

# ISSA



## ISSA ISO 20022 SURVEY

Background Reading and Context

June 2020

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## Foreword

The purpose of this paper is to provide ISSA Members with some background and supporting context to help them complete the accompanying ISSA ISO 20022 survey. The authors introduce ISO 20022 and other standards, share some key figures related to ISO 20022 adoption to date and provide insights, gathered from other ISSA Members, about what is currently driving ISO 20022 adoption across the industry.

ISO 20022 promises many current and long-term advantages, but industry adoption comes at a cost. It is therefore of paramount importance that the community gains as complete a picture as possible of institutions' readiness and willingness to adopt. The ISSA survey aims to collect the views of ISSA Members to use these insights to form the basis of a recommendation.

We look forward to hearing from you and to sharing the key outcomes of the survey with the Securities Services industry.

## Acknowledgements

This paper is the result of efforts by a team of experts drawn from the ISSA Operating Committee members and other ISSA participating Member Firms. All participants have supplied invaluable market information and input into this document. The names of participating Member Firms and the individual contributors are listed in the Appendix. The ISSA Executive Board wishes to thank all supporters for their contributions, as well as their firms who have enabled their participation.

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# 1 Executive Summary

Over the past few years, ISO 20022 has clearly emerged as the key international messaging standard across the financial services industry. However, in the securities industry, other standards are also used, including ISO 15022, FpML and FIX, as well as some proprietary standards (e.g. for DTCC and Crest).

In 2018, SWIFT surveyed its global community to assess market appetite, across all business areas, for a migration to ISO 20022. The payments community was in favour, so a date has been set to begin migration of cross-border payments and cash reporting messages starting end 2022. The response from securities players was not clear-cut, so no migration date has been set for securities messages.

Today, in securities servicing, the incumbent standard is still very much ISO 15022. More than 6,000 SWIFT participants use ISO 15022 and it represents two-thirds of all the securities traffic over the network.

When ISO 20022 is used in securities markets, it is mainly between market infrastructures and their direct participants. In Europe, the use of ISO 20022 has been driven by TARGET2-Securities (T2S) and, in the US, DTCC has implemented ISO 20022 for their corporate action flows.

The main reason securities services industry participants cite for the relatively low appetite to further adopt ISO 20022 in securities markets is the lack of a clear-cut business case to do so. In part, this can be explained by the fact that ISO 15022 has already enabled high levels of automation and this standard is now integrated in many complex back-office legacy systems.

That said, the securities market is constantly evolving, necessitating periodic reviews of market demands for change. Indeed, there are a number of recent key drivers that may increase demand for the adoption of ISO 20022. These include:

- **Payment migration:** Securities players will need to adopt ISO 20022 for some of their payments flows
- **Regulation:** In addition to a call for an increase in transparency, some bodies (e.g. ESMA) are stipulating that the only permissible way to report transactions to the National Competent Authorities is to use ISO 20022
- **Market Infrastructures:** Many market infrastructure firms offer, or have plans to offer, ISO 20022 to their participants. This may incentivise custodian banks, brokers and asset managers to adopt this standard and offer its capability to their own customers
- **New technology:** There is growing adoption of APIs and DLT across the securities industry. Without a common standard, and a data dictionary, there is a risk of further market fragmentation
- **Translation risks:** When ISO 20022 is converted to ISO 15022 - and vice versa - data may be truncated or incorrectly translated
- **The cost of co-existence:** There is an inherent cost and risk in the industry of having to maintain multiple syntaxes and protocols.

However, as with any migration, the foreseeable challenges and costs should be considered before a decision is taken. Participants will need to ask themselves a number of questions including:

- **Business Case:** What is the business case for your institution, keeping in mind the number of internal systems that are impacted?
- **Timing:** Does it make sense for your institution, given the changes that are being made for the adoption of ISO 20022 in payments?
- **Ecosystem Impact:** What is the impact on your ecosystem? Are domestic and cross-border markets migrating? Will they pursue the same approach and timeline?
- **Innovation:** Will ISO 20022 enable you to innovate and offer new services to clients?

The aim of this document is to provide more detail on the points made above.

## 2 Background/Market Context

### 2.1 Standards

Within the financial industry today, multiple messaging standards are used. In addition to the proprietary standards still used by some market infrastructures, there are also a number of other different standards used in the securities industry, including FpML, FIX, ISO 7775, ISO 15022 and ISO 20022.

ISO 20022 is a multi-part international standard that aims to provide a common, data-rich language that can be used by the financial services industry. It sets out a common method of developing messages using:

- A modelling methodology to capture financial business areas, business transactions and associated message flows
- A central dictionary of business items used in financial communications
- A set of XML and ASN.1 design rules to convert the message models into XML or ASN.1 schemas, according to which syntax best suits the technical needs of the implementation.

Making the decision to adopt ISO 20022, however, is more nuanced than simply adopting a syntax. For many institutions, the standard will act as a strategic enabler to help deliver scale and drive efficiencies within their financial communications infrastructure. By opting for a single, common 'language', business processes can be streamlined, there is a greater potential for cost-effective third-party suppliers to be used and technology can be consolidated across business domains to manage costs further.

### 2.2 Demand for ISO 20022 Migration to Date

Discussions around migration from one standard to another are not new. In fact, the industry has embarked on a number of large-scale migrations before.

In 1998, the securities industry started a migration from ISO 7775 to ISO 15022, which took four years to complete. Initially scheduled for two years, it was extended to allow all parties to prepare further. The key driver for this migration was to enable better automation of securities processes as ISO 7775 messages were not structured enough to achieve the levels of automation required by the industry. The migration was a success, resulting in impressive gains in automation, achieving above 95% straight-through processing (STP) for the settlement process.

A more recent example comes from the investment funds industry that decided in 2005 that ISO 20022 should be their strategic standard for exchanging the necessary data required in their ecosystem. Unfortunately, fifteen years later, this migration has not yet been completed for the main business flows (subscriptions/redemptions) or for business flows covering a mix of proprietary or manual solutions. This is despite ISO 20022 standards having been developed with the market years ago to support these processes (e.g. for cash forecasting and account opening).

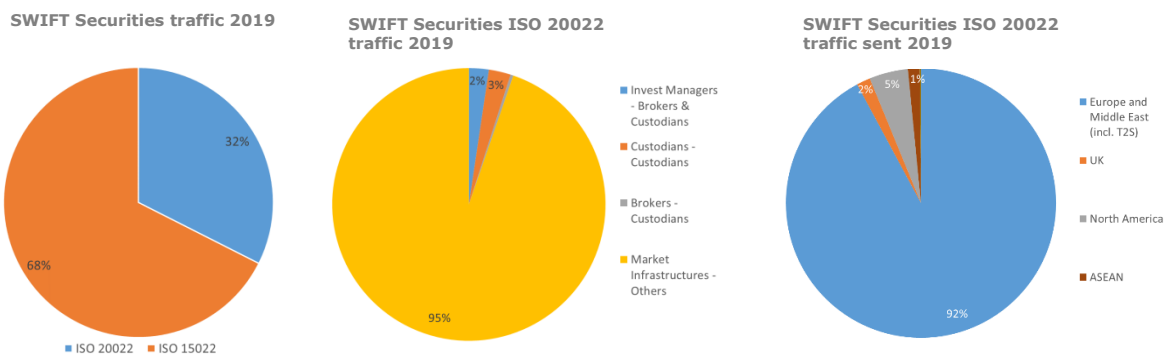
In 2018, SWIFT conducted a global survey, covering all business areas, to determine market readiness and appetite for a migration to ISO 20022. The response from the payments community was loud and clear, with more than 97% of major banks in favour of migration to the new standard. The response from the majority of securities players, however, was less decisive with only half of the highest volume users being in favour of setting a firm date to migrate to ISO 20022.

### 3 Current levels of ISO 15022 and ISO 20022 Adoption

#### 3.1 Direct Adoption

ISO 15022 and ISO 20022 are global standards that can be used over any network. Current adoption is outlined below:

- Over SWIFT, ISO 15022 is still the most widely used standard for securities servicing and it accounts for two-thirds of the total securities traffic
- In 2019, the majority of ISO 20022 securities traffic over SWIFT was exchanged between market infrastructures and their direct participants and was concentrated in EMEA
- Although 32% of all the securities traffic generated over the network is ISO 20022, the number of SWIFT participants that send these messages is still relatively concentrated
- Of the 6,000 securities participants who use SWIFT today, less than 200 send ISO 20022 over SWIFT and in some markets and segments ISO 20022 is not used at all.

