ISSA International Securities Services Association

MARKET CONSIDERATIONS AND ISO 20022 MIGRATION APPROACHES FOR SECURITIES

MAY 2024

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1 Executive Summary

The International Securities Services Association (ISSA) is a global association that supports the Securities Services industry. ISSA's members include CSDs, custodians, technology companies and other firms who are actively involved in all aspects of the Securities Services value chain. By connecting its members and facilitating collaboration, ISSA provides the leadership necessary to drive change in the Securities Services industry. The focus is on finding progressive solutions to reduce risk and improve efficiency and effectiveness – from issuer through to investor – as well as on providing broader thought-leadership to help shape the future of the industry.

Thought leadership is driven through the ISSA Working Groups (WG). ISSA's ISO 20022 WG published the results, findings and recommendations of the 2022 ISO 20022 Survey in June 2023 and this report concludes one of the recommendations from that report.

The decision to move a market messaging from an existing standard, be that proprietary, ISO 15022 or other, is a significant one for a market. ISSA supports the replacement of single market propriety messaging to international standards, including ISO 15022 and ISO 20022, as ISSA believes that this improves the free flowing of cross-border capital, and reduces unnecessary operational friction. However, ISSA believes that all migrations must be based on a strong business case, with extensive market consultation and implemented over a realistic timeframe.

ISSA recommends that markets which are updating a messaging standard should simultaneously (if not already) adopt the existing global best market practices, as this is key to greater efficiency and risk mitigation. The WG believes that, at this time, the benefits of adopting best market practices can be achieved using either ISO 15022 or ISO 20022.

The report lays out the market considerations for a migration to ISO 20022, the possible migration approaches and implementation considerations, the challenges of ongoing management of ISO 20022, and the role of vendors. The final chapter addresses the key insights gleaned from the prior chapters and a short number of industry recommendations.

The insights, that the WG have shared reflect approaches that help facilitate successful migration programmes, and these can be summarised as:

- Consult with the targeted market participants, agree a robust business case, then set a realistic plan
- Co-existence, co-maintenance and use of extensions during migration help adoption
- Move to the latest base standard, remove extensions as quickly as possible and only implement new business processes using ISO 20022

Additionally, the WG have made a few key industry recommendations to promote a stronger model for ISO 20022 governance, and these are:

- Review ISO 20022's governance processes, to ensure it meets the needs of today
- Focus on adopting the Global Market Practices Guidelines and publish known differences as well as non-adherence
- Find ways to limit the numbers of versions used at any one time

The report has extensive appendices which cover the detailed information from a number of past ISO 20022 implementations - these are provided in both a summary and detailed version – and they form a key reference for a market planning to adoption ISO 20022. The WG has distilled the findings into the report's conclusions but would urge them to be read as part of any market planning phase.

As always ISSA appreciates dialogue and feedback from the industry on this report, and if substantive feedback is received then the report maybe re-issued.

1.1 Report Objective

The primary objectives of this report were as follows:

- Provide an objective set of insights on the different factors that will influence any messaging standard migration strategy, drawing on member experience, previous use cases and other current migration initiatives
- Educate global markets, regulators and other market participants on the underlying factors that influence adoption, to provide a structure for their own programme assessment when considering ISO 20022 adoption in securities markets
- Provide a set of practical recommendations to these entities for future migrations, for those securities markets planning to migrate to ISO 20022

This report is not intended to be a manual for implementation, but instead aims to set out views on how the industry could best achieve successful outcomes in terms of the migration models and how it governs and collaborates across the ISO 20022 standard. This governance is critical to ensure the harmonization of the standard across markets and to ensure that the industry can maximize the benefits of using ISO 20022.

1.2 Target Audience

The report is aimed at those contemplating and planning a market adoption of ISO 20022 for all, or any, areas of securities services for the market they operate in. The WG believes that the best approach for adoption of ISO 20022 within a market is through a consultation and therefore the report's audience is any Securities Services participants including: market intermediaries such as Custodians and Brokers, Asset Managers, Issuers, Market Infrastructures, Third-Party Providers (such as technology providers and outsourcers) and other industry associations and Regulators.

1.3 Working Group Participation / ISSA Reviews and Approval

The approach taken and terms of reference were approved by the ISSA Operating Committee prior to the WG's initiation, namely:

- The WG comprised the **members of the ISO 20022 WG,** who were all ISSA members
- **Inputs and insights** were sought from other external parties. However, the report and Best Practices laid out were reviewed and approved by the ISSA membership only and no external party's approval was sought when publishing this report, in line with ISSA practices
- The report was **approved** by the ISSA Board and the ISSA Operating Committee prior to publication

1.4 Acknowledgements

This report is the result of efforts by a team of experts drawn from ISSA, that participated in the ISO 20022 Working Group. This included Operating Committee members and other ISSA member firms. The names of firms that have participated in creating this report, and the individual contributors, are provided in the Appendices. The ISSA Executive Board wishes to thank the WG members for their contributions as well as their firms for having enabled their participation.

2 Introduction and Context

Over the last four years ISSA's ISO 20022 WG has published a number of qualitative and quantitative reports on ISO 200022. One of the quantitative reports was looking to understand, in the view of the ISSA members, whether there was appetite to migrate to ISO 20022 for Securities Services. The WG published the results, findings and recommendations of the 2022 ISO 20022 Survey in June 2023.

At this time the group made two key recommendations:

i. That the ISSA ISO 20022 WG should move away from biannual surveys on ISO 20022 and instead work with key parties and industry groups to track adoption rates, so that changes could be identified and shared with the ISSA membership.

ii. The need to create a Best Practice Guide on what to consider prior to a migration, as well as recommendations on possible migration approaches. This work should be shared with the Securities Market Practice Group (SMPG) and other industry participants to ascertain whether a consensus exists for a migration deadline, as well as to provide guidance and recommendations to the ISSA community.

The previous ISSA reports on ISO 20022 showed growing levels of industry adoption and market-driven programmes to implement ISO 20022, on either a mandatory or voluntary basis. However, to date, there has been no industry-wide appetite to adopt the new standard on a 'big bang' basis.

The WG has seen, on the back of the World Forum of Central Securities Depositaries (CSDs) in Prague in May 2023, a far wider reaching expression of interest to adopt ISO 20222 by CSDs than had been seen previously. It was observed that this change was initiated by a strong position from the Depository Trust & Clearing Corporation (DTCC), the European Central Bank (ECB), and the European Central Securities Depositories Association (ECSDA). This leadership is encouraging other markets and regions to consider their own views on this subject.

The WG also observes a mixed level of understanding of the governance processes for ISO 20022, as well as operating model considerations for a migration, which in turn frequently leads to gaps in decision making.

One of the most common misconceptions is that adoption aligns global markets to a single standard and syntax, making broader market interaction seamless. The reality however is that this has yet to be achieved, due to the combination of a lack of harmonization of market practices along with inconsistent approaches to version management and upgrades by users of ISO 20022.

Before embarking on any migration to ISO 20022, there are a complex set of underlying considerations to be assessed and decisions to be taken. The WG has attempted to summarize the principal issues in the sections below, drawing on lessons learnt from the past, both in terms of what has worked well and what has proved problematic.

The examples studied have included the market migrations from ISO 7775 to ISO 15022 and the more recent payments migration from SWIFT MT to ISO 20022. In the case of the ISO 7775 example — which was essentially an industry-wide migration, rather than a market-level event — there were very clear business case drivers in terms of automation, especially in settlements and corporate actions.

With TARGET2-Securities' (T2S) introduction, the WG has seen an example of a straight-to-ISO 20022 model, rather than a migration per se. The standard developed for the Shareholders Rights Directive II (SRD II) is an example of a wider industry initiative to promote the use of ISO 20022 as the target standard for the region. This approach included a decision to only create new messages in ISO 20022.

The WG has also considered other market level migrations, including the DTCC introduction of corporate actions messages. In this case, there was a need to find a solution to cater for local market practices leveraging the use of the extension feature of ISO 20022 in order to achieve a timely roll-out. The WG also observed further examples from JASDEC, NASDAQ and INDEVAL, each bringing insights in terms of the timeline, market buy-in process and ongoing issues related to the commitments needed to maintain the current versions of the standards.

These examples helped the WG examine:

- the underlying considerations for these migrations
- the scope and focus of migrations
- the timelines to initiate and fully implement such programmes
- the approaches taken to achieve market buy-in; and
- ultimately, the models to encourage or force adoption by market players

3 Market Considerations

3.1 Introduction

This section examines the considerations that need to be taken into account before embarking on a migration programme. The WG noted the importance of having strong market level buy-in, as well as the consequences of decisions around timelines and approaches.

3.2 Considerations for obtaining market participant buy-in

Before embarking on any migration programme, there needs to be a strong and effective level of market buy-in. This is essential since any firms included in a migration programme will have to make investments and justify how this enhances their own multi-year performance plans.

In the use cases observed, when planning and discussion has been undertaken in a highly inclusive manner, as opposed to a dictatorial manner, there has been a far stronger market buy-in.

3.2.1 Business case drivers / benefits

In any migration scenario, it is important that market participants understand the business case drivers for adoption. These may result in cost savings through improved automation or data transparency and access, and / or a reduction in the costs of ongoing interface management.

Clearly the easiest business case involves moving from a largely manual process, or a highly proprietary interface to one that is aligned to a global standard. In the case for a migration from ISO 15022 to ISO 20022, this requires far more detailed analysis and assessment because both are global ISO Standards. ISO 15022 already provides high levels of straight-through processing and is already deeply entrenched in legacy post-trade technology.

In the use cases observed, the DTCC was an example of a market looking to remove proprietary messaging, in part because of its high cost of maintenance. Therefore, this business case was easy to position with market participants, particularly those with international flows, because it was a highly visible way to reduce costs and improve processing automation.

In the examples concerning SRD II and T2S, these were essentially new messages rather than migrations from old messages. This enabled a clear business case, since the market was implementing a new set of capabilities and, in the case of SRD II, it made sense for it to be compatible with Eurosystem infrastructure. T2S's use and adoption of a new standard was part of a wider European project to standardize the EU financial industry. However, the adoption of ISO 20022 did not trickle down any further than to the direct participants of the system, because the business case to adopt was less clear for indirect participants.

There may also be specific technical benefits in adopting newer standards and this resonated in the DTCC example. In this case, using ISO 20022 and the inbuilt message extensibility / flexibility allowed the Financial Market Infrastructure (FMI) to service their unique needs which were not currently covered in the global base standard message. It therefore allowed DTCC to start using ISO 20022 with minimal disruption to their existing participants

3.2.2 Market size and complexity

It is important to consider the extent of direct market access on the ability to successfully implement any move to a new standard. If most participants are indirect, this will have a significant impact on the complexities of the programme and the ability to drive change.

The securities market can be viewed as two pyramids, one inverted, with a small number of Investor and Issuer CSD(s) (sometimes only one) at the centre, custodians and brokers below, and numerous institutional investment firms, retail investors etc at the base. Above the Issuer CSD(s) are the many issuers. The variety and number of market participants at the base and the top increases the market's complexity and heterogeneity.

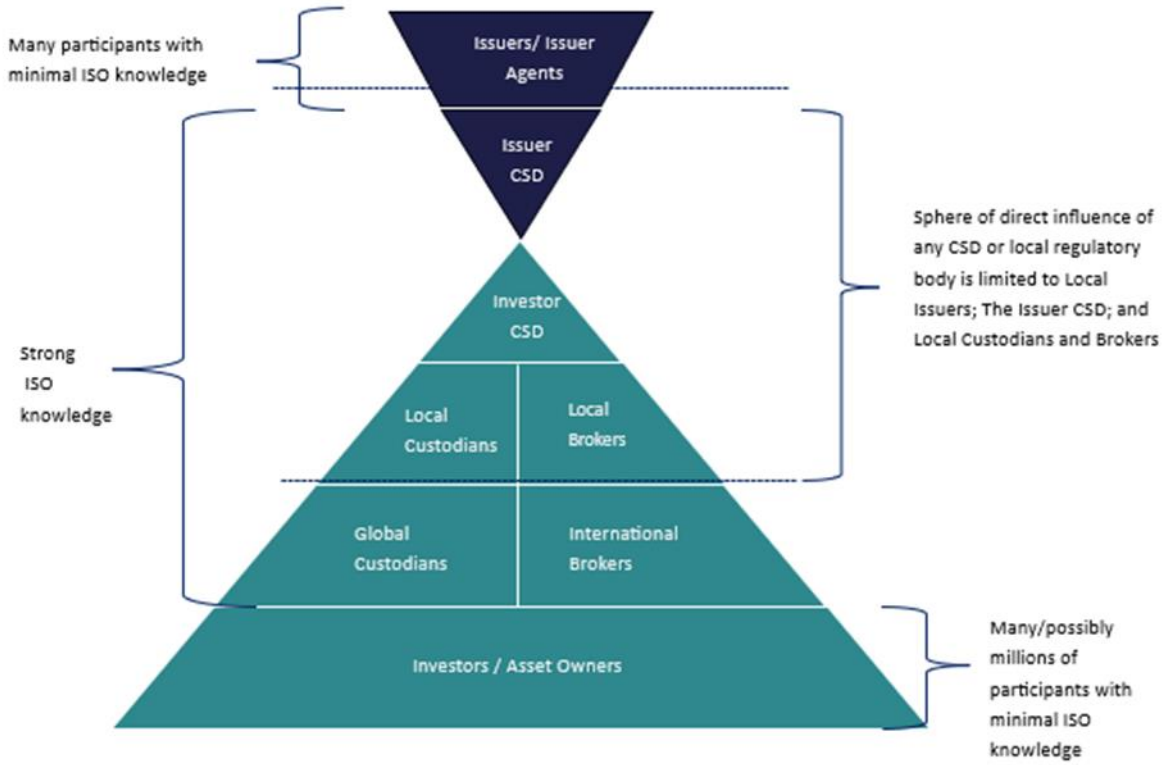

DIAGRAMM 1: MARKET STRUCTURE SHOWING INCREASED MARKET PARTICIPANT NUMBERS AWAY FROM THE CSD(S).

Any scheme to move to a new standard will have the most success in the middle of the diagram above, where there are direct relationships with the FMI. These participants between the dotted lines have the greatest ISO 20022 literacy and so can comprehend the changes. As one moves up or down the diagram, there will be increasing challenges and complexities in driving adoption as the project interacts with, potentially millions of, participants with no direct link to the CSD. This population also includes foreign entities who may have no awareness of the CSD's existence and over which the CSD has no influence. These participants often view the role of the custodian as insulating them from changes at the FMI.

So, the need for market buy-in will, in part, be driven by the depth of intended adoption of a new standard and whether this goes beyond the direct market participants.

3.3 Complexity in the retirement of previous message standards

History shows that markets find it extremely hard to retire previous messaging standards, since old message standards will continue to exist until the last participant stops using them.

For example, in the case of the move from ISO 7775 to ISO 15022, even though ISO 7775 messages are no longer supported over the SWIFT network, the messages continue to be exchanged between firms over other networks, within their own systems, as well as in files over SWIFT. This is because the ongoing cost of keeping a message standard live is very low if there is no continued maintenance work, and also because intermediaries in the securities chain offer services to their customers which effectively shield them from having to worry about adopting the latest message standards.

3.4 Global markets and cross-border considerations

The underlying case for migrating to ISO 20022 is usually a perception that there is individual market value, but also a benefit for securities participants and their ease of operating globally across multiple markets. The argument put forward is that as individual markets align to ISO 20022, this will become the de facto preferred model for global and cross-border communication. However, although all ISO 20022 messages reuse ISO 20022 data elements, this does not mean that at any given point in time that there is only one set of 'standard' messages in use.

A good example is the adoption of ISO 20022 by FMIs. Although all seem to recognize the value of upgrading to the latest version, few do this systematically, and some of the largest are still running versions which are more than five years old.

The variation is explained further below in the bullets on extensions and versions. It is necessary to understand these in order to appreciate some of the benefits and challenges of implementing of ISO 20022.

3.5 Flexibility through extensions

One of the appeals of ISO 20022 is that it allows for the addition of new fields and other changes to the base standard through an industry-led maintenance cycle.

In some cases, changes are not accepted to the base standard because they are not applicable globally; i.e., they are market-specific or only apply to a limited number of users.

ISO 20022 has solved for this eventuality by incorporating a 'supplementary data component' or 'extension' in its message definitions. This is an empty 'placeholder' which can then be used to exchange data elements that are not part of the base message standard.

DTCC's message extensions are a good example; they contain data points that the US market infrastructure needs to exchange but which are not needed elsewhere. This enabled the DTCC to adopt ISO 20022 despite the lack of adoption of their specific requirements in the global standard.

However, while the use of extensions provides a good deal of flexibility and facilitates the adoption of ISO 20022, the downside is that they create additional complexity for institutions who want to process or translate these messages. Additionally, there is a risk that the use of extensions becomes an easier way to implement changes to the ISO 20022 messages rather than going through a formal change release cycle.

4 Possible Migration Approaches

This chapter focuses on the key elements of a market migration namely:

- who is going to be impacted
- whether all processes or a subset will be affected over the life of the programme
- the merits of mandatory versus voluntary migration approach
- the ideal timeline of a migration

Once the decision on scope has been made, there remain some critical implementation decisions, including the appropriate timeline. Whether to go for a voluntary or mandatory migration, and in the latter case how to enforce the move. Clearly, where a proprietary channel is being terminated, the ability to enforce a mandatory change is easier. Where a previous standard stays active or other channels exist — as is often the case — this is clearly far more complicated.

4.1 Market scope and focus of migration model

Being clear about the target market scope — i.e., the participants who will be directly impacted by the programme and those who will not — is key decision that must be made in any migration programme. It is the WG's view that the most effective migrations are those which have been limited to direct market participants only. This is partly because a clear compliance mandate exists over these participants, but also because of the sheer practicality of having to influence and change a much smaller population.

In post-trade markets, the further away from the centre of Diagram 1 (i.e. the CSDs and their direct participants), the more challenging the change process becomes. Financing a programme of adoption within an investor firm will be highly unlikely to reach return on investment (ROI) hurdle rates.

This is because there is an expectation from institutional investment firms that their global custodians or agents will translate data and manage messaging to meet the various standards and requirements in local markets. This service is a key part of the custodians' value proposition. The investors appoint custodians partly to shield them from this complexity.

