

Getting Started with ISO

Summary

The International Organization for Standardization (ISO) is a collection of national standards institutes who collectively are recognized as one of the four global de jure (force of law) standards development organizations. ISO standards encompass technical and business standards across a broad spectrum of focus areas and have an impact on virtually every business and information technology community. SAP makes extensive use of the ISO technical and business standards as key enablers of its product and standards strategy for NetWeaver and Enterprise Services.

Created on: 5 May 2006

Author Bio



Mark Crawford joined SAP in October 2005. He is an architect in the Technology Standards Group focusing on industry standards and methodologies. Prior to joining SAP, Mark was a Senior Research Fellow for a Washington D.C. government think tank where he specialized in XML, eBusiness standards, and Semantic Data Modeling. Before that he spent 23 years as a U.S. Naval Officer with extensive experience in Logistics, IT, Supply Chain, Procurement and Finance. Mark has been involved in both cross and vertical industry business standards, and the underlying methodology standards that support them. He is actively involved in UN/CEFACT standards activities as vice chair of Applied Technologies Group and chair of UN/CEFACT XML Syntax Group, editor for UN/CEFACT CCTS, chair of UN/CEFACT Core Components Harmonization Project, as well as Co-Chair of the ISO 15000-5 Core Components Technical Specification in ISO TC154. He previously was involved in the X12 Communications and Controls Subcommittee, vice chair of the X12 XML Working Group, and Chair of the joint X12/CEFACT Core Components initiative.

Table of Contents

About ISO	3
Organization	3
General Assembly	3
The Council	3
The Central Secretariat	3
ISO and eBusiness	4
ISO Standards Development Work	4
Selected ISO Technical Committees	5
ISO TC154 - Processes, data elements and documents in commerce, industry and administration	5
ISO/IEC JTC1 – Information Technology	5
ISO JTC1SC32 – Data Management and Interchange	6
ISO TC68 – Financial Services	6
ISO 204 – Transport Information and Control Systems	6
ISO Standards	7
Full Standards	7
Intermediate Standards	7
Benefits	7
Role of ISO Standards	8
Disclaimer and Liability Notice	8

About ISO

National standards institutes of countries around the globe together form the International Organization for Standardization. Originally founded in 1947 by 25 member standards institutes, ISO today consists of 156 member national institutes. With a central secretariat headquartered in Geneva, ISO supports and coordinates standards development activities of member institutes across a broad spectrum of technical and business standards. ISO standards deal with the classification of materials, the manufacture and supply of products, testing and analysis, information technology, terminology and meaning, and services. ISO is not a government institution, member representatives are a mix of public and private sector organizations. This mixture of public and private sector allows for ISO standards to represent a broad consensus on both business and societal requirements.

ISO National delegations participating in standards development represent a mix of suppliers, users, government regulators, consumers, and other interest groups. ISO standards are developed through a consensus process where each national delegation has the right to participate in any ISO standards activity that it considers important, and each national delegation has one vote. National delegations typically represent a mix of suppliers, users, government regulators and other interest groups, such as consumers.

Organization

The ISO organization consists of a General Assembly, a Council and a Central Secretariat.

General Assembly

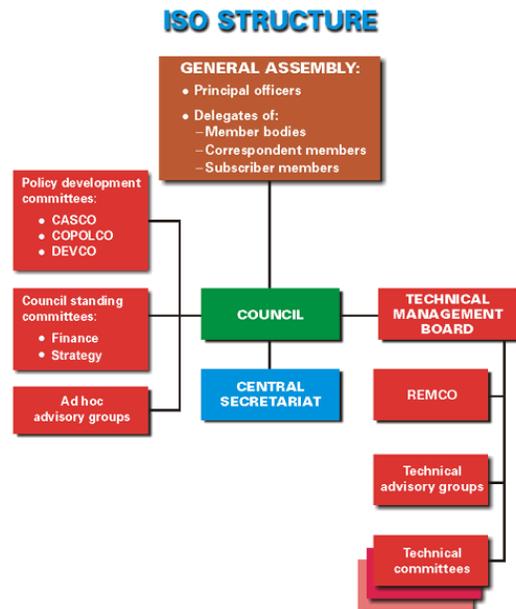
The General Assembly approves all strategic decisions for the organization. The General Assembly includes the ISO principal officers and member representatives. Member representatives consist of member bodies, correspondent members and subscriber members. A Member body is the national body "most representative of standardization in its country". Each country is limited to one Member body membership. Member bodies have full participation and voting rights in the Assembly and ISO TCs. Correspondent members represent an organization from a country without a fully-developed national standards activity. Correspondent members don't generally participate in technical and policy work, but do have access to information rights. Subscriber members consist of countries with small economies. Their membership gives them contact and information rights.

