

T2S End-to-end Offerings

TCS BONCS



Market consolidation initiatives like TARGET2-Securities (T2S) and regulatory changes such as CSDR, MiFID II and EMIR in Europe have created an imminent need for business transformation by capital market and market infrastructure organizations. T2S in particular is being seen as a significant driver of change in European markets; and along with CSDR will ensure stronger financial integration and the creation of a single market in Europe.

23 CSDs have signed up with T2S so far, including almost all CSDs in the Euro area and five based outside the Euro area. With the completion of the software development for the core T2S platform in March 2013, the focus will now shift towards testing and preparation for the migration waves that are expected to commence from June 2015. T2S will therefore soon be a reality forcing CSDs and Custodians to radically change the way in which they operate in Europe.

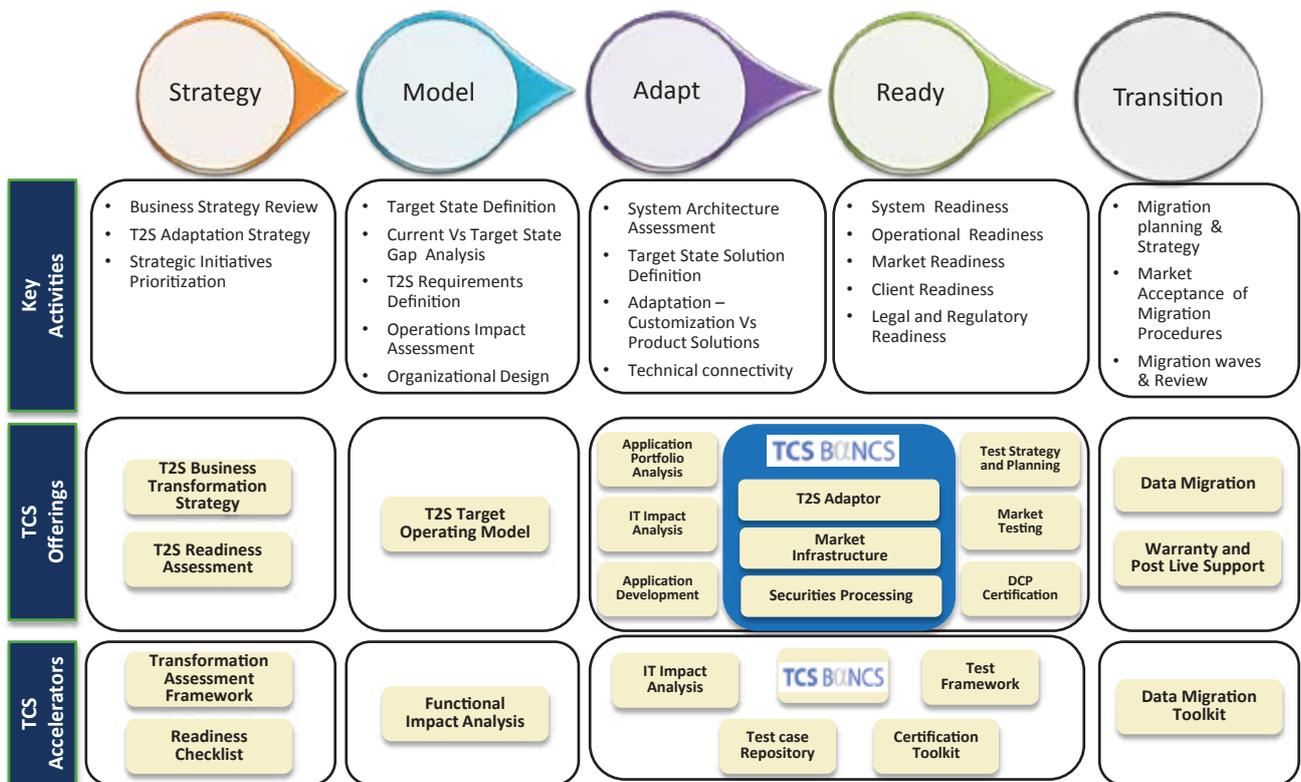
T2S intends to create a single, borderless pool of European Securities and significantly reduce the cost of cross border settlements in Europe.