When reviewing previous examples, quite clearly the broad industry programmes such as ISO 7775 through to ISO 15022, had global applicability, certainly across all global and local custodians. However, in other local market examples, such as the DTCC migration for corporate actions, the direct impact was only for direct market participants. The view was that the market participants without direct FMI connectivity have flexibility on how they obtain the information required to meet the needs of the local market.

With the ECB / ECSDA changes on SCORE, the WG is seeing an ongoing debate on the scope of the changes and with an initial view to make this market-wide, including offshore investor layers. It is the WG's view that this will be very hard to mandate and manage, and so the ambition will be to ultimately have to scale back to market participants.

4.2 Comprehensive versus process stream-focused migration approaches

An additional decision that needs to be taken upfront by any market seeking to roll out a migration programme is whether to seek a full 'big bang' adoption of messages for all business processes, or to take a staggered approach and have market participants adopt a subset of processes and messages across several phases. For example, in Europe to date, the approach to the adoption of ISO 20022 has been by stream of activity, initially for settlements under T2S messaging, and subsequent phases under SRD II and the new SCORE regulations covering collateral management activities. In consultation with their participants, the DTCC also chose a phased approach, deciding to move their corporate actions business flows only and leaving all other flows on proprietary standards.

4.3 Mandatory Approaches

Use of a mandatory change may be required if the market driver is to turn off or eliminate other options.

A critical point to consider before embarking on a mandatory approach is to consider whether anyone has the mandate to force a change of standard, and if so, over what population? This is the case when a regulator or FMI has a restricted scope and therefore can only mandate a move to the new standard to the participants in the central part of Diagram 1 (see above). It is also important to consider who can monitor progress, educate where needed, and decide when the tipping point is reached; i.e., when the migration is considered complete.

In the absence of a clear mandate, any programme effectively becomes a recommendation and therefore voluntary.

For example, under SRD II, the target market had to comply with the new regulations and adopted the ISO 20022 standards because there was no other effective solution. This approach worked, but some firms were not happy with the timelines forced upon them by the regulations. However, as a result of the regulatory clarity, most have now adopted SRD II messages in ISO 20022.

Global utilities also face the challenge that their community of users are not aligned on the use of a single standard. This is because it is very difficult to articulate a global business case for migration – each market participant will have different priorities and constraints and hence a different appetite for the transition.

In a different example, the Legal Entity Identifier (LEI) scheme, which commenced in 2012, has focused its efforts on adoption primarily through regulatory inclusion. This has produced a model which has considerable traction with 234 regulations citing the LEI by the end of 2022. Even though the inclusion of the LEI is in fact voluntary for market participants, the focus is changing and is now far more heavily weighted towards developing stronger business cases with industry sectors for inclusion as a standard practice.

There is also a misconception that network utilities such as SWIFT can 'mandate' the use of a standard. This is not the case, as even if a network provider removes a standard, their clients have options to use other networks or interface models. In the WG's view, it is misguided to focus on using network providers to force mandatory adoptions through their channels. This is because, ultimately, a network such as SWIFT is driven by the demands of its users and if enough users fail to migrate, then SWIFT has no choice but to continue supporting the old standard. This is in contrast to an authority such as Eurosystem, which has the power — in its own jurisdiction — to enforce change.

4.4 Voluntary Approaches

For the reasons described above, many programmes of change are de facto voluntary, often supported by a market leader or industry associations advocating the merits of such an approach.

The challenge with a voluntary approach is that since there is no mandate, each participant has the freedom to assess if, and when, they will move. Decisions are taken at the individual firm level and are business case-driven. Each case will consider factors such as customer demand and improved service levels, as well as the costs and risks of the technology changes.

The industry has tried different models to encourage change within a voluntary approach.

i. The first has been to articulate the benefits or cost incentives aligned to use of the future standard. An example is the Funds Market, where prior to the introduction of message standards, there were very low rates of automation and high fax usage, so there was a clear business incentive to adopt new messages to cover processes with low levels of automation.

ii. An alternative model of encouragement has been to penalize or apply a financial disincentive to the use of legacy formats. DTCC used these successfully as a means to speed up the adoption of ISO 20022 from proprietary messages.

So, even with incentives and disincentives, it is rare for voluntary moves to drive broader market adoption unless they create extreme economic differences, and such models are usually hard to put in place with any degree of market acceptance.

The view of the WG is that the adoption rates under a voluntary scheme will be a function of the business case benefits. Where these benefits are strong, the larger participants will generally follow and adopt. However, there will always be a tail of participants, with relatively low volumes, for whom there will never be a strong enough business case to move.

4.5 Decisions on timelines and considerations influencing this timeline

A final key decision to be taken in any migration programme is the necessary timeline to complete adoption. This needs to take into consideration both the process to research and engage with market participants, as well as the time needed for market participants to change existing systems and introduce any new standards or messaging. In general, the WG sees markets going through several phases when changing standards:

PHASE	FOCUS	DETAILS
Phase 1	Analysis of Objectives and Benefits	Typically, a period where the sponsor will assess the goals and objectives of changing market standards.
Phase 2	Market Consultation	An initial market consultation to validate any core objectives and benefits from the change programme, and to gauge market buy-in.
Phase 3	Task Force – Migration Approach / Time	Option to invite market participants onto a Task Force to assess and decide on the specific migration approach and timelines.
Phase 4	Announcement Period / Market Testing	The necessary lead-time to allow firms to prepare for the standards change, including budgeting, technology planning and execution, and testing periods.
Phase 5	Migration Start Date	The announced start period for acceptance of new standards.
Phase 6	Monitoring Period and Progress to Plan	The ongoing period where the programme sponsor will monitor progress against the initial plan and gauge the need for adjustments or extensions.
Phase 7	Migration End Date	The closure of the migration period, and potential demise of previous channels/standards.

TABLE 1: SUGGESTED PHASES FOR SUCCESSFUL MIGRATIONS TO ISO 20022

In the use cases that the WG has examined, it was observed that cycles varied quite heavily from case to case. This was largely driven by the nature and breadth of changes, the impact to the market participants and the assessment of the technological change and challenge.

For example, the DTCC and JASDEC local market examples estimated the end-to-end time for planning through to migration at approximately five years, while the Global Payments Migration to ISO 20022 allowed for a migration period of four years following many years of consultation and planning. However, the WG has also seen more expansive examples, such as the Funds Migration to ISO 20022 which started in 2000, experienced challenges to obtain full adoption, and finally ended in 2018 without having reached its initial objective.

From discussions within the WG, there is a broad agreement that Phases 1-3 should take at least one year, Phase 4 a minimum of 18 months, and Phases 5-7 at least three years, particularly for any notable market change programme. However, in the case of market infrastructure projects, Phases 5-7 can take place overnight or 'big bang-style', since these projects involve fewer parties and they are all connected to a central party.

5 Implementation considerations

5.1 Decisions covering co-maintenance and co-existence

One key consideration for any strategy when changing standards is how to manage both the co-maintenance of existing standards and the timeline for co-existence alongside other message standards. The co-maintenance and co-existence decisions are not issues when a market is replacing a proprietary solution which will be terminated at the cut-over date, but are very relevant if a market is planning any changes between two ISO standards.

Co-maintenance and co-existence are not alternatives — it is perfectly possible to implement a co-maintenance scheme during co-existence. In the case of securities markets, the industry is *already* in a co-existence period, because although ISO 20022 is used by several FMIs, and in some business processes, the majority of volume and flow still uses ISO 15022.

Co-existence is simply the state where two, or more, message standards exist to cover the same business process.

Co-existence does not just exist between different standards. Co-existence also exists within ISO 20022, especially in the Securities domain. Since certain data elements are different in ISO 20022 than in their ISO 15022 equivalents (reference and amount lengths, for example), some institutions use variants. For example, DTCC uses variant '002' for their Corporate Action message communication. In addition, some FMIs do not always upgrade to the latest version of a message, which leads to not only different variants of the same message being used, but also different versions of a message for the same business process (see above).

Because standards are global, an individual market cannot simply decide to stop co-existence without the buy-in of the rest of the market. Although the Securities Maintenance Working Group (ISO 15022) and the Securities SEG (ISO 20022) have some influence over this and can issue recommendations, the final decision lies with global community of users. Practically speaking, this means that even if a community (e.g., in Europe) decides that ISO 15022 and ISO 20022 should be frozen during a given migration period, other communities (e.g., the US or Asia) may still decide that they need changes to be made to those standards.

To help with any migration to ISO 20022, the SMPG continue to review potential solutions to avoid moving from co-existence between ISO 15022 and ISO 20022 to a scenario where there are more complex co-existence issues within ISO 20022. For example, would limiting the need to change version numbers for ISO 20022 messaging help institutions move to, and remain on, the latest version? Today, every time a change is made to a base ISO 20022 Securities message, it is reissued with a new version number. So, if the market wants to reduce costs and complexity, it also needs to align on how to reduce the number of versions that can be used.

Co-maintenance is the process where two standards are maintained in synchronisation, so that when a change is made to one standard an equivalent change is made to the other. This ensures that industry participants can take the benefits of message changes in either standard and it also ensures that industry chains which use both standards can easily interoperate. However, one side effect is that it does negatively impact the business case for migration because everything in the new standard is also possible in the old one.

The ongoing co-maintenance has provided a practical and stable environment for process harmonization and migration planning. However, there is little market insight on the real costs of co-maintenance. Despite the logical argument that the WG came across — that using and maintaining two standards is expensive — it is frequently indicated by leading participants that it is in fact preferable to the additional cost and risk of a wholesale migration.

This raises the question as to whether it is in fact more cost effective for the market to operate with two standards for an extended period? It is frequently debated that one way to encourage firms onto a new standard is to end co-maintenance, so in the case of a move from proprietary or ISO 15022 to ISO 20022 new features are only presented in the ISO 20022 standard message. The argument is that this would contribute to a stronger business case for adoption of the new standard.

While this may seem logical, the WG's experience shows that this does not provide enough of an incentive, and rather than move to the new standard, market participants simply agree bilateral workarounds using free format fields in the old standard which can result in reduced STP, increased risk and manual effort.

In some business areas, for example in settlement and reconciliation, there are only a few change requests submitted every year, so stopping co-maintenance would not provide enough of a differentiator to create a case to move to ISO 20022.

This raises a debate on the merits of ongoing co-maintenance without an end date, in order to support the alignment and harmonization of processes and to retain full data model interoperability. A viable alternative could be greater use of intelligent translation tools. Should the industry spend more time exploring models for a standard set of mapping rules and access to market standards translation tools, rather than a migration?

In respect of the migration of payments messages to ISO 20022, once the industry agreed the conversion date to the new standard, it also agreed a final maintenance round and the freezing of both standards.

A final key point for consideration in any implementation strategy is the conversion date for a new standard and whether this dates is aligned to the market release date; i.e., the date of the global release of a new version. This topic has several complexities which need to be taken into consideration. Whilst on the surface this may seem efficient in terms of aligning with a single standard change date, the complexities include:

- Allowing the option for a market participant to roll back code to a previous version if problems should arise
- Aligning to a single market date requires excellent project management across all participant firms and does not envisage issues which may be encountered late in the project and which will impact upon a firm's ability to deliver on the date

6 Challenges Relating to Ongoing Management of ISO 20022

As the WG sees wider adoption of ISO 20022, there are also signs of a range of issues to which the industry needs to stay alert. These relate to the way in which the ISO 20022 standard is maintained and managed. The WG believes that in order to reap the benefits of ISO 20022, it will be necessary to actively support the SMPG and ISO governance processes so that the industry has a stronger governance model and more harmonized use of ISO 20022.

The ISSA view is that there are benefits for the industry to align around a common data dictionary. The WG does not see the challenges of ongoing management of ISO 20022 as barriers to migrating to ISO 20022. However, it is essential that the industry addresses and resolves these emerging issues collectively.

6.1 Flexibility through Extensions

As mentioned in an earlier section, one of the appeals of ISO 20022 is that it allows for the addition of new fields and other changes to the base standard through an industry led maintenance cycle. And while this can help support market migrations, it does create an additional complexity for institutions that do business in multiple markets. So, extensions should be used sparingly and with care – communities should first try and align on use of the core standard, and only reach for an extension as a last resort.

6.2 Versioning

In ISO 15022, only one version of the standard exists, and the new version is upgraded in synch by all its users every November.

For ISO 20022 when changes are approved to be made to the standard, the base message is updated, and ISO publishes a new version of the messages. There is no global mandatory set of rules or agreements that ensures that all markets update their ISO 20022 standards version at the same time (or indeed update their version at all). Global market participants must be able to manage and process several versions of ISO 20022 at the same time. For example, JASDEC are several versions behind the latest ISO 20022 version because the newer versions do not bring any benefit to the Japanese market so there is no business case to transition.

Another example is the messages used by T2S. The current version is based on a mix of ISO Maintenance Releases 2017 and 2019 which not been maintained for several years. However, following the unfreeze strategy of Target Services, there are also ongoing discussions at the AMI-SeCo SEG Task Force on the optimization of T2S message customization (TFOS). There is also a decision to take with respect to the management of future annual releases.

The latest news is that it is possible that an upgrade may take place in June 2026. This will mean T2S registered messages will be aligned with the latest ISO 20022 versions of the base messages and their usage guidelines.

For a global perspective, this lack of global alignment to the latest version means that industry participants cannot simply upgrade all their systems to one version of the standard but must continue to manage several versions simultaneously. To avoid this complexity, harmonization across FMIs is needed so that FMIs always upgrade their systems to the latest version of a Standard. However, some FMIs are reluctant to do this, particularly when the new changes are not relevant to their market and moving from one version to another brings only cost and risk but no additional benefits. In addition, some FMIs argue that moves to a new standard should be staggered to avoid systemic risk and to enable participants of more than one FMI to stagger their testing.

6.3 Non-adherence to global market practice

The SMPG has been working for more than 25 years on defining a global market practice for the exchange of cross-border data. Although these market practices are well documented, some key international participants and market infrastructures do not follow all the global rules. This is due to internal system constraints, the need to adhere to local market practices, and a lack of business incentive to align with other markets.

Those participants who do not adhere to global practices should challenge themselves as to whether non-adherence is best for the overall industry, rather than simplifying their own needs.

6.4 Lack of local market practice harmonization

Having a common base standard does not mean that it is used the same way by all parties. Differences exist for three key reasons:

- There is a lack of alignment on how the standards should be used (although SMPG rules do exist)
- The standards must cater for differences in regional and local market practices. For example, under T2S, there are different rules on which fields are required in ISO messages. This lack of harmonization means that there are different requirements in the EU compared to other markets
- Where market practices are different, global users must maintain different templates and data models/elements by market and a system conversion layer that can adjust interactions by market

This lack of harmonization already exists with ISO 15022 and will continue to represent a key ongoing challenge, even if markets do migrate to ISO 20022. The market will not speak 'a single language' because a move to a new syntax will not solve the fact that there are fundamental differences in local market requirements and regulations.

7 The Role of Technology and Alignment with Leading Vendors / Partners

When considering standards migration, there is frequently a lack of sufficient engagement with both in-house technology teams and external technology vendors.

From an in-house technology perspective, it is important to understand the impact and timelines for the adoption of new standards. This engagement with the technology organization should occur as part of any market outreach analysis and research. The programme sponsor needs to understand the challenges — such as competing regulatory programmes — and the timelines for adoption. These should be fed back into the overall market programme.

In terms of external technology vendors, the WG has seen a significant expansion over the past ten years of third-party vendor solutions for core platforms and processing engines in the securities and cash payments industry. It is important to understand this landscape for the simple reason that close partnership with the major vendor platforms can greatly accelerate the transition timelines and materially alter the costs of changing standards. For example, in corporate actions, most technology vendors have the option for clients to process either ISO 15022 or ISO 20022, or both messages built into their platforms.

However, regardless of the presence of an ISO 20022 vendor solution or not, there will still be a migration project to switch standards, which will require careful and early planning, heavily involving the technology resources.

In addition, there will be the question as to whether the market should collaborate more closely on creating a set of translation rules, and whether the current SMPG could define / maintain these translation rules working closely with SWIFT Standards. The industry could work far more proactively with leading technology vendors that have solutions in each area of the asset servicing lifecycle processing to develop and provide a set of translation capabilities that align to any industry standard translation rules so that we improve the consistency and interoperability of these standards.

Such an approach may make the market question whether a full market adoption of ISO 20022 is required at all? Instead, the market could continue to live with co-existence but seek to reduce costs and risks by taking a more consistent approach to translation as a far more practical model for changing standards at a market level.

As noted above, vendors should look to ensure that the solutions that they provide conform with the global market practices. The vendors should try to promote these practices with their clients, and provide tools to identify and highlight deviation from the standards.

8 Insights and Recommendations

This report has highlighted the broad number of complexities when planning and considering a change of standard, and in particular a shift to ISO 20022 for the securities industry. There are complex sets of decisions to be taken, each requiring close consultation with market participants who must navigate and benefit from such changes.

It is important for markets to assess the importance of the benefits against an industry backdrop where the WG sees a wide range of other market changes that market participants are navigating, including shorter settlement cycles, tax and regulatory changes, and a complex geopolitical compliance framework. ISSA has generally found that migrating from ISO 15022 to ISO 20022 has yielded relatively less impactful outcomes than moving from non-ISO standards, especially in areas with stronger market practices and high STP rates.

ISSA is supportive of a migration to ISO 20022 where there is a business case. This by no means suggests that the migration to ISO 20022 will give the industry a perfect global model, but it will allow firms to have a more sophisticated single standard where adoption provides easier global coverage and access.

The WG has structured the conclusions both as a set of summary insights for markets considering an ISO 20022 migration programme and also as a few specific recommendations for the industry to consider in terms of areas of focus and collaboration, in order to ensure that the standards available meet the needs of industry practitioners.

Summary migration insights

1. Before embarking on any standards migration or adoption programme, there are critical success factors which should be considered in order to minimize the chances of delay or of not meeting the objectives of the move, thereby causing unnecessary costs and risks for the industry. These are as follows:

   i. Undertake a formal and transparent Market Consultation Process with the market participants, to understand alignment with the perceived business case and anticipated migration challenges

   ii. Give the market adequate time to prepare and then migrate, understanding that a full end-to-end programme may span five years

   iii. Limit the scope of the initial migrations to areas / processes where there is a clear business case, deemphasizing areas where the benefits are less tangible

   iv. Limit market participant scope to direct market participants, recognising that the influence over offshore or indirect participants may be less certain and the complexity of a far higher number of impacted parties may delay implementation

   v. During the migration phase, allow co-maintenance and co-existence to continue so that translation is facilitated and interoperability is possible between those participants who are ready and those who are not

   vi. Ensure all new functional processes are implemented solely using ISO 20022 and no new products or processes are retrofitted into ISO 15022. The inability to create new messages or add new business processes to ISO 15022 should be not used as an excuse not to implement these products and processes in ISO 20022. The only exception to this rule is changes which are mandated as the result of new regulations

   vii. Limit use of extensions where possible. If extensions are used to facilitate a migration, then put in place a plan to align with the core base standard within two to three years

   viii. FMIs should align to the latest base standard of ISO 20022. This will limit the number of versions in use by the industry. All participants should put in place budgets and plans to update to the latest schema annually

Industry Recommendations

The WG would make three core recommendations that the industry should debate and take forward:

1. ISO 20022 is now 20 years' old, so it is time to review the governance structure that was defined when the standard was first created to establish whether it still meets industry requirements and is effective to drive change. In addition, the ISO 20022 change request process is regarded as hard to navigate so once the review is complete, it needs to be clearly explained to the industry. This governance involves several interlocking elements beneath the ultimate ownership of the standard with ISO Technical Committee 68, Sub-Committee 9, and its various working groups.

   To be effective, this review would benefit from representation from a number of parties including ISO TC68 SC9, ISO 20022 Registration Management Group (RMG) — which represents the ISO 20022 user community and organises the Standards Evaluations Groups (SEGs) — and SWIFT, as the ISO-appointed Registration Authority (RA) tasked with the overall maintenance and development of IS0 20022. The SMPG and the Maintenance Working Group (MWG) are not part of the governance but can usefully feed into this structural review.

2. Differences in local market practices are an area of friction and cost to the industry. The industry has been collaborating for many years through the SMPG to set Global Market Practice Guidelines. To leverage this work, all custodians should use and enforce the use of global market practice rules and, wherever possible, network providers and possibly technology vendors should provide tools to validate adherence to these rules for all cross-border flows. To drive this recommendation forward, we would require representation from a select group of custodians under the ISSA umbrella, SWIFT, and possibly relevant technology vendors.

3. Additionally the WG believes that the SMPG should action three small tactical steps to help understanding and visibility:

   i. Publish information that shows differences in global market practice adherence

   ii. Look to limit the number of versions; for example, by grouping changes into logical releases to minimize the number of releases

   iii. Agree a model for collaborating with a select number of technology vendors to support enforcement of the rules

9 Appendix A – Summary Insights from Previous or Current Standards Migration

In compiling this report, the WG has drawn upon a range of experiences in terms of the different approaches taken as well as the outcomes achieved from these approaches. The WG has summarised the findings here in the core document, however, more detailed assessments are included in the Appendix.

The migration from ISO 7775 to ISO 15022

Until the late 1990's, ISO 7775 was the dominant standard in securities post-trade, with ISO 15022 messages only available to parties who wanted to use them in a 'closed user group'. In 1998, after many years of debate, the securities industry agreed to start a global migration from ISO 7775 to ISO 15022. The business case was clear: ISO 15022 messages promised higher rates of automation, driven by enhanced business functionality and better structured data. Since it was built around the ISO 15022 data dictionary, the new standard promoted reuse of common data fields.

The migration project was initially scheduled to occur over two years, but the total timeline was extended to four years to allow all parties prepare themselves. The migration itself started in November 2001 so that both standards could coexist for one year in 'general use'. In November 2002, all ISO 7775 messages were removed from the SWIFT network. The migration was a success resulting in impressive gains in automation, up from 70% to over 95% straight-through processing (STP) for the settlement process.

Nonetheless, not all securities traffic migrated to IS0 15022 and ISO 7775 is still used today over private networks.

Insights: (1) Even where there is industry buy-in and a clear rationale to move, the time taken to prepare a migration should not be underestimated. (2) Even though major networks no longer validate a standard, it can continue to be transported in files, or used elsewhere.

Funds migration to ISO 20022

In early 2000, the industry collaborated to create a set of dedicated ISO 20022 messages, including subscription and redemption messages, to cater for the needs of the Investment Funds Industry. Until then, ISO 15022 had been adapted for funds orders and order confirmations and there were no messages to cover the specific funds processes.

In 2011, the SWIFT community decided that ISO 20022 should be used for all funds flows over the network and agreed that by November 2013 the industry should move to that standard so that funds specific data in ISO 15022 could be removed during maintenance.

However, take-up of ISO 20022 was not fast as expected. To incentivize migration, the SWIFT Board initially agreed that those who had not moved to the new messages would pay higher fees. However, this price increase did not prove enough of an incentive to create a business case for the smaller participants and, in 2018, the SWIFT board acknowledged that although the largest participants had moved, their own customers had no business case to move to ISO 20022.

Insights: (3) If paying a premium is still cheaper than migrating or if participants have other priorities, then price incentives won't work. (4) While price incentives may impact large institutions with high volumes, institutions with low volume are unlikely to feel the pain.

Payments migration to ISO 20022

In 2018, SWIFT conducted a global survey to determine the market's readiness and appetite for a migration from SWIFT proprietary MT to ISO 20022. The response from the payment's community was clear – more than 97% of major banks were in favour of the migration to a new standard. The rationale for the move was driven by a combination of factors, such as ISO 20022 being an open, more modern standard, the largest market infrastructures having already issued plans to adopt ISO 20022, and the fact that ISO 20022 offered the ability to carry all the data needed for modern compliance checks which could not be carried out in MT.

The global financial community agreed on a four-year migration period beginning in November 2021 and lasting until November 2025. However, in order to align with T2 and other key payments market infrastructure plans, the start of cross-border migration was pushed back to March 2023, although the end-date remained fixed at November 2025.

To facilitate the transition from MT to ISO 20022, SWIFT made sure that the community was aware of the dates and how to get ready through awareness campaigns. SWIFT also provided tools to support the transition, including market practice guidelines, in-network translation capabilities and the SWIFT Transaction Manager, which orchestrates flows between parties and protects richer data. Together these measures ensured that parties who are ready to use ISO 20022 are still able to interact with those that are not, whilst complete structured data is maintained end-to-end. Nevertheless, as of April 2024, the adoption of ISO 20022 was slower than expected, with only 20% of cross-border payments traffic [1] over the SWIFT network having moved.

Insights: (5) Market infrastructure readiness and support are key enablers of migrations — any delays in their start dates may impact other plans because their participants are in turn impacted (6) Translation tools are a key enabler to support complex migrations, particularly when data could be truncated.

Securities recent market use cases

Indeval, the Mexican CSD, moved to ISO 20022 for Corporate Action and Payment messages. The rationale was that there was market demand for better Corporate Action messages and Indeval wanted to be ready for the international adoption of ISO 20022 for payments. Indeval continues to offer proprietary formats for its interface, but where SWIFT is used, the migration to ISO 20022 will be in line with the international November 2025 deadline for payments. This allowed Indeval to leverage the SWIFT overall approach to timelines and syndication. The adoption of ISO 20022 prior to the deadline has not occurred.

Insight: (7) Market infrastructures may agree that to migrate from one standard to another is desirable in an international context only, and still allow local standards to be used domestically.

NASDAQ, historically NASDAQ CSD used proprietary or ISO 15022 messaging standards. ISO 20022 became the standard in 2017 following the cross-border merger of the central securities depositories of Estonia, Latvia, and Lithuania, implementation of a single NASDAQ CSD IT solution across all three Baltic countries, and migration to European settlement platform TARGET2-Securities (T2S), as well as re-authorization in accordance with the European CSDR regulation. In 2020, NASDAQ CSD Iceland moved on to the common platform and upgraded to ISO 20022. The decision to move to ISO 20022 was agreed by the users, who recognised the benefits and mandated and progressed along the lines of the CSD consolidation and the T2S timetables. In all the move has been successful and sets the scene for further success of the CSDs.

[1] Source Swift

Insight: (8) Consolidation of systems and platform renewals are key contributors when articulating the business case to upgrade to the latest message standards.

JASDEC, the CSD in Japan, introduced ISO 20022 messages related to securities settlement for its Book-Entry Transfer Systems (securities settlement systems) and Pre-Settlement Matching System. Specifically, JASDEC has adopted Settlement and Reconciliation messages, Post-Trade Matching messages and some payment messages. The migration, started after extensive consultation, was agreed for direct market participants using CPU connections. The migration started in January 2014 and was completed, on schedule, at the end of 2018. During the migration, JASDEC inter-converted the messages between the two formats and maintained them both to facilitate the orderly migration. ISO 20022 has not been introduced to the low volume connection platforms.

The market agreed to the migration to maintain JASDEC's best practice settlement services, to obtain the benefits of ISO 20022 and to facilitate international investors' access to the market.

Insight: (9) Careful planning, including a careful assessment of what should / should not be included in the scope of any migration is a critical success factor in its success.

Target 2 Securities (T2S) was delivered by the European Central Bank (ECB) to address the fragmentation of the European Securities Settlement landscape. In its implementation, T2S followed a forward-looking approach in order to realize the opportunities that ISO 20022 offered in comparison to ISO 15022, including its ability to build bridges between the worlds of transactions, risk management, internal reporting, and regulatory reporting.

Since T2S's 'go-live' in June 2015, T2S has made use of ISO 20022 to interact with its direct participants via an application-to-application interface. T2S offers over 130 different ISO 20022 XML message types, not only in the securities settlement and securities management business domain, but also for cash management, account management, collateral management and for reference data. Most use cases implemented by T2S via ISO 20022 are not supported by the legacy standard ISO 15022.

The ISO 20022 data dictionary allows T2S to seamlessly integrated with other TARGET services in the financial industry eco system. For example, T2S interacts with T2 which offers central liquidity management as well as high-value payments services and is also ISO 20022-based. ISO 20022 offers synergies across all existing and future TARGET services which would be difficult to reap with different international message formats such as ISO 15022 whose primary relevance is only in the securities business context.

DTCC's decision to replace use of proprietary Corporate Actions messages with ISO 20022.. The original motivations for adopting ISO 20022 was to adopt an international standard, so that DTCC's data would be better harmonised with the global community. The possibility to use extensions in ISO 20022 was also a key factor in choosing the standard because there were several pieces of data that were critical in the US market which could not "fit" in ISO 15022. The programme was multi-year (roughly five years from start to finish), well-syndicated, and had a clear business case. Since the move was between a proprietary format and ISO 20022, there were no co-maintenance constraints.

Insight: (10) The impact of large market infrastructures migrating to new standards is broader than its direct participants.

Shareholder Rights Directive 2 (SRD II). This was an EU-driven mandatory implementation to improve shareholder engagement. The timeline was short and there was a lack of existing messages that could allow straight-through processing (STP) of the meeting information required up and down the value chain. The market therefore agreed to adopt ISO 20022 to meet the new SRD STP requirements.

Insight: (11) When there is a clear market need for something new, this facilitates the adoption of ISO 20022.

10 Appendix B – Detailed Analysis of Previous or Current Standards Migration

10.1 JASDEC

Scope and Programme Details

What was the scope of activities that your ISO 20022 adoption programme covered (e.g., proxy voting, trade settlements, etc.)?

JASDEC, the CSD in Japan, has introduced ISO 20022 messages related to securities settlement for its Book-Entry Transfer Systems (securities settlement systems) and Pre-Settlement Matching System. Specifically, JASDEC has adopted Settlement and Reconciliation messages, Post-Trade Matching messages and a few payment messages.

What was the nature of the existing messaging / standard that the new ISO 20022 messages covered? Where these replacements or new messages?

As you know, ISO 15022 is widely used in the securities settlement area. Before ISO 20022 introduction, JASDEC's system had used the ISO 15022 messages customized to align with market practices in Japan.

Was the adoption of ISO 20022 voluntary or mandatory? Why did you make the choice that you made?

There are three types of connection methods that exist between JASDEC and its users: i) the CPU connection method (in which the computer systems of the users are directly connected to the JASDEC's systems); ii) the file transmission method and; iii) the web terminal connection method. JASDEC only mandated that CPU connection users had to migrate to ISO 20022 and that migration has already been completed. However, JASDEC has not introduced ISO 20022 to the file transmission method and the web terminal connection method.

JASDEC made it mandatory for the users of the CPU connection method to migrate to ISO 20022 to avoid double maintenance cost due to co-existence of two message standards and to maximize the benefits of ISO 20022 introduction described below.

If mandatory, how was this mandated (e.g., through regulation), and what population of entities did this mandate impact? Also, how was this enforced — in terms of consequences for non-compliance?

JASDEC made it mandatory at its own discretion, without being enforced by regulations. By eliminating the old connection method, JASDEC encouraged users to migrate to the new connection method using ISO 20022. All users of the CPU connection method (approx. 200 companies) were impacted by the decision. JASDEC reduced the impact of the ISO 20022 introduction by participating in the discussion for the development of ISO 20022 securities messages from an early stage to ensure that ISO 20022 would be consistent with market practices in Japan and the specifications of JASDEC's system.

What were the programme outcomes, or if still in progress the status versus your original plan?

JASDEC's introduction of ISO 20022 was completed as planned, with the migration of all users completed at the end of 2018.

Motivations and Business Case:

What were your principal motivations for adopting ISO 20022, and how did you position the success outcomes which were you looking to achieve?

JASDEC has incorporated to “keep business environment and structural changes in the capital market firmly in mind and provide globally recognised best practice in settlement services” into its basic management policy and has been working on it as one of its key management issues.

In trying to "provide globally recognised best practice in settlement services", international standardization was an issue for JASDEC which had previously used customized ISO 15022 messages. In particular, amidst the increase of investment in the Japanese market from overseas investors, compliance with international standards was essential to reduce costs in cross-border transactions.

Under these circumstances, ISO 20022 was established, which adopted flexible and extensible XML. SWIFT also announced that it would migrate from ISO 15022 to ISO 20022 on SWIFTNet for the securities messages (after that, due to the impact of the financial crisis in 2008, SWIFT's policy was changed to make them co-exist.)

Thus, JASDEC decided to introduce ISO 20022, the new international standard, mainly to reduce costs in cross-border transactions by enabling the entire settlement chain to communicate under a unified standard in the future and to streamline system development by introducing XML.

What influence did global / other market actions have on your decision to pursue an ISO 20022 agenda?

As mentioned above, amidst the increase of investment in the Japanese market from overseas investors, one of the objectives of JASDEC's ISO 20022 introduction was to reduce the cost of cross-border transactions through international standardization.

Programme Features and Timeline

Did you consult with market participants before locking down your programme? How extensive was this and how long did the phase take?

In introducing ISO 20022, system specifications…etc., were determined after close consultation with market participants who are major users of JASDEC.

Was there a strong market buy-in, or was it quite mixed?

Although the degree of support varied from user to user, JASDEC was able to obtain their cooperation by continually explaining to users the necessity of compliance with international standards and the usefulness of ISO 20022.

Once announced, what timeline for market adoption did you agree? Did you change this timeline at any point in the programme?

JASDEC introduced ISO 20022 in January 2014 and set a schedule to complete the migration of all users by the end of 2018, after a five-year co-existence period. Within this co-existence period, all users completed the migration and there were no timeline changes.

Where a mandatory programme of adoption occurred, what approach did you take for co-maintenance and co-existence during the migration period?

During the five-year co-existence period, maintenance of the old format was not frozen, and when changes were necessary, updates were made in the same way as for the new format. In addition, JASDEC's system interconverted ISO 15022 and ISO 20022, enabling users to make flexible and smooth migrations at any time.

How did you decide on the scheduled dates for final adoption and how important was the synchronization with annual ISO messaging releases?

After consulting with the users, JASDEC decided on the date of introduction and the migration period for ISO 20022. Synchronization to the annual standards release (SR) is performed only when a mandatory element in ISO 20022 or an element used in JASDEC's system processing is affected, thereby minimizing the burden for responding to SR. The timing of synchronization is determined based on the seriousness of the effects of SR.

Programme Outcomes

To what extent has the ISO 20022 programme achieved its pre-stated goals? Where did it meet or exceed expectation / where did it fall short?

By completing the migration at the end of 2018, we achieved one of our initial objectives, which was to comply with international standards. The use of XML also made system development and user testing more efficient.

On the other hand, in the securities settlement area, although the introduction of ISO 20022 is progressing at the market infrastructure level, ISO 15022 and ISO 20022 continue to co-exist in the entire settlement chain. In particular, ISO 15022 is still the dominant method of communication with overseas custodians, and the burden of interconversion between ISO 15022 and ISO 20022 continues for sub-custodians in Japan. As revealed in the ISSA survey, the willingness of the securities industry as a whole to migrate to ISO 20022 remains low, and the timing of the migration remains uncertain.

JASDEC believes that early migration to ISO 20022 in the entire securities industry is desirable in order to realize the efficiency of the entire settlement chain in cross-border transactions, which is one of the main objectives of JASDEC's introduction of ISO 20022.

With hindsight, what learnings did you gain from your programme, and how would you have modified it based on these learnings?

As mentioned above, JASDEC's programme has been completed as originally planned.

10.2 Target 2 Securities (ECB)

TARGET2-Securities (T2S) is a common platform on which securities and cash can be transferred between investors across Europe, using harmonised rules and practices. Currently, 24 CSDs from 23 European countries — and by extension their local market communities — are connected to T2S.

T2S was conceived as an initiative aimed at addressing the highly fragmented European securities settlement landscape. It was launched in June 2015 as an integrated platform used to process securities transactions against central bank money. T2S revolutionised securities settlement in Europe by offering a solution which simplified cross-border settlement procedures and eased the difficulties caused by different countries following different settlement practices.

T2S provides harmonised and commoditised securities settlement to central securities depositories (CSDs) and applies a single set of rules, standards, and tariffs to all participant CSDs. This allows the securities settlement platform to lay the foundations for a single market for securities settlement and, as a result, contributes to greater integration in Europe's financial market. Today, the T2S platform processes, on average, over 700,000 securities transactions per day against both the euro and the Danish kroner.

In its implementation, T2S followed a forward-looking approach realising the opportunities that ISO 20022 brings in comparison to ISO 15022, including its ability to build bridges between the worlds of transactions, risk management, internal reporting and regulatory reporting.

