



Cross Industry Protocols Directory

The following document was created by The Bond Market Association. It lists standards organizations and electronic protocol standards that support the fixed income industry. The organizations and standards initiatives listed are those assumed to be familiar, useful, or of interest to, many members of TBMA, and the respective standards organizations listed in this document. It is the intention of TBMA to periodically update this document on behalf of the standards organizations listed in this document and the fixed income industry.

The following table lists some of the standardized electronic protocols that support the fixed income industry:

Name	Products / markets	Session level connectivity standards	Message content standards	Pre-trade messages	Trade execution messages	Post-trade messages	Data updates/ Reports	Market Data/ Research	Current version	Next Update
FIX (Financial Information eXchange)	Equity, Fixed Income, Futures and Options, FX	✓	✓	✓	✓	✓	✓		FIX 4.3	FIX 4.4 Q1 '03
FpML (Financial Products Markup Language)	Interest rate swaps and derivatives, FX, Equity options, Credit Defaults Swaps, Energy derivatives		✓	✓	✓	✓	✓		3.0	4.0 Q1 '03
MDDL (Market Data Definition Language)	Common equities, indices, mutual funds, all debt products (currently in Beta)		✓				✓	✓	1.0 2.0-beta 7/02	2.0 12/02 2.1 Q1 '03
MISMO (Mortgage Industry Standards Maintenance Organization)	Mortgages and ancillary services		✓	NA *	NA *	NA *	✓		2.1.1	Q1 '03
RIXML (Research Information Exchange Markup Language)	Equity research, Fixed income being phased in		✓				✓	✓	2.0	N/A
ISO 15022 - SWIFT	Securities markets (equity and fixed income), payments, checks, FX, derivatives, precious metals, more...	✓	✓		✓	✓	✓		ISO 15022 **	ISO 15022 XML *** '03

*MISMO represents a messaging standard for all aspects of mortgage processing and servicing (origination, title, payments, etc.)

** SWIFT still supports ISO 7775 until April '03 as a temporary backup solution

*** SWIFT will introduce the ISO 15022 XML standards as of 2003, gradually in some areas

Column definitions from the comparison table:

Products / markets	Lists the investment products or markets supported by the protocol
Session level connectivity standards	Standardized method of controlling or monitoring connectivity
Message content standards	Standardized messages and message attributes: fields, formats, etc
Pre-trade messages	Messages for fixed income related pre-trade activities IOIs (Indications of Interest), quotes, etc
Trade execution messages	Messages for fixed income related transaction execution
Post-trade messages	Messages for fixed income related post transaction activities: allocations, settlement, etc
Data updates / Reports	Messages for fixed income related reports or data updates unrelated to specific transactions: account details, security details, etc
Market Data / Research	Messages for fixed income related market data (referential descriptions, analytics, etc.) or research
Current version	Version of the protocol currently in production
Next update	Next version of the protocol...scheduled release date

Profiles of some of the standardized electronic protocols that support the fixed income industry:

FIX

www.fixprotocol.org

The Financial Information eXchange (FIX) protocol is a messaging standard developed for the real-time electronic exchange of securities transactions. FIX is a public-domain specification owned and maintained by FIX Protocol, Ltd (FPL). The mission of the organization: "To improve the global trading process by defining, managing, and promoting an open protocol for real-time, electronic communication between industry participants, while complementing industry standards". FPL and The Bond Market Association officially combined efforts with a Statement of Understanding to develop a common industry protocol for global fixed income market instruments. The FPL organization is currently expanding membership and participation due to the growth and use of the protocol, the expansion effort improved support for fixed income, mutual funds, futures and options and f/x products. The FPL Program Office was created as part of our restructuring effort to manage the membership process. Firms interested in joining FPL should contact the FPL Program Office via email at join@fixprotocol.org or by phone at 212-652-4469.

