

**Business plan and convenor's report:  
ISO/IEC JTC1 SC22/WG20 - INTERNATIONALIZATION**

**PERIOD COVERED:**

September 2002 – August 2003

**SUBMITTED BY:**

Convenor WG20  
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**1. MANAGEMENT SUMMARY**

**1.1 SCOPE**

Identification of elements relevant to the work of SC22 that may be affected by differences in language, culture, customs and habits; and for these elements, develop standards that enable applications to be portable across differing cultural practices; and develop a Technical Report that describes a framework for nations to provide those elements

**1.2 PROJECT REPORT**

**Project number**

**Description**

**Editors**

**22.13 (published)**

**Second edition of TR 10176: "Guidelines for the preparation of programming language standards".**

An amendment has been approved to align Annex A to ISO 10646. (see project 22.13.1)

**Akio Kido and Makoto Noda**

**22.13.1 (published)**

**Amendment #1 to TR 10176: "Guidelines for the preparation of programming language standards" to align Annex A with ISO 10646. The TR has been published in 2001, not as an amendment but as the 3<sup>rd</sup> edition of the Technical Report.**

**Arnold F. Winkler**

**22.13.2 (published)**

**TR 10176, 4<sup>th</sup> edition: "Guidelines for the preparation of programming language standards" to align Annex A with further additions to ISO 10646.**

**Arnold F. Winkler**

**22.30.01 (published)**

**TR 11017: "Framework for internationalization"**

**T.K. Sato**

22.30.02.01 (umbrella project - no standard associated)  
Functionality of the internationalization of applications  
Keld Simonsen

**22.30.02.02 (published)**

**ISO/IEC 14651: International string ordering. This standard has been approved and published.**

**Alain LaBonté**

**22.30.02.02.1 (published)**

**Amendment #1 to ISO/IEC 14651: International string ordering, to align the template table with the rapidly growing repertoire of ISO/IEC 10646.**

**Alain LaBonté**

22.30.02.02.2

Amendment #2 to ISO/IEC 14651: International string ordering, to align the template table with the rapidly growing repertoire of ISO/IEC 10646.

Alain LaBonté

22.30.02.03 (approved for publication in 2003)

ISO/IEC 14652: Specification method for Cultural Conventions. This project has changed to produce a TR.

Keld Simonsen

**22.15435 (withdrawn)**

**ISO/IEC 15435: Internationalization API. This project has been withdrawn.**

**Keld Simonsen**

**22.15897 (published)**

**ISO/IEC 15897: Procedures for registration of cultural elements.** This project was created through the fast track process from EN 12005 and assigned to WG20 for maintenance.

**Keld Simonsen**

22.15897 revision

ISO/IEC 15897: Procedures for registration of cultural elements. In FCD balloting.

Keld Simonsen

For details see later discussion of projects in section 5.

### **1.3 COOPERATION AND COMPETITION**

Internationalization is considered a high priority issue by many groups that develop standards, most important amongst them are:

- \* Unicode Consortium
- \* Subcommittees and individual working groups of JTC1, e.g. SC22/WG4 - COBOL
- \* ISO TC46/SC2
- \* CEN, CDSG, CEN/TC304, various working groups
- \* W3C, the World Wide Web Consortium

WG20 is cooperating with the above mentioned groups, either through already existing liaisons, or through individual contacts.

## **2. PERIOD REVIEW**

### **2.1 MARKET REQUIREMENTS**

WG20 believes that through the proliferation of PCs in homes world-wide, and the ubiquitous World Wide Web, internationalization has become a very important factor in the creation of applications and thus all programming languages.

## **2.2 ACHIEVEMENTS**

ISO/IEC 14651, Amendment 1 has been published..

ISO/IEC TR 10176, fourth edition has been published.

ISO/IEC TR 14652 has been approved for publication in 2003.

## **2.3 RESOURCES**

Please see 6.1.1 for the general resource situation. WG20 has to prioritize its work to make best use of the scarce resources available.

## **3. FOCUS FOR THIS PLANNING PERIOD**

### **3.1 DELIVERABLES:**

- A. WG20's focus for 2003 and 2004 will be to once again amend the international string ordering standard ISO/IEC 14651 to align the character repertoire with the rapidly growing repertoire of ISO/IEC 10646, and in particular, the imminent publication of ISO/IEC 10646:2003.
- B. TR 14652 – Specification methods for cultural conventions, has been approved for publication, and is in the final stages at ITTF.
- C. WG20 will be completing work on revision of ISO/IEC 15897 – Registration of cultural elements, to align the registration process with the process for character set registrations in ISO/IEC 2375 and to make other detailed registration updates. As of this date, this work is in FCD ballot.
- D. WG20 has solicited contributions for a potential new work item on the functionality of APIs for internationalization and for a potential new work item on other issues related to sorting.