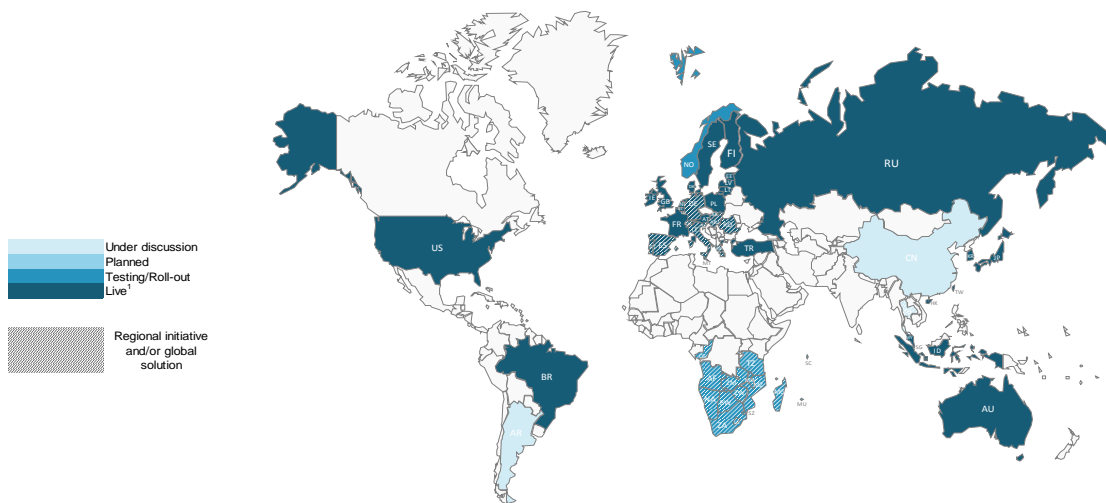


#### 3.2 Other Networks and Channels

Some domestic market infrastructures also use ISO 20022 over their proprietary channels. A good example is DTCC that has adopted ISO 20022 for their corporate action processing and Jasdec that uses ISO 20022 across most of their business processes. Other Securities Market Infrastructures (SMIs) are in the process of making ISO 20022 messages available to their participants as well. The table below provides an overview of SMI adoption of ISO 20022 by country.



### ISO 20022 adoption map - SMIs



<sup>1</sup> Offers ISO 20022-enabled solution for one or more of its business areas, on part or all of its network channels

**DEFINITIONS:**

- Under discussion:** The adoption of ISO 20022 is still under discussion. The ISO 20022 messages to be adopted are not yet known.
- Planned:** The organisation confirmed its plans to adopt ISO 20022. The ISO 20022 messages to be adopted may not be known by the owner of the initiative
- Rollout/Testing:** The adoption of ISO 20022 messages by the initiative is in the rollout/testing phase. The exact ISO 20022 messages to be adopted should be known by the owner of the initiative.
- Live:** ISO 20022 messages have already been adopted. The organisation offers ISO 20022-enabled solution for one or more of its business areas, on part or all of its network channels

Given the «adoption landscape» is still quite fragmented, the next logical question could be where the industry should focus its collective efforts on driving more standardization. If the industry agrees that this is beneficial, one possibility would be to drive adoption across the Financial Market Infrastructures (FMIs), which include not only the SMIs but also the Central Banks and Real Time Payments Systems. Another would be to push for adoption further upstream (e.g. the major buy and sell side firms), to capture transactions as richly and as early as possible in the transaction process.

## 4. Balancing a Business Case

If the transition to ISO 20022 is not mandated, either by regulators or as a condition of membership with the relevant Financial Market Infrastructure (FMI), users will need to make their own decision based on a comprehensive business case.

Some of the typical key drivers and challenges to consider when building a business case are outlined below:

- **Cost versus benefits**

The cost of supporting different standards and protocols is expensive. Therefore, having a single ISO 20022 standard could alleviate this problem. However, the cost of upgrading to ISO 20022 will be non-trivial and will - in many cases - require work to a multitude of legacy technology platforms including core operating platforms, messaging platforms and other ancillary applications. This cost issue has been an obstacle to progress in previous migrations as market participants have struggled to make a compelling internal business case for adoption in their individual institutions, especially in the face of competing priorities. In many cases there is a mismatch between the time investments need to be made and the anticipated pay-off.

