A Payments Roadmap for Migrating to ISO 20022

The path to a universal global payments clearing infrastructure will be defined by each financial institution's long-term strategy across geographies and willingness to support various communications standards.

Executive Summary

Financial messaging standards used to transmit payment information ensure common understanding between senders and recipients. Unfortunately, there are multiple financial messaging standards (such as ISO, MT, TWIST, FIX and other proprietary and country-specific standards) that coexist relative to geographies and functional business areas.

Payment infrastructures around the world are pushing for the standardization of financial messages using the ISO 20022 framework. Standardization of message formats is expected to result in cost savings achieved through operational optimization. It is also expected to provide a platform for further payments innovations.

One significant development on this front is the migration to ISO 20022 standards by the EU's high value payment system known as TARGET2. TARGET2 will replace all the payments-related SWIFT MT message types that it uses with their equivalent MX counterpart in November 2017. The standard for the new MX messages will be based on ISO 20022; usage rules will be built on the basis of SWIFT user community consultation. The new MX message standard will be compatible with the legacy MT standards in order to not impact interoperability with the other payment infrastructures and correspondent banking. Enrichment of the message would be carried out after a critical mass of infrastructures and participants have migrated to the new standard (see Figure 1).

Other developments in favor of the migration include:

- Credit transfer/direct debit transactions within the EU area, denominated in Euros, will be migrated from the existing national Euro credit transfer/direct debit schemes to the Single Euro Payment Area (SEPA) alternatives by February 2014. SEPA is based on the ISO 20022 message standard.
- Real Time Gross Settlement (RTGS) of Switzerland will move to ISO 20022 standards in 2014.
- Central banks in countries such as India, Australia and Canada have already taken the initiative of moving to ISO 20022 standards by abandoning their domestic standards.

Note that SWIFT has a leading role in the development of ISO 20022. It was appointed the registration authority (RA) for the standard in June 2004.
Migration of messaging standards can result in significant costs for upgrading payment infrastructure. The approach to tackle this migration can vary from bank to bank, depending on the institution’s long-term strategy. For example, TARGET2 has approximately 1,000 direct participants of different sizes and business volumes. Moreover, an approach taken by a bank with a presence across multiple countries will differ from that of a bank focused only on one country.

This white paper explains the problems related to standardization and recommends an approach for timely and cost-effective migration.

Central banks of other countries have realized the benefits of standardization and as such are pushing for universal migration to the ISO 20022 standard.

Advantages of standardization of message formats include:

- Increase straight through processing (STP) rates for payments by eliminating multiple message formats and using ISO 20022 extensions instead of free format texts.
- Reduce IT systems’ maintenance costs by eliminating multiple message formats.
- Support innovations such as e-invoicing.
- Improve integration with back-office systems.

Payments Infrastructure: Future State

The acceptance of ISO 20022 messaging standards by market infrastructures (e.g., clearing and settlement services) would follow the traditional technology adoption lifecycle (see Figure 2). Until the acceptance of ISO 20022 standards reaches the area between early majority and late majority of the bell curve, the MT standards would continue as the universally accepted messaging standard. This suggests that for a significant period of time, there will be a coexistence of MT and MX standards. The coexistence of MT and MX standards would mean that there will be an immediate need for the mapping of the message standards. Enrichment would be carried out only after a critical mass moves to the ISO 20022 standards.

The variant of the ISO 20022 standard that a payment infrastructure (like TARGET2) uses can differ from the variant used by other payment
systems (like SEPA). This would result in the creation of numerous variants of the same ISO 20022 message format. With banks opting for a payment hub to process payments from different geographies, the number of message formats that a payment engine would need to process would rise exponentially.

**A Proposed Roadmap**

A payment engine that technically supports ISO 20022 message formats has a significant advantage over legacy payment engines. ISO 20022 messages use XML syntax. Using XML syntax reduces the amount of manual effort needed to add new messages or make changes to existing ones. In addition, its use makes the integration with back-office systems easier. An ISO 20022 message (such as for a credit transfer message) has numerous message components (such as debtor details, creditor details, etc.). These message components are reused across multiple messages. Therefore maintenance on addition/modification of a message component is made easier. The messages are mapped in back office systems along with the message component. Many of the components are already known to be back office-related, therefore making the integration easier.

However, migrating from a legacy payment engine incurs a huge cost and therefore may not be the preferred choice.

For legacy payment systems, at a high level, two migration approaches have emerged:

- Using a mapping middleware tool to map the ISO 20022 message into an MT message format (or even a payment-engine-specific message) and vice versa. (The mapping rules are readily available for interoperability between different standards.)
- Making the changes in the legacy payment engine.

Choosing between these approaches depends on the number of variant messages that a payment engine would need to support. Mapping middleware can effectively manage a high number of variant messages. Making changes in the legacy payment engine is preferred if the number of messages supported is low. The cost of migrating from a legacy payment engine to a new payment engine can vary depending on the approach taken by the bank. In general, a payment engine migration program can take around 18 months.

The number of variant messages depends on the following:

- **The number of clearing channels (and/or RTGS systems) that the payment engine supports**: The more clearing channels (and/or RTGS systems) that a payment engine supports, the greater the number of variant messages that the payment engine would have to support.
- **The number of countries the payment engine supports**: Similar to the number of clearing channels, the more countries a payment engine supports, the greater the number of variant messages that the payment engine would have to support.
Looking Ahead
Standardization of payment messages across payment infrastructures provides a great opportunity for reducing operational costs and triggering the potential for innovations across the payments space.

The use of ISO 20022 messages improves STP rates and therefore reduces operational costs. However, the benefits of ISO 20022 can only be realized if standards are embraced by all parties, sans coexistence of competing standards. Coexistence of standards is a compromise that raises support costs and often cannot be avoided because regulatory guidance (such as TARGET2-related mandates) forces banks to migrate to new messaging protocols while maintaining existing standards where need be. Several countries across the world (India, Canada, Australia and some in the EU) have already taken the initiative of migrating to ISO 20022 standards. Others are bound to follow.

The right migration approach for most banks depends on their long-term strategy supporting various clearing houses and countries. Banks can consider the ISO 20022 standards whenever they are making an investment in upgrading their payments system or when the regulatory bodies force them to migrate to the ISO 20022 standards.

Footnotes
1 ISO 20022 provides a standard for financial messaging between financial institutions, market infrastructures and customers.
2 MT is a SWIFT proprietary message format that is exchanged over SWIFT’s secure IP network that connects financial institutions and corporations around the world (SWIFTNET).
3 MX is an XML message exchanged over SWIFT’s secure IP network that connects financial institutions and corporations around the world (SWIFTNET). For TARGET2, this message is based on the ISO 20022 framework.
4 The Single Euro Payments Area (SEPA) is an initiative by ECB that will allow customers to make euro payments throughout Europe as easily, securely and efficiently as they do today within their own countries. Once SEPA has been completed, there will no longer be any distinction between national and cross-border euro payments: they will all be domestic.
5 RA is responsible for maintaining and publishing the central repository of ISO 20022 content and ensuring its integrity.
Resources

- Minutes of joint meeting of TWG and WGT2 – TARGET2, March 4, 2013.
- Clear IT Swiss Payment Journal for Payment Traffic, edition 54.
- Coexistence SWIFT Dec 2011.
- Update on TARGET2 developments – COGEPS, March 5, 2013.

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