, access to matching statistics enables users to measure the speed, frequency and quality of data being received from third parties, allowing for the ongoing improvement of matching rates.

## TLM Corona Investigations

Exceptions account for a significant proportion of back office costs and will continue to do so as volumes and transaction complexity increase. The ability to automate the investigations process significantly enhances an organisation's risk control and efficiency.

The deployment of TLM Corona Investigations alongside TLM Corona Active (for alerting) allows exceptions to be dealt with as soon as they occur. TLM Corona's integrated alerting and investigations tools are designed to support institutions to manage higher volumes more effectively. Institutions can resolve exceptions on a pre-settlement rather than post-settlement basis, delivering more proactive risk management to help further reduce risk exposure.

Exceptions that are not based on reconciliation but are triggered by other applications, departments, customer or external business partners can also be automated in TLM Corona Investigations. For banks looking to fully define the different kinds of workflows associated with different kinds of exceptions, a connection to TLM Exception Management is available allowing full customisation of the system based on specific requirements.

User-defined workflow ensures attention is focused on higher risk transactions. In addition, the workflow can be customised to contain various checkpoints, thus ensuring optimal transaction control across the organisation.

TLM Corona Investigations is also available as a stand alone solution supporting departments within a financial institution to improve their investigation processes. As it can be used independently from TLM Corona's reconciliation modules,



TLM Corona Investigations

failed trades for every instrument, across every line of business and all applications can be managed and resolved. Free definition of exception types facilitates the implementation of enterprise-wide exception processing. Any type of exception can be managed via the centralised investigation tool.

As a result, banks can achieve better cost savings through consolidation of disparate exception handling procedures across all transaction processes. In addition, TLM Corona Investigations supports the identification of all incoming and outgoing exceptions raised by business partners or clients.



### TLM Corona Universal Data

TLM Corona's reconciliation capability can be extended to meet the challenge of reconciliation and investigation requirements through its Universal Data module. TLM Corona Universal Data is fully integrated with the TLM Corona product range to deliver a complete solution for transaction control on a single platform.

Universal Data's matching capabilities enable institutions to cross traditional silos, removing the need to duplicate systems and data feeds. This delivers a single, integrated reconciliation and investigation solution eliminating the operational inefficiencies associated with fragmented and redundant processes.

TLM Corona's Universal Data module delivers powerful matching logic to increase the number of transactions that are processed straight through.

By employing TLM Corona Universal Data, institutions achieve an optimal level of transactional and operational control. Its ability to handle all kinds of transactional reconciliations enables it to deliver a complete audit trail irrespective of the products, systems and counterparties they span.

With TLM Corona Universal Data, different types of transactions can be reconciled against one another, for example, a cash item to a security transaction. This enables different legs of a transaction to be combined within the same reconciliation to provide a single view of any exceptions that may occur. By consolidating all legs of a transaction, financial institutions can benefit from much tighter risk management.

The use of a single database across all of the Corona modules allows cross product reconciliation without the need to duplicate data across disparate systems, ensuring data integrity.

### TLM Corona Inter-system

Inter-system reconciliation both to internal and external platforms is a key method for controlling operational risk. By automating these often high volume processes, organisations can ensure data integrity and combine previously disparate transactional data to deliver complete transaction visibility.

Historically, inter-system reconciliation management has been time consuming and a manual process due to complex workflows and data silos attempting to manage high volumes. Using TLM Corona, institutions can efficiently reconcile different types of transactions, such as securities and cash messages, against each other and ensure inter-system reconciliation.

TLM Corona's inter-system reconciliation module allows transactions to be matched at each crucial stage in the transaction. As a result, financial institutions can identify potential exceptions earlier and trigger the investigation process pre- rather than post-settlement. This workflow greatly reduces the risk of late or non-settlement and the costs involved with potential losses and interest payments.

The matched results are kept in a central database for enhanced auditing purposes, increasing internal transparency, helping to meet regulatory requirements and further reduce operational risk.

### Thin client delivery for scalable, distributed deployment

The powerful combination of a customisable, intuitive browser-based interface with all the comprehensive functionality of the thick client offers a compelling, low cost approach to deploying reconciliations, exception discovery and investigations across the extended enterprise.

TLM Corona employs SmartStream's TLM WebConnect to deliver the day-to-day functionality through a flexible thin client interface. This allows for the deployment of TLM Corona modules via the Internet or Intranet, removing the need for costly infrastructures and enabling zero rollout time with no delays. Using proven technology, built on open standards, users can be confident that the application has the scalability and security demanded by the world's leading financial institutions.

Operational changes to the system are applied at the server level enabling enhancements to be made just as easily and cost effectively as the initial roll out. The ability to deploy applications as a centralised service, connecting remote offices, delivers productivity gains as workloads can be shared across distributed staff.