The Council

The Council is the equivalent of a corporate Board of Directors. The Council meets twice a year and is responsible for overseeing ISO. This includes: the work of the technical committees, developing strategic proposals, management of the Technical Management Board, REMCO, and Technical Advisory Groups, and coordinating the efforts of select general policy development committees – to include the Conformity Assessment, Consumer Policy, and Developing Country Matters. The policy development committees align the TC work with ISO market and stakeholder groups. The Council consists of rotating members selected directly from the membership, and is chaired by the Council President who is elected every two years.

The Central Secretariat

The Central Secretariat is responsible for the day to day operations of the organization, providing administrative and technical support to members, coordinating the standards development effort of the various TC, and publishing the standards. The Central Secretariat is headed by the Secretary-General who is elected every two years by the General Assembly. The Central Secretariat is funded by the sale of standards and the subscriptions of member delegations and is based on the Gross National Income and trade figures.



ISO and eBusiness

As a recognized de jure standards body that is open, interoperable, and internationally accepted, ISO is gaining recognition in the business community for its value in developing eBusiness standards. In recognition of the importance in this area and to ensure that a cohesive approach is developed by the leading international standards organizations, ISO has formed a partnership with the International Electrotechnical Commission (IEC), International Telecommunication Union (ITU), and United Nations Economic Commission for Europe (UN/ECE) to coordinate eBusiness standards efforts. This partnership is governed by a formal Memorandum of Understanding ([MOU](#)). The MOU sets forth specific eBusiness standards development responsibilities for each organization. In addition to the four principal signatories, other standards setting organizations are encouraged to establish liaisons with the MOU Management Group (MOUMG).

Key ISO standards that are part of the MOU include:

- [ISO / IEC 8824-1](#) (ITU-T Rec. X.680) - Information Technology - Abstract Syntax Notation One (ASN.1): Specification of basic notation
- [ISO / IEC 8824-2](#) (ITU-T Rec. X.681) - Information Technology - Abstract Syntax Notation One (ASN.1): Information object specification
- [ISO / IEC 8824-3](#) (ITU-T Rec. X.682) - Information Technology - Abstract Syntax Notation One (ASN.1): Constraint specification
- [ISO / IEC 8824-4](#) (ITU-T Rec. X.683) - Information Technology - Abstract Syntax Notation One (ASN.1): Parameterization of ASN.1 specifications
- [ISO / IEC 8825-2](#) (ITU-T Rec. X.691) - Information Technology - ASN.1 encoding rules: Specification of Packed Encoding Rules (PER)
- [ISO / IEC 8825-4](#) (ITU-T Rec. X.693) - Information Technology - ASN.1 encoding rules: XML encoding rules
- [ISO / IEC 8825-5](#) (ITU-T Rec. X.694) - Information technology – ASN.1 encoding rules: Mapping W3C XML schema definitions into ASN.1
- [ISO 10303 STEP](#) - Standard for exchange and sharing of product data
- ISO 13584 PLIB - Standard for component library structures, supporting many different sets of content
- ISO 15926 - Oil and Gas data repository model with extensive reference data
- [ISO 15022-1](#) - Banking, securities and other financial services. Scheme for messages - Part 1: Overall methodology and format specifications for inputs and outputs to/from the ISO 15022 repository
- [ISO 15022-2](#) - Banking, securities and other financial services. Scheme for messages - Part 2: Role and responsibilities of the registration bodies

ISO Standards Development Work

There are over 3,000 ISO technical groups (technical committees, subcommittees, working groups and such) in which some 50 000 experts participate annually to develop ISO standards. These standards are market-driven, consensus-based efforts coordinated through the Technical Management Board. Standards efforts are initiated by a national member submitting a work proposal to ISO as a whole. If the proposal is accepted, then either a new scope of activity is started or the work is assigned to an existing technical committee.

The technical committees represent community experts who volunteer to develop a standard and expect to use it. Participants usually include technical and business experts, and may also include representatives from government agencies, research activities and other standards efforts. Participants represent their national member body, and are expected to represent the broad spectrum of their member body, and not just their own parochial interests.