FIX contacts:	Dan Doscas	212-526-0747	daniel.doscas@lehman.com
	Michael O'Conor	212-449-9180	moconor@exchange.ml.com

FpML

www.fpml.com

FpML (Financial products Markup Language) is the industry-standard XML based protocol for complex financial products. FpML is maintained by the ISDA (International Swaps and Derivatives Association), a global trade association representing leading participants in the privately negotiated derivatives industry. The FpML standard, which is freely licensed, is intended to automate the flow of information across the entire derivatives partner and client network, independent of the underlying software or hardware infrastructure supporting the activities related to these transactions. The development of the FpML standard is being driven by the financial industry and controlled by market participant firms, with input from vendors. Ultimately, it will allow for the electronic integration of a range of services, from electronic trading and confirmations to portfolio specification for risk analysis. All categories of privately negotiated derivatives will eventually be incorporated into the standard. Version 1.0 of FpML covers interest rate swaps and Forward Rate Agreements (FRAs). Version 2.0 extends the interest rate product coverage to the most common option products, including caps, floors, swaptions, and cancelable and extendible swaps. Version 3.0 covers different asset classes, this version includes the interest rate work of version 2.0 and additionally covers FX and Equity Derivatives. Version 4.0, which is schema based, extends the product coverage within the equity derivatives category and adds credit derivatives and energy derivatives.

FpML contact:	Karel Engelen	212-901-6012	kengelen@isda.org
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MDDL

www.mddl.org

The XML specification to enable the interchange of information necessary to account, to analyze, and to trade financial instruments of the world's markets. MDDL was formulated in December 2000 and chartered in January 2001 to systematically define a standard interchange mechanism for all asset classes and related information. Originally derived from ISO 15022 and CFI (Classification of Financial Instruments) code, MDDL is working to extend those ISO standards to provide a true standard vocabulary for the entire industry. The Bond Market Association (through the Content Working Group of the Securities Master Database Initiative) established a list of fixed income data attributes that has been integrated into the MDDL classification. The sequencing of future activities is defined by members of FISD/SIIA (Fixed Income Security Database/Software & Information Industry Association) and completed by a mostly volunteer effort. Version 1.0 was released in November 2001 to support quote information for common equities, mutual funds, and indices. Version 2.0 beta was released in July of 2002 covering setup information for debt instruments. Work is continuing to complete existing domains and to extend to other asset classes. In addition to equities, indices, mutual funds and debt products, the 2.1 beta release scheduled for Q1 '03 will include FX, corporate actions, options, futures, and all reference data.

MDDL contacts:	Michael Atkin	202-789-4450	matkin@siia.net
	James Hartley	303-322-1393	jhartley@siia.net

MISMO

www.mismo.org

The Mortgage Industry Standards Maintenance Organization's mission is to develop, promote, and maintain voluntary electronic commerce standards for the mortgage/real estate finance industry. Established in 1999 by the Mortgage Bankers Association of America (MBA), MISMO encourages participation from all sectors of the industry. MISMO works in an interactive community utilizing the www.mismo.org website, electronic balloting, listservs, conference calls, three face-to-face meetings per year and periodic interim meetings. A Governance Committee, elected from a cross section of the industry, provides oversight for MISMO's administration and policy development. Through an open and democratic process, MISMO delivers a common format for the electronic transfer of mortgage industry data.

MISMO contacts:	David Barkley	703-760-2460	david_barkley@freddiemac.com
	Dan Szparaga	202-557-2805	daniel_szparaga@mbaa.org
	Gabe Minton	202-557-2821	gabe_minton@mbaa.org

RIXML

www.rixml.org

RIXML.org, is a consortium of buy- and sell-side firms committed to the development of the first open standard for investment and financial research, based on industry needs. Their mission is to improve the process of categorizing, aggregating, comparing, sorting, and distributing global financial research. They are creating an open specification that can be freely used by application vendors, research providers and their clients.

RIXML contacts:	Jack Roehrig	212-449-0915	jroehrig@exchange.ml.com
	Nick Harness	212-761-4619	nick.harness@morganstanley.com

SWIFT (Society for Worldwide Interbank Financial Telecommunication)

www.swift.com

SWIFT is an industry-owned cooperative established in 1975. It supplies secure messaging services and interface software to 7,400 financial Institutions in 198 countries. SWIFT carried over 1.5 billion messages in 2001. The average daily value of payment messages on SWIFT is estimated to be above 6 trillion USD. SWIFT provides messaging services to banks, broker/dealers and investment managers, as well as to market infrastructures in payments, treasury, securities and trade. The SWIFT cooperative is mandated by its owners to play a leading and neutral role in the support of standards convergence for the financial industry. It has created standardized messages for payments, securities, treasury and trade finance. These messages use one of the following syntaxes: SWIFT proprietary (FIN), ISO 7775, ISO 15022, XML (submitted for approval to ISO as ISO 15022 XML). All messages can be transported on SWIFT's own network and on other networks. When transported on its own network, SWIFT provides a "validation service" which verifies whether the transported message has the correct structure and content. For the Securities industry, SWIFT has defined standardized messages for Trade, Post Trade, Settlement and reconciliation, Corporate Actions, Depositary Receipts, and Collateral Management. These messages can be used for Equities and Fixed Income. SWIFT is currently also defining a new set of messages in the areas of Investment Funds and Pre Trade. SWIFT is involved or has contacts with a large number of standards-related organizations and initiatives, examples include: various ISO Technical Committees, UN/CEFACT, OASIS UBL, FPL, FpML, Omgeo, SMPG, and ISITC-IOA.

