

SWIFT - July 10, 2001
FAQ (Frequently Asked Questions) re: ISO 15022 XML Announcement

Background

On 5 July 2001, SWIFT and FIX Protocol Limited (FPL) announced that the two organisations will seek convergence of their respective messaging protocols by centering on the development and adoption of ISO 15022 XML as a common industry standard. SWIFT and FPL will actively support the efforts of ISO Working Group 10, the group focused on the migration to XML of ISO 15022, which is the current standard scheme for securities messages. ISO 15022 XML can be viewed as a superset covering the domains of existing protocols, such as the current ISO 15022, FIX, and FpML, developed via the use of business modelling with an XML-based representation. ISO 15022 XML will leverage the expertise of FPL in the pre-trade and trade (orders and executions) domain and SWIFT in the post-trade domain. In addition, there are numerous other firms and standards bodies committed to and involved in the ISO Working Group 10 process.

SWIFT Standards serves as the Registration Authority for the current ISO 15022 standard and will expand this role to cover the new XML version of ISO 15022.

Questions and SWIFT's responses

1) Why have SWIFT and FIX agreed to work towards convergence to a single standard?

SWIFT and FPL believe that ISO 15022 XML will provide the glue between the pre-trade/trade (front office) and post-trade (back office) domains. The effort leverages the experience and expertise of both organisations: FIX in the pre-trade/trade domain and SWIFT in the post-trade domain. Different parts of the trade life cycle are truly coming together to work through issues hindering effective STP and the move to shortened settlement cycles.

2) In what way will the new ISO 15022 standard be different from the existing one?

Current ISO 15022 has been a first step to de-couple the business elements from their physical representation and ensure that business items are always represented in the same way, whatever the message. This has been achieved through the development of a central Data Field Dictionary (DFD) where business elements and their physical representation are defined. Physical messages built with fields of the dictionary are stored in a Catalogue of Messages. The new ISO 15022 will build on the existing one and further emphasise the importance of the business approach to message development. In addition to a data dictionary, the new standard will provide an approach and guidelines to develop business standards (elements and messages) using a syntax-independent formal modelling notation (UML - Unified Modelling Language). Furthermore, the agreed UML message models will be transformed into an XML representation based on formal and pre-defined transformation rules. The new ISO 15022 'Repository' will contain the UML models, their XML representation and the data dictionary. As such, the Repository will contain a 'picture' of the

securities industry business and of the underlying information flows exchanged between the various securities industry players to complete their business process.

Most of the business elements already defined in the current DFD will exist in the new data dictionary and will also be used in the models. Additional elements will be added to include areas not yet covered today, such as the pre-trade/trade domain. The current set of ISO 15022 messages will be “reverse engineered” to build the UML models corresponding to specific business scenarios. Additional sources, such as the FIX protocol messages, will be used and reverse engineered to complement the business models. Strict conversion rules from UML to XML will ensure that derived messages are expressed consistently in the same XML language. SWIFT Standards, which is the current ISO Registration Authority for the DFD and the Catalogue of Messages, will act as the Registration Authority for the new Repository, guaranteeing compliance to the new ISO 15022 rules and making Repository outputs publicly available on behalf of ISO.

3) What is the ISO 15022 XML Working Group or Working Group 10?

Working Group 10 (WG10) was created in September 2000 by the ISO committee in charge of international standards for the securities industry to co-ordinate and standardize the use of XML for securities messages. The official ISO acronym for WG10 is ISO/TC 68/SC 4/WG 10, where SC4 is the committee in charge of the securities industry and TC68 the parent committee in charge of the financial industry. Upon the request of TC68 the mandate of WG10 has been extended beyond the securities industry and reads: “To evolve ISO 15022 to permit migration of the securities industry to a standardised use of XML, guaranteeing interoperability across the industry and with other industry sectors, particularly but not restricted to the financial industry.”

WG10 is defining a standard approach and guidelines to build a business model, expressed in UML (Unified Modelling Language), of the financial industry and of the various supporting message models, i.e. business message scenarios. WG10 is also defining standard rules to derive ISO XML schemas from the UML message models. A new ISO 15022 Repository will store the UML business model, the UML message models and the derived ISO XML schemas. SWIFT Standards, as the ISO 15022 Registration Authority, will maintain the ISO 15022 Repository and make it publicly available for general use, on behalf of ISO.