Since T2S's go-live in June 2015, T2S makes use of ISO 20022 to interact with its actors via an application-to-application interface. Thereby, T2S offers over 130 different ISO 20022 XML message types, not only in the securities settlement and securities management business domain, but also for cash management, account management, collateral management and for reference data (please also refer to functional specifications on ECB homepage and to repository of T2S message usage guidelines on MyStandards). The majority of use cases implemented by T2S via ISO 20022 are not supported by the legacy standard ISO 15022.

The ISO 20022 data dictionary allows T2S to be seamlessly integrated with other TARGET services in the financial industry ecosystem. For example, T2S interacts with T2 which offers central liquidity management as well as high-value payments services and is also ISO 20022-based. ISO 20022 offers synergies across all existing and future TARGET services which would be difficult to reap with different international message formats such as ISO 15022 which has its primary relevance in the securities business context only.

With the implementation of the Eurosystem Collateral Management System (ECMS), collateral management processes will move to a unique standard format — ISO 20022 — which is accompanied by harmonization standards as defined in the Single Collateral Management Rulebook for Europe (SCoRE). As a starting point, the following three areas will move in November 2024: triparty collateral management, corporate actions, and billing processes.

10.3 DTCC Case Study

Scope and Programme Details

What was the scope of activities that your ISO 20022 adoption programme covered (e.g., proxy voting, trade settlements, etc.)?

DTCC has adopted 13 message types in total within the Corporate Action Message suite, including Announcements Messages (CANO, CACN), Entitlement and Allocations (CAPA, CAPC, CACO, CARE) Instructions (CAIN, CAIS, CAIC, CACS, CAST) and Meeting Messages (MTNO and MTCN).

What was the nature of the existing messaging / standard that the new ISO 20022 messages covered? Were these replacements or new messages?

DTCC sought to replace proprietary file-based deliveries. There were previously no ISO 15022 formatted messages for Corporate Actions. Part of the challenge was that DTCC had many data elements which would not fit in the ISO 15022 data standard. ISO 20022 offered the flexibility to include these data elements.

Was the adoption of ISO 20022 voluntary or mandatory? Why did you make the choice that you made?

The adoption of ISO 20022 by DTCC's community was mandated by the CSD. However, there was a lengthy period of time for firms to adopt the new standard. Firms who did not adopt by a certain date faced disincentive fees if they wished to continue to receive legacy files. Ultimately DTCC made this decision because we wanted to move to standardized, real-time messaging and to avoid supporting two different formats.

If mandatory, how was this mandated (e.g. through regulation), and what population of entities did this mandate impact? Also, how was this enforced — in terms of consequences for non-compliance?

DTCC mandated adoption by eliminating legacy CCF files which contained the same data. The mandate was enforced by a change to DTCC's rule set via the SEC and the addition of a disincentive fee.

What were the programme outcomes, or if still in progress, the status versus your original plan?

DTCC has completed its full transition to ISO 20022. The migration took several years from a client adoption standpoint.

Motivations and Business Case

What were your principal motivations for adopting ISO 20022, and how did you position the success outcomes were you looking to achieve?

The original motivations for adopting ISO 20022 were to provide our participants with a real-time, flexible ISO data structure which would be extensible. This extensibility was a key factor for DTCC in that there were numerous data elements that would not fit in the 15022 standard but which were critical to the US market. Extensions helped make the transition possible as some of this data eventually would be accepted for inclusion in the future global standard. Another key factor for DTCC was that our data would be better harmonized with the global community.

One other key factor for success was the use of the ISO 20022 message variant. The variants across the Corporate Action schemes were created for backwards compatibility with ISO 15022. This was a key success factor in that it enabled DTCC clients to transport DTCC data using ISO 15022 to their clients in the US market. Lastly, we wanted to make sure our clients had adequate means of transitioning between the legacy file reporting to the ISO messaging by continuing certain fields (such as our RDP Reference Number) which a client could use to cross reference.

What influence did global / other market actions have on your decision to pursue an ISO 20022 agenda?

The decision to pursue ISO 20022 was helped by its strong business case (real-time messaging, extensible messaging format, alignment to a global standard) which owed more to the complexities in the US market than the global market. However, this transition was undertaken with the support of many participants within the global community (DTC's participant community, the vendor community, SMPG, ISITC, SIFMA, SWIFT and ISO).

Programme Features and Timeline

Did you consult with market participants before locking down your programme? How extensive was this and how long did the phase take?

Yes, DTCC consulted with numerous market participants in the industry before undertaking ISO 20022. Discussions were had with ISITC about ISO 20022 and as to whether DTCC could use ISO 15022. Numerous consultations were held with SWIFT and other large market participants such as SIFMA, ISITC and DTCC's client / participant community.

Was there a strong market buy-in, or was it quite mixed?

The US market bought in to the real-time standardized messaging solution offered by ISO 20022. There was a large take-up in the US market although the migration did take several years. There are now over 250 firms which receive ISO messages from DTCC.

Once announced, what timeline for market adoption did you agree? Did you change this timeline at any point in the programme?

Each phase of the transition had a different deadline and the migration was undertaken with several legacy retirements over several years. Both Announcements and Entitlements & Allocations had development / implementation / test periods of approximately five years, whereas the Instructions automation had a two to three-year development / test period.

Where a mandatory programme of adoption occurred, what approach did you take for co-maintenance and co-existence during the migration period?

As DTCC did not adopt ISO 15022 there were no co-existence issues. Our issues related to the transition between our legacy file clients and ISO 20022.

How did you decide on the scheduled dates for final adoption and how important was the synchronization with annual ISO messaging releases?

DTCC's decisions were driven by the elimination of the legacy files and take-up of ISO 20022 messages. DTCC Product Management based the adoption dates on consultation with clients to ensure that there was an adequate time period for each file to be converted.

Programme Outcomes

To what extent has the ISO 20022 Programme achieved its pre-stated goals? Where did it meet or exceed expectation / where did it fall short?

The programme has met all its goals. ISO 20022 has been able to deliver a rich syntax of data in an industry standard format that is intraday / real-time. DTCC has been a leader in the industry to help drive the standard and push for change when possible. All of the clients were able to convert to ISO 20022 with minimal disruption. The yearly standards release process has been a success and DTCC keeps up with the most current version of each message whenever possible. As DTCC is one of the most critical sources of corporate actions data, its commitment to the standardization has helped all participants in the market.

With hindsight, what learnings did you gain from your programme, and how would you have modified it based on these learnings?

Large programmes, such as the transition to a new ISO standard, require dedicated teams and robust communication networks to inform the community of the changes occurring. DTCC recognised this as it was adopting ISO 20022 and built a strong team of subject matter experts to help clients navigate through the transition. We recommend such support for anyone undertaking a similar journey.

10.4 Indeval Case Study

Scope and Programme Details

What was the scope of activities that your ISO 20022 adoption programme covered (e.g. proxy voting, trade settlements, etc.)?

The scope included: Corporate Action Announcements to the markets and Payment Messages including instructions, cancellations, confirmations and end-of-day statements.

What was the nature of the existing messaging / standard that the new ISO 20022 messages covered? Were these replacements or new messages?

For Corporate Action Announcements, the markets requested the ISO 20022 Standard. For Payment Messages, ISO 20022 was adopted in compliance with SWIFT Global Standards which allows both ISO 15022 and ISO 20022 to co-exist until November 2025.

Was the adoption of ISO 20022 voluntary or mandatory? Why did you make the choice that you made?

SWIFT is not mandatory for all participants; some clients use the INDEVAL Portal as an alternative and that will remain available going forwards. However, for those participants who communicate via SWIFT, the adoption follows the SWIFT implementation calendar, which is making the adoption of ISO 20022 mandatory by November 2025.

If mandatory, how what this mandated (e.g. through regulation), and what population of entities did this mandate impact? And how was this enforced — in terms of consequences for non-compliance?

Participants who use SWIFT have been notified that Indeval currently supports ISO 20022 and ISO 15022 for Payment Messages and will be mandatory following SWIFT's deadline to continue supporting ISO 15022.

If voluntary, how did you incentivize its adoption relative to the current / previous messaging / standard?

Current voluntary adoption allows SWIFT user participants to prepare for the ISO 20022 adoption when SWIFT makes it mandatory. Although there hasn't been any migration from participants, they are working to migrate by November 2025.

What were the programme outcomes, or, if still in progress, the status versus your original plan?

As mentioned Indeval adopted ISO 20022 and SWIFT user participants are expected to adopt the migration according to the SWIFT calendar schedule.

Motivations and Business Case

What were your principal motivations for adopting ISO 20022, and how did you position the success outcomes were you looking to achieve?

SWIFT's calendar ISO 20022 adoption has been the driver for Indeval' s development.

What influence did global / other market actions have on your decision to pursue an ISO 20022 agenda?

Indeval has the support from SWIFT to migrate.

Programme Features and Timeline

Did you consult with market participants before locking down your programme? How extensive was this and how long did the phase take?

Most participants are also SWIFT users, so they have already been working toward this migration.

Was there a strong market buy-in, or was it quite mixed?

Although, SWIFT user participants have not yet launched their migration, all users agreed that ISO 20022 will eventually become mandatory and thus early preparation is preferred.

Once announced, what timeline for market adoption did you agree? Did you change this timeline at any point in the programme?

Same calendar as SWIFT.

