

Committee: ISO/IEC JTC1/SC22/WG11

Place: Guest Quarters Suite Hotel
Linthicum, MD 21090, USA

Date: April 21 - 25, 1992

Attendees:	Mr. Ed Barkmeyer	NIST, USA
	Mr. Ken Edwards	IBM, USA
	Mr. Ed Greengrass	NSA, USA
	Mr. Mark Hamilton	Netwise, USA
	Mr. Brian Meek	King's College London, UK
	Mr. Craig Schaffert	DEC, USA
	Mr. Joe Treat	Netwise, USA
	Mr. Willem Wakker	ACE, Netherlands

Guests:

	Mr. Jim Cody	IFIP WG2.5
	Mr. Peter Eirich	Westinghouse, USA
	Mr. Bob Follett	Chair SC22
	Mr. Leonard Gallagher	NIST, USA
	Mr. J. Kaiser	CSC, USA

1. Agenda (WG11/N301)

The agenda was adopted as proposed, additional documents were added as the agenda items were discussed. It was agreed that the order of business in the draft agenda would not be followed, but each item would be discussed at the most suitable time, considering the simultaneous meetings of the X3T2 groups.

Due to a small attendance on the first day, the meeting was formally opