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STANDING DOCUMENT

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.

[Editor's Note: Material is sought regarding important events in the life of JTC 1 and on its SCs, particularly those that are no longer in existence. At this time, only a few of the current JTC 1 SCs are included. Contributions are requested direct to the Editor.]

Document Structure and Contents

The main body of this document focuses on ISO/IEC JTC 1 itself. However, JTC 1 is the sum of it s parts, therefore, as mentioned above, the document includes a summary description of each of JTC 1's Sub-Committees (SC) as a series of Annexes, detailed descriptions of there activities are left to the individual SCs themselves. JTC 1 has also formed and disbanded many Ad Hoc groups to perform specific tasks on behalf of JTC 1. These include Special Working Groups (SWG), Study Groups (SG), Working Groups (WG), Rapporteur Groups (RG), and Ad Hoc groups. Again each of these are described in a series of Appendices to this document.

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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 descriptive 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 convergence 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 few 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 1 ISO/IEC JTC 1/SC 7 Software and System Engineering

* 1987 - Creation of JTC1/ SC7
* 1990 - First Business Plan published
* 1991:
    - Name changed to Software Engineering
    - 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:
    - Terms of references broadened to Software Systems
    - First Business Planning Workshop
    - Vocabulary and BPG SWG established
    - Transfer of ISO 9000-3 from ISO/TC176
* 1998:
    - Transfer of ODP and E-LOTOS projects from SC33
    - Process architecture
* 2000 - Name changed to Software and System Engineering
* 2002 – Publication of ISO/IEC 15288 – System Life-Cycle
* 2005:
    - Publication of ISO/IEC 19759 (SWEBOK)
    - Publication of ISO/IEC 20000 - IT Service Management
* 2006 - Publication of the last core part of ISO/IEC 15504 - Process Assessment
* 2008:
    - Publication of an harmonized edition of 12207 and 15288
    - Publication of ISO/IEC 38500 - IT Governance

Appendix A ISO/IEC JTC 1/SWG-GII – Chronology of Salient Events

January 24-26, 1996 ISO/IEC/ITU Seminar *Standards Aspects of the Global Information Infrastructure*, Geneva, Switzerland (organized by AHG-GII, Convener: Mr. H. J. F. Ryan (IE)).

March 1996 JTC 1 Plenary meeting, Berlin, Germany, establishes SWG-GII, Convener: Mr. H. J. F. Ryan (IE); Secretary: Dr. I. J. Cowan (NSAI).

One of the principal functions of the SWG-GII was the establishment of a GII Standards Roadmap, intended to provide guidance for the evolution, management, and development of GII standards (i.e. those supporting the development, implementation, and operability of existing and future information services and applications within and across the telecommunications, information technology, consumer electronics, and content-provision industries).

March 13, 1996 SWG-GII Meeting, Geneva, Switzerland.

April 1996 *Strategies for the integration and development of standards for the Global Information Infrastructure (GII).* Final report of the ISO/IEC/ ITU International Seminar on the Standards Aspects of the Global Information Infrastructure (GII) *Information and Communications Technology Standards: the tools for implementing the Information Society*, Geneva, Switzerland, 24-26 January, 1996, prepared by ISO/IEC JTC 1/ Ad Hoc Group on GII.

September 25-27, 1996 SWG-GII Meeting, Galway, Ireland.

December 4-6, 1996 SWG-GII Meeting, Paris, France.

December 1996 First Report for ISO/IEC JTC 1 on Global Information Infrastructure standardization.

July 21-22, and 25, 1997 SWG-GII Meeting, Reston, Virginia, U.S.A.

July 23-24, 1997 ISO/IEC JTC 1 *Industrial Operational Roundtable*, Reston, Virginia, U.S.A.
Intended to meet the GII requirement that relevant standardization activities being conducted by various standards-development organizations and consortia shall be co-ordinated adequately. Efficiency of development and communication
being essential, we should capitalize on the use of electronic means. To assist in achieving this, an industrial Operational Roundtable, organized by the SWG-GII, and hosted by the Center for Standards of the U.S. Department of Defense, was held in Reston, VA, U.S.A. Some twenty-three organizations made presentations on the collaborative processes and electronic tools employed in their endeavours; those participating included industrial representatives and professional standardizers from the Americas, Europe, and the Pacific Rim.
As part of the goal to achieve better co-ordination and faster delivery in this field of ever-accelerating development for which the traditional standards-development process had proved too slow and cumbersome, a number of actions were identified. These included the setting up of a World Wide Web

facility with hyperlinking to other facilities and documentation including work programmes, and further meetings of key players concentrating on developments of successful processes of collaboration.