- **Risk reduction or avoidance**

ISO 20022 provides a broader, more specific set of message types as well as additional data fields compared to ISO 15022. Broader adoption of ISO 20022 could therefore improve processing and lead to a reduction in risk. However, ISO 15022 messages are broadly recognised as fit for purpose, particularly in settlement and reconciliation processes, where STP levels are very high.

- **Regulation**

There have been some specific cases where ISO 20022 has been the solution adopted to meet regulatory requirements, such as the introduction of the second Shareholder Rights Directive (SRD II) in Europe. However, the scope of this is limited and there has been no regulatory driver for a wholesale migration.

- **Client experience**

One of the arguments for adoption of ISO 20022 is that it offers greater capacity for the transmission of structured data, which in turn enables service providers to offer their customers better and more structured information. However, the ISO 15022 message suite shares a common data dictionary with ISO 20022 and already provides efficient messaging between investors and intermediaries and, in many cases, between intermediaries and FMIs. Additionally, to some extent at least, the more structured information requirement has already been met through improved reporting and the development of new communication channels, e.g.APIs.

- **Non-standard implementations**

Participants considering the implementation of ISO 20022 will also need to consider what a «standard ISO 20022» implementation actually means in practice. One of the benefits of ISO 20022 is the larger and more flexible data sets compared to ISO 15022. However, this means that in order to achieve high rates of automation, common rules and agreements need to be agreed and documented, because otherwise different institutions adopt and implement ISO 20022 differently. Until the question of how to enforce the way standards are used is resolved, this will continue to present a barrier to universal adoption.

- **Demand from End-investors**

To date, the drive for adoption of ISO 20022 in securities markets has largely come through regulation or from market infrastructures imposing this choice on their participants. There appears to be little demand or appetite to make the move to ISO 20022 between investors and intermediaries. Instead, much work has been done in enabling API's to provide the end clients with the information they require.

- **Operations and automation**

The operational challenges of the volume peaks in March 2020, coupled with the structurally high cost base of intermediaries in the post-trade ecosystem, may instil a new desire for even higher levels of automation. However, the implementation of any new standard would require significant effort from technology and operational teams. Processes would need to be re-engineered or re-mapped, systems would need to be tested and customers carefully managed during the transition. For many users, the high rate of automation achieved using ISO 15022, over 99% STP in settlement and reconciliation, means there is little efficiency driver to make a change.

## 5 What has Changed since 2018?

Although the adoption of ISO 2022 in the securities markets has plateaued since 2018, there are a number of recent factors that should be taken into account when considering the merits of a move to ISO 2022. These drivers are explained in the section below.

### 5.1 Payments Migration

The payments community has aligned on a timeline for payments migration, which is to start in November 2022 and end in November 2025. There are strong incentives and several anticipated benefits in adopting ISO 2022 for this community, which include:

- **Growing adoption of ISO 2022 by payments market infrastructures** (RTGS and other real-time systems): This makes dealing with multiple syntaxes costly and inefficient. The adoption of ISO 2022 by Payment Market Infrastructures (PMIs) all over the world has provided a strong incentive for banks to follow suit. By the end of 2023, high-value payment systems for the top five traded currencies (USD, EUR, JPY, GBP, AUD) will all require the ISO 2022 format, and most of the new domestic real-time payments systems have also decided to build their systems around ISO 2022. As a consequence of this, the harmonization of domestic standards, to be in line with cross-border payment standards, has already begun.
- **The desire to provide a consistent customer experience:** Complete data needs to be transported end-to-end.
- **Increasing compliance pressure:** ISO 2022 provides a structured way to carry more information about the payer and the payee (as well as other intermediaries in the chain). This allows for improved compliance (FATF recommendation 16, FTR) and sanctions screening processes due to the richer and more structured party information that ISO 2022 can carry. Anti-Money Laundering (AML) and Know Your Customer (KYC) checks can be carried out more efficiently, and these checks can meet more stringent regulatory requirements.
- **The ability to offer new customer services:** The data fields in ISO 2022 are more structured and clearly defined (in the data dictionary). This allows users to design and offer new value-added services to their own customers and opens more/new Payment Service Provider (PSP) competitors.
- **PSD2 and new generation technology:** ISO 2022 has been designed to be «future-proof» and adapt to new technologies, including APIs.

