

ISO/IEC JTC 1/SC 2  
CODED CHARACTER SETS  
SECRETARIAT: JAPAN (JISC)

**DOC TYPE:** Other document

**TITLE:** JTC 1 Technical Directions, Organizational Structure and Modes of Operation (JTC 1 N 4775)

**SOURCE:** JTC 1 Reengineering Ad Hoc

**PROJECT:** --

**STATUS:** This document was considered at the SC 2 Plenary meeting, 1997-07-08/09, Iraklion-Crete, Greece.

**ACTION ID:** FYI

**DUE DATE:** --

**DISTRIBUTION:** P, O and L Members of ISO/IEC JTC 1/SC 2  
WG Conveners, Secretariats  
ISO/IEC JTC 1 Secretariat  
ISO/IEC ITTF

**MEDIUM:** P

**NO. OF PAGES:** 10

ISO/IEC JTC 1  
Information Technology

ISO/IEC JTC 1 N 4775

DATE: 1997.06.25

REPLACES

DOC TYPE:  
Other document

TITLE:  
JTC 1 Technical Directions, Organizational Structure and Modes of  
Operation

SOURCE:  
JTC 1 Reengineering Ad Hoc

PROJECT:

STATUS:  
As per Reengineering Ad Hoc Recommendation 8, this document is  
circulated to JTC 1 National Bodies for a 60-day letter ballot.  
Comments received on this ballot will be considered at the September  
1997 JTC 1 Plenary meeting in Ottawa.

ACTION ID: LB

DUE DATE: 1997.08.29

DISTRIBUTION: P and L Members

MEDIUM:

DISKETTE NO.: 137

NO. OF PAGES: 9

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**Title: JTC 1 Technical Directions, Organizational Structure and Modes of Operation**

**Source: JTC 1 Reengineering ad hoc, 20 June 1997**

JTC 1 is committed to successfully providing users and industry with information technology standards that meet the marketplace in a timely manner. To accomplish our goal, JTC 1 must remain the “vendor of choice” for international IT standardization. The reengineering activity has considered both organizational structure and modes of operation. Now, it will require a change in the collective mindset of all participants to ensure JTC 1’s success.

While pursuing the goal of a responsive, flexible, and engaged organization, the ad hoc considered ways in which the SCs could meet the new challenges with existing procedures. The following items constitute opportunities for SCs to engage others in the standards development process. This toolbox demonstrates the many ways SCs can expand their influence --- from tools as well implemented as formal liaison relationships to the yet unfolding comments from interested parties at the WG level.

- 1) Liaison representatives to have formal relationships
- 2) Joint/colocated meetings to encourage dialogue
- 3) Document exchange to share information
- 4) Common membership to expand understanding
- 5) Formal collaboration such as ITU-T to stay technically engaged
- 6) Workshops (as per the JTC 1 directives) to gain consensus within JTC 1
- 7) Joint balloting (among SCs) to ensure cohesive technical solutions
- 8) Designating Rapporteurs to have a one to one relationship for cross SC input
- 9) Joint electronic working environments to engage more people in a timely manner
- 10) Develop opportunities for comments on WG drafts by other JTC 1 WGs and interested parties to make use of a larger, consultative base
- 11) Fast track process
- 12) PAS process

The use of these tools is encouraged. Three recommendations to socialize their use among SCs are offered:

- 1) Discuss and promote at the SC Chairman’s meeting
- 2) Have groups document and share their concerns for implementation and the possible roadblocks. JTC 1 should then work toward eliminating them or correcting misperceptions.
- 3) Provide a spot on the JTC 1 web page to gather white papers that share the many positive experiences that already exist and shorten the learning curve.

As a part of JTC 1’s reengineering process, we have identified Technical Directions which we believe are of strategic market relevance. These Directions identify a synergistic grouping of work, and are based on the situation today. The list of Directions will be re-aligned as external circumstances demand. By focusing on these technology directions, JTC 1's standards will be more efficient,

effective and market oriented. We expect that these Technical Directions will provide a focus for new technologies as they arise. For example, if market requirements dictate the a new distributed application service standard needs to be developed, our Technical Direction in this area would give JTC 1 a ready home for the standard to be developed.

Technical Directions are viewed by JTC 1 as an opportunity to better convey to “the world” the work in which we are engaged. The Technical Directions will encourage cross SC collaboration and enable a more flexible organizational structure. In some cases, identifying a lead organization for an activity may be required and should be designated. Technical Directions should offer greater cooperation between JTC 1 and other standards development bodies (ISO, IEC, ITU) without delaying the development process. Optimization of resources for travel and administration will also be realized.

The chart which follows depicts the general consensus regarding the Technical Directions. Transition from today’s structure toward Technical Directions will be applied via three methods.

- Method A) members of a Technical Direction will:
  - operate as a single SC
  - incorporate use of the toolbox both between JTC 1 Technical Directions and externally to other organizations
- Method A+) members of a Technical Direction will:
  - operate as a single SC
  - incorporate use of the toolbox both between JTC 1 Technical Directions and externally to other organizations
  - take note of special considerations (as defined in the table)
- Method B) members of a Technical Direction will:
  - operate as separate SCs within a common Technical Direction
  - encourage dialogue between the grouped SCs
  - use the existing tools for collaboration
  - feel free to meet independently
  - action the SC chairs to provide joint reports (such as business plans, plenary reports, etc.)