T2S brings a plethora of challenges for CSDs and Custodians. These include:

- **Building** an agile business model for adoption of new products and service offerings
- **Enhancing** the business value of IT infrastructure for cost containment and better margin realization
- **Minimizing** the impact of T2S adaptation on client community to differentiate from competitors
- **Rolling out** an integrated settlement system in multiple phases
- **Ensuring** interoperability with other pan-European entities participating in T2S
- **Achieving** quality assurance objectives of the organization within T2S user testing timelines

By far one of the largest initiatives in the market infrastructure landscape of Europe, T2S has led most CSDs and Custodians to a crossroads, mandating business transformation of various scales.

Though adaptation to the T2S platform is the immediate imperative, innovation is a more critical, long term challenge forcing players to look at horizontal business expansion. New business strategies around collateral and liquidity management, building new service delivery competencies such as in the arena of transfer agency services, repo, securities, lending and borrowing services, as well as strategies to enter new markets are a few prominent innovations being contemplated by many CSDs and Custodians. The success of these strategies will depend on the extent to which CSDs and Custodians are able to leverage the standardised nature of services being provided by T2S.



Our Offerings

We understand that CSDs and Custodians are at different stages in the T2S transformation journey. We offer a range of consulting, solutions and IT services that enable you as a CSD or a Custodian to achieve an efficient and smooth transition to the T2S platform.

We have conceptualized a blueprint outlining the critical activities that you as a CSD or a Custodian need to undertake at different stages - of the T2S transformation program. This blueprint - Strategy, Model, Adapt, Ready and Transition - has been crafted based on our extensive experience in successfully executing market transformational initiatives across the globe.

We provide the right combination of consulting, products and IT services for each stage of the transformation program, a bouquet of offerings that truly underscores our unique multi-dimensional strengths.

For those of you who are embarking on the T2S project, we can help right from defining the strategy to designing the solution and delivering an integrated settlement system. Others, who have started the program, may want to choose from the bouquet of offerings that best suits their needs.

Strategy

As a CSD or a Custodian, your first move would be the assessment of the evolving European post trade market infrastructure and defining the business model for 2020 and beyond. You can leverage the following offering from us. In case you have already progressed, we could provide an 'outside -in view' of your business strategy.

- **T2S Business Transformation Strategy:** Focuses on the first step of the transformation journey. It enables a review of an organization's strategy and existing business model with the objective of defining the T2S adaptation strategy. The assessment involves analysis of the post trade market infrastructure which would be impacted by regulatory, harmonization and consolidation initiatives and intense competition foreseen post T2S. This offering will also facilitate prioritization of strategic initiatives based on inter-program dependencies and risk assessment.
- **T2S Readiness Assessment:** Helps ascertain the readiness of your organisation for T2S transformation and bring the right focus on the planning process.

Model

As a CSD or a Custodian you may want to leverage the opportunity to develop a robust target operating model with business process improvements that strengthens the T2S program. You can bank on our following offering:

- **T2S Target Operating Model Definition:** Builds on the T2S adaptation strategy and defines the target account structures and business process models. The offering includes design of adapted business process flows and technology agnostic functional components based on harmonized procedures for securities settlement, T2S settlement toolkit and helps comply with legal and regulatory requirements.