Working Group 10 currently has about 50 members, who are participating in either the steering committee (made up of 8 people) or one of three project teams as follows:

- a group of about 10, focussed on the methodology and design rules for UML and XML;
- a group of about 30, looking into the proof of concept and the reverse engineering;
- a group of about 10, defining the inputs and outputs that the Registration Authority will need to accept/provide to update the repository of business message models in UML and the data dictionary of business elements used in the models and in messages. It also works on the service levels expected from the Registration Authority and the related compliance mechanism.

All WG10 members have been appointed by the ISO member countries and ISO Liaison Organisations involved in SC4. They represent a wide range of securities industry bodies, market infrastructures and major securities companies.

4) How does this agreement impact the current SWIFT migration plans to ISO 15022?

The current migration, which has been taking place for a number of years now, will continue as planned. SWIFT securities users will have to be able to receive ISO 15022 messages by November 2001 and to be able to send and receive ISO 15022 messages by November 2002. ISO 7775 will no longer exist after November 2002. These dates were fixed by the SWIFT user community and will be the end of a long migration, which started in 1997 with the first use of ISO 15022 messages. The migration to current ISO 15022 should be considered as a first step towards XML, since, as explained above (question 2), the XML version of ISO 15022 will capitalise on the existing version.

5) Can I skip ISO 15022 and go directly to ISO 15022 XML?

This would not be possible since the ISO 15022 XML messages corresponding to the current series of ISO 15022 messages available on SWIFT are not expected to be available on SWIFTNet before the end of the migration to ISO 15022. In agreement with the SWIFT Board, we intend to firstly provide ISO 15022 XML messages for securities spaces not yet covered by the existing messages, such as the funds and pre-trade spaces. The current ISO 15022 suite of messages will remain in place until all equivalent ISO 15022 XML messages are available and a proper migration period is agreed by the SWIFT user and vendor communities. The current ISO 15022 suite of messages will continue to be maintained and enhanced as required until the end of the migration to XML.

6) Does the move to ISO XML mean that my investment in the current ISO 15022 has been wasted?

The migration to ISO 15022, which started on the SWIFT network in 1997, should be considered as a first step towards the XML migration. Many of the ISO 15022 messages have been in use for several years now.

The recommended implementation of the ISO 15022 data dictionary approach will ensure that users' applications are independent of the syntax used to convey business elements in messages. Users are recommended to develop an internal dictionary of business elements, which will facilitate the link between the business elements used in their applications and the way these business elements must be formatted when communicated in messages. With such an approach, changes in formatting rules, migration to a new syntax or support of several syntaxes (e.g. current ISO 15022 and its XML version) are made much easier and impact only the communication layer, not the underlying business applications. The initial implementation of this dictionary approach may require significant investments, depending on the current architecture of a user's applications. If such investments are made when implementing ISO 15022, based on the ISO 15022 Data Field Dictionary (DFD), the further move to XML should require a minor investment as most of the business elements will be kept in the ISO 15022 XML Repository (see question 2).

Furthermore, the mandate of FIX, SWIFT and the other WG10 members includes the production of 'convergence documentation' to make the migration from the current ISO 15022 messages to the new ISO 15022 XML messages as easy as possible.

7) When will ISO XML messages be available?

The following conditions must be met before ISO 15022 XML messages can be made available:

- WG10 finalises the new draft standard and forwards it for approval as an International Standard to ISO.
WG10 expects to produce the new draft standard in Q4 2001. The ISO approval process includes several stages where the draft is circulated first to the ISO member countries involved in SC4, then to the 130+ ISO member countries. The entire process is expected to take between 1 and 1,5 years depending on the comments received from ISO members.
- The Registration Authority – SWIFT Standards – builds the Repository infrastructure required to support the development of models and messages, according to the rules established in the standard. This work is ongoing. As swiftML and the SWIFTStandards modelling methodology have been used as the basis for ISO 15022 XML, most of the existing infrastructure can be used. Further development is currently on its way to provide access to information stored in the Repository (e.g. message models, schemas and dictionary). A first version of the dictionary, currently called SWIFTStandards Financial Dictionary, will be made available on www.swift.com in August 2001.
- WG10 works on populating an initial Repository.
This work has started and will continue during the ISO approval process. WG10 has selected several areas to be considered for inclusion in the initial Repository, including those already covered by the current ISO 15022, as well as areas covered by FIX, GSTPA, Omgeo, the Bond Market Association, Funds/CIV, Derivatives (FpML), IFX/OFX, MDDL.

