The road to standards Nirvana

Martin Sexton
Director of IT, London Market Systems Ltd

With ever increasing regulatory pressures being placed on financial institutions (for example, the Basel II accord and MiFID directive in Europe, and Sarbanes-Oxley and Anti Laundering Acts in the US), organisations are looking towards industry standards to reduce the compliance risk to the business associated with inconsistent reference data.

Consider the question: 'How long would it take us to calculate our exposure to another collapse like Baring Brothers?' To effectively manage the exposure to trading partners and of holdings, the need for reliable and accurate data is paramount. Unique instrument and business entity identification standards can help reduce this risk. Their deployment also provides the enterprise with the capability to move towards a fully automated trade lifecycle, minimising human intervention and reducing data management discrepancies.

Working groups such as RDUG (Reference Data User Group), REDAC (REference DAta Coalition) and the ISO Working Group 8 are committed to identifying potential solutions.

In June 2003, the paper titled 'In Search of Unique Instrument Identifier' was published jointly by RDUG and REDAC. It outlined the issues and identified the possible solutions to the question of Unique Instrument Identifiers (UII). It was recognised that an instrument could be listed in various countries, traded on a number of exchanges and priced in different currencies. The paper provides the example of DaimlerChrysler: its ordinary shares are officially listed in seven countries, traded on 22 exchanges and priced in five currencies. Samples showing how this could be represented are available on the London Market Systems website (www.londonmarketsystems.com/uii).

To correctly identify the instrument throughout the trade execution process, a couple more elements are needed in addition to the unique instrument code itself: the Official Place Of Listing (OPOL) and Place of Trade. The OPOL can be either the country or market (exchange) in which the instrument is listed, with the Place of Trade being used to identify the stock exchange the instrument is traded on. It is possible to support both elements using existing ISO standard codings, ISO 3166 – Country Codes and ISO 10383 – Market Identifier Code (MIC).

The suggested solutions include: adding OPOL and Place of Trade to ISO 6166 (ISIN); opting for a vendors' proprietary identification symbology; or using the extended SEDOL plus the MIC to represent the Place of Trade.

The conclusion was that the SEDOL plus MIC solution would best meet the criteria of uniqueness, timeless and commonality.

Finding a solution to the question of International Business Entity Identification is a little more complex than UII; it has been clouded by the need to represent hierarchical relationships such as the actor and role that a counterparty may play.

Examples of actors and roles

Actor	Role
Fund manager	Order placement
Investment firm	Sales
Investment firm	Order executor
Custodian	Client settlement

Given this, ISO Working Group 8 and RDUG propose removing the complexities of hierarchical structures and instead concentrate on obtaining market consensus on the format of the IBEI and the mechanism to support its use. Adding hierarchical relationships is perceived as being a vendor's or an institution's value-add.