SWIFT contacts:	Jean-Marie Eloy	011-32-2-655-3854	jean-marie.elay@swift.com
	Jamie Leonard	212-455-1860	jamie.leonard@swift.com
	Frank VanDamme	011-32-2-655-4579	frank.vandamme@swift.com

Other Related Organizations:

ANSI (American National Standardization Institute)

www.ansi.org

ANSI is the ISO member body for the United States. ANSI is a private, non-profit organization (501(c)3) that administers and coordinates the U.S. voluntary standardization and conformity assessment system. The Institute's mission is to enhance both the global competitiveness of U.S. business and the U.S. quality of life by promoting and facilitating voluntary consensus standards and conformity assessment systems, and safeguarding their integrity.

ANSI contacts:	Sandra Dinetz (ANSI X9) 212-855-1392	sdinetz@dtcc.com
	Bob Hager (ANSI X12) 212-642-4917	bhager@ansi.org

ISITC-IOA

www.isitc.org

ISITC-IOA (International Securities Association for Institutional Trade Communication - International Operations Association) is a global working committee of securities operations professionals representing custodian banks, investment managers, brokers, and vendors. The group's mission is to foster alliances and advocate standards that promote straight through processing (STP) of securities transactions. The securities industry looks to the ISITC-IOA for direction and validation. ISITC-IOA members actively participate in and influence industry-wide initiatives that promote direct electronic processing and information flow among all industry participants, throughout the entire trade life cycle.

ISITC-IOA contacts:	Anne Suprenant 212-875-3665	anne.e.suprenant@csam.com
	Genevy Dimitrion 201-860-7848	genevy.dimitrion@db.com

ISO (International Organization for Standardization)

www.iso.org

The International Organization for Standardization (ISO) is a worldwide federation of national standards bodies from more than 140 countries, one from each country. ISO is a non-governmental organization established in 1947. The mission of ISO is to promote the development of standardization and related activities in the world with a view to facilitating the international exchange of goods and services, and to developing cooperation in the spheres of intellectual, scientific, technological and economic activity. ISO's work results in international agreements which are published as International Standards.

ISO contact for US financial standards:	Sandy Dinetz 212-855-1392	sdinetz@dtcc.com
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ISO 15022
Registration Authority: *See SWIFT*

NFA (National Futures Association)

www.nfa.futures.org

National Futures Association is the premier independent provider of innovative and efficient regulatory programs that safeguard the integrity of the derivatives markets and protect investors. For the past twenty years, NFA has built a solid reputation in the financial services area as a cost-effective, efficient and effective self-regulatory organization. We have over 4,000 Member firms and almost 50,000 Associate Members and our core functions that we provide to these Members and the public include registration, compliance, arbitration, and education services. NFA is also involved in a protocol standardization effort as part of the CFTC (Commodity Futures Trading Commission) Technology Advisory Committee. In addition to work with the CFTC, NFA is joining FPL (FIX Protocol Limited).

NFA contact:	Jennifer Augustyn 212-513-6034	jaugustyn@nfa.futures.org
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OASIS

www.oasis-open.org

OASIS is a not-for-profit, global consortium that drives the development, convergence and adoption of e-business standards. Members themselves set the OASIS technical agenda, using a lightweight, open process expressly designed to promote industry consensus and unite disparate efforts. OASIS produces worldwide standards for security, Web services, XML conformance, business transactions, electronic publishing, topic maps and interoperability within and between marketplaces. OASIS has more than 500 corporate and individual members in 100 countries around the world. OASIS and the United Nations jointly sponsor ebXML, a global framework for e-business data exchange. OASIS operates XML.org, a community clearinghouse for XML application schemas, vocabularies and related documents. OASIS hosts The Cover Pages, an online reference collection for interoperable markup language standards. The OASIS Network includes UDDI, CGN Open, LegalXML and PKI. OASIS was founded in 1993 under the name SGML Open as a consortium of vendors and users devoted to developing guidelines for interoperability among products that support the Standard Generalized Markup Language (SGML). OASIS changed its name in 1998 to reflect an expanded scope of technical work, including the Extensible Markup Language (XML) and other related standards.