### Supporting customer service enhancement

Thin client delivery supports firms wanting to extend reconciliations and investigations beyond its own employees to improve customer service. With customers and business partners showing the same or similar screen to internal staff, customer service can be improved and risk exposure reduced as users have all the information required to make informed decisions.

As products become increasingly commoditised, customer service is a key differentiator for both retail and wholesale banks. With TLM Corona banks can extend remote access beyond their own employees – providing external customers and suppliers with secure access to the same or similar screens as internal staff. This can be used, for example, for reporting purposes or enabling customers to proactively highlight unexpected situations and trigger an investigation on a delayed payment.

Customer service levels can improve as customers become a part of the business with greater visibility into their own transactions and with the tools to take action when required. Inquiries can be executed on both active and archived transactions, giving users all the information they need to make informed decisions. The service provider moves from being a reactive to a proactive business partner – rather than being told when problems arise they can inform the customer first and have a solution already prepared.



### Dashboards deliver enhanced operational visibility

Web-based dashboards, driven by TLM WebConnect's Design Studio appear in TLM Corona. These enable clients to reduce their reliance on report writing tools and gain greater insight into their operations. Because the dashboards are fully customisable, both operational and management users can be presented with the information that's relevant for their role.

The drill down functionality then lets them query the data for either operational or reporting purposes. The value to customers is enormous; by linking views to Key Performance Indicators or Key Risk Indicators – users have a better understanding of their business – potential breaks can be identified earlier and users alerted so they can take pre-emptive action. Users get better control, risk is reduced and service improved.

TLM Corona's flexible dashboards ensure consistency across both desktop client and web client versions. They enable users to create customisable dashboards from scratch – for either on demand management reporting information or unique operational views for specific users:

- Summary views linked to KPIs or KRIs
- Individual transaction monitoring, where State Management proactively alerts users of potential fails
- Management and User level views of specific instruments, departments or regions

Dashboards display Operational and MIS data across a range of charting components, such as histograms, pie charts and traffic lights. Regardless of format, clients have the ability to drill down quickly and easily access data at a granular level. The reliance on report writing tools is removed and operational control is increased as firms have immediate visibility of their transactions.

### Access to SmartStream TLM solutions

The pre-packaged integration delivered by TLM Corona means institutions can quickly and easily access the suite of SmartStream TLM applications developed using the TLM Enterprise Control Architecture. This enables institutions to harness the same control they have in their reconciliation and exception processes, across their back office operations.

Organisations have the opportunity to deploy solutions for cash management, compliance management, corporate actions, enterprise exception management, trade process management and treasury confirmations. Developed from a common set of architectural components, these solutions support more efficient, cost effective and customer-centric operations.

## Delivering operational advantage

**TLM Corona is one of a suite of solutions delivered from the company's Enterprise Control Architecture –** Transaction Lifecycle Management (TLM) is SmartStream's unique, trademarked approach to solving operations processing challenges for our customers by understanding the end to end transaction flow, and building control through automation and visibility.

SmartStream delivers operational advantage with the benefits of TLM through the Enterprise Control Architecture, providing;

- **Control through visibility into underlying processes**
- **Faster time to market from Common Services development**
- **A single browser-based UI for solutions**
- **A single shared infrastructure for all solutions**
- **Proven enterprise scalability and performance**
- **Capabilities that can extend to your customers for better service levels**
- **An open architecture that maximises technology assets to best effect, protecting existing investments**

## About EastNets (Authorised Distribution Partner)

EastNets is a leading provider of global compliance and payment solutions and services with over 1,000 customers in 120 countries. Founded in 1984, EastNets has over 25 years of experience serving financial institutions and corporates around the globe. EastNets provides anti-money laundering, anti-fraud, payment and transaction management solutions, and SWIFT plug-ins to add value to SWIFT connectivity to improve risk protection, transparency, and cost savings.

Through its outsourced fully-hosted Service Bureau, EastNets provides SWIFT connectivity and add-on services for over 200 financial institutions.

TLM Corona is available through EastNets, a SmartStream trusted distribution partner. EastNets provides service and support for TLM Corona either on premise or hosted through the EastNets Service Bureau.

For more information, please email [info@eastnets.com](mailto:info@eastnets.com) or visit: [www.eastnets.com](http://www.eastnets.com)

## About SmartStream

SmartStream is a recognised leader in financial transaction management solutions that enables firms to overcome their critical transaction processing issues through increased automation.

SmartStream's industry-leading automated match rates create more proactive, exceptions-based processes, lowering the cost-per-transaction while enabling firms to reduce operational risk, aid compliance and

improve customer service levels. As a result, more than 1,000 clients, including 75 of the world's top 100 banks, 8 of the top 10 asset managers, and 8 of the top 10 custodians rely on SmartStream Transaction Lifecycle Management (TLM®) solutions to deliver greater efficiency to their middle and back office operations.

For more information please visit: [www.smartstream-stp.com](http://www.smartstream-stp.com)