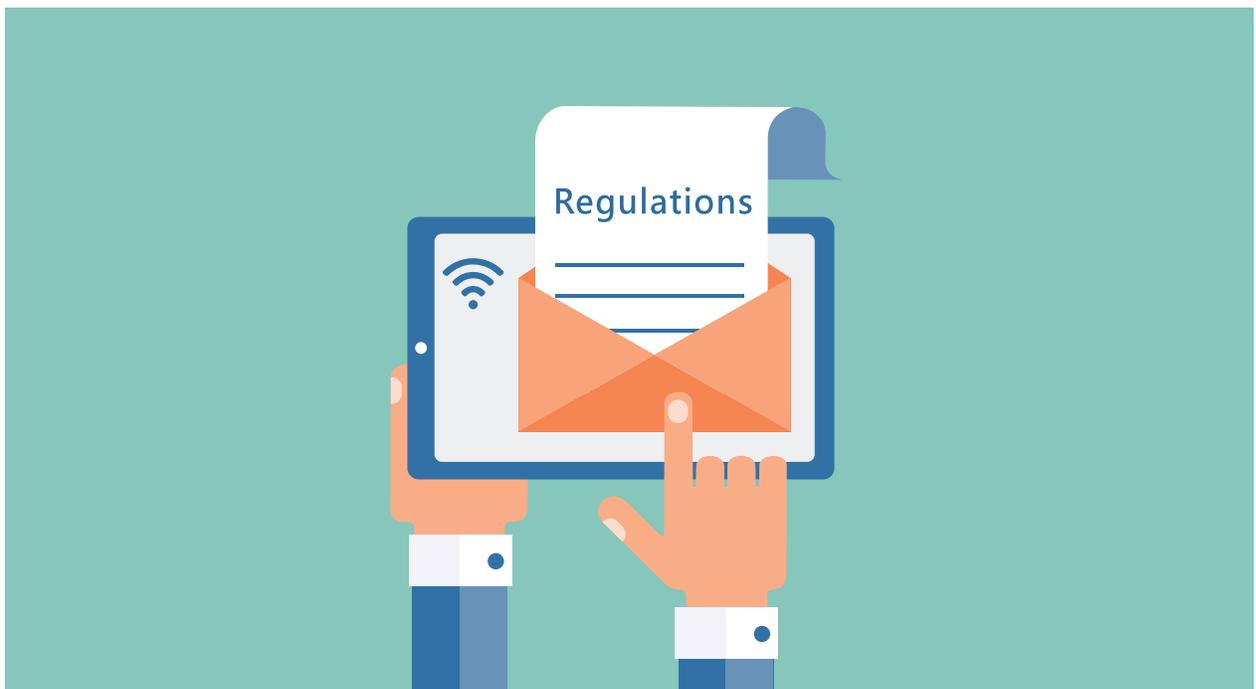# A CO-EXISTENCE APPROACH TOWARDS ISO 20022 ADOPTION

Financial messaging standards are at the heart of virtually all economic activity—from executing the smallest retail transaction to managing massive global institutional businesses; they play a key role in enabling businesses to function effectively. ISO messages are used throughout the industry to facilitate accurate and faster delivery of business information, to ensure Straight-Through Processing (STP), and reduce manual effort and cost of business operations.

At the same time, financial institutions are always on the look-out for newer ways to improve operational efficiencies and reduce costs. In that sense, the introduction of ISO 20022 has been seen by the industry as an improved messaging standard that helps increase STP and improve overall operational efficiency. With industry initiatives such as the Giovanni Protocol for harmonization of clearing and settlement of securities, there is an increasing need from the

securities industry to change from proprietary standards to ISO standards. Standardized messages ensure that data exchanged between institutions is unambiguous and machine friendly, enables efficient automation, thereby reducing risk. ISO 20022 has seen good adoption in the instant payments market, with implementations in Australia, US, Canada, Sweden, Denmark and Singapore.

In the Capital Markets space, there are key business services where

ISO 20022 messages are seeing increased adoption and usage, and they include trade management, corporate actions and statements, general meeting and cash payments. ISO 20022 plays a vital role in distributing this financial information accurately to the market in the form of:

- Support for a wide range of event types and transaction types - All types of corporate actions as prescribed by CA standards like CAJWG and SMPG are supported using unique event types and, at the same time, allow for specific adaptions as needed by the market. On Trade Settlement, ISO 20022 supports various transaction types with the flexibility to create a new type for a market-specific need.

- Improved functionality support – ISO 20022 provides unique message structures to support the entire corporate actions lifecycle, starting from event notifications, option instructions, entitlement details, payment confirmations and reversals, claims and transformations, and reverse claims. Unlike earlier messaging standards where a single message type was used for a variety of business purposes, ISO 20022 has a unique message type for each one. These unique message structures reduce the ambiguity of message definitions and facilitate faster integration and hence improved STP.

- An exhaustive set of message data elements – ISO 20022 data elements are comprehensive and capture all necessary data elements for the entire business lifecycle. These include coverage for transaction types, parties, trade details, rates, prices, dates, additional narratives, entitlements and settlement confirmation, and others. The provision for repeatable blocks can facilitate additional information.

- Well-defined data structures - Connecting multiple ISO 20022 messages, thereby providing a clear sequence of business information.

- XML based syntax - The versatility of XML syntax and schema validator simplifies the message contents, harmonizing messages across markets. With the usage of XML schemas being prevalent in the industry, there is a wide choice of XML based validators to choose from and integrate with.

Drivers for ISO 20022 Adoption

Capital market organizations are at crossroads where the pressure to roll out upgrades are scrutinized intensively by the management based on the investment, effort and skillsets that are required for an upgrade, while on the other hand financial regulators are continuously pushing out new regulations to make the markets safe and transparent. All financial services organization are therefore looking out for smarter and less disruptive solutions to keep up. In the European context, T2S and SEPA are driving the entire European market towards adoption of ISO 20022 which aims to reduce redundancy, discard conflicting standards, improve commonalities and harmonize financial market communication. Overall, the last few years have seen increased traction

Figure 1 - Key Business Processes in Capital Markets

towards ISO 20022 adoption in the financial services industry.

Apart from regulatory drivers, adoption of ISO 20022 is propelled by:

- **The richness of the structure and ease of integration**

  The richness of the ISO 20022 data structures, coverage of business processes, usage of XML based schemas and validators makes ISO 20022 easier to integrate in a financial institution.

- **Need for increased automation and STP**

  There is a continuous drive towards increasing automation, reducing manual intervention and thereby increasing STP.

ISO 20022 messages are well-positioned for these needs based on their improved data structures, segregated message types and wide coverage of industry needs.

- **Replacement of legacy platforms**

  As aging legacy platforms are replaced, financial institutions have the right incentive to invest in a new and modern platform supporting latest ISO 20022 messaging standards to future-proof their investments, and also build new world-class infrastructure.

Challenges to ISO 20022 Adoption

Although there are many benefits to ISO 20022 adoption, like with any large scale change, it comes with its share of challenges, which include:
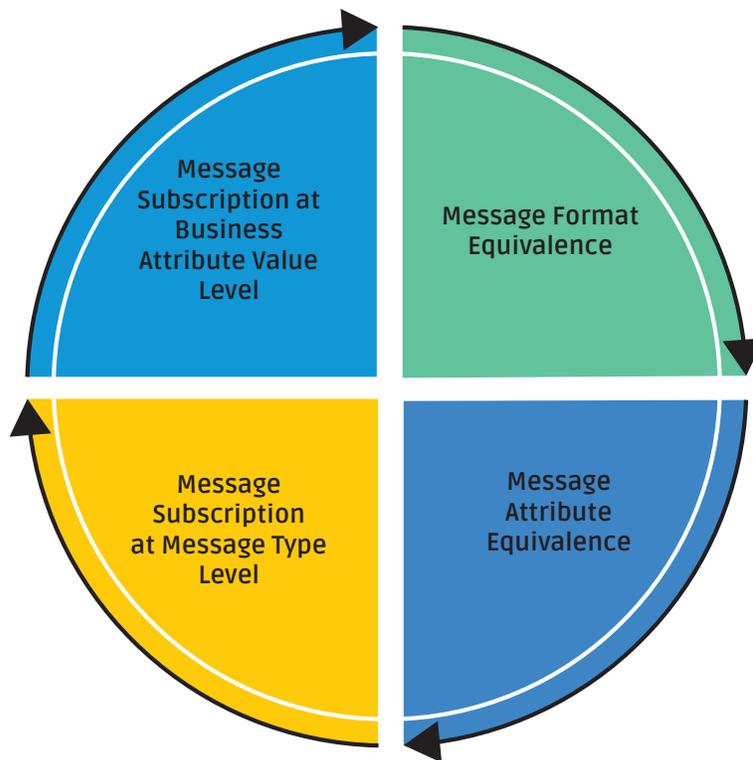
Figure 2 - Key Tenets of the Co-existence Model for ISO 20022 Adoption

