

**Telecommunications and Information Exchange Between Systems**

**ISO/IEC JTC 1/SC 6**

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Information Technology**

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## **STANDING DOCUMENT TWO (SD 2)**

### **ISO/IEC JTC 1**

#### **HISTORY**

##### **Preface**

This document is written in the form of a diary. It is intended to record important events in the creation and functioning of ISO/IEC JTC 1. It includes a one page summary description of each of the Subcommittees of ISO/IEC JTC 1, regardless of whether they are still in operation.

# **ISO/IEC Joint Technical Committee 1**

## **Information Technology**

### **A History**

#### **The formation of ISO/IEC JTC 1**

Joint Technical Committee 1 (JTC 1) was created in 1987 as a technical committee of both the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC), ISO/IEC JTC 1. It was the first joint technical committee of both organizations and was created in order to avoid duplication of effort in standards development by both organizations and to ensure interoperability of standards related to Information technology created by technical committees of either organization.

JTC 1 was formed as a merger between ISO/TC 97 and IEC/TC 83, with IEC//SC 47B joining later, with the intent to bring together in a single Committee the then Information Technology standardization activities of the two parent organizations. At that time, the most ambitious Information and Communications Technology (ICT) standardization effort on Open Systems Interconnection (OSI) was underway which enjoyed significant support from major market players (governments, major customers and computer systems manufacturers).

In large part the mandate of JTC 1 was to develop “base standards” in the information technology domain upon which other technical committees could build in order to develop domain and application specific standards that were applicable to specific business domain such as Banking or Transportation, but which would still be able to inter-operate and function on a consistent base.

As JTC 1 is a “child” of both ISO and IEC, it is required to function under the directives and procedures of both organizations. As those directives and procedures are not the same and do not use the same philosophies and foundations, this requirement can, at times, make things more difficult for JTC 1. However, an initiative is underway in both ISO and IEC to harmonize as much as possible their directives and procedures. This has resulted in a harmonized set of ISO/IEC Directives, as well as an ISO Supplement and an IEC Supplement

JTC 1 has its own Directives and is working to Harmonize them as much as possible with the ISO/IEC Directives. The JTC 1 Directives are much more proscriptive than either the ISO or IEC Directives and were developed in this manner to facilitate faster product development cycles.

Since the formation of JTC 1, major changes have occurred in the information technology and communications market places. There has been a merging of these two technology areas and they are now more often referred to as Information and Communications Technology (ICT). Other changes in the market place include:

- Governments have changed their views on the purposes of ICT standardization and the role of ICT standards in procurement;
- Major customer have changed their methods of systems development and specification;

- Market conditions have changed due to compressed product life cycles;
- Technology capabilities continue to evolve; technology becomes increasingly complex;
- Technologies converge;
- Customers want integrated solutions that are interoperable;
- The computer systems companies have evolved radically and been supplemented by the independent PC hardware manufacturers (the so called box manufacturers) and joined by a group of major software companies;
- Open Source software has established a significant presence in the ICT marketplace;
- Globalization is here to stay.

The open global market, deregulation and ubiquitous Internet assure its continuation. Globalization will spur the development of means to deal with a diverse world, such as automated translation.

Simultaneous with this overall change of the ICT industry and certainly not unrelated with it, changes also occurred in the ICT standardization domain. As a consequence of the restructuring of ICT (and other) companies in the late 80s and early 90s, drastic reductions took place in corporate standards units within many companies as part of the movement of profit and loss responsibility to discrete units in the companies. Such corporate standards units had generally coordinated and facilitated participation by their company's experts in formal standardization activities.

Virtually simultaneously with this development, the Internet and World Wide Web took off, essentially banishing to the history books the work that JTC 1 and ITU had been doing on Open Systems Interconnection, leaving just a few useful remnants applicable to the Internet environment.

Then in the early 1990s, stimulated by a change in US antitrust law, industry consortia started to emerge as fora for addressing particular standardization issues within the ICT industry. This trend has increased ever since, and estimates exist that currently in the order of 600 consortia / fora exist each addressing particular standardization needs in different corners of the ICT field.

Product life cycles are becoming briefer and related standards are needed much earlier than before. Technology capabilities continue to evolve and address the increasingly complex customer environment. As complexity increases and resources vary, e.g. today are decreasing, JTC 1 must consider ICT problems from a customer's standpoint. It is therefore becoming important to allow JTC 1 customers to refocus on the essential, e.g., integration tools and critical interfaces.

In the past, JTC 1 has brought about a number of very successful and relevant ICT standards in the fields of multimedia (in particular, MPEG), IC cards ("smart cards"), ICT security, database query and programming languages as well as character sets, to name just a few.

The advent of the information age poses a new challenge to JTC 1: Computing is now ubiquitous in industrialized society. It is also a key enabler in many fields of science; to the point that some author wrote that "All science is computer science". ICT spreads into virtually all spheres of life, including different cultural and social environments, and economy.

Traditional boundaries between providers no longer dominate the ICT Environment. Many providers operate in multiple countries and have to provide products whose properties vary by nationality, culture and legal setting, as demanded by customers. Convergence, Globalization and cultural and linguistic

adaptability are ways to refer to this challenge.

The ever changing environment within which JTC 1 operates demands continuous adaptations. JTC 1 must react and demonstrate its ongoing relevance, but also recognize that there is room both for consortia and formal standardization, such as JTC 1.

JTC 1, in its continuing efforts to establish and maintain itself as the global center for international ICT standardization, has already undertaken major steps to address this changing environment, such as:

- Streamlining its rules and working methodologies in order to reduce overall standardization time from an average 58 months in 1990 to 34 months in 2001;
- Over the past two years, JTC 1 Strategic Planning activities have spawned 5 process improvements;
- Improving co-operation with consortia/fora by opening new paths for their contributions to be recognized as International ICT Standards;
- Through house-keeping and re-engineering efforts;
- Focusing on those standardization projects which bear the highest market relevance.

In sum, JTC 1 is faced with the following challenges:

- Improve its market relevance as a key provider of leading basic technology standards;
- Establish itself as a strong partner for other ICT standards developing organizations, including consortia/fora, to jointly develop standards of a cross-sectoral nature;
- Establish new working methodologies to meet the needs of the market and its constituency.

Annex

## ISO/IEC JTC 1/SC 7 Software and System Engineering

- \* 1987 - Creation of JTC1/ SC7
- \* 1990 - First Business Plan published
- \* 1991:
  - o Name changed to Software Engineering
  - o Publication of ISO/IEC 9126 - Software Product Quality
- \* 1994 - The concept of product plan was proposed to SC7
- \* 1995 - Publication of ISO/IEC 12207 - Software Life Cycle Processes
- \* 1996 - Publication of the first edition of the SC7 Product Plan
- \* 1997:
  - o Terms of references broadened to Software Systems
  - o First Business Planning Workshop
  - o Vocabulary and BPG SWG established
  - o Transfer of ISO 9000-3 from ISO/TC176
- \* 1998:
  - o Transfer of ODP and E-LOTOS projects from SC33
  - o Process architecture

- \* 2000 - Name changed to Software and System Engineering
- \* 2002 – Publication of ISO/IEC 15288 – System Life-Cycle
- \* 2005:
  - o Publication of ISO/IEC 19759 (SWEBOK)
  - o Publication of ISO/IEC 20000 - IT Service Management
- \* 2006 - Publication of the last core part of ISO/IEC 15504 - Process Assessment
- \* 2008:
  - o Publication of an harmonized edition of 12207 and 15288
  - o Publication of ISO/IEC 38500 - IT Governance