July 29, 1996 Ad-hoc meeting of SWG-GII, Stamford, Connecticut, U.S.A.

September 1997 ISO/IEC JTC 1 Plenary meeting disbands SWG-GII and establishes an RP-GII, Rapporteur: Mr. H.J. F. Ryan (IE)

The Role of the GII Rapporteur Group was to act as a JTC 1 focus and champion for GII matters. It took over responsibility from SWG-GII for GII Collaboration with ITU-T Study Group 13, for maintenance of the GII Roadmap, and for progressing the GII common overview document. The participants, appointed by JTC 1 member national bodies, operated as a virtual team making maximum use of electronic methods to share information, track developments, and collaborate on GII standards strategy.

Report on SWG-GII Achievements: JTC 1 Deliverables

JTC 1 considered and approved specific SWG-GII recommendations in Ottawa, September 1997. These included instructions to JTC 1 SCs regarding the elimination of options, which contribute to interoperability problems, and the creation of separate Executive Summaries for use in standards catalogues and other databases. Other approved recommendations refer to a) implementable staged deliverables to be scheduled for completion within the shortest possible timeframes; b) interoperability demonstrations by pilot implementations simultaneously with the development of the staged deliverables; c) the use of multi-organizational project-oriented activities in the development of technical reports/specifications; d) the use of scenario-based approaches and the inputs from other organizations in the creation of new work items; and e) the establishment of an Ad Hoc on GII Security.

JTC 1 GII Standards Roadmap

The Standards Roadmap, developed by the SWG-GII and JTC 1 SCs, had structured groupings containing web hyperlinks to the latest JTC 1 GII standards and GII relevant work which had progressed to at least Committee Draft stage within JTC 1 Subcommittees. Its maintenance was entrusted to the new JTC 1 GII Rapporteur Group.

Collaboration with ITU-T Study Group 13

The SWG-GII work with the ITU-T Lead Study Group on the GII (SG13) complemented the successful ongoing technical collaboration between JTC 1 and ITU-T. It concentrated on mutual exchange of information and on the development of a common vocabulary and visionary overview for the GII. The SG13 and SWG-GII initiative on a single common GII terminology was adopted by JTC 1/SC1 (Vocabulary) which carried the JTC 1 contribution to the joint work through to completion.

GII Virtual Roundtable

The SWG-GII work resulted in the establishment of a GII Virtual Roundtable. This was an organization-neutral online forum in which all standards development organization (ISO, IEC, ITU, IETF, DAVIC, OMG, VRML, etc.) were treated as peers. Its primary goal was to facilitate global collaboration among standards development organizations, consortia, and other specification-development organizations. It achieved this by providing a common place for users and consumers to voice their requirements and establish an ongoing global dialogue on mutual sharing of techniques and approaches for collaborative standards work. The aim was to use the World Wide Web to enable virtual collaboration through easy online posting and retrieval of global information infrastructure

standardization events, workplans, and deliverables.

November 20-21, 1997 SWG-GII Closing Meeting in Barcelona, Spain.

January 1999 RG-GII Recommendations Report to JTC 1 Plenary meeting, Rio de Janeiro, Brazil

Recommendation 1: Termination of Roadmap and Overview proposals
JTC 1 instructs its RG-GII to discontinue further work on the Roadmap and Overview documents
Recommendation 2: Endorsement of Consumer Requirements
JTC 1 welcomed information on generic requirements for standards likely to be used by or impact directly on consumers. JTC 1 endorsed the generic requirements identified in ANEC98/ICT/06 Section 8.1 (February 1998) and instructed JTC 1 subordinate bodies to consider these requirements when developing standards.
JTC 1 further resolved that its Secretariat a) advise COPOLCO and ANEC of this decision and b) thanked ANEC for its work and requested ANEC to provide the JTC 1 Secretariat with future updates to its list of generic requirements.
Recommendation 3: Participation in GSC-5
JTC 1 welcomed the invitation to participate as observers in GSC-5 and appointed its Chairman and representatives (JTC 1 ITU-T Liaison officer and the JTC 1 IEC TC 100 Liaison Officer) to participate on behalf of JTC 1 and to report back at the next JTC 1 Plenary.

Rapporteur Group concluded operations.