IN THE EUROPEAN CONTEXT, T2S AND SEPA ARE DRIVING THE ENTIRE EUROPEAN MARKET TOWARDS ADOPTION OF ISO 20022 WHICH AIMS TO REDUCE REDUNDANCY, DISCARD CONFLICTING STANDARDS, IMPROVE COMMONALITIES AND HARMONIZE FINANCIAL MARKET COMMUNICATION

- Complexity of re-mapping from old standards

Many organizations use a combination of ISO 15022 standards and multiple proprietary standards significantly. Such an ecosystem may make mapping from old standards to ISO 20022 rather complex.

- Lack of a coordinated roadmap across the entire financial services industry

While T2S and SEPA have provided a big impetus to ISO 20022 adoption in Europe, this is not the case elsewhere in the world, thereby making the transition to ISO 20022 fragmented and difficult.

Need for a Co-existence Approach

On September 3, 1967, Sweden underwent an overnight transformation, a 'thrilling' mission of change. The day was officially known as Högertrafikomläggningen (right-hand traffic diversion) or simply Dagen H (H-Day). Its mission was to put Sweden on the same path as the rest of its continental European neighbors; with traffic switching from driving on the left-hand side of the road to the right.

Forcing a similar big-bang approach towards ISO 20022 adoption is neither feasible nor desirable due to the interconnected financial services industry, where the pace of change in one market varies from another, and yet all need to co-exist. Instead, a structured migration is recommended where the old standards continue to exist. This leads to what we refer to as a "co-existence" approach, which enables ISO 20022 standards to deliver enriched data elements to participants receptive to the change while, simultaneously, allowing other participants to continue with the previous set of standards. The key tenets of such a co-existence approach are outlined below:

Message format equivalence

As mentioned earlier, the co-existence approach, as the word implies, enables faster upgrades by creating newer versions of message templates in ISO 20022 to deliver enriched data elements to participants receptive to the change while allowing others to continue on pre-existing standards. This ensures seamless and improved

A "CO-EXISTENCE" APPROACH, ENABLES ISO 20022 STANDARDS TO DELIVER ENRICHED DATA ELEMENTS TO PARTICIPANTS RECEPTIVE TO THE CHANGE WHILE, SIMULTANEOUSLY, ALLOWING OTHER PARTICIPANTS TO CONTINUE WITH THE PREVIOUS SET OF STANDARDS

Corporate Actions	ISO 20022	ISO 15022
Notification	seev.031	MT564*
MovementPreliminaryAdvice	seev.035	MT564*
MovementConfirmation	seev.036	MT566*
MovementReversalAdvice	seev.037	MT566*
Narrative	seev.038	MT568
CancellationAdvice	seev.039	MT564*
Instruction	seev.033	MT565*
InstructionCancellationRequest	seev.040	MT565*
InstructionCancellationRequestStatusAdvice	seev.041	MT567*

*Same message re-purposed for different business processes.

Figure 3 - Corporate Actions Message Mapping Between ISO 15022 and ISO 20022

Securities settlement	ISO 20022	ISO 15022
Transaction Instruction	sese.023	MT540, MT541, MT452, MT543*
Transaction Status Advice	sese.028	MT548*
Transaction Confirmation	sese.025	MT544, MT545, MT456, MT547
Transation Cancellation Request	sese.020	MT540, MT541, MT452, MT543*
Cancellation Request Status Advice	sese.027	MT548*
Transaction Allegement Notification	sese.028	MT578*
Allegement Removal Advice	sese.029	MT578*
Conditions Modification Request	sese.030	MT540, MT541, MT452, MT543*
Condition Modification Status Advice	sese.031	MT548*
Transaction Generation Notification	sese.032	MT540, MT541, MT452, MT543*

*Same message re-purposed for different business processes.

Figure 4 - Trade Management Message Mapping Between ISO 150022 and ISO 20022

ISO 15022 message attribute	ISO 20022 message attribute
:23G:NEWM	<NtfctnTP>NEWM</NtfctnTP>
:22F::CAEV//SPLR	<EvtTP><Cd>SPLR</Cd></EvtTp>
:22F::CAMV//MAND	<MndtryVlntryEvtTp><Cd>MAND</Cd></MndtryVlntryEvtTp>
:35B:ISIN XX000900xxxx	<FinInstrmld><ISIN>XX000900xxxx</ISIN></FinInstrMld>
:97A::SAFE//xx00000000000001234	<SfkpgAcct>xx00000000000001234</SfkpgAcct>
:98RDTE//20140619	<RcrdDt><Dt><Dt>2010-09-07</Dt></Dt></RcrdDt>
:98A::PAYD//20140623	<PmtDt><Dt><Dt>2010-09-07</Dt></Dt></PmtDt>
:22H::CRDB//CRED	<CdtDbtInd><CRDT></CdtDbtInd>
:36B::ENTL//UNIT/200,	<EntitldQty><Qty><Unit>200</Unit></Qty></EntitldQty>
:92D::NEWO//1,/25,	<RateDtls><addtlQtyForExstgScties><QtyToQty><Qty1>1</Qty1><Qty2>5</Qty2></QtyToQty></AddtlQtyForExstgScties></RateDtls>

Figure 5 - Equivalence Mapping of ISO 15022 and ISO20022 Attributes for CA Entitlement Message

operations for upgrades. Co-existence in this case, means that more than one message format is used at the same time in the communication flow for a business process.

The first step towards such an approach would be to map messages between standards. While the ISO 20022 standards have had a different evolution than ISO 15022, there exists equivalence between message types that can be abstracted and also factored into the rollout strategy.

The mapping is done by abstracting the business logic from the message, with the interface layer performing the mapping from one format to another. Figure 3 and Figure 4 illustrate the cases where the same ISO 15022 messages are re-purposed for different business processes and the equivalent, unique ISO 20022 message structures defined for each business process, allowing a phased roll-out of specific functionalities based on the readiness of the standard.

Message attribute equivalence

The tag level attributes from ISO 15022 can be mapped to their equivalent XML tags of ISO 20022. If a data dictionary of such equivalence between standards can be created, then it enables common usage of ISO 20022 standards for the similar business needs. Figures 5 and 6 demonstrate an equivalence between ISO 15022 and 20022 standards for the corporate actions and trade management messages.

Support for message subscription at message type level

The transition period of moving away from old message standards to a full ISO 20022 roll out in the market needs to be carefully

ISO 15022 message attribute	ISO 20022 message attribute
equivalent tag, based on message type	<SctiesMvmntTp>RECE</SctiesMvmntTp>
equivalent tag, based on message type	<Pmt>APMT</Pmt>
A::TRAD//20180112	<TradDt><Dt><Dt><2018-01-12</Dt></Dt></TradDt>
A::SETT//20180115	<SttlmDt><Dt><Dt>2018-01-15</Dt></SttlmDt>
B:ISIN XX000900xxxx	<FinInstrmld><ISIN>XX000900xxxx</ISIN><FinInstrmid>
B::SAFE//xx00000000000001234	<SfkpgAcct><Id><xx000000000000001234<ld></SfkpgAcct>
F::SETR//TRAD	<SctiesTxTP><Cd>TRAD</Cd></SctiesTxTp>
B::SETT//FAMT/500,	<SttlmAmt><Amt Ccy="GBP">4047151.3</AMT><CdtDbtlnd>DBIT</CdtDbtlnd></SttlmAmt>

Figure 6 - Equivalence Mapping of ISO 15022 and ISO20022 Attributes for Trade Management

managed. One way of easing the burden of migration is for the market infrastructure organizations in their respective countries to introduce a facility of message subscription for the participants. Using this feature, market participants can choose the ISO 20022 messages they desire to migrate to while at the same time retain older standards for other business processes. For example, participants can choose to adapt ISO 20022 messages for trade management business process, whilst continuing with ISO 15022 messages for corporate actions. In addition, in a business process, participants should be given a choice to send or receive messages in either messaging standards. For example, participants can send settlement instructions in one messaging standard and, simultaneously, receive settlement confirmations in another messaging standard; and, all of these managed using message level subscriptions.

Such a message subscription feature at a message type, will aid in the progressive roll out of the ISO 20022 standards in the market and alongside provide participants with a longer time table to complete the roll out. The market infrastructure organization or the regulator can set a deadline for complete ISO 20022 adoption, while at the same time giving room for market participants to vary their pace of adoption.

Support for message subscription at business attribute value level

This is a fine-grained implementation approach for subscription where the participants have a choice of message standards at a business attribute level. Such a business attribute can be an Asset Class or an Account Type or any other business attribute that is in use in the market. Using such a feature, participants can migrate one or more sets of Asset classes or Account Ttypes to ISO 20022

ONE WAY OF EASING THE BURDEN OF MIGRATION IS FOR THE MARKET INFRASTRUCTURE ORGANIZATIONS IN THEIR RESPECTIVE COUNTRIES TO INTRODUCE A FACILITY OF MESSAGE SUBSCRIPTION FOR THE PARTICIPANTS
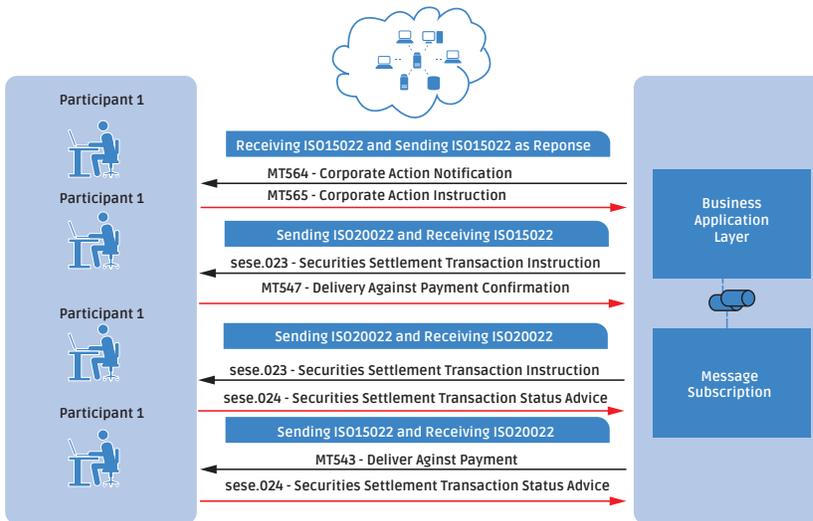
Figure 7 – Message Subscription at Message Type Level

standards while continuing with the older messaging standards for others. Using this phased approach, it is also possible to restrict certain message flows based on subscription. This will also make it more optional for participants in terms of the messages that they are in a position to use.

Benefits of the Co-existence Approach

While ISO 20022 adoption is gaining traction around the world, it is also imperative that a prudent roll out strategy is evaluated where participants are able to make the transition with ease. The co-existence approach, advocated by the industry too, is one such model that can facilitate a painless shift to ISO 20022 standards in a market. This approach is a powerful enabler by bringing in new standards while at the same time allowing market participants the flexibility of managing the pace at which they are able to adopt to the new standards.

THE CO-EXISTENCE APPROACH, ADVOCATED BY THE INDUSTRY TOO, IS ONE SUCH MODEL THAT CAN FACILITATE A PAINLESS SHIFT TO ISO 20022 STANDARDS IN A MARKET

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