Working together for interoperability:
The MoU on e-business standards

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Electronic business in all its forms
is now a cornerstone of the global
economy, covering the entire range
of business processes: from simple internet purchases to the most complex international trade and financial transactions; from simple product catalogues to collaborative design processes for aircraft, ships and cars. Electronic business applies to government, manufacturing and service industries, as well as to global supply chains from the smallest of businesses to the end customers, throughout the life cycle of a product or service.

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Many standards groups and consortia are developing e-business solutions in concrete areas to provide sectoral or national capabilities. However, the full potential benefits for consumers, industry and governments can only be achieved if this new capability is underpinned by a coherent set of open, interoperable and internationally accepted information and communication technology (ICT) standards. This is the ambitious goal of the Memorandum of Understanding (MoU) on e-business standards, endorsed by ISO, the International Electrotechnical Commission (IEC), the International Telecommunications Union (ITU) and the United Nations Economic Commission for Europe (UNECE), and involving most of the leading e-business standards development organizations.

The MoU vision

The vision of the MoU is to offer an environment in which all key international organizations can cooperate and contribute to the delivery and promotion of an evolving set of e-business standards, maximizing their input to global commerce. The objective of the MoU is to encourage interoperability by recognizing the risks of divergent or conflicting approaches to standardization, avoiding duplication of efforts and therefore avoiding confusion among users, and fostering intersectoral coherence.

History of the MoU

Originally created in 1995 to support the harmonization of electronic data interchange across ISO, IEC and the United Nations Centre for Trade Facil-
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itation and Electronic Business (UN/ CEFACT) in the early days of trade transactions, the MoU brings together the leadership of technical committees from each organization in a single MoU Management Group (MoU/MG). Key ISO groups include technical committees ISO/TC 37, ISO/TC 46, ISO/TC 68, ISO/TC 154, ISO/TC 184, ISO/TC 204, ISO/TC 215, as well as the Joint Technical Committee ISO/IEC JTC 1. ITU joined the Group in 2000.

The MoU was extended in 1998 to recognize the contribution of other stakeholders to the solutions required by government, industry and the individual citizen. Clear criteria were established for the new international user groups to ensure the inclusion of appropriate open standardization activities. Current participants include:

• OASIS – the Organization for the Advancement of Structured Information Standards, providing ebXML and web service standards;
• OAGi – the Open Applications Group, providing e-business objects and messages;
• GS1 (formerly EAN.UCC) – covering product codes, bar coding and the new Electronic Product Coding technologies;
• SWIFT – the Society for Worldwide Interbank Financial Telecommunication; and
• CEN/ISSS – the European Committee for Standardization Information Society Standardization System.

Some former participants, such as the Computer-Aided Acquisition and Life-Cycle Support (CALS) organization, ceased operations once their standards’ objectives had been achieved through the MoU. The Universal Postal Union (UPU) is planning to join the MoU/MG later this year.

The resulting Management Group is therefore a unique assembly of representatives from the de jure and de facto standards communities, committed to working in partnership towards a common goal. The group is chaired by a nominee from each of the four signatories in rotation, with a secretariat provided by staff from ISO, IEC, ITU and UNECE.

How the MoU/MG works

Under the MoU structure, each organization is encouraged to openly expose new work items to the other partners, seek comment and additional participation, identify topics that may be of mutual interest, and detect potential overlaps or conflicts. The MoU/MG can then develop consensus recommendations to resolve any issues, and harmonize activities across the organizations, facilitating expert participation in the most appropriate development programmes. As a matter of policy, the MoU/MG does not represent an additional level of bureaucracy in the standards process, but its recommendations are fed into the existing decision-making processes of the member organizations. In this way, the MoU Management Group has no formal power but a great deal of moral authority.

Once an issue has been identified by the MoU/MG as a challenge, it will be regularly monitored until the necessary coherent set of standards has been developed.

The e-business framework

The MoU/MG has established a framework within which the scope of any e-business standards initiative can be represented, providing a basis for the systematic evaluation of work items.

This framework is based on best practices of the participating organizations, integrated into a coherent structure, and supported by clear descriptions of the classes of standards involved. As well as providing a framework for standards, it offers an approach for identifying the necessary components to construct an e-business solution for a particular scenario, such as a trade transaction or an engineering process. The framework is already being used by the US aerospace and United Kingdom defence industries as the basis for their e-business standards planning.

The framework will be used to set up an open web-based registry for e-business standards that will act as a master reference source for standards components. The American National
Standards Institute (ANSI) has offered to host the registry, which may be available by the end of the year.

The framework accommodates multiple levels of detail, so that it is feasible to differentiate across the various classes of information in an enterprise, and the associated standards requirements. Trade transactions, product catalogues and other enterprise records build on information models, lists of master data such as code lists, unambiguous identification schemes for physical and digital objects and any number of product classification schemes. The e-business framework provides a common structure within which the various standards groups can agree their scopes and avoid conflicts.

**Key successes**

Starting from the improved cooperation resulting from its first summit meeting on business information, the MoU/MG has been successful in facilitating the involvement of consortia with standards bodies. It has, for example, promoted the ongoing collaboration between OASIS and UN/CEFACT on ebXML development, standardized through ISO/TC 154 as the ISO 15000 series. It has actively promoted the harmonization of ebXML core components, with all developers collaborating in a single group within UN/CEFACT to deliver a common library as the basis of ebXML messages, and the associated Naming and Design Rules. The common library is being used by all the groups developing ebXML messages to establish consistent electronic transactions.

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Recommendations on the use of character sets, XML schema languages and the UN Trade Data Element Directory have also contributed to the convergence of e-business standards. In addition, the MoU/MG initiated an agreement on the development of radio-frequency identification (RFID) application standards for industrial applications.

**Ongoing collaboration**

The MoU/MG tracks a number of areas which require collaboration across standards groups.

These include:
- harmonized address information for physical deliveries,
- web services,
- e-government services,
- identification schemes for digital and physical objects,
- supply chain security,
- secure container transportation,
- ubiquitous sensor networks, and
- document management and archiving.

The MoU/MG continues to drive active collaboration between standards bodies in meeting the needs of the users. Perhaps the best evidence of this is the growing number of reports on the collaboration between meetings, and the active participation of standards groups.

**About the author**

Howard Mason, Chair, ISO/TC 184, Industrial automation systems and integration, SC 4, Industrial data, works for BAE Systems in the United Kingdom, and is responsible for information standards in the Corporate IT office. He has been involved in industrial automation standards for over 20 years, and has chaired ISO/TC 184/SC 4 since 2000. He has also chaired the Management Group of the MoU on e-business standards between ISO, IEC, the International Telecommunications Union (ITU) and the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) since 2003.