Oasis contact: Karl F. Best 978-667-5115 x206 karl.best@oasis-open.org

Omgeo

www.omgeo.com

Through its integrated suite of Intelligent Trade Management Solutions, Omgeo helps clients move from traditional methods of trade processing to unified solutions for trade management. Omgeo is industry-backed and market-oriented. Omgeo is wholly owned by DTCC and Thomson Financial. Omgeo's mission is to increase operational effectiveness in the global financial community.

Omgeo contact: Lee Cutrone 212-855-3090 lee.cutrone@omgeo.com

SMPG

www.smpg.info

In July 1998, SWIFT sponsored the organization of the Securities Market Practice Group (SMPG). The formation of the SMPG resulted in the establishment of National Market Practice Groups (NMPG) in 34 geographic markets comprised of broker/dealers, investment managers, custodian banks, central securities depositories and regulators. The membership of the SMPG and the NMPGs are committed to the vision that standards in conjunction with defined market practices will bring the industry closer to its goal of achieving STP. The SMPG is a tactical initiative focused on enhancing the current securities industry infrastructure. However, this group also realizes the further benefit of industry utilities in dictating conformance to standards and market practice. As such, there is active dialogue between the SMPG and other industry initiatives (ie, FIX, GSTPA, ISITC-IOA, SIA-T+1 (US), etc.), in order to ensure that the tactical work of the SMPG provides a first step toward the restructuring of the securities industry. The SMPG is open to all participants interested in creating globally agreed market practices for the securities industry.

SMPG contacts: Sandy Dinetz 212-855-1392 sdinetz@dtcc.com
Genevy Dimitrion 201-860-7848 genevy.dimitrion@db.com
Alexandre Kech 011-32-2-655-3942 alexandre.kech@swift.com

UN/CEFACT (United Nations Centre for Trade Facilitation and Electronic Business)

www.unece.org/cefact

UN/CEFACT is a United Nations-dependent organization looking at ways to facilitate trade. Just like other industry-aware standards bodies (including SWIFT), UN/CEFACT is impacted by the industry move towards an e-enabled trade environment. UN/CEFACT is currently adapting its approach and its organization to become fully "e-oriented" and SWIFT is actively involved in this evolution. Currently, there are no messages for securities or investment products within the UN/CEFACT standards.

UN/CEFACT contact: *see SWIFT*

Glossary of related terms

FIXML	FIXML is the XML derived grammar of the FIX protocol. A FIXML implementation will have message format validation, cleaner, more expressive structure, and leverage off existing standards. The initial goal is to provide the ability to embed FIXML messages within traditional FIX header and trailers to minimize the impact on existing implementations. FIXML is the XML vocabulary based on the FIX Protocol.
ISO 15022	This, the first version of the ISO 15022 standard, is intended to establish a framework for securities related messaging protocols. ISO 15022 sets the principles necessary to provide the different communities of users with the tools to design message types to support their specific information flows. These tools consist of a set of syntax and message design rules, a dictionary of data fields and a catalogue for present and future messages built by the industry with the above mentioned fields and rules. ISO 15022 was prepared by ISO Technical Committee TC68 Banking, Securities and Related Financial Services, Sub-Committee SC4, Securities and Related Financial Instruments. It replaces the previous standards for electronic messages exchanged between securities industry players, ISO 7775.
ISO 15022 XML	This is the second version of the ISO 15022 standard, which after a period of co-existence, will replace the first version. The project is developed under the umbrella of the ISO 15022 XML working group (WG10), with participation of multiple financial institutions and standards bodies, including FIX and SWIFT. It includes the 'reverse engineering' of already existing FIX messages such as indications of interest, quotes and orders, as well as reverse engineering of existing ISO 15022 messages. One of the outcomes of the ISO 15022 XML initiative is the delivery of a set of XML based message standards which will provide convergence between front and back office areas by tying pre-trade and trade areas with post-trade and settlement areas.
Protocol	Websters definition - A.) code prescribing strict adherence to correct etiquette and precedence (as in diplomatic exchange and in the military services) B.) a set of conventions governing the treatment and especially the formatting of data in an electronic communications system
XML	XML (Extensible Markup Language) is a technology for web applications. XML is a W3C (World Wide Web Consortium) standard that allows designers to create their own customized tags, enabling the definition, transmission, validation, and interpretation of data between applications and between organizations.