



# Maintaining Relevancy to Market & Societal Needs

**Conference on U.S. Leadership  
in ISO and IEC Technical Committees**

*Presented by*

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# Overview

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- ISO/IEC JTC 1 Snapshot
- Two Definitions
- Information Technology (IT) Environment
- IT Standardization Environment
- Leadership 101
- JTC 1 Strategies for Relevancy
- Some Examples

# ISO/IEC JTC 1 Scope and Mission

- Standardization in the field of Information Technology.
  - Note: Information Technology includes the specification, design and development of systems and tools dealing with the capture, representation, processing, security, transfer, interchange, presentation, management, organization, storage and retrieval of information.
- Develop, maintain, promote and facilitate IT standards required by global markets meeting business and user requirements ...

# ISO/IEC JTC 1 - US Leadership

- US National Body holds the JTC 1 Secretariat.
  - Present JTC 1 Secretariat - Lisa Rachel, ANSI
- US National Body nominates the chair of JTC 1.
  - Present JTC 1 Chair - Scott Jameson, HP
- Number of JTC 1 SCs - **17**
- Number of JTC 1 SC Chairs held by US - **6**
- The term of office for JTC 1 and JTC 1 SC chairs is nominally three years.

# Definitions

- **Hardware** - Any *physical component* capable of data processing; for example, computers, peripheral equipment.
- **Software** - All or part of the programs, procedures, rules, and associated documentation of a data processing system or an information processing system. Software is an *intellectual creation* that is independent of the medium on which it is recorded.
  - [http://www.incits.org/tc\\_home/k5htm/Ansdit.htm](http://www.incits.org/tc_home/k5htm/Ansdit.htm)

# Nature of IT

- IT, and IT standardization, is Darwinian, for vendors and users.
- IT is truly about the “survival of the fittest,” and the rules for “fittest” keep changing, rapidly.
- Innovation in IT drives dramatic improvements in price/performance for IT that are unmatched by other industrial sectors.
- IT products and services are great enablers of productivity gains in other sectors of the economy.

# Ubiquity of IT

- “I think there’s a world market for about five computers.”
  - Thomas J. Watson, IBM Chairman, 1943
- In 1971, the first email program was created to send messages across a distributed network.
- Today, there are more than **2 million** Internet hosts with **840 million** users.
- Realizing the full benefits of our enhanced connectivity and computational power depends upon IT standards.

# Software Testing Challenge

- **“the Nation needs software that is far more usable, reliable, and powerful than what is being produced today.”**
  - President’s IT Advisory Committee, 1999
- **“measurement is one of the biggest obstacles now facing the software industry”**
  - Capers Jones, Scientific American, 1998



# Software Testing Challenge

- **\$59.5 billion** is the estimated annual cost to the Nation of inadequate software testing infrastructure.
  - NIST Planning Report 02-3, *The Economic Impacts of Inadequate Infrastructure for Software Testing*, June 2002
- Especially because of software, technically sound IT standards depend upon clearly specifying test requirements and methodologies.
  - JTC 1 Directives - Annex C, JTC 1 Policy on Conformity Assessment

# IT Standardization Environment

- In 1965, there were about **25** IT standards developers.
- The National Cooperative Research Act of 1984 (Public Law 98-462) resulted in many consortia developing IT standards.
- Today, there are about **250** IT standards developers
- **"The nice thing about standards is that there are so many of them to choose from."**
  - Andrew S. Tanenbaum, Professor of Computer Science

# IT Standardization Environment

- IT innovation, time to market pressures, and extremely short IT product life cycles can lead to a very short window of opportunity to start and complete market relevant IT standards.
- Many larger organizations which are stakeholders in IT standardization have been downsized, merged, and reinvented; often more than once.
- There are finite resources among stakeholders to cope with the ongoing torrent of IT standards development.

# Leadership 101 for a Chair

- Knowledge is power, know the:
  - procedures/policies/best practices,
  - market/market politics,
  - motivations/cultures of participants.
- Ensure meetings are successful:
  - organize the meeting agenda for effective use of time,
  - call timely meeting breaks (coffee, lunch, day),
  - assign tasks for completion during breaks.