Selected ISO Technical Committees

With more than 200 numbered ISO technical committees, ISO standards are being developed every day that impact on SAP and SAP customers. Rather than attempting to provide a synopsis of all active Technical Committees (TCs), the following TCs are highlighted as a representative sample of the work underway in ISO that are of some importance to SAP or SAP customers. Business content developers and IT systems developers are encouraged to review the list of [active Technical Committees](#) and do a diligent search of available [ISO standards](#) before engaging in standards setting activities either independently or as part of another standards organization.

ISO TC154 - Processes, data elements and documents in commerce, industry and administration

ISO TC154 was originally established in 1989 as an extension of [UN/CEFACT](#). ISO TC154 consists of representatives of 19 member and 26 observer country standards organizations focused on the International standardization and registration of business, and administration processes and supporting data used for information interchange between and within individual organizations and support for standardization activities in the field of industrial data. Additionally, TC154 has liaisons with 13 TCs and subcommittees (SCs) and 16 external standards organizations that have been established to ensure consistency in published standards. Because of its role in B2B standards, ISO TC154 is very important to SAP. SAP uses a number of TC154 standards in its NetWeaver and enterprise services. TC154 standards include:

- [ISO 7372:2005](#) Trade data interchange -- Trade data elements directory
- [ISO 8601:2004](#) Data elements and interchange formats -- Information interchange -- Representation of dates and times
- [ISO 9735](#) EDIFACT Syntax
- [ISO 15000-5](#) Core Components Technical specification
- [ISO/TS 17369:2005](#) Statistical data and metadata exchange (SDMX)

ISO/IEC JTC1 – Information Technology

In some cases, ISO standards development work is done in partnership with other standards development organizations. Chief amongst these joint efforts is ISO/IEC Joint Technical Committee One. ISO/IEC JTC1 was established as a joint effort of ISO and the IEC to develop information technology (IT) standards. JTC1 consists of over 2100 technical experts working in 18 operational subcommittees (SCs). These SCs conduct the actual standards development and maintenance work with JTC1 acting as the umbrella organization. Under the JTC1 umbrella, the various SCs develop Information Technology related standards that address:

- design and development of IT systems and tools
- performance and quality of IT products and systems
- security of IT systems and information
- portability of application programs
- interoperability of IT products and systems
- unified tools and environments
- harmonized IT vocabulary
- user friendly and ergonomically designed user interfaces

SAP employs many key standards, either directly or indirectly, of JTC1 in its NetWeaver and ESA offerings.

ISO JTC1SC32 – Data Management and Interchange

ISO/IEC JTC1SC32 is responsible for developing standards related to data for both local and distributed information systems. The SC32 body of work includes:

- Reference models and frameworks for the coordination of existing and emerging standards;
- Definition of data domains, data types and data structures, and their associated semantics;
- Languages, services and protocols for persistent storage, concurrent access, concurrent update and interchange of data;
- Methods, languages, services and protocols to structure, organize and register metadata and other information resources associated with sharing and interoperability, including electronic commerce.

Within SC32 are four work groups who carry out the work program:

- JTC1/SC32/WG01 eBusiness – to include methodologies, techniques and management of information exchanges among systems, to include both technical and business aspects.
- JTC1/SC32/WG02 Metadata Registries – to include specifying and managing data and metadata. Key specifications include ISO 11179 Metadata Registries.
- JTC1/SC32/WG03 Database Languages – to include developing and maintaining languages, integrity of databases, multi-user access, interfaces with selected programming languages, and interfaces with other standards.
- JTC1/SC32/WG04 – SQL Multimedia & Application Packages – to include specifying packages of abstract data types.

SAP fully supports ISO 11179 Parts 1, 4 and 5 as the basis of the SAP implementation of ISO 15000-5 Core Components.

ISO TC68 – Financial Services

ISO TC68 is responsible for the development and maintenance of standards to support the financial services industry. Key subcommittees include: SC2 - Financial Services, Security; SC4 - Securities and Related Financial Instruments; SC6 - Financial Services, Retail; and SC7 - Financial Services, Core Banking. SC4 is responsible for ISO 20022. ISO 20022 has significant importance to SAP as the principal standard for the exchange of financial information between banks and other financial institutions. SAP actively participates in ISO TC68 and is currently engaged in the development of the next version of ISO 20022.