Adapt

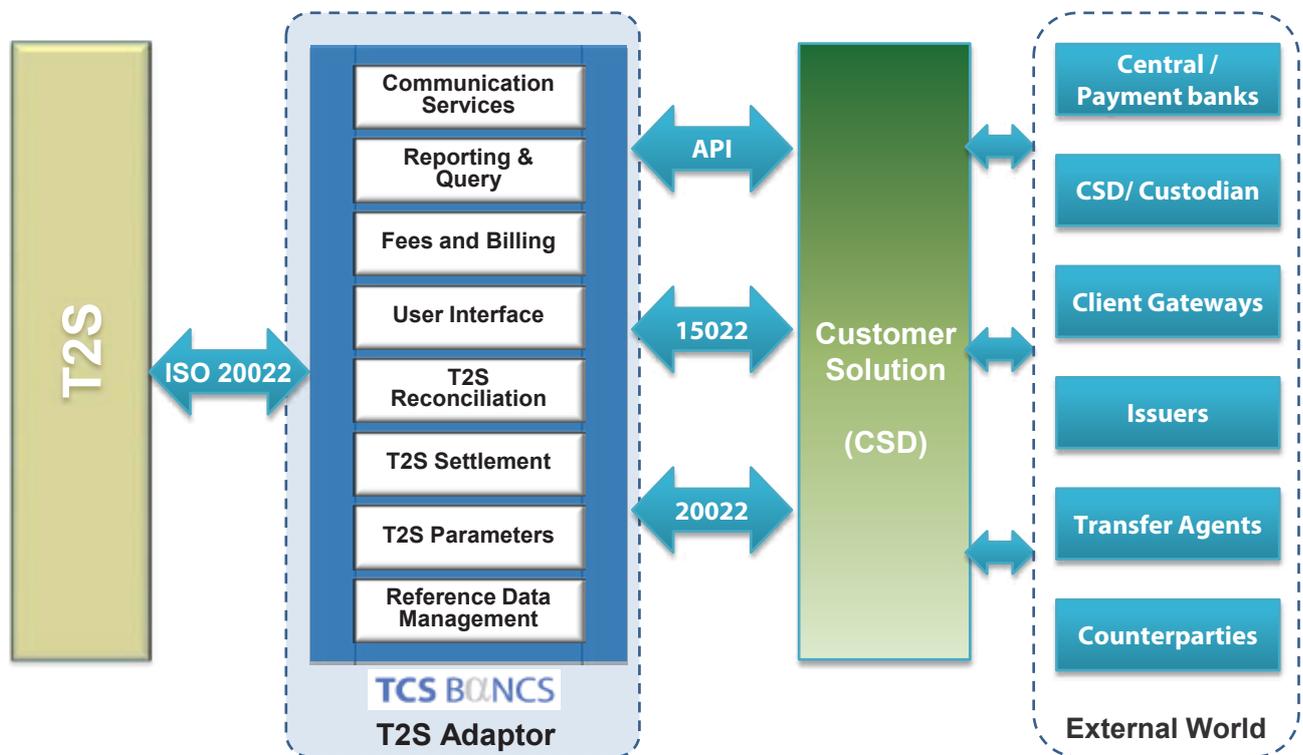
A key challenge you may face is to design an optimal solution in terms of IT systems and draw up a roadmap. Enhancing the business value of your IT systems and infrastructure will be an important objective. Also, this is a time when you can define the target state technical architecture for your organization. You can rely on our following offerings:

- **IT Application and Portfolio Rationalization:** Encompasses system architecture assessment, reshaping of settlement application portfolio and evaluation of options for system customization versus purchase of ready-made packaged solutions, target state application landscape definition and roadmap for transformation.

- TCS BaNCS Solutions:** You could opt for a product solution to quicken the pace of adaptation or re-engineer the settlement system across geographies. The TCS BaNCS suite of products includes multi-asset class, multi-market enabled, ready-to-deploy solutions for CSDs and Custodians. The componentized architecture of these solutions specifically aims at enabling easy business transformation in your organization.

TCS BaNCS have a two pronged strategy to meet the needs of Central Securities Depositories (CSDs) that have signed up with T2S. This strategy revolves around providing a choice of adoption models to CSDs, through enhancing our proven Market Infrastructure solution. These include - a "T2S adaptor" for CSDs who are keen to retain their existing systems; and a "Full CSD" solution (a T2S capability embedded Depository solution) targeted to address the needs of CSDs, which are keen to use the T2S initiative as a driver to replace their legacy systems.

T2S Adaptor: The T2S Adaptor will act as a bridge between the existing CSD system and T2S and is designed to seamlessly integrate with your existing systems as depicted below:

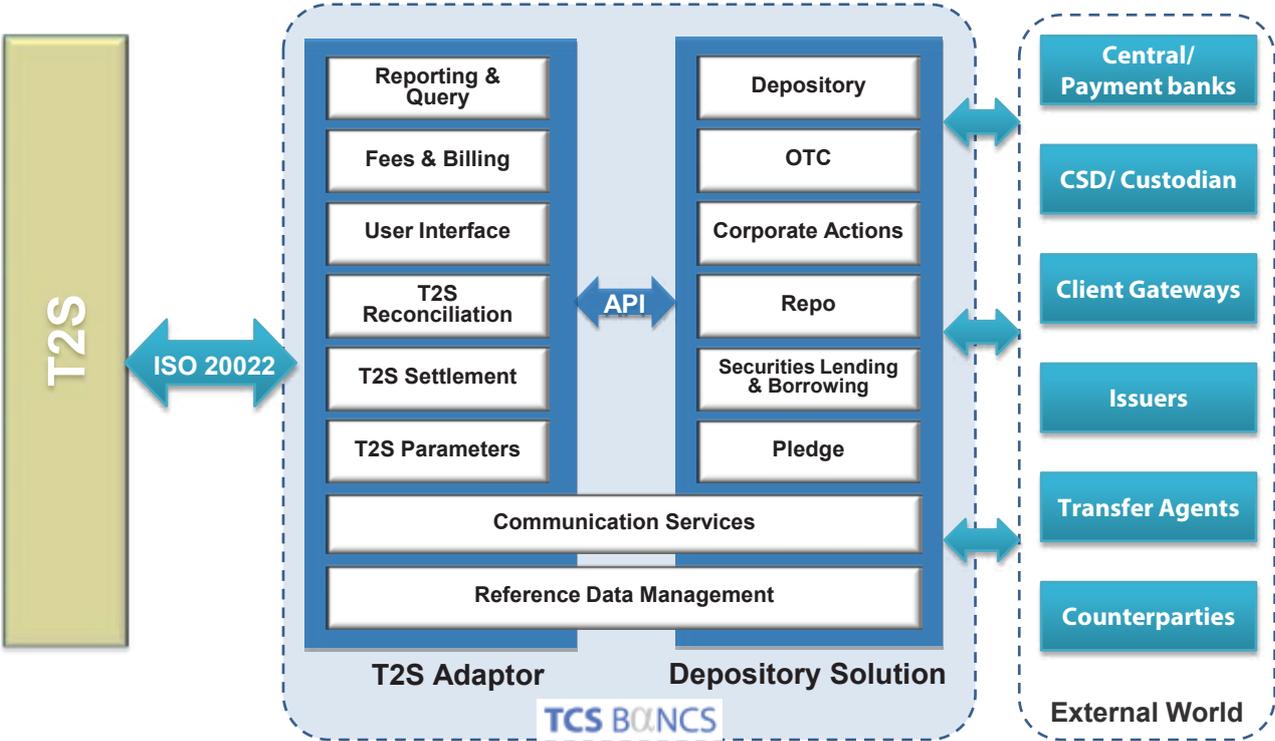


The T2S Adaptor will support:

- Maintenance of T2S specific reference data including omnibus account structures
- T2S core and supporting settlement functions such as settlement for Market/ OTC trades, Corporate Action disbursements, Issuance and other settlement Instructions
- Reconciliation between T2S and existing Settlement systems
- ISO20022 interface with T2S and ISO15022/proprietary messaging capabilities with existing settlement systems

This approach allows CSDs to ensure T2S readiness within aggressive timeframes, since changes to existing systems are minimized.

