ISO/IEC JTC1/SC22
Languages
Secretariat: CANADA (SCC)

ISO/IEC JTC1/SC22

# N507

JUNE 1988

TITLE:

Summary of voting and comments received on a
proposal to register document N466-Guidelines
for Language Bindings as a Proposed DTR, type 3

SOURCE:

Secretariat ISO/JTC1/SC22

WORK ITEM:

JTC1.22.14

STATUS: New

CROSS REFERENCE: SC22 N466

DOCUMENT TYPE: Summary of voting

For information to SC22 Member Bodies.

ACTION:

Letter Ballot Reference No: Attachment to 97/22 N466
Circulated by                 : ISO/TC97/SC22
Circulation Date              : 1988-02-17
Closing Date                  : 1988-05-31


Subject: On a proposal to register document N466-Revised
         Working Draft on Guidelines For Language Bindings
         as a Proposed Draft Technical Report (DTR,type 3)

---

The following responses have been received:

'P' Members supporting the proposal,
    without comments                   : 05(Czechoslovakia,Finland,France,
                                             Japan,Netherlands)


'P' Members supporting the proposal,
    with comments                      : 04(Canada,Denmark,Germany FR,USA)

'P' Members not supporting the
    proposal                           : 1(UK)

'P' Members abstaining                 : 0

'P' Members not voting                 : 8(Austria,Belgium,Bulgaria,China,
                                             Hungary,Iran,Italy,Sweden)

---

Comments:

        Attachment  1  -  Canada
        Attachment  2  -  Denmark
        Attachment  3  -  Germany FR
        Attachment  4  -  UK
        Attachment  5  -  USA

Secretariat action:

    The Secretariat will forward the attached comments to its WG11 for
    review and consideration in preparing a revised version of document N466.
    The Secretariat will then proceed with the registration of the revised
    document as a Proposed Draft Technical Report,type 3.

Ref: SCC letter Dated 1988-03-10    FILE: SCC ID 504 (97/22)

I have reviewed the documents listed below and recommend that Canada's response
be as follows:

| DOCUMENT IDENTIFICATION | VOTING RESPONSE | | | |
|---|---|---|---|---|
| | (a) | (b) | (c) | (d) |
| N466 | | V | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

RESPONSE CODE

a) Approved as written

b) Approved with
   attached comments

c) Not approved for
   attached reasons

d) Abstention

Member Comments:

_____

_____

_____

Guideline 12: Case sensibility is linguistically and stylistically
important to Modula-2 and there is no possibility of it being
abandoned for system calls.
Guideline 23: There is doubt that Modula-2 identifiers will ever
allow punctuation. Such things as file names are passed as
strings.
Reference Issue 15: This is hard to achieve.

Please complete and forward your

Response Form to:

So Chairman's coordinated reply will
reach SCC by:

A. BICKLE
Chief, Scientific Computing Division
Environment Canada
Place Vincent Massey, 5th Floor
Ottawa, Ontario
K1A 0H3

6 May 1988

Member's Name (Print)        Chairman's signature        Date

ISO/E-1a (84-11)

RD                           attachment 2 to
                             SC22 N507

RECEIVED
MAY 17 1988

ISO/TC97/SC22
Programming Languages
Secretariat: CANADA (SCC)

attachment to
97/22 N466

Circulated: 1988-02-17

## LETTER BALLOT

From the Member Body of:   *DENMARK*

On a proposal to register document N466-Revised Working Draft on
Guidelines For Language Bindings as a Proposed Draft Technical
Report (DTR,type 3)

This Letter Ballot is to be returned by each 'P' Member Body to the
SC22 Secretariat of ISO/JTC1/SC22 by 1988-05-31.

------------------------------------------------------------------

* ~~We support the Proposal to register document N466,or a revised~~
  ~~version,as a Proposed Draft Technical Report,type 3.~~

                              or

* We support the Proposal to register document N466,or a revised
  version,as a Proposed Draft Technical Report,type 3,
  with the attached comments.    SEE BELOW

                              or

* ~~We do not support to register document N466,or a revised version,~~
  ~~as a Draft Technical Report for the technical reasons attached to~~
  ~~this letter ballot.~~

                              or

* ~~We abstain from voting.~~
  ('P' Member Bodies have an obligation to vote.)

*DELETE WHICHEVER DOES NOT APPLY.

Comment:

Member Body Denmark might have some comments after June 3rd.

                    Place and Date: *Copenhagen 880509*
                    Signature: *A. Hansen*
                                      Jens Kolind

RCV27277                                05:10  05/31/88

#T
FROM: M. KUTSCHKE. DIN BERLIN
TO: MR J. L. COTE, SECR ISO IEC JTC 1 SC 22

GUIDELINES FOR LANGUAGE BINDINGS:

WE SUPPORT N 466 AS A DTR.
A TABLE OF CONTENTS OR AN INDEX WOULD BE HELPFUL
FOR THE READER.