ISO 204 – Transport Information and Control Systems

ISO TC204 is responsible for the development and maintenance of standards to support transportation, to include: urban and rural surface transportation, including intermodal and multimodal aspects, traveler information, traffic management, public transport, commercial transport, emergency services and commercial services in the transport information and control systems (TICS) field. TC204 standards are emerging that include specification of equipment identification numbers and transportation related data definition. SAP does not currently participate in ISO TC204, but monitors its activities to ensure that efforts are being made to coordinate the data definition activities with the preferred standards activities in ISO TC154 and UN/CEFACT.

ISO Standards

ISO Standards are available for purchase at the [ISO Store](#). In addition selected ISO standards are made freely available through agreements with partner standards bodies, such as those of [JTC1](#) which can be found on the [Freely Available ISO Standards](#) website.

Full Standards

There are three levels of full ISO standards – Draft, Final Draft, and International Standard. The Draft International Standard (DIS) represents the consensus of a TC. Once a DIS has been approved by a TC it is widely circulated to solicit feedback. That feedback is evaluated by the TC and incorporated into a Final Draft International Standard (FDIS). The FDIS is reviewed and approved by ISO members through the voting process. If successful, the standard is then published as an ISO International Standard (IS).

Intermediate Standards

In recognition of the need for quick publication of standards that don't require the same level of scrutiny as an IS does, ISO has developed new intermediate level standards. These include: Publicly Available Specification (PAS), Technical Specification (TS), Technical Report (TR), and International Workshop Agreement (IWA).

Benefits

[According to ISO](#), their standards provide the following benefits:

- **For businesses**, the widespread adoption of International Standards means that suppliers can base the development of their products and services on specifications that have wide acceptance in their sectors. This, in turn, means that businesses using International Standards are increasingly free to compete in many more markets around the world.
- **For customers**, the worldwide compatibility of technology which is achieved when products and services are based on International Standards brings them an increasingly wide choice of offers, and they also benefit from the effects of competition among suppliers.
- **For governments**, International Standards provide the technological and scientific bases underpinning health, safety and environmental legislation.
- **For trade officials** negotiating the emergence of regional and global markets, International Standards create "a level playing field" for all competitors on those markets. The existence of divergent national or regional standards can create technical barriers to trade, even when there is political agreement to do away with restrictive import quotas and the like. International Standards are the technical means by which political trade agreements can be put into practice.
- **For developing countries**, International Standards that represent an international consensus on the state of the art constitute an important source of technological know-how. By defining the characteristics that products and services will be expected to meet on export markets, International Standards give developing countries a basis for making the right decisions when investing their scarce resources and thus avoid squandering them.
- **For consumers**, conformity of products and services to International Standards provides assurance about their quality, safety and reliability.
- **For everyone**, International Standards can contribute to the quality of life in general by ensuring that the transport, machinery and tools we use are safe.
- **For the planet** we inhabit, International Standards on air, water and soil quality, and on emissions of gases and radiation, can contribute to efforts to preserve the environment.

Role of ISO Standards

SAP customers around the world use ISO standards in virtually every aspect of their business – both for product development and information exchange. Key ISO standards currently in use within SAP in NetWeaver and the SAP Enterprise Services Architecture include: ISO 11179 Metadata Registries, ISO 15000-5 Core Components, ISO 20022 – Financial Services Universal Financial Industry Message Scheme, ISO 3166 Country Codes, ISO 4217 Currency Codes, ISO 8601 Date and Time, and ISO 639 Language Codes. In particular, SAP is using the ISO 15000-5 core Components Technical Specification in NetWeaver and next generation enterprise services for development of SAP Global Data Types, their underlying Core Data Types, and internal and external XML expressions. In addition, other ISO standards are constantly monitored for potential SAP use due to their importance in breaking down the interoperability barriers that exist behind and across the firewall.

Disclaimer and Liability Notice

This document may discuss sample coding or other information that does not include SAP official interfaces and therefore is not supported by SAP. Changes made based on this information are not supported and can be overwritten during an upgrade.

SAP will not be held liable for any damages caused by using or misusing the information, code or methods suggested in this document, and anyone using these methods does so at his/her own risk.

SAP offers no guarantees and assumes no responsibility or liability of any type with respect to the content of this technical article or code sample, including any liability resulting from incompatibility between the content within this document and the materials and services offered by SAP. You agree that you will not hold, or seek to hold, SAP responsible or liable with respect to the content of this document.