Although not all these drivers may be relevant in securities markets, some are. For example, the authors expect that:

- Aspects of the richer data offered by ISO 2022 could prove valuable to the securities industry. Specifically, in areas of asset servicing such as proxy voting, the ISO 2022 standard provides a framework for greater automation and STP
- ISO 2022 offers the flexibility to include specific information, through formal «extensions» to accommodate local market practices
- All securities players make payments so it is possible that, as the payment world progresses with its migration, this will serve as a catalyst for other sectors to follow in order to achieve cross-border product inter-operability. It also seems likely that as the payments domain becomes more standardized, the securities domain will come under pressure to act faster. Issuers, investors and regulators will develop expectations about data quality and how quickly it can be received.

## 5.2 Market Infrastructures

Most of the largest securities market infrastructures in the Americas, EMEA and APAC regions are already offering ISO 20022 messaging to their participants in some business areas. Some are also renewing legacy systems across business lines to use the latest standard. The scale of adoption within this segment has provided an incentive for the direct participants of these infrastructures, including custodians and brokers, to adopt ISO 20022 and to offer it to their own clients.

TARGET2-Securities (T2S) chose to adopt ISO 20022 for settlement and reconciliation in 2008, based on guidance from the European Central Bank (ECB) and, as a result, European CSDs use this standard to communicate with T2S. In the US, DTCC has completely re-engineered its corporate actions processing to leverage the ISO 20022 messaging standard. SMIs in the major Asia Pacific markets, (including Japan, Australia, Singapore and Hong Kong) have also adopted ISO 20022 standards for either settlement, corporate actions or both. NSD Russia launched ISO 20022 on the back of the Corporate Action Reform initiated by Russia's CSD and supported by securities market participants.

Although intermediaries in the investment chain currently use a mix of ISO 20022 and ISO 15022 standards for their business processes, the need for greater harmonization and the cost of co-existence could incentivize these firms to decide to move more of their business to ISO 20022. Eventually, this decision may also facilitate the adoption of ISO 20022 across the entire securities chain, including brokers and buy-side institutions.

In February 2020, the Eurosystem's Advisory Group on Market Infrastructures for Securities and Collateral (AMI-SeCo), which brings together a wide group of Banks, CSDs, CCPs and Central Banks active in the European Union, published «The 10th T2S Harmonization Progress Report». In order to harmonize business processes/workflows for post trade activities, including Collateral Management, AMI-SeCo is working towards the development of a Single Collateral Management Rulebook for Europe (SCoRE). AMI-SeCo has defined a roadmap to support this strategy, and has agreed to adopt

- a) ISO 20022 messages for triparty collateral management by November 2022
- b) Corporate Actions and Billing messages, in two phases, by November 2025

AMI-SeCo wrote to SWIFT to recommend that SWIFT should 1) end the maintenance of ISO 15022 for the above-mentioned activities by November 2025, and 2) end the co-existence of ISO 15022 and ISO 20022 for these business areas on the SWIFT network, at the latest by 2028.

SWIFT replied to the letter indicating willingness to engage on the topic and referring to the ISSA survey as a good way to gauge the overall appetite for migration of these business areas in the industry.

## 5.3 Regulation

Regulatory requirements continue to be a driver for change and for adoption of common standards to comply with the increased demands for transparency within financial services, including the requirements to undertake transaction reporting. The regulatory demand for increased transparency has been a consistent feature, emanating from several European regulations. These include EMIR, MiFID2/MiFIR, CSDR and SFTR - all of which promote the adoption of common international standards.

ESMA has stipulated in several regulations (EMIR, MiFID2/MiFIR, CSDR, SFTR, etc.) that ISO 20022 is the only acceptable format of the National Competent Authorities (NCA). For example, in the forthcoming SFTR (Securities Financing Transactions Regulation), ESMA is

mandating that all the reporting «by all actors without exceptions» is submitted to the Trade Repositories using ISO 20022 compliant messages.