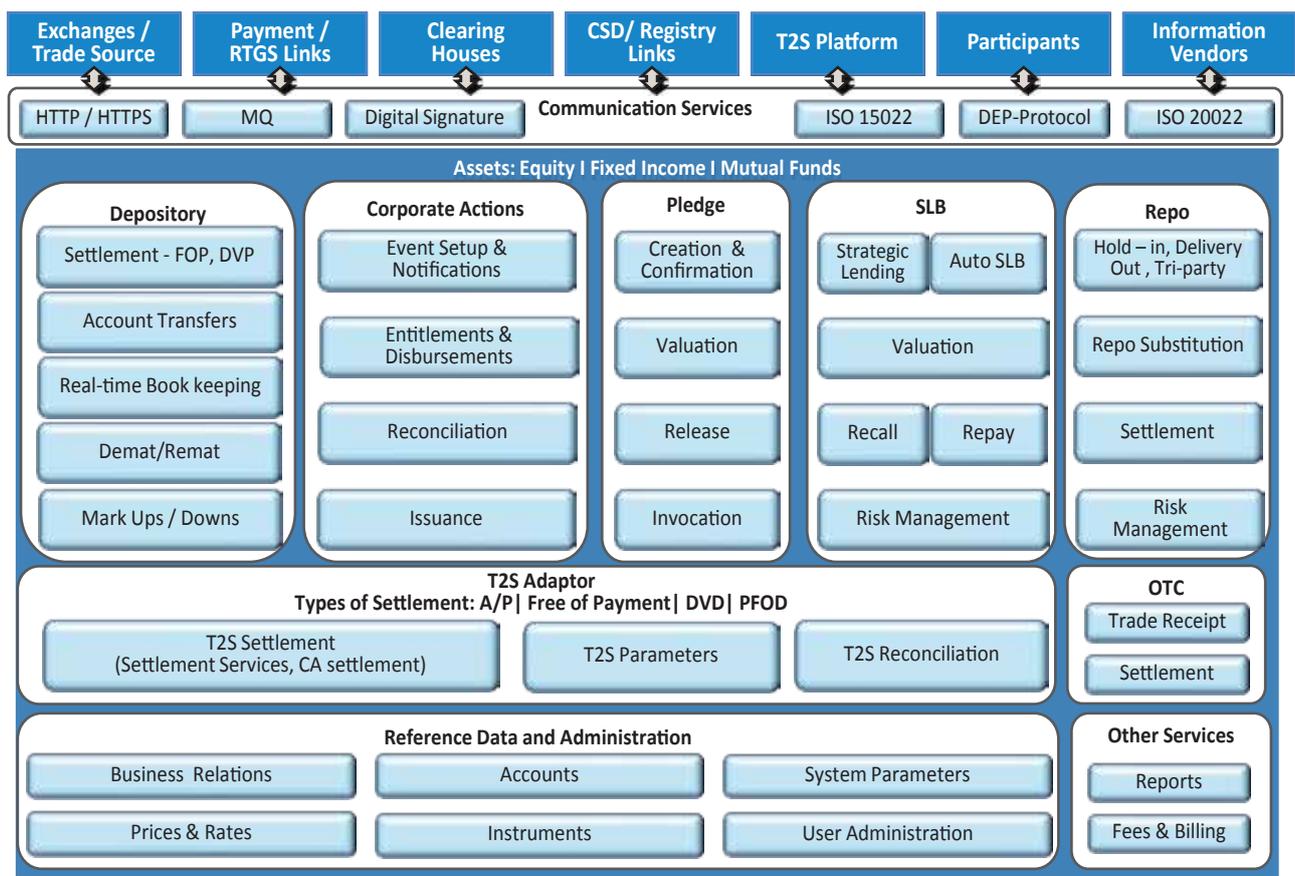
Full CSD solution: This option enables an IT platform modernization while simultaneously ensuring T2S readiness, and is targeted to address the needs of CSDs which are keen to use the T2S initiative as a driver to replace their legacy systems. The T2S enabled Depository solution supports the entire gamut of Depository operations. These include Issuances, Demat/Remat, Immobilization/Upliftment, Book-keeping, Corporate Actions and Settlement for multiple asset classes such as equities, mutual fund units and fixed income instruments. This solution comes embedded with T2S capability, as depicted below:



The solution will support

- Reference data maintenance including T2S specific reference data
- T2S and local (Non-T2S) settlement of Market Trades, OTC trades, Corporate Action Disbursements, Issuance, and other Settlement Instructions
- Settlement of Repo, SLB and Pledge instructions
- Corporate Actions processing
- Reconciliation between T2S and existing Settlement systems
- Interfaces with T2S, CSD Participants, Internal systems and other external systems using ISO20022, ISO15022 and proprietary messaging formats

The consolidated Business architecture of the Depository solution is shown below:



Since the Full CSD option is based on the implementation of a proven Depository platform, which offers T2S compatibility right at the time of implementation, it delivers significant cost benefits as compared to modifications in multiple, disparate systems for T2S related changes. This approach also ensures risk mitigation through leveraging a proven and tested platform, thereby resulting in greater operational efficiency.

Product Readiness Timelines

The development of the T2S business components indicated above in the business architecture diagram, are progressing at a rapid pace. By Sep 2013, we will be ready with the following features:

- T2S specific Participant and Security set up
- T2S specific Account structures
- CSD parameters such as conditional settlements, matching parameters and business validations
- T2S settlement processing for Intra CSD settlement
- CA settlement for fixed income securities
- ISO20022 static data and securities settlement messages

The following features are slated to be released in early 2014:

- CA settlement for additional events - Equities and Fixed Income
- T2S settlement processing for Cross & External CSD Settlement
- Additional ISO20022 Messages, T2S Reports and Queries

This multi-phase delivery will ensure you can start testing for T2S now!

T2S enabled TCS BaNCS Securities Processing: The solution provides a full range of post trade securities processing functions for Custodians ranging from trade receipt to trade matching, settlement accounting and reporting. In addition, the solution fully supports T2S business functions for Custodians.

In case your approach is to leverage your existing IT portfolio, you can choose from the following offerings.

- **IT Impact Analysis Service:** Impact analysis of your IT portfolio can be accelerated using our 'Functional Impact Analysis toolkit' for efficient T2S adaptation
- **Application Development and Enhancement Services:** You can count on our strong experience in the application development and enhancement service areas, and domain understanding of the European capital markets landscape to deliver tailor-made solutions within budget and on time.

