ISO/IEC JTC1/SC22

N567

NOVEMBER 1988

TITLE: Report from SC22/WG11-Bindings to
                   the SC22AG meeting,Tokyo Japan,
                   1988-10-17/19

SOURCE: Secretariat ISO/IEC JTC1/SC22

WORK ITEM: JTC1.22.14,22.16,22.17

STATUS: New

CROSS REFERENCE: N/A

DOCUMENT TYPE: WG11 Activity Report

ACTION: For information to SC22 Member Bodies.
                   This document was tabled at the recent
                   SC22AG meeting.

Report to the ISO/IEC JCT1/SC22 Advisory Group from WG11

..0 <u>Summary</u>

The Committee has had three meetings since the last report. The first
meeting (April 87) was attended by six members, two from the US, three
from the UK, and one from the Netherlands. The second meeting
(October 87) was a joint meeting with ANSI X3T2 and was attended by
two members, one from the UK and one from the US, as well as the X3T2
members. The last meeting (in April 88) was held in the UK and was
attended by 10 members, two from the US, one from the Netherlands, and
seven from the UK. Our next meeting is scheduled for the first week
of October in the Netherlands.

We have accomplished a great deal so far, and we should complete the
main portions of our work next year. Note that the participation has
been by the UK, US, and The Netherlands. We had hoped that other
contries would participate as well. The SC22 Secretariat sent a
letter to the member bodies asking for more participation, but none
was forthcoming.

2.0 <u>Scope of Work</u>

The following tasks are assigned to us:

WG-11 project 97.22.14 Binding Techniques for Programming Languages.

> The document mentioned above has been submitted as a dtr, and
> is being revised based on the comments received (this will be
> done at the next meeting). It will be resubmitted in October
> or November.

WG-11 project 97.22.16 Spec. for a model for Common Lang. independent
procedure calling mechanism.

> A generic description of the calling mechanism as well as sample
> bindings for COBOL, Pascal, and FORTRAN have been produced.
> These have been circulated to the SC22 language committees. We
> hope to have a draft standard by next year. Mr. ████████ of
> the UK is the project editor. *Boris Allan*

WG-11 project 97.22.17 Spec. for a set of Common Lang. independent
data types.

> Several papers have been discussed at length and circulated to
> WG11 members. One general description of our approach has been
> circulated to the SC22 language committees. We hope to have a
> draft standard late next year. The project editor is Mr.
> Edward Barkmeyer of the US.
>
> As a result of discussions of this project, WG11 voted to create
> a sub item to address ██████████████████ data types. The
> NWI proposal is currently being examined by WG11 members, and
> will be submitted to SC22 in a few weeks. *arithmetic*

There are a number of liaison responsibilities assigned to WG11 and we plan on maintaining the existing and any future liaison activities.

3.0 Schedule/Milestones

There are no specific schedules for draft standards except that we plan on submitting some early next year. We will keep the SC22 language committees informed about our progress and give them the opportunity to review the documents before they are submitted for formal voting.

Our next meeting will be on October 4-6 in Amsterdam, The Netherlands. The following one will be on April ~~████████████████████~~ USA. We will continue to have two meetings per year, one in the April and one in October. The majority of them will be in Europe.

25-27,
1989 in
Boston Mass.

ISO/IEC SC22 WG11

Supplement to convenor's report to SC22 AG meeting Tokyo, October 1988

Comments on ISO/IEC DIS 10148 Information processing systems
  Basic remote procedure call (RPC) using OSI remote operations. ECMA-127 proposed for adoption by fast-track procedure

WG11 considered the above document at its meeting in Amsterdam October 4th–6th, 1988, and our comments are as follows:

This document is not suitable for adoption by JTC1 by the fast-track procedure. Instead, relevant parts should be referred to SC22/WG11 (language bindings) and the SC21/WG7 ODP (Open Distributed Processing) group for consideration as working documents. The parts to be assigned to SC22 are, roughly, Section One and Appendices A and B. The remainder should be assigned to SC21.

The proposed DIS attempts to address simultaneously several   different levels of abstraction. In the process it appears to overlap, and possibly conflict with, existing approved work items – common language independent data types and common language independent procedure calling mechanism in SC22, and ODP in SC21.

It is important to decouple the functionality of procedure calling, which is a language issue, and the means whereby an invocation can be performed remotely, which is a communications protocol issue.

The following levels can be distinguished:
A.   The native procedure calling mechanism of a language.
B.   The mapping of that mechanism onto the common language independent mechanism.
C.   The common language independent mechanism.
D.   The encoding of an invocation for transmission purposes.
E.   The transmission protocols.
Level A is covered by language standards. B by a standard for binding A to C, and C by a language independent functional standard. (Cf. the Ada standard, the Ada–GKS binding standard, and the GKS standard.) Level E belongs to SC21. Level D is a matter for implementors though standards may be needed to specify properties of the encoding; that is an issue for SC21. Levels A and B are a matter for SC22 as is level C either directly or (as with GKS) by liaison (with SC24 in the case of GKS).

In this scenario, a revision at level A will imply a revision at level B but not below; a change at level C will mean changes at levels B and D but not at A or E (though a user at level A might notice changes in available facilities for remote calls). A change at level E will mean changes at level D but will be invisible at the language level.

A final point is that the view of languages taken in this document is inadequate. This is partially recognised in Appendix D but the statement that restrictions are "because they are inherent in the procedure call semantics of most programming languages" is insufficient. This is another reason for that part of the work to be assigned to SC22.

WG11 would welcome the submission of the relevant parts of this document as valuable technical input to its work items 22.16 and 22.17.

Requested actions:

WG11 requests the SC22 AG to raise the issues of overlap and possible conflict with existing work items (22.16 and 22.17 and the work of SC21 WG7) with ISO/IEC JTC1 at the earliest opportunity.

WG11 requests the SC22 AG to ask for the document to be withdrawn from the fast-track procedure pending resolution of these issues.