Faster OTC Derivatives reporting in FpML

A leading global investment bank uses Transformer to successfully create a range of complex OTC trade reports

The challenge

Ever since the 2008 Lehmans crash of 2008, banks around the world have had to ride a series of huge waves of new regulation. The USA's Dodd-Frank Act led the way, followed by the EU (with EMIR, the European Markets Infrastructure Regulation) and other juristictions.

These regulations required banks to report their OTC Derivative trades to an approved Trade Repository. The banks thus needed to quickly and accurately create OTC derivatives trade reports and send them to one or more Repositories in the form of financial messages. As OTC Derivatives are highly complex and very diverse in their nature, these financial messages were usually based on the highly elaborate and complex FpML standard.

Hence the banks faced a series of IT projects which were both complex and aggressively scheduled.

This case study looks at how one leading global investment bank successfully created a range of OTC trade reports to the DTCC's Global Trade Repository (GTR) using Trace Financial's Transformer.

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The solution

The investment bank analysed their trade data flows and determined that a sequence of processes would be needed in order to create the required FpML messages:

> 1) Four front office systems would supply 'raw' OTC trade data in the bank's in-house XML format

> 2) This data would need to be enriched from a number of sources including counterparty static data, LEI information for 'partially disclosed' counterparts, and Master Agreement information

> 3) The data could then be transformed into the required DTCC-extended FpML (see below)

> 4) The Unique Trade Identifier (USI/UTI) would need exporting to separate databases for audit and tracking purposes

> 5) A final validation step would check the message for compliance with the formal schema and a set of additional in-house business rules.

Although the FpML standard represented a leap in terms of message complexity, the bank had confidence in Transformer, having already successfully used Transformer in a wide range of projects involving SWIFT Standards, the Euroclear UK & Ireland's CREST system, TRAX, FIX and other simpler standards. The bank therefore decided to use Transformer for steps (2) through (5) of the above workflow:
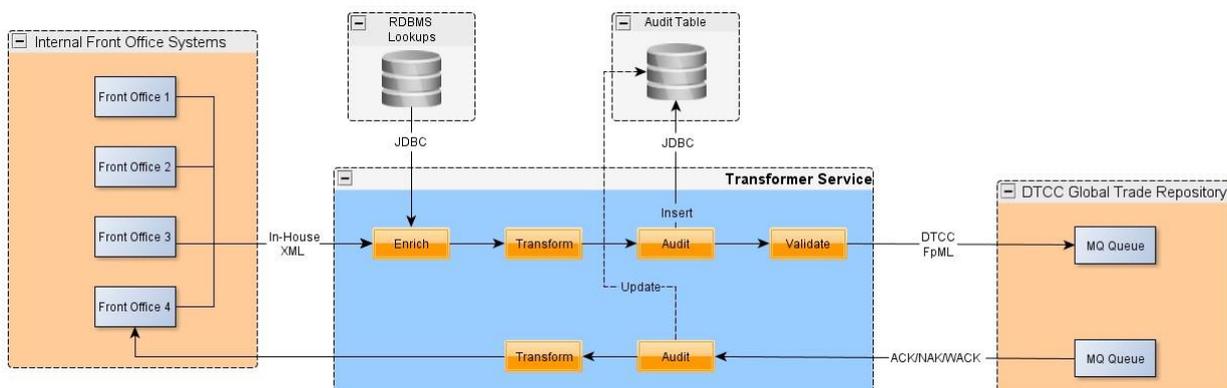
Trace Financial supplies and regularly updates a number of message standard libraries for use with Transformer, including for example the entire set of SWIFT Standards, and the whole of the FpML standard. In this case however, for certain asset classes the DTCC had defined a series of extensions to the 'vanilla' FpML message formats – a possibility allowed for in the FpML standard. In this project the first step was therefore to import the DTCC's specific schema into Transformer. Importing a schema in this way is just one of a range of methods Transformer offers for the rapid creation of message definitions.

Transformer provides many special features to solve the specific issues and complexities of FpML, helping analysts and developers to build clearly understandable - and hence fully maintainable – solutions. For example Transformer takes care of advanced FpML features such as dynamic type overrides and element substitutions. These features can make the mapping of inbound FpML messages very challenging for some toolsets, but Transformer users can easily create mappings which at execution-time vary in response to the data content of each FpML message instance.

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FpML also uses intra-message references, where for example the full details of each party to the trade may be stored in one area of a message and then cross-referenced from elsewhere in that same message (in most standards this data would just be copied everywhere it is needed). Transformer provides facilities to handle these internal correspondences when creating or reading an FpML message.

Using Transformer's FpML capabilities a set of mappings, enrichments and validations was created for each of the following OTC trade types:

- Equity: A range of swap types (dividend, variance, volatility, etc), plus equity options, forwards and structured trades

- FX: Vanilla options, non-deliverable options, barriers, digitals, forward FX, non-deliverable forwards, and flexi forwards

The solution was developed, tested and put into live operation one asset class at a time, as determined by the relevant regulatory requirements. The bank is now successfully generating OTC trade submissions for all of the above trade types. The DTCC's GTR Repository in turn grants access to the following regulators - CFTC, ESMA, JFSA, HKMA, and Canada's OSC, MSC, and AMF.

Transformer's powerful features for working with FpML enabled the bank to quickly create high quality message transformations based on this very complex message standard. Because solutions created in Transformer remain clearly articulated as models, the bank can be confident that the solution they have created will be able to grow with future regulations, and stay maintainable over the long term.

About Trace Financial
Trace Financial Limited are leading specialists in financial message transformation and have been designing, implementing and supporting mission critical solutions to the financial industry for over 30 years. Trace Financial is part of the privately-owned Trace Group.