Ready

The next step is to focus on the readiness aspect with regard to operations, systems, market, client, and legal and regulatory compliance.

TCS' T2S focused assurance solutions are aimed at helping CSDs and Custodians transition to the T2S platform smoothly. Our T2S Simulator simulates the business flow and message validation functionality of the T2S platform through user-predefined business scenarios, as per T2S User Detailed Functional Specifications (UDFS). The built-in reporting engine generates detailed reports and dashboards for all the executed scenarios.

Our T2S Simulator Tool eliminates T2S test environment dependencies and enables CSDs and custodians to plan for automated regression testing during T2S Migration as well as after the T2S go-live phase. The tool guarantees technical validation and smooth functioning of input data, thereby reducing the possibility of errors.

HARMONY, our repository of predefined test cases, includes high-level business scenarios for key functionalities. Readily deployable with minimal customization, these scenarios help save significant testing cost and effort. Our T2S Adaption Test Strategy encompasses test planning, design, execution, completion, suspension or resumption criteria, and monitoring procedures.

To help Directly Connected Participants (DCPs) conform to T2S norms, we offer pre-built packs for DCP Certification.

Transition

You need to be prepared not only for migration to the T2S platform but also for navigation of the four waves that have been planned by the European Central Bank. At this stage, you would be implementing the new domestic and cross border settlement procedures and sealing agreements with other CSDs, Custodians and clients. Migrating the existing application systems and transactional data to a T2S-enabled platform will culminate the process of transition. For a smooth transition to the T2S platform, you can leverage the following offering:

- **TCS Migration Strategy:** Smooth migration to T2S platform is essential to minimize business impact. We can assist you in the overall migration strategy and complement the migration tools offered by the T2S platform to ensure this.

Benefits

- **Gain competitive advantage** by minimizing impact of adaptation changes on customers, and build new service offerings with **reduced time-to-market**
- **Rationalize your investments** with optimal solution selection and **lower running and maintenance costs** of the target system
- **Address critical T2S program dimensions of time and complexity** with our comprehensive offerings and program **accelerators**
- **Mitigate risk of non-compliance** with pre-defined T2S transition waves using our **best practice guidelines** for IT customization, integration and migration
- **Ensure 'business-as-usual' for your organization** before, during and after adaptation to T2S

The TCS Advantage

- Leading independent provider of consulting, solutions and IT services to market infrastructure organizations including CSDs
- T2S Ready solution for Depositories
- Global capital markets expertise providing cutting edge solutions across 53 markets and all asset classes
- Successfully executed large market transformation projects in Continental Europe, UK, South Africa, New Zealand, Kuwait, Canada, India and China

- Service 6 of the top 10 global Custodians
- Recognized as the leader in Capital Markets Application Outsourcing – Everest PEAK Matrix
- Executed early engagements in T2S including engagements associated with the T2S platform

Customer Footprint - T2S engagements



Implementation in progress for a CSD in Wave 1



The Market Infrastructure solution from TCS BaNCS has been selected by two CSDs in Europe

Why TCS BaNCS

The TCS BaNCS product suite for banking, capital markets and insurance enables business transformation in financial services. Increasing operational efficiency and helping financial institutions stay agile, our solutions deliver a competitive edge with unmatched certainty! We aspire to be better than established benchmarks, which is why we have embedded an Alpha ("α"), representing superior returns delivered to our customers, consciously and prominently within our brand. The plug and play, component-based product suite consistently turns in impressive benchmark results, with a fine-tuned, highly scalable technology architecture that supports financial institutions with the highest capacities for transaction volumes, peak transactions per second, and transaction history size. With such a track record, it is only natural that the TCS BaNCS product suite can help financial institutions of any size gain a distinct, competitive edge.

Contact

To know more about TCS T2S End-to-end Offerings, contact with us at www.tcs.com/bancs or tcs.bancs@tcs.com

About Tata Consultancy Services Ltd (TCS)

Tata Consultancy Services is an IT services, consulting and business solutions organization that delivers real results to global business, ensuring a level of certainty no other firm can match. TCS offers a consulting-led, integrated portfolio of IT and IT-enabled infrastructure, engineering and assurance services. This is delivered through its unique Global Network Delivery Model™, recognized as the benchmark of excellence in software development. A part of the Tata Group, India's largest industrial conglomerate, TCS has a global footprint and is listed on the National Stock Exchange and Bombay Stock Exchange in India.

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