### **3.2 STRATEGIES:**

WG20 has 2 principle strategies:

- A. Technical excellence
- B. Liaisons with all interested parties

#### **3.2.1 RISKS**

The risks with the chosen strategies are:

- A. The quest for technical excellence slows down the process
- B. Liaisons with individual interests create complex requirements which are harder to meet
- C. Lack of resources slows down the process

#### **3.2.2 OPPORTUNITIES**

- A. Technical correctness of the WG20 work ensures that resulting standards can and will be implemented immediately after publication, sometimes even before.
- B. WG20 develops standards and Technical Reports with contributions and requirements from many liaisons. This should ensure the development of comprehensive standards that provide excellent service to a wide variety of users, but the liaison relationships have proven somewhat tenuous in practice.
- C. Unique opportunities present themselves to reference versioned data files of the Unicode Character Database instead of copying derivative tables into JTC1 standards, e.g. the identifier table in Annex A of ISO/IEC 10176.

## **3.3 WORK PROGRAM PRIORITIES**

Culturally correct processing is important for all facets of data processing. Culturally correct ordering of data is one of the most complex tasks due to contradicting requirements from various parts of the user community. WG20 was using most of its resources to revise and extend the template table for IS 14651, a standard that allows international string ordering with the option to tailor the output to satisfy specific user communities (e.g. geographic areas, cultural groups, businesses). Amending the template table that defines the sort order with new characters from the rapidly growing repertoire if ISO/IEC 10646 is time critical. In light of the extensive use of international search engines this task deserves highest priority in the work of WG20.

The registry of cultural elements is helpful for design and implementation of internationalized applications. To ensure reliable quality of registrations, WG20 is also putting priority on revising the registration process to allow independent review of submissions, in line with the recently completed and published revision of the registration standard for character sets, ISO/IEC 2375.

## 4. Membership of SC22/WG20

### 4.1 Liaisons and representatives to and from SC22/WG20

#### 4.1.1 Liaisons from WG20

Liaison from WG20	Organization	Subject
Kim Kyongsok	SC2/WG2	Character Sets
Keld Simonsen	SC22/WG15	POSIX
open	SC22/WG5	Fortran
Keld Simonsen	SC22/WG14	C
Keld Simonsen	SC22/WG21	C++
Keld Simonsen	CEN/CDSG/TC 304	I18n, character set technology
Alain LaBonté	CEN/TC 304	I18n, character set technology
Alain LaBonté	SC35	User System Interface
Keld Simonsen	TC37/SC2/WG3	Alphabetic ordering
Ken Whistler	Unicode	Character sets and I18N
Keld Simonsen	W3C I18N	I18N for the WWW
Keld Simonsen	TC46/WG3	Conversion of written languages
	SC32/WG3	SQL

#### 4.1.2 Liaisons to WG20

Liaison to WG20	Organization	Subject
open	SC2/WG2	Character Sets
Keld Simonsen	SC22/WG15	POSIX
Ann Wallace	SC22/WG4	COBOL
open	SC22/WG5	Fortran
Jim Melton	SC32/WG3	SQL
Keld Simonsen	SC22/WG14	C
Keld Simonsen	SC22/WG21	C++
Marc Küster	CEN/TC 304	I18n, character set technology
Ken Whistler	Unicode	Character sets and I18N
open	W3C I18N	I18N for the WWW
open	SC35	User interface
John Clews	TC46/WG3	Conversion of written languages

I would like to emphasize that 1 very important liaison is currently open, namely the liaison from SC2/WG2.

#### Note:

CEN/TC304 is now called European Localization Requirements, the TC is presently without a secretariat and thus "dormant".

WG20 also maintains contacts with CEN CDSG, the Cultural Diversity Steering Group, through Marc Küster, member of WG20 and chair of the CDSG.

#### 4.1.3 Liaison requests

WG20 is requesting the approval of Prof. Kim Kyongsok as liaison officer to SC2/WG2.

WG20 is also requesting clarification of the status of the liaison between SC22 and IETF.

#### 4.1.4 Representatives

None at this moment.

## 4.2 Meetings of SC22/WG20

1	November 1991	Sunnyvale	USA
2	April 1992	Paris	France
3	October 1992	Québec	Canada
4	April 1993	Copenhagen	Denmark
5	October 1993	Tokyo	Japan
6	April 1994	Oxford	United Kingdom
7	October 1994	Cupertino	USA
8	May 1995	Paris	France
9	September 1995	Copenhagen	Denmark
10	April 1996	Kyoto	Japan
11	September 1996	Vienna	Austria
12	Spring 1997	Québec	Canada
13	November 1997	Cairo	Egypt
14	June 1998	Dublin	Ireland
15	October 1998	Tel Aviv	Israel
16	May 1999	Malvern	USA
17	November 1999	Copenhagen	Denmark
18	May 2000	Québec	Canada
19	Oct. Nov. 2000	Malvern	USA
20	May 2001	Tübingen	Germany
21	October 2001	Malvern	USA
22	June 2002	Tromsø	Norway
23	February 2003	Busan	South Korea
<u>Planned meetings:</u>			
24	October 2003	Mountain View	USA

## 4.3 Convener of WG20

Ken Whistler is the convener of SC22/WG20.

## 5. Projects of SC22/WG20

### 5.1 Status of active projects

#### 5.1.1 TR 11017: Framework for internationalization (published)

- a Framework for internationalization
- b JTC1 22.30.01
- c A type 3 Technical Report
- d T. K. Sato
- e The TR 11017 has been published in English and French. The project is completed.

#### 5.1.2 Second edition of TR 10176 (published)

- a Guidelines for the preparation of programming languages standards
- b JTC1 22.13
- c A Type 3 Technical Report
- d A. Kido and M. Noda
- e The TR has been published. The project is completed.

#### 5.1.3 Third edition of TR 10176 (published)

- a Amendment to "Guidelines for the preparation of programming language standards"
- b JTC1 22.13.1
- c According to ITTF this is a new edition of the Type 3 Technical Report.
- d Arnold F. Winkler

- e Update was needed for Annex A due to the rapid additions to the repertoire of ISO 10646. The new Annex A has been approved, the TR has been published as the third edition of the TR (there were no amendments to TRs until 2002). This project is completed.

#### **5.1.4 Fourth edition of TR 10176 (published)**

- a Amendment to "Guidelines for the preparation of programming language standards"
- b JTC1 22.13.2
- c A new edition of a type 3 Technical Report
- d Arnold F. Winkler
- e Update was needed for Annex A due to the additions to the repertoire of ISO 10646. The project is completed.

#### **5.1.5 ISO/IEC 14651 - International string ordering (published)**

- a International string ordering (Method for Comparing Character Strings and Description of the Common Template Tailorable Ordering)
- b JTC1 22.30.02.02
- c International Standard ISO/IEC 14651
- d Alain LaBonté
- e The standard has been approved and is published on CD as requested by WG20.

#### **5.1.6 ISO/IEC 14651, Amendment #1 - International string ordering (published)**

- a International string ordering (Method for Comparing Character Strings and Description of the Common Template Tailorable Ordering). Amendment #1 revises the Common Template Table to account for the expanded repertoire of ISO/IEC 10646-1:2000 and ISO/IEC 10646-2:2001.
- b JTC1 22.30.02.02
- c International Standard ISO/IEC 14651
- d Alain LaBonté
- e The amendment has been approved and is published on CD as requested by WG20.

#### **5.1.7 ISO/IEC 14651, Amendment #2 - International string ordering (working draft)**

- a International string ordering (Method for Comparing Character Strings and Description of the Common Template Tailorable Ordering). Amendment #2 revises the Common Template Table to account for the further expanded repertoire of ISO/IEC 10646:2003.
- b JTC1 22.30.02.02
- c International Standard ISO/IEC 14651
- d Alain LaBonté
- e The standard has been approved and is published on CD as requested by WG20.
- f WG20 has started work on a new amendment #2 in its task to deal with the additions to the repertoire of ISO/IEC 10646.

#### **5.1.8 TR 14652: Specification Method for Cultural Conventions (approved for publication)**

- a Specification method for cultural conventions
- b JTC1.22.30.02.03
- c Technical Report ISO/IEC TR 14652
- d Keld Simonsen
- e WG20 changed the document type from Standard to a Type 1 Technical Report, due to the fact that this document is extremely contentious.
- f The final text of TR 14652 have been submitted by the editor for publication. The document visibly identifies sections as “**controversial**” for which no agreement could be reached in the working group.

#### **5.1.9 Internationalization API standard - ISO/IEC TR 15435 (project withdrawn)**

- a Internationalization API standard
- b JTC1 22.15435
- c International Standard ISO/IEC 15435
- d Keld Simonsen
- e Project is withdrawn.
- f The SC22 N3328 letter ballot resulted in withdrawal of project 22.15435, the ballot results are in SC22 N3362.

### **5.1.10 ISO/IEC 15897 - Procedures for registration of cultural elements (published)**

- a European registration standard
- b JTC1 22.15897
- c International Standard ISO/IEC 15897
- d Keld Simonsen
- e This international standard is the result of a fast-track processing of EN 12005 to become an international standard. SC22 assigned the maintenance of this standard to WG20.

### **5.1.11 ISO/IEC 15897 - Procedures for registration of cultural elements – revision #1**

- a European registration standard for cultural elements
- b JTC1 22.15897
- c International Standard ISO/IEC 15897
- d Keld Simonsen
- e This international standard is the result of a fast-track processing of EN 12005 to become an international standard. SC22 assigned the maintenance of this standard to WG20.
- f The document is currently in FCD balloting.  
It is discouraging to see that National Bodies show little interest in this standard. The CD ballots have received voluminous comments from those who have been reviewing and voting, however, showing some of the same kind of persistent controversy which dogged the development of TR 14652.

## **5.2 Candidate projects**

### **5.2.1 Functionality of Internationalization (no future work is anticipated)**

- a Functionality of the internationalization of applications
- b JTC1 22.30.02.01
- c A number of standards, see subproject descriptions below
- d Keld Simonsen
- e This is an umbrella project

This project is the umbrella project for the development of specific standards for functionality of the internationalization of applications, such that users can specify their cultural requirements, and obtain consistent behavior across system platforms and applications.

### **5.2.2 TR on the functionality of I18N-APIs and current practices:**

SC22 resolution 2001-26 from Hawaii: "SC22 further requests that SC22/WG20 develop an NP for a Type 2 TR, or a Type 3 TR, which addresses the functionality of 15435 and addresses current practice in existing programming languages."

Following this request, WG20 assigned action items to all interested NBs to provide input for a type 3 TR. To date, little input has been received and no one is currently volunteering to draft documents for a potential TR. WG20 has not decided whether to proceed to request a new project for this.

## **6. Conclusions and requests**

### **6.1 Issues**

#### **6.1.1 Resources for standards development**

The biggest issue in SC22/WG20 - as in many other standards developing organizations - is that companies can not afford to make enough resources available for the support of the infrastructure of formal standards development. For some participants in our meetings, the meeting time is the only time they can spend on the projects. Additionally, travel budgets are tight, especially after the economic downturn since 2000, thus restricting the participation even further. WG20 has currently stable participation from 4 NBs and sometimes participants from other NBs. Meeting participation varies between 5-8 people.

### **6.1.2 WWW home page for SC22/WG20**

The home page address is <http://www.dkuug.dk/JTC1/SC22/WG20/>

The web site contains:

- \* Introduction and explanation of SC22/WG20 activities
- \* Working drafts of standards from SC22/WG20
- \* SC22/WG20 documents for electronic distribution

Keld Simonsen maintains the home page. Arnold Winkler has been assisting the convenor by providing most WG20 documents in web-ready form.

### **6.1.3 Document distribution**

SC22/WG20 has distributed documents in paper form to an extensive distribution list for many years. With advice and help from the SC22 secretariat, the distribution method has been switched to mainly web based distribution. URL for WG20 documents: <http://wwwold.dkuug.dk/jtc1/sc22/wg20/docs/W-SD2.htm>

## **6.2 Requests to the SC22 plenary**

**6.2.1 WG20 is requesting the approval of Prof. Kim Kyongsok as liaison officer to SC2/WG2.**

**6.2.2 WG20 is also requesting clarification of the status of the liaison between SC22 and IETF.**

## Attachment #1: Current list of project editors

Number	Description	Current Editor	Proposed Editor
22.13 published	Amendment of TR 10176 Guidelines for the preparation of programming language standards	Akio Kido Makoto Noda	Akio Kido Makoto Noda
22.13.1 published	Amendment #1 to TR 10176 Correction of Annex A	Arnold F. Winkler	Arnold F. Winkler
22.13.2 published	TR 10176 third edition	Arnold F. Winkler	Arnold F. Winkler
22.13.x published	TR 10176 fourth edition	Marc W. Küster	Marc W. Küster
22.30.01 published	TR 11017: Framework for internationalization This project is completed	T.K. Sato	T.K. Sato
22.30.02.01 no output	Functionality of the internationalization of applications (umbrella project)	Keld Simonsen	n/a
22.30.02.02 published	ISO/IEC 14651: International string ordering	Alain LaBonté	Alain LaBonté
22.30.02.02.1 published	ISO/IEC 14651: International string ordering, Amendment #1	Alain LaBonté	Alain LaBonté
22.30.02.02.2	ISO/IEC 14651: International string ordering, Amendment #2	Alain LaBonté	Alain LaBonté
22.30.02.03	ISO/IEC TR 14652: Specification method for cultural conventions	Keld Simonsen	Keld Simonsen
22.15435 withdrawn	ISO/IEC 15435: Internationalization API	Keld Simonsen	Keld Simonsen
22.15897	ISO/IEC 15897: Procedures for registration of cultural elements	Keld Simonsen	Keld Simonsen