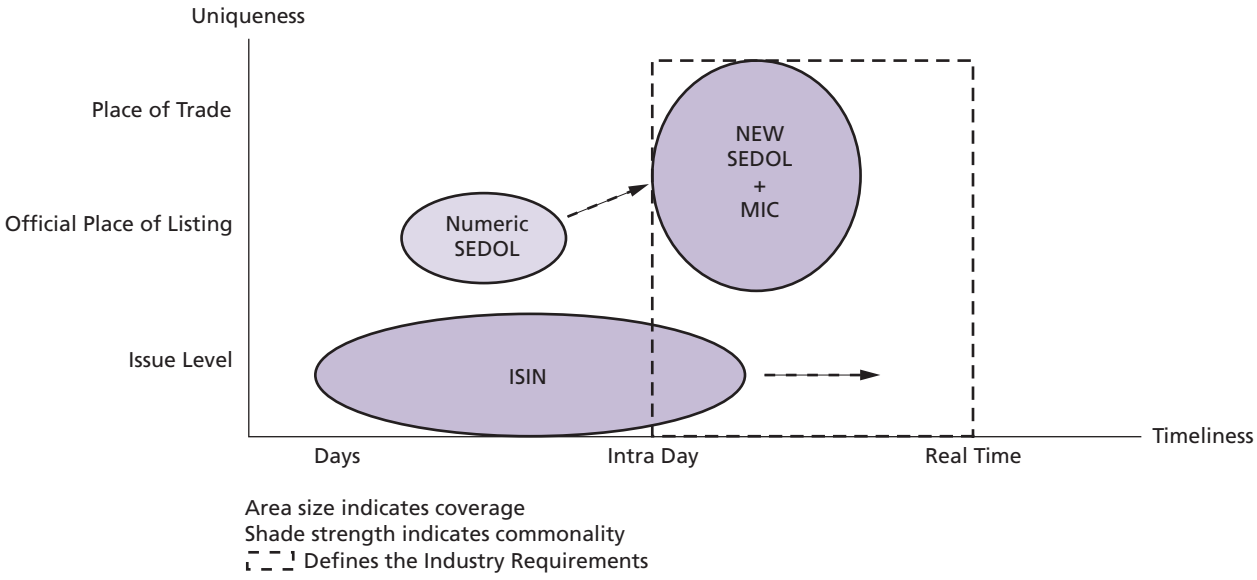


Figure 1 – Uniqueness of identifiers

Figure 2 – IBEI format – Source: RDUG BEIWG/ISITC RD-SIG

Country of Registration	IBEI Core	Check Digit
2a	7c[1]	1n[2]

[1]Alphanumeric excluding vowels
[2]Mod 10, same format as ISIN

Gives a total of 27 billion combinations

The proposed mechanism is to use sponsoring organisations to issue IBEI's to clients with ISO retaining overall authority and allotting each sponsor an allocation of numbers for them to use.

Knowing that the ISO approval process will take time – a period of three to five years has been discussed – sponsoring organisations have been advised to go ahead with using the proposed ISO format. However, ISO will not allow the use of the term 'IBEI'. To get round this restriction' instrument identifier coding schemes based on the ISO standard can be called BEI's.

Agreeing common formats for instruments and business entity identifiers is only part of the story. One also needs to be able to communicate this information throughout the enterprise and to trading partners. Message standards provide the mechanism for distributing financial information.

'So, what is the appropriate standard to use? Do we use an existing industry standard or design our own?' The answers to these questions will depend on the business functions being integrated.

Figure 3 shows a number of processes within a typical financial institution and the industry standards available to support them. In general, each industry standard has been designed to meet the needs of a specific business process. A standard that is broken down by business function into separate taxonomies (or XML schemas) shows a good understanding of the business itself. FIXml, for instance, has separate taxonomies to support the functions of pre-trade, trade, trade confirmation, etc.

Standards have tended to be developed in isolated 'language islands'. This has led to possibility of overlaps occurring and standards being miss-used outside their intended business context. It may be worth examining one example of this, the distribution of instrument identification. MDDL (the Market Data Definition Language) supports the reference data management process and is able to disseminate a comprehensive set of instrument identifiers. Trade workflow standards like FIX and ISO 15022 also provide the facility to disseminate instrument identifiers, and this information is used to ensure that the participating parties correctly identify the instrument within a particular transaction. It is important to recognise the distinction between the standards and the business function they support; MDDL – Reference Data Management, FIX – the Trade Execution, and 15022 – the settlement process. It would be inappropriate, for example, to populate a Front Office system using 15022 messages.

Since year 2000, a number of industry standards have emerged to meet the needs of the market. These include RIXML and NewsML to support the Information aggregation process; MDDL – the decision making and reference data management processes; FIX and FpML – trade execution; and ISO 15022 – the settlement process.

RIXML is an XML taxonomy for the representation of investment research information. It provides a structure for the publication of instrument (bond, equity, etc.) and industry sector level data.

NewsML is an XML standard designed to provide a structural framework for the dissemination of multi-media news. Each news item may contain photos, graphics, video clips and the same text in different languages. News service providers may wish to consider this standard for supporting the information aggregation process. The London Stock Exchange, for example, disseminates its RNS service using NewsML.