DIN BERLIN. 1988-05-31

. #273 DIN D#

UK COMMENTS ON REVISED WORKING DRAFT ON GUIDELINES FOR LANGUAGE BINDINGS


GENERAL COMMENT

ISO/IEC JTC1/SC 22 N 466 is not the latest draft of the Guidelines for language bindings.

When N 466 was circulated to WG 11 in November 1987, the UK Principal Expert, Mr D Joslin, made technical comments to the Document Editor, Ms M Sparks (see attachment A).  The Document Editor replied on 15 December 1987 (see attachment B) and enclosed a revised working draft, which largely incorporated the technical comments which had been made by the UK Principal Expert and with which the UK is satisfied.

The UK vote of disapproval can be changed to one of approval if the latest draft (as specified above) is substituted for N 466.

11 May 1988

Teesside Polytechnic

Middlesbrough, Cleveland TS1 3BA, England
01144  Telephone (0642) 218121

Computer Centre
Head of Computer Centre
D A Joslin MA MSc FBCS MACM

When telephoning, please ask for
Extension 4118

Ms. Madeleine Sparks,                          DAJ/FEP
Unisys Corporation,
1500 Perimeter Parkway, Suite 400,
Huntsville, AL 35806,
U.S.A.                                         December 1, 1987


Dear Madeleine,

GUIDELINES FOR LANGUAGE BINDINGS

Thank you for the advance copy of the latest modification of this
document.

Two major points:

(a)   Page 6, Section 1.4:  The definition of IMPLEMENTATION-
      DEPENDENT should be

      "Possibly differing between different processors for the
      same language, and not necessarily defined for any
      particular processor."

      (the definition in the draft is only suitable at a simpler
      level where IMPLEMENTATION-DEFINED is not distinguished
      from IMPLEMENTATION-DEPENDENT, and is in fact nearer to the
      definition of IMPLEMENTATION-DEFINED.  See e.g ISO 7185.)

(b)   Page 30, Section 3.4.2.4:  I don't understand the new
      Guideline 31 (reworded by Don Nelson?)  Should it say
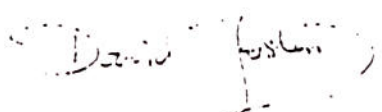      "standardisation stage"?

And some minor ones:

(c)   Page 3, Section 1.2:  Third line from bottom, omit superfluous
      "t" from "progtram".

(d)   Page 18, Section 3.1:  In first sentence of last paragraph,
      insert "language" before "standards".


                                        Cont/d . . .

(e) Page 33, Section 3.4.2.4: In the example after Guideline 40, change "might" to "may".

(f) Pages 41/42, Annex A: The title appears twice, separated by a blank page. I suggest you omit the blank page and the second title (i.e use capitals for the title, for consistency with chapter headings).

(g) Page 49, Annex B: Capitalise title.

(h) Throughout: Change "ISO TC97" to "ISO/IEC JTC1".

Might you get involved in WG11 again? Come to beautiful Teesside in April 1988!

Yours sincerely,

D.A.JOSLIN,
Head of Computer Centre

DAJ/FEP
December 1, 1987

15 December 1987

David Joslin
Computer Centre
Head of Computer Centre
Teeside Polytechnic
Middlesbrough, CLeveland
TS1 3BA
U.K.

Dear David,

Thanks for the prompt response to my request for
preliminary review of the bindings guidelines draft
technical report. Your comments reflected an obvious
interest and careful reading of the document, and I
greatly appreciate them.

I have made the modifications you suggest in your two
major points. The draft you reviewed reflected some
informal discussion between Don Nelson and myself over
the telephone 24 November 1987. However, upon rereading
that section of the document with your additional
comments, I agree with you, and have made the indicated
changes.

All of your minor points have been made to the enclosed
draft, with the exception of (d). Here you suggest that
the guideline be limited to "language" standards. I
disagree, since our graphics system facility standards
(GKS, PHIGS) include annexes that suggest binding
guidelines. For that reason, I would like for the
guideline to continue to be applicable to both system
facility standards and to language standards.

Again thank you for your review and comments. I AM
involved in WG11, actually, since I seem to have
inherited the position of document editor of this draft
technical report (!). However, currently I have no
funding for travel to the WG11 meetings. If my funding
status changes next year (keep your fingers crossed), I
may yet get to see beautiful Teesside in the Spring. I
can think of worse fates!

Yours truly,

Madeleine Sparks
Unisys Corporation
Suite 400
1500 Perimeter Parkway
Huntsville, AL 24806
U.S.A.

ISO/IEC JTC 1/SC22 N466
GUIDELINES FOR LANGUAGE BINDINGS

U.S. COMMENTS

The United States votes to support the document as a DTR, Type 3, with the following comments. These comments have been received from several sources (committees and individuals) within the U.S., although all comments have not been reviewed with all other language committees.

