About TCS Assurance Services Unit

TCS Assurance Services Unit provides a comprehensive portfolio of software testing services and solutions to organizations across industries globally. Through its offerings, the unit focuses on ensuring the reliability and quality of applications, cost-effectiveness, smooth as well as quick testing, reduction in business risks and successful business transformation.

The Assurance Services Unit offers:
- Consulting and advisory services
- Functional testing services
- Non-functional testing services (for performance, security, usability, compatibility)
- Test automation services
- Specialized testing services

Contact

To know more about TCS Message-based Testing Tool (TCS MBTT) for Capital Market products, contact global.assurance@tcs.com

About Tata Consultancy Services (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.

For more information, visit us at www.tcs.com

TCS Message-based Testing Tool for Capital Market Products

Automated framework for trade processing, technical validation, and smooth functioning of input data
Banks and financial institutions are moving away from bespoke single platform solutions and implementing specific vendor product solutions to address the requirements of various business segments. The complexities involved in financial markets due to the multiplicity of asset classes and the diversity of functionalities required to manage these assets have led institutions to adopt multiple products and solutions from different industry vendors. Institutions have to ensure a superlative approach for platform-specific specialized testing solutions to ensure data integrity in diverse asset classes implemented across multiple Capital Market Products (CMPs).

Tata Consultancy Services (TCS) introduces our Message-based Testing Tool (MBTT) for Capital Market products—a single, platform agnostic, testing solution. Our MBTT can potentially work with any CMP you are using that supports financial market industry standard message formats such as Financial Products Markup Language (FpML) and FIXML. OXML representation based on Financial Information eXchange protocol (FiX) easy integration and deployment.

**Overview**

Financial institutions are challenged by the need for a single testing solution which works across technical architectures involving multiple vendor products and/or home-grown products. Consequently, many institutions have implemented customized testing solutions resulting in increased costs and operational inefficiencies. This has led to the extreme dependance on vendor products and the corresponding testing solutions. Efforts expended to customise the testing solution for these diverse vendor products and address version upgrade requirements for both the vendor products and the corresponding testing solutions have increased total cost of ownership (TCO). Significantly, Institutions therefore need a single solution which is flexible, easy to adopt, platform agnostic and able to integrate with leading testing tools.

TCS’ MBTT works with industry standard message formats in financial markets such as FpML and FIXML. It can therefore easily integrate with your financial market solutions and CMPs to test specific product functionality thereby enabling implementation of the CMP in production.

**Our Solution**

Our tool ensures data integrity in your diverse asset classes and supports all asset classes in FpML and FIXML formats, including asset classes like Foreign Exchange (FX), Spot, Non-Deliverable Forwards (NDF), Currency Swaps, Internal Rate Swaps (IRS), and Credit-Default Swaps (CDS). The intelligence built into the tool validates the trade messages sent to CMPs and ensures that the data passed downstream conforms to the asset specific FpML/FIXML protocol.

Our tool provides you the flexibility to map the FpML fields with the respective input file, and implement custom data validations over and above those prescribed by FpML/FIXML formats.

TCS’ MBTT generates test scenarios by transforming the input data (Flat file with any delimiter) into industry standard FpML/FIXML which can be associated with any CMP that supports these protocols.

The message-based interactions of our tool with CMPs address various challenges across your project life-cycle:

- **Data migration**
  - From one CMP to another
  - Within the same product during version upgrades
- **Functional testing**
- **Regression testing**
- **Performance testing**

**Results**

MBTT’s flexibility and scalability provide competitive advantage to your business by accelerating your Quality Assurance (QA) process and ensuring decreased test efforts. This leads to reduction in testing cost and significant quality improvement in your enterprise. By implementing our MBTT, you can:

- Perform testing of the CMP in production
- You can integrate TCS’ MBTT with financial market solutions or CMPs in order to test specific functionality of the product, thereby enabling implementation of the CMP in production
- Eliminate errors and reduce risk in production
- With an advanced built-in reporting feature, you can view reports within the tool as well as publish in HTML for sharing. These reports enable online error correction of the processed data with an easy-to-navigate user interface. This reduces the time taken to resolve errors. You can re-process the file repeatedly until all the errors are corrected.
- Achieve faster turnaround, and reduction in cost and effort
- Early detection of data defects helps reduce cost of rework and leads to shortened test cycles, resulting in reduced time to market and improved cost savings
- Deploy easily across multiple platforms
- Our MBTT is developed based on the industry standard Java platform that facilitates easy deployment across multiple platforms such as Windows, Linux and UNIX.

**The TCS Advantage**

Our vast experience in the Capital Markets and Investment banking domain, and in testing with related Capital Market vendor products enables us to understand the challenges associated with testing and implementation of CMPs. We address these challenges through:

- Using industry standard FpML messaging format
  - Our MBTT is compatible with all leading CMPs and supports a diverse set of asset classes
- MBTT’s platform agnostic nature
  - TCS’ MBTT is available as a standards application for Windows, Linux and UNIX. In our MBTT, we have blended our deep domain expertise in the Capital Market QA space with the competence of our domain experts in testing.
- Reusable repositories
  - You can readily deploy HARMONY, our repository of reusable test scenarios for diverse business lines in the banking and financial services space. HARMONY complements MBTT to provide you the benefits of automated QA cycle coupled with a reusable pool of business scenarios for the QA engagement.
- TCS’ in-house tools and automation framework
  - Our Reusable Automation Framework Technology (RAFT) is a matured hybrid automation framework which reduces your test scripting and maintenance efforts by approximately 90%. Tool (Data Creation and Data Masking) are facilitated by in-house tools (Data FipML, Masketeer and Testify) that help replicate production data and test data security.

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[Note: Custom validations are under development]
Banks and financial institutions are moving away from bespoke single platform solutions and implementing specific vendor product solutions to address the requirements of various business segments. The complexities involved in financial markets due to the multiplicity of asset classes and the diversity of functionalities required to manage these assets have led institutions to adopt multiple products and solutions from different industry vendors. Institutions have to ensure a superlative approach for platform-specific specialized testing solutions to ensure data integrity in diverse asset classes implemented across multiple Capital Market Products (CMPs).

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Our tool ensures data integrity in your diverse asset classes and supports all asset classes in FpML and FIXML formats, including asset classes like Foreign Exchange (FX), Swaps, Interest Rate Swaps (IRS), and Credit Default Swaps (CDS). The intelligence built into the tool validates the trade messages sent to CMPs and ensures that the data passed downstream conforms to the asset specific FpML/FIXML protocol.

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- Perform testing of the CMP in production
- Achieve faster turnaround, and reduction in cost and effort
- Reduce time taken to resolve errors.
- Resolve errors and reduce risk in production
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  - HARMONY complements MBTT to provide you the benefits of automated QA cycle coupled with a reusable pool of business scenarios for the QA engagement.

- **TCS in-house tools and automation framework**
  - Our Reusable Automaion Framework Technology (RAFT) is a ready-made hybrid automation framework which reduces your test scripting and maintenance efforts by approximately 30%.
  - Test Data Creation and Data Masking are facilitated by in-house tools (Data Xplod, Masketeer and Testify) that help replicate production data and mask data security.
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