In addition to transaction reporting, we have recently seen dossiers - such as SRD II and ESG (Environment, Social, Governance) - being introduced to promote and facilitate the transparency and participation of shareholders in corporate governance via general meetings (proxy voting) and shareholder disclosure. The new requirements introduced with these directives will only be supported by ISO 20022 messages.

ISO 20022 also plays an important role in the CSD Regulation (CSDR). CSDR harmonizes the conduct of securities settlement, providing a set of measures to prevent and address settlement fails including the introduction of a penalty mechanism to incentivize timely settlement and reporting of failures. T2S will also include a common penalty engine that calculates the penalties and reports to the CSDs using a new ISO 20022 message. CSDs will be required to send monthly and annual settlement fail reports to their NCA in an ISO 20022 message format.

Whilst many of the regulatory changes discussed above have a European focus, these affect all securities players active in the EU. The challenge to achieve transparency, efficiency and consistency remains a truly international objective promoted by the G20 and the Financial Stability Board. As regulators adopt a more harmonized approach in the development of regulatory requirements, it is likely that the role of ISO 20022 in this endeavour will become more prominent.

## 5.4 Technology Trends

Newer market trends, in particular «Open Banking» and client «self-service» models, that are based on empowering clients by giving them access to their own data, have led to the proliferation and adoption of API technology in various sectors of financial services. APIs have emerged as a key technology underpinning the digital transformation strategy of financial services firms with the potential to enable open architecture. While the current penetration in the securities services industry is lower than other financial industry sectors, APIs present a significant value proposition for greater uptake within securities services as a means to innovate and offer clients real-time visibility, value-added services, aggregation and benchmarking.

However, there is growing concern around the proliferation of different API standards and the resulting fragmentation should firms publish their own specifications. The difficulties presented by handling multiple labels and attributes for data elements, JSON (JavaScript Object Notation) definitions, and others would undercut any gains that APIs would deliver and make it difficult to switch providers and aggregate data from different providers. To facilitate industry-wide adoption of APIs, existing data standards such as ISO 20022 will need to apply to APIs to prevent these interoperability issues and simplify the task of integrating with legacy processes and systems.

Today there is an increasing realization that DLT (including Blockchain) is not a panacea for the securities market. However, digital assets, crypto assets and securities tokens on DLT platforms have the potential to create new investable asset classes and investment ecosystems. Increasing interest from institutional investors has led to the creation of many different security tokenization platforms.

Effective interoperability between DLT networks, tokenization platforms and legacy networks is essential because the different systems will need to co-exist in the near term. The key to efficient interoperability is the use of a common standard that defines the meaning of data. This could be achieved by adopting ISO 20022 and its established data dictionary.

## 5.5 Translation Capabilities

Financial institutions and securities processing technology solution providers have developed translation capabilities from ISO 15022 to ISO 20022 that sit within the integration layers around their core platforms. Some specialized technology providers are now also offering «transformer» products that provide bi-directional mapping solutions between ISO 15022 and ISO 20022 formats. Even if a date for migration is agreed with the industry, there will be a period of adoption and co-existence and the need for translation capabilities will remain for some time.

However, it needs to be recognized that there continues to be a risk that some data could be truncated when translated. There is also a risk that, by agreeing translation rules and providing translation services, the business case for industry-wide migration is reduced. This is despite the on-going risk – and cost - associated with co-existence.

## 5.6 Cost of Co-existence

Although the market today has decided that ISO 20022 and ISO 15022 should co-exist, this means that many firms must manage and maintain two standards and messaging protocols. All of this comes at a cost.

The costs of co-existence are not just related to maintenance and translation of two formats - there are also opportunity costs. The ISO 20022 XML schema offers a significantly richer data set than ISO 15022, which means that some data elements cannot be neatly mapped into the confines of an ISO 15022 message, which reduces a number of the benefits provided by the ISO 20022 standard.

Furthermore, the longer the period of co-existence lasts, the more difficult it becomes to enhance older standards to cater for regulatory changes. As older standards are no longer maintained, they become antiquated and it is more costly for institutions to remain compliant with regulatory requirements as they use workarounds based on the old standards.

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