

**WG20 contribution for the Cultural Adaptability Workshop  
and the future of SC22/WG20**

November 17, 1997

## 1. Background:

In October of 1989, SC22 submitted to JTC1 a proposal for a new work item: Functionality for internationalization of applications. The work item was approved and assigned to the new WG20 in SC22..

### 1.1 Terms of Reference for WG20

1. to develop a Technical Report that describes a framework for the national bodies to provide those elements specific to their country/culture; (TR 11017)
2. to respond to comments on the NWI submitted by JTC1 National Bodies;
3. to liaise with the SC22 Ad Hoc Group on "Character Handling" and other working groups as appropriate, on matters of common interest.
4. to identify elements relevant to the work of SC22, in particular applications, that may depend on differences in national language, culture, customs and habits.
5. Update the TR 10176 - Guidelines for the preparation of programming language standards.
6. to develop a standard which defines the programming language functionality for these elements in such a manner as to enable applications using that programming language to be portable across differing national practice.

### 1.2 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    | May 1997       | Québec     | Canada         |
| 13    | November 1997  | Cairo      | Egypt          |
| ----- |                |            |                |
| 14    | May 1998       | Dublin     | Ireland        |
| 15    | Fall 1998      | Israel     | Israel         |

## 2. Current Status:

### 2.1 Members of SC22/WG20

Canada, Denmark, Egypt, France, Ireland, Israel, Japan, USA.

### 2.2 Liaisons from and to WG20

| <b>Liaison from WG20</b> | <b>Organization</b> | <b>Subject</b>                    | <b>Liaison to WG20</b> |
|--------------------------|---------------------|-----------------------------------|------------------------|
| T.K. Sato                | SC2/WG2             | Character Sets                    | T.K. Sato              |
|                          | SC21/WG3            | SQL                               | Jim Melton             |
| Keld Simonsen            | SC22/WG15           | POSIX                             | Keld Simonsen          |
|                          | SC22/WG4            | COBOL                             | Ann Wallace            |
| Miles Ellis              | SC22/WG5            | FORTRAN                           | Miles Ellis            |
| Keld Simonsen            | SC22/WG14           | C                                 | Keld Simonsen          |
| Keld Simonsen            | SC22/WG21           | C++                               | Keld Simonsen          |
| Gary Miller              | X/Open              | I18n                              |                        |
| Alain LaBonté            | GUIDE/SHARE-Europe  | I18n                              | Alain LaBonté          |
| Keld Simonsen            | CEN TC 304          | I18n, character set<br>technology | Þorvaður Kári Ólafsson |
| Alain LaBonté            | JTC1 WG5            | User System Interface             | Alain LaBonté          |
|                          | SC22/WG22           | PCTE                              | Keld Simonsen          |
| Keld Simonsen            | TC37/SC2/WG3        | Alphabetic ordering               | Keld Simonsen          |

### 2.3 Projects of SC22/WG20

Status as per January 20, 1998

#### 2.3.1 Project 22.13

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

Akio Kido and Makoto Noda

Status: passed DTR ballot

Estimated completion date: 1st quarter of 1998

#### 2.3.2 Project 22.30.01 (completed)

TR 11017: "Framework for internationalization"

T.K. Sato

Status: completed

#### 2.3.3 Project 22.30.02.01 (umbrella project - no standard associated)

Functionality of the internationalization of applications

Keld Simonsen

#### 2.3.4 Project 22.30.02.02

ISO/IEC 14651: International string ordering

Alain LaBonté

Status: submitted for FCD ballot

Estimated completion date: Summer 1998

### 2.3.5 Project 22.30.02.03

ISO/IEC 14652: Specification of Cultural Conventions

Keld Simonsen

Status: registration and CD ballot closed beginning of November 1997

Estimated completion date: Winter 1998/99

### 2.3.6 Project 22.15435

ISO/IEC 15435: Internationalization API

Keld Simonsen

Status: First working draft

Estimated completion date: Summer 1999

## 2.4 Terms of reference - analysis of current status

Looking at the work items, defined in the terms of reference, the status is as follows:

- |   |   |  |
|---|---|--|
| 1 | to develop a Technical Report that describes a framework for the national bodies to provide those elements specific to their country/culture (TR 11017)   | completed  |
| 2 | to respond to comments on the NWI submitted by JTC1 National Bodies;  | completed  |
| 3 | to liaise with the SC22 Ad Hoc Group on “Character Handling” and other working groups as appropriate, on matters of common interest.  | completed  |
| 4 | to identify elements relevant to the work of SC22, in particular applications, that may depend on differences in national language, culture, customs and habits   | ongoing  |
| 5 | Update the TR 10176 - Guidelines for the preparation of programming language standards.   | passed DTR ballot, should be completed in 1st quarter of 1998  |
| 6 | to develop a standard which defines the programming language functionality for these elements in such a manner as to enable applications using that programming language to be portable across differing national practice. | one project in FCD ballot (sort), 1 projects passed registration and CD consideration stage (specification of cultural conventions and I18N APIs), 1 project in WD stage |

This means that 2 major parts of WG20’s tasks (TR 11017 and TR 10176) have been or are being completed at this time.

Additionally, WG20 has increased the awareness for internationalization in the IT industry and the bodies for the development of programming languages significantly. This applies not only to the formal programming languages, but related concepts are already used in industry standards for advanced technologies such as in the IETF.

The project on international string ordering is in FCD stage and wide consensus on the sorting method has been reached. The “common template” ordering to which the method defaults, when no tailoring is applied to the underlying tables, is as “culturally correct” as possible. Some countries will have to develop their

specific sorting template for their cultures, the method will remain the same as for everybody else. This project can be completed by the end of 1998.

The internationalization API standard and the standards for the specification of cultural conventions are extensions of the existing POSIX, and C-language standards.

WG20 has in all its work promoted the use of the Universal Character Set as defined in ISO/IEC 10646. WG20 has strong liaison to and from SC2/WG2 and most of the WG20 members are also represented in WG2. This is a clear indication of the importance of character set issues in internationalization.

While electronic contributions from various experts are quite frequent, the participation in face-to-face meetings is low.

## **2.5 Conclusion**

Some countries have consistently supported standard activities in the internationalization arena. The apparent success of these activities is evident in the global awareness and implementation of internationalization.

The new goal of internationalization will have to be defined through cooperation of all parties, interested in systems and applications that need to perform equally in any cultural environment.

The CAW in Ottawa is a perfect place to confirm the direction for internationalization with strong support of the industry.

- project 22.13 - TR 10176 (Guide for programming languages)
- project 22.30.02.02 - IS 14651 (International string ordering)
- project 22.30.02.03 - IS 14652 (Specification of cultural conventions), and
- project 22.15435 - IS 15435 (I18N APIs)

SC22/WG20 recommends that the first 3 projects, close to first publication by ISO, be finished in SC22. The last project can be completed by WG20 being a working group of SC22 or by a follow on group in a new Technical Direction for Internationalization Technology. There is no reason to believe that this should not continue in WG20 as a focal point of the internationalization of programming languages and their environment.