The Market Data Definition Language (MDDL) supports the acquisition and dissemination requirements of reference data, pricing, depth of market, trade reports and end-of-day close information. It supports the Unique Instrument Identification as

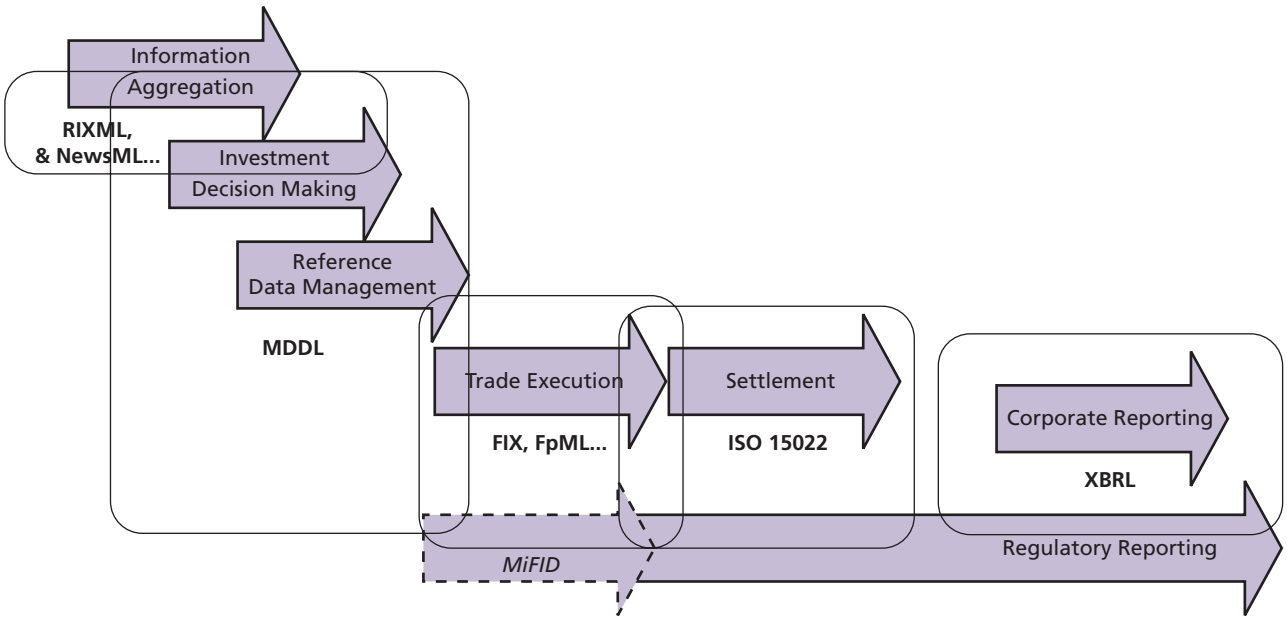


Figure 3 – Business process/message standards relationship

documented by the RDUG/REDAC discussion paper and its design allows it to be extended with ease.

FIX provides a framework to support the trade execution process. It consists of a set of message formats (in both XML and non-XML), as well a session layer to allow buy and sell side organisations and stock exchanges to transact effectively.

FpML (Financial products Mark-up Language) is the business information exchange standard for electronic dealing and processing of financial derivatives instruments. It is a protocol for sharing information on, and dealing in, swaps, derivatives and structured products.

ISO 15022 is a non-XML standard that provides a set of messages to support the settlement process. These messages, in general, are transported over the SWIFT network which provides a reliable backbone for the interaction of industry participants. It incorporates and is upwardly compatible with the previous securities message standards ISO 7775 and ISO 11521.

XBRL supports the financial reporting needs of an organisation, including the acquisition and dissemination of data to/from the General Ledger. It is a single language the provides the semantic basis (in terms of natural language) for the creation of taxonomies to meet explicit business requirements. Taxonomies may also be geographically based, thus enabling it to meet the needs of the specific market in which the business entity exists.

Under development in the US are a couple of taxonomies to support the requirements of broker-dealers and investment management organisations.

Bearing in mind the standards' common use of terms, but not always with a common meaning, it soon became apparent that a different approach was required. The solution identified was to reverse engineer the terms into industry specific models. Two distinct dimensions were identified, one to support the terms in the trade lifecycle and the other the reference data required to support the lifecycle. This has led to the creation of ISO 20022 and ISO 19312 respectively. The relationships between the industry standards are shown in Figure 4.

ISO 20022 or UNIFI (UNIversal Financial Industry message scheme) is intended to provide a toolkit for the development of XML financial messages to meet the needs of the financial services industry. The standard has already published a set of documents that define the overall methodology, the mechanism for populating the repository, the process to re-engineer existing message standards, the modelling guidelines and the XML schema design rules.

The widening of the scope of ISO 20022 to accommodate banking, payments, securities and financial services as a whole led to the need to define a more appropriate management structure. The new organisation structure is made up of a number of Standard Evaluation Groups (or SEGs), each specialising in a specific area of expertise, that report to the Registration Management Group (RMG).

ISO 19312 (the securities data model) is being developed by Working Group 11. The aim of the standard is to cover all financial instruments, standardising the terms, definitions and relationships throughout the instrument's life. The scope also includes the instrument's maintenance and change resulting from a corporate announcement, as well as the terms needed to support the corporate action events that may result from an announcement.

Working Group 11 is realistic about the large scope of the standard and intends to break down the deliverables into manageable chunks. The first task of the group has been to gather the terms for securities (cash equity-based products). Discussions are underway, with groups like MDDL, on how best to reverse engineer existing terms into the model.

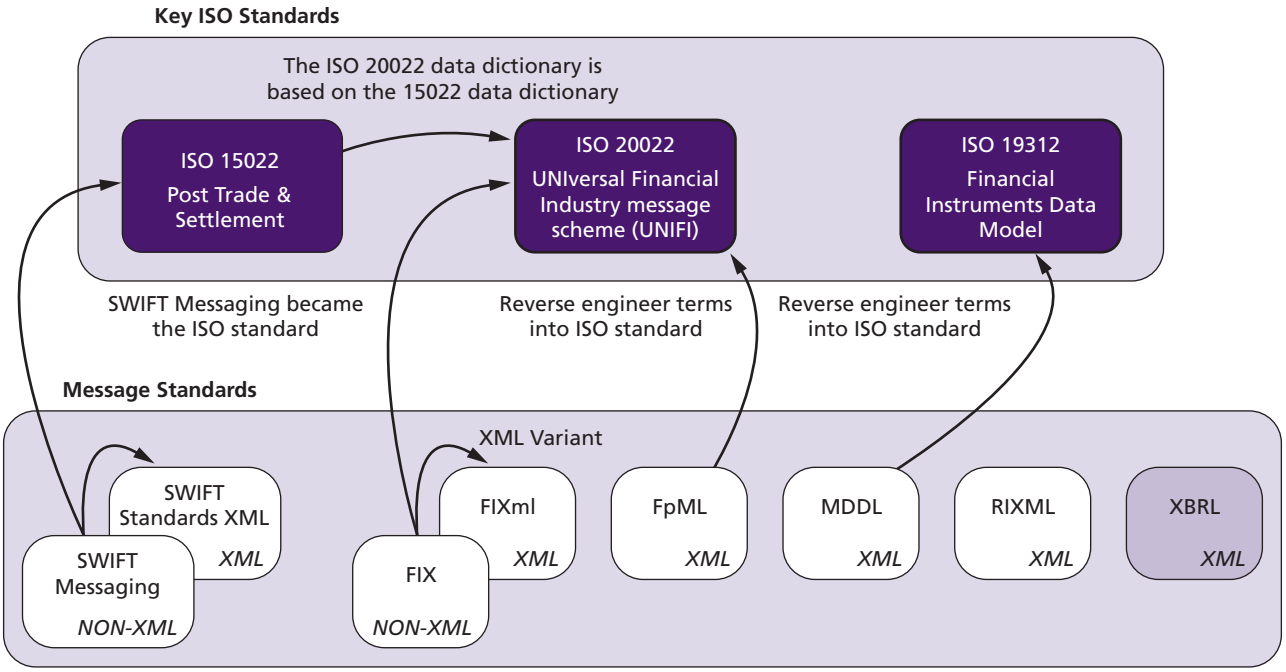
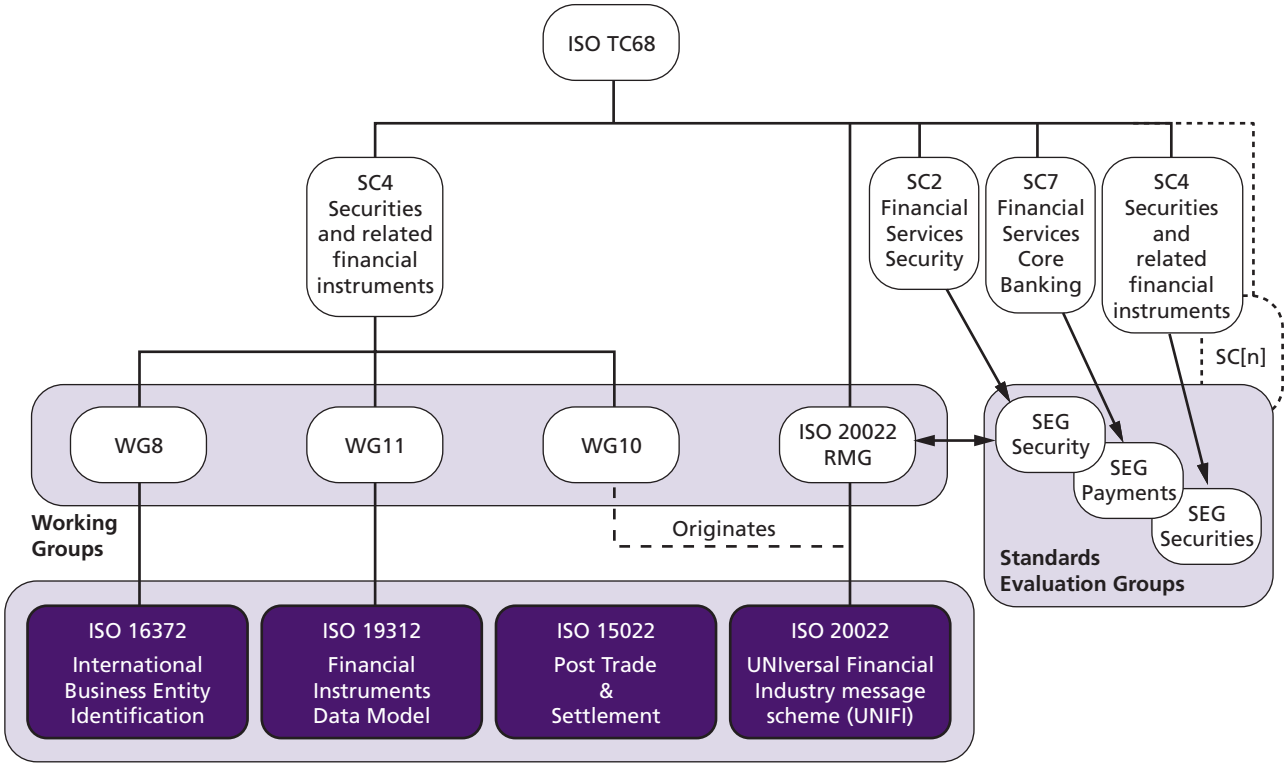


Figure 4 – Financial messaging within the ISO vision

Figure 5 – ISO initiatives and working group structure



With the various working groups, industry experts and trade associations supplying terms and knowledge into the creation of the ISO models, the vehicles are on the road to standards Nirvana. However, there is still a long journey ahead. In the meantime, some organisations have already taken a serious look at the ISO 20022 modelling guidelines and XML schema design rules to generate messages to meet the needs of the business.

Awareness of the standard initiatives is increasing and the need for them is beginning to be understood. Consensus within the market may take a while, though the regulatory pressures should be a sufficient catalyst to drive things forward. Or do we need another incident like 'Baring Brothers' to shake up the market?

Martin Sexton can be contacted at:
msexton@londonmarketsystems.com.