# Leadership 101 for a Chair

- ***Don't*** advocate when you are presiding.
- ***Do*** have a good secretariat!
- A good secretariat successfully:
  - counsels the chair before, during, and after meetings,
  - advises participants on pertinent procedures/policies,
  - holds chair/conveners/rapporteurs/project editors to their target dates,
  - drafts timely meeting resolutions that lead to closure,
  - completes all meeting action items promptly.

# JTC 1 Strategies for Relevancy

- Provide processes and practices to develop IT standards quickly and efficiently.
- Use IT to develop IT standards quickly and efficiently.
- Require the development of technically sound and testable IT standards.
- Maintain awareness of various national and regional laws/policies/cultures so that JTC 1 standards are broadly applicable.

# JTC 1 - Fast Processes and Practices

- JTC 1 Fast Track Process
- JTC 1 Publicly Available Specifications (PAS) Process
- JTC 1 Accelerated 5-Stage Process
  - concurrent NP and CD ballots
  - eliminates WD stage
- 5-Stage Process – examples of best practices
  - Establish Rapporteur Groups to accelerate WD development.
  - Between SC meetings, empower subgroups to decide on progressing to CD/ FCD or FDIS ballot.

# JTC 1 - Use of IT

- JTC 1 moved very early to a Web-based business model.
- Documents are instantly distributed via the Web at greatly reduced costs.
- Since 1997, only electronic documents are used at meetings (no paper).
- Consequently:
  - decisions can be documented in real time, and
  - new drafts of standards can be quickly posted.



# JTC 1 - Responsibility of SCs to Develop Testable Standards

- Ensure that conformity requirements are unambiguous and that conformity to those requirements is verifiable.
- Specify the conformity assessment methodology.
- A conformity assessment methodology may include the specification of some or all of the following:
  - terminology, basic concepts, requirements and guidance concerning test methods, test specification and means of testing, and requirements and guidance concerning the operation of conformity assessment services and the presentation of results. (Annex C JTC 1 Policy on Conformity Assessment)

# JTC 1 - Societal Need - Accessibility

- In October 2004, JTC 1 established a Special Working Group on Accessibility.
- Terms of Reference:
  - determine an approach, and implement, the gathering of user requirements, being mindful of the varied and unique opportunities (direct participation of user organizations, workshops, liaisons),
  - identify a mechanism to work proactively between meetings to make forward progress,
  - gather and publish an inventory of all known accessibility standards efforts,

# JTC 1 - Societal Need - Accessibility

- Terms of Reference - *continued*:
  - identify areas/technologies where voluntary standards are not being addressed and suggest an appropriate body to consider the new work,
  - track public laws, policies/measures and guidelines to ensure the necessary standards are available,
  - through wide dissemination of the SWG materials, encourage the use of globally relevant voluntary standards,
  - assist consortia/fora, if desired, in submitting their specifications to the formal standards process.

# JTC 1 - Relevance to Market -- ICAO

- International Civil Aviation Administration (ICAO) has adopted a global, harmonized blueprint for the integration of biometric identification information into passports and other Machine Readable Travel Documents (MRTD).
- ***Facial recognition*** was selected as the globally interoperable biometric for machine-assisted identity confirmation with the MRTD specification.
- The MRTD specification requires conformance to JTC1/SC 37 *draft* biometric data interchange format standards for *face*, *finger*, and *iris* recognition, as well as the *Common Biometric Exchange Formats Framework (CBEFF)* standard.

# JTC 1 - Relevance to Market -- ILO

- ISO and JTC 1 are assisting the International Labour Organization (ILO) of the United Nations regarding the use of biometrics for a Seafarer's ID card.
- Two *fingerprint* templates will be stored in a barcode which will be placed in the area indicated by ICAO 9303.
- ILO Technical Report SID-002 (Approved March 2004) specifies the use of *draft versions* of some of the standards under development in JTC 1/SC 37 (*finger minutiae, finger image and CBEFF*).