As far as the availability of ISO 15022 XML messages on SWIFTNet is concerned, this depends on priorities agreed by SWIFT user community and SWIFT Board. At this stage, the first XML securities messages to be available on SWIFTNet are those related to investment funds, followed by those related to pre-trade/trade. Both will be designed with the help of FIX. These messages are expected to be available on SWIFTNet in the course of 2002, i.e. before final approval of ISO 15022 XML.

8) Will convergence between FIX and ISO 15022 happen before ISO XML is developed?

The target is definitely to reach convergence through ISO XML. However, development is intended to start this year and, as explained in question 7, messages will be made available in 2002, before ISO 15022 XML is finally approved by ISO. In preparation for this convergence, FIX and SWIFT have already started to co-operate and align business elements used in FIX and the current ISO 15022, mainly in the context of their investment funds/collective investment vehicles developments.

9) How easy will it be if you've implemented ISO 15022 to move to ISO 15022 XML?

It will be particularly easy if you have implemented ISO 15022 by building an internal dictionary of business elements used in your applications and linking these

business elements to their physical representation as shown in the ISO 15022 Data Field Dictionary (see also question 6). Indeed, as the move to the XML syntax will have little impact on the business elements to be conveyed in messages, the implementation of ISO 15022 XML will only require an update of your internal dictionary and messaging application to add any XML-specific processing. Furthermore, the mandate of FIX, SWIFT and the other WG10 members includes the production of 'convergence documentation' to support as easy a migration as possible from current 15022 messages to new 15022 XML messages.

If you have not adopted the dictionary implementation, but have instead used a 'simple' mapping approach (i.e. mapping each of the ISO 7775 fields into their ISO 15022 equivalent), you will have to undertake the same mapping approach or to then build an internal dictionary to move to ISO 15022 XML.

The 'simple' mapping approach has a number of disadvantages, including the following:

- you have to create mapping rules for each message, even if the same business elements are used in various messages;
- you don't benefit from the additional functionality of the new ISO 15022 messages. By mapping the old ISO 7775 messages into ISO 15022 messages, you limit your use of the new messages to the functionality of the old ones.

10) Will I have to support both ISO 15022 and ISO 15022 XML until convergence happens?

If you have implemented ISO 15022 by building an internal dictionary of business elements (see questions 6 and 9), supporting the two standards is less of an issue since your business applications will be independent of the syntax used in the messages. Furthermore, WG10 intends to provide 'convergence documentation', which can be used to help converting ISO 15022 messages into their ISO 15022 XML equivalent and vice versa.

11) Will ISO XML replace SWIFTML?

SwiftML was the initial basis for the work of WG10 and we will evolve it into ISO XML, according to the requirements of the standard. We intend to adopt ISO XML instead of keeping an XML wrap-around specific to SWIFT.

12) There are some functions where SWIFT and FIX overlap. How will these be addressed?

There are indeed some functions, like the trade order, where messages have been defined in both the FIX and ISO 15022 protocols. These messages will be 'reverse engineered' into the UML business model of the pre-trade/trade space. This means that the contents and functionality of the messages will be used to enrich the business model with the related players, processes and business elements. In a second step, a unique set of UML message models will be derived from the business model and translated into a unique set of XML messages following the UML to XML design rules defined in the ISO 15022 XML standard. The 'convergence documentation' will support convergence from both FIX and ISO 15022 towards ISO XML.

13) What is the difference between the ISO 15022 and FIX protocol?

ISO 15022 and FIX are both “tag”-based syntaxes, where the business elements and their values are identified by a code called a “tag”. However, the tags and the way to express values are different in ISO 15022 and in FIX. Most of the business elements used by FIX and ISO 15022 are the same. SWIFT and FIX had already started co-operating to make sure that the new business elements used by FIX (for FIX 4.3 version) have an equivalent in the ISO 15022 Data Field Dictionary. So that further convergence, when we have an ISO 15022 XML version, will be easier.