Note: SCs within a Technical Direction operating under Method B are encouraged to move towards operations under Method A

The organizational structure of the Technical Directions and their recommended mode of operation are:

Data Capture and Identification Systems	SC 17, SC 31  Method: B
Data Management Services	SC 30, SC 14, SC 21/WG 3 (pertinent projects)  Method: A
Distributed Application Services	SC 21/ WG 7, SC 18/WG 4, ASN.1  Method: A
Information Interchange Media	SC 11, SC 23

	Method: B
IT Terminology	SC 1 Method: A+ especially make use of Rapporteur function increase links to ITU-T and others (consideration of French comments as in N4738)
Multimedia and Representation	SC 24, SC 29 Method: B
Networking & Interconnects	SC 6, SC 25, SC 26 Method: B
Office Equipment	SC 28 Method: A
Programming Languages & Software Interfaces	SC 22 Method: A
Security	SC 27 Method: A+ expanded role as lead organization for JTC 1 security issues (consideration of French comments as in N4746)
Software Engineering	SC 7 Method: A
User Interfaces	SC 18/WG 9 Method: Undecided. Operate as WG reporting to JTC 1 until 1998 plenary pending results of cultural adaptability workshop.
Document Description Languages	SC 18/WG 8 Method: Undecided. Operate as WG reporting to JTC 1 until 1998 plenary.
Coded Character Sets	SC 2
Note: this is a tentative technical direction Final decision to be made at 1998	Method: Undecided. Maintain current operation

plenary	until 1998 plenary pending results of cultural adaptability workshop.
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## **Descriptions of Technical Directions**

### **Data Capture and Identification Systems**

Coding (data formats, syntax, and structure), interchange and manipulation of stored digital data, using on demand techniques (optical, magnetic, electrical and/or RF) for individually and uniquely identifying items and entities.

### **Data Management Services**

Enabling technologies for use in all information systems environments (both local and distributed) covering:

Data Management Services for the definition of data structures and semantics for a complete range of data types, together with services for storage, access and update of such data and meta-data.

Specification of data content and semantics of messages used in electronic commerce.

### **Distributed Application Services**

Enabling technologies for use in a distributed environment in order to achieve concrete distributed application services, covering:

Specification of application functions independently of the details of their distribution (through the use of object technology); configuration and management of those functions across entire enterprises.

Distributed system services functions such as transaction processing, electronic messaging, directory and systems management; support for distribution of data management services; and specification of techniques for messaging in electronic commerce.

### **Information Interchange Media**

Physical characteristics of storage media using optical, magnetic or other technologies and structure of data for storage and interchange, including algorithms for the loss-less compression of data.

### **IT Terminology**

Terminology for Information Technology and related fields, intended to achieve consistency throughout worldwide markets and users.

### **Multimedia & Representation**

Presentation of, interchange of, and interaction with information, including:

- computer graphics;
- multimedia, including coding of hypermedia and multimedia and coded representation of picture and audio information;
- image processing; and
- interactive techniques.

### **Networking and Interconnects**

Functions necessary for establishment and control of information exchange via networks and physical interfaces. They comprise, for communications, interfaces and protocols, for transport, network management and selected application services and the physical infrastructure.

### **Office Equipment**

Basic characteristics, performance, test methods and other related aspects of office equipment and products such as:

- Printers
- Copying equipment
- Digital scanners
- Facsimile equipment

and systems composed of combinations of office equipment.

### **Programming Languages and Software Interfaces**

Programming languages, their environments and systems software interfaces, including

- specification techniques,
- common facilities, and
- language bindings.

### **Security**

Generic frameworks, methods, techniques and mechanisms for Information and Communication Technology Security, including :

- open security architecture,
- semantic rules for interchange of various security information,
- interfaces for invoking security functionalities in related API's and protocols.

### **Software Engineering**

Processes, supporting tools and supporting technologies for the engineering of software products and systems.

### **User Interfaces**

User-system interfaces for input devices such as keyboards, mice, pointers and pens; rules for systems control by voice recognition, presentation techniques, dialogues, graphic symbols and icons including those for people with special needs.

### **Document Description Languages**

Document description languages for system-independent and application-independent modeling and accessing of abstract information, including:

- Standard Generalized Markup Language (SGML)
- SGML profiles and applications (e.g. HTML)
- Related processing, software interfaces, and resources.

### **Coded Character Sets**

Graphic character sets and their characteristics, associated control functions, their coded representation for information interchange, and code extension techniques.



JTC 1 has identified several technical considerations which span multiple organizations and act as core requirements. These Common Strategic Characteristics of interoperability, portability, and cultural adaptability must be considered and promoted within every Technical Direction. While interoperability and portability have been well considered within JTC 1 (TSG1, SWG-CA, etc.), cultural adaptability has not been as thoroughly pursued. JTC 1 recommends a Workshop be held with the following considerations:

- engage multiple Technical Direction JTC 1 participation
- develop policies to guide activities (in a like manner to that of interoperability and portability)
- develop a process to ensure cultural adaptability
- elaborate or amend the definition of cultural adaptability as contained in N4627
- recommended placement for Coded Character Sets and the relationship with User Interface
- increase the responsiveness of JTC 1 to cultural adaptability issues and increase the visibility of JTC 1 in this endeavor

It is of paramount importance that the JTC 1 organization remain flexible. In addition to greater use of the procedures contained in the Toolbox, new TDs can be initialized using the recently readdressed NP process.

The responsiveness and success of JTC 1 is not dependent on the number of Technical Directions. Nor is it dependent on the processes in place. Rather, JTC 1's successes will result from its ability to implement those processes, using them in creative and flexible ways. The new Technical Directions, the increased collaboration through aggressive use of the Toolbox, and the implementation of electronic means for realtime standards development will combine to enhance the mindset of the JTC 1 organization and the successes we achieve.