Where a mandatory programme of adoption occurred, what approach did you take for co-maintenance and co-existence during the migration period?

Co-existence, the same as SWIFT's calendar.

How did you decide on the scheduled dates for final adoption and how important was the synchronization with annual ISO messaging releases?

Indeval adapted SO 20022 for SWIFT user participants according to SWIFT's adoption for each message category.

Programme Outcomes

To what extent has the ISO 20022 programme achieved its pre-stated goals? Where did it meet or exceed expectation / where did it fall short?

The goal is that participants fully adopt the payment messages, since it is required by SWIFT by November 2025. Indeval made both standards for payment messages available for SWIFT user participants – that was our goal. Indeval SWIFT user participants have not adopted the ISO 20022 standard.

With hindsight, what learnings did you gain from your programme, and how would you have modified it based on these learnings?

Indeval adopted ISO 20022 in several releases in order to be ready to support participants, but participants have not yet adopted the standard. One single release would have reduced efforts and costs.

10.5 NASDAQ Case Study

Scope and Programme Details

What was the scope of activities that your ISO 20022 adoption programme covered (e.g. proxy voting, trade settlements, etc.)?

NASDAQ CSD uses the ISO 20022 standard for account management, securities settlements, corporate actions, reconciliation, penalty, shareholder disclosure, and general meetings.

What was the nature of the existing messaging / standard that the new ISO 20022 messages covered? Were these replacements or new messages?

Historically, NASDAQ CSD had used proprietary or ISO 15022 messaging standards. ISO 20022 became the standard in 2017 after the cross-border merger of the central securities depositories of Estonia, Latvia, and Lithuania, the implementation of a single NASDAQ CSD IT solution across all three Baltic countries, migration to European settlement platform TARGET2-Securities (T2S), and re-authorization in accordance with the European CSDR regulation.

In 2020, NASDAQ CSD Iceland concluded a legal merger with NASDAQ CSD, becoming the fourth central securities depository consolidated within NASDAQ CSD and adopting NASDAQ CSD's single IT solution. Prior to 2020, NASDAQ CSD Iceland had operated based on legacy proprietary messaging standards. The upgrade to ISO 20022 was a part of the required infrastructure upgrade to ensure alignment with international standards and CSDR reauthorization. NASDAQ CSD in Iceland operates outside of T2S, where the settlement is executed against the Icelandic Central Bank's RTGS system.

Was the adoption of ISO 20022 voluntary or mandatory? Why did you make the choice that you made?

The adoption of ISO 20022 was mandatory. The change was aligned with the migration to T2S where ISO 20022 is the communication standard. Defining ISO 20022 as the standard for communication with CSD clients created the most efficient and forward-looking set-up for the infrastructure's operations.

When NASDAQ CSD Iceland merged with NASDAQ CSD and implemented the single IT solution, ISO 20022 became the required communication standard. The decision to migrate into ISO 20022 was supported by the necessary upgrade of the proprietary communication standard and to establish international practices that can facilitate the growth of the local capital market.

If mandatory, how what this mandated (e.g. through regulation), and what population of entities did this mandate impact. And how was this enforced — in terms of consequences for non-compliance?

The ISO 20022 rollout, along with the implementation of a single IT solution in all three Baltic countries and migration to T2S platform, was well accepted by the market participants who recognised the long-term benefits and efficiencies. Participants using A2A connectivity were committed to the change. Market readiness was a pre-condition for successful launch of a single IT solution and migration to T2S and was therefore closely monitored as part of the implementation project. Upon NASDAQ CSD Iceland's merger with NASDAQ, the same arguments applied, whereby ISO 20022 became a precondition for the required upgrade of the legacy infrastructure and reauthorization in accordance with CSDR.

If voluntary, how did you incentivize its adoption relative to the current / previous messaging / standard? What were the programme outcomes, or, if still in progress, the status versus your original plan?

Implementation of ISO 20022 was completed as planned for securities settlements and corporate actions in 2017, for shareholders disclosure and general meetings along with Shareholder Rights Directive II implementation directive in 2020, and for payment messages along with Target consolidation project in 2023. Icelandic adoption was completed along with the merger with NASDAQ CSD in 2020.

Motivations and Business Case

What were your principal motivations for adopting ISO 20022, and how did you position the success outcomes were you looking to achieve?

Key drivers were related to efficiencies in using the same standard as in T2S, use of harmonized up-to-date standards, a long-term and forward-looking approach, and European initiatives requiring ISO 20022 use; e.g. target consolidation, Shareholder Rights Directive II implementation.

What influence did global / other market actions have on your decision to pursue an ISO 20022 agenda?

Migration to T2S, target consolidation, and Shareholder Rights Directive II implementation, all advanced and fostered ISO 20022 implementation.

Programme Features and Timeline

Did you consult with market players before locking down your programme? How extensive was this and how long did the phase take?

Timely and close consultations were held with market participants before announcing the targeted changes. The input received contributed to defining the implementation timeline.

Was there a strong market buy-in, or was it quite mixed?

The change was well accepted by the market participants who recognised the long-term benefits and efficiencies.

Once announced, what timeline for market adoption did you agree? Did you change this timeline at any point in the programme?

The changes related to settlement and corporate actions messaging coincided with other significant changes in the market — implementation of a shared IT system across three Baltic countries, migration to T2S, harmonization of standards to support T2S operations and the legal merger of three Baltic countries' CSDs. Therefore, the timeline was specific to the case and the adoption of ISO 20022 was established in close consultation with the market participants as well as being aligned with the T2S migration timeline.

The adoption of ISO 20022 in Iceland became a part of a larger reorganization, whereby the CSD merged with NASDAQ CSD, adopted the shared IT solution and became reauthorized under the European CSDR regulation. The timeline was subject to several changes due to dependencies on external factors; e.g., adoption of CSDR regulation in Iceland, Icelandic Central Bank's implementation of a new RTGS system, and conflicts with other large infrastructure projects in the local financial market. The final timeline was mutually agreed with participants of the CSD and other stakeholders.

Where a mandatory programme of adoption occurred, what approach did you take for co-maintenance and co-existence during the migration period?

During the migration period, co-existence of ISO 20022 and ISO 15022 standards were available for corporate actions messages.

In Iceland, ISO 20022 was implemented at the same time as a new system, so there was no co-existence of new and old standards.

How did you decide on the scheduled dates for final adoption and how important was the synchronization with annual ISO messaging releases?

The timeline of ISO 20022 was principally defined by the timing of T2S migration timing along with other European initiatives (Shareholder Rights Directive II implementation and target consolidation). During the Icelandic project, the final timeline was mutually agreed with participants and other stakeholders, taking into consideration the priority of different financial infrastructure projects and other dependencies.

Programme Outcomes

To what extent has the ISO 20022 programme achieved its pre-stated goals? Where did it meet or exceed expectation / where did it fall short?

ISO 20022 is the standard used in the T2S platform, is supported by regulatory and infrastructure initiatives in Europe and is an international standard. The use of ISO 20022 supports an efficient infrastructure set-up, is in line with the European harmonization initiatives, and secures a forward-looking approach by using international industry's standard.

With hindsight, what learnings did you gain from your programme, and how would you have modified it based on these learnings?

ISO 20022 is an efficient and modern communication standard supporting efficient and compliant infrastructure set-up and ensures alignment with international standards and best practices. This in turn supports the growth of the local securities markets.

10.6 SRD II directive initiation

The EU initiated the SRD II directive in September 2018 and compelled its members to implement this into local law by June 2020. The aim of the directive was, and remains, to:

- Engage long-term shareholder engagement
- Enhance transparency between issuers and investors

The EU did not mandate how SRD II should be implemented, just that it had to be implemented in a rather short timeline.

Due to these short timelines and interdependency between the financial institutions, the custodians and intermediaries had to work together.

To support the demand for transparency demand, new ISO 20022 messages for shareholder disclosure were defined and adopted by the community and for ISO 15022 only the MT564 a new 17B tag value was introduced.

ISO 20022 General Meeting messages

Message Type	Description
seev.001.001.10	Meeting Notification
seev.002.001.09	Meeting Cancellation
seev.003.001.09	Meeting Entitlement Notification
seev.004.001.09	Meeting Instruction
seev.005.001.09	Meeting Instruction Cancellation Request
seev.006.001.09	Meeting Instruction Status
seev.007.001.09	Meeting Vote Execution Confirmation
seev.008.001.09	Meeting Result Dissemination

The ISO 20022 messages can be fully STP-processed. However, an area of improvement that could be considered is the number of different dates present on ISO 20022 messages, since these can make some of the message rather complex.

ISO 20022 Shareholder Identification messages

seev.045.001.04	Shareholder Identification Disclosure Request
seev.046.001.01	Shareholder Identification Disclosure Request Cancellation Advice
seev.047.001.03	Shareholder Identification Disclosure Response
seev.048.001.01	Shareholder Identification Disclosure Response Cancellation Advice
seev.049.001.01	Shareholder Identification Disclosure Response Status Advice

11 Appendix - Participants list

- Bloomberg LP
- Citi
- Deutsche Bank AG
- Euroclear
- NASDAQ Inc.
- Northern Trust Corporation
- Proxymity
- S&P Global / IHS Markit
- SWIFT
- Tata Group
- The Depository Trust & Clearing Corporation
- U.S. Bank, N.A.