1. GUIDELINE 8, page 20. We suggest replacement of this guideline with the following:

   "A system facility should be described in an abstract form, free of programming language semantics."

   This is similar to guideline 8, but is somewhat stronger. It says that there should be an abstract functional specification (which is apparently assumed by guideline 8) and that it should be language independent.

2. GUIDELINE 9, page 20 (explanatory text). We disagree that "There is a need for a) more complete specifications within the language standards".

   Having complete data specifications forces the programmer to always be aware of this and forces choices which often need not be made. In so doing, it distracts the programmer from the main issue and adds another dimension for errors. Rather than placing the burden on each and every programmer (even those who are not interested in binding to other languages), it is better to place this burden on the systems programmer, who can do it once for everyone and do it right.

   The way that this would be done in Extended Pascal is to have one or more system-defined modules that are accessed by Pascal programs. These modules would provide the data types, procedures, and other things that are needed for binding to another environment. Depending on the system and environment that is being bound to, data types used in this binding may have different precision and characteristics than those used in a non-bound environment. They would, however, be those exactly needed for doing the binding.

   Different systems have different requirements and different data types that work better for binding than others. Having the programmer explicitly code these differences in programs decreases the portability of programs and places an extra burden on the programmer. For languages such as Extended Pascal and Ada, rather than having more complete specification of data types, we should have standards that specify interfaces for binding.

   We recommend deletion of that sentence.

3. GUIDELINE 16, page 24. The contents and format of documentation is dependent on the target users, system environment, and associated program

1

development tools. Therefore, documentation specifications should not be part of the guidelines.

4.  GUIDELINE 19, page 25, should be placed adjacent to, and preceding, Guideline 2, since the decision made due to Guideline 19 will determine who will be responsible for the language binding as stated in Guideline 2. (If moving it is a problem for some reason, at least a cross-reference should be made.)

5.  GUIDELINES 22 & 23, page 26. Each programming language dictates the requirements for array lengths, identifier lengths, and punctuations. The guidelines as specified may not be compatible with all programming languages and should not be included in language binding specifications.

6.  Section 3.4.2.4, page 26, bottom of page. The parenthetic reference to the IEEE Software Engineering Group implies both that this group is studying metrics for all three of the areas mentioned (portability, consistency and shared use), and that no other group is addressing these areas. This appears to be overstated. Since the reference is unnecessary, it should be deleted.

7.  GUIDELINE 31, page 30. A guideline should be added to compliment guideline 31, as follows:

    "No system facility should progress to DIS or IS until there is at least one language binding at or above the level of DP or DIS, respectively."

There are two justifications for this guideline. The first is that users cannot fully judge a semantic standard without seeing the specific syntax which is their only access to it. Second, there are some difficulties with abstract semantics which are only revealed by the production of a language binding.

Both guidelines would benefit from being placed earlier in the document. (Note: This comment came from the convenor of the SC24 working group on bindings.)

8.  GUIDELINES 35, 36 & 37, pages 31-32. Parameter definitions, ordering, and combinations as well as data type bindings are very language dependent. Such specifications are best left to the language groups.

9.  GUIDELINE 48, page 36, should be omitted. See comment on Guideline 16.

10. GUIDELINE 57, page 39. We disagree with defining an alien syntax escape mechanism because it:

    a) Adds extraordinary complexity to language processors;

    b) Inhibits portability (it is hard enough to have one language portable across systems);

    c) Increases the burden on programmers who now must know two languages and their interconnections; and

    d) Has been tried in the past and never met with much success.

11. FUTURE DIRECTIONS, page 40, paragraph 5. We disagree with the implication that there should be "more precision within and more commonality between language specifications ... a common set of data type ...". As per our discussion above, this may be trying to solve the problem in the wrong way.

12. EXAMPLES, page 46. The lines of hyphens (or dashes) should not appear inside the definition of type GRInput; there is nothing in Pascal or Extended Pascal that would allow this. If this is intended to imply that other definitions may appear in this space, a more commonly recognized method is with an elipsis ("...") or one dot per implied line. (Note: This comment came from X3J9, Pascal.)

13. ISSUE 14, page 58. The argument b. given as "Pro 1" does not seem to relate to the issue.

14. ISSUE 15, page 59. The argument given as "contra c" (6-characters) does not seem to relate to argument "c" or anything else in this issue.

15. ISSUE 23, page 64. Having just one argument here seems a little weak. The same arguments that apply to function names apply to data type names. One particular argument that could be mentioned is, "Con 1 - 8 characters are often too restrictive and less meaningful names would be forced on users".

Another argument which could be added is, "Con 2 - The data type names specified with the functional interface standard may not be consistent with the design of the language."

There should also be a pro for alternative 4. We suggest, "Pro 4 - Any syntax that is to appear within a program of a given language type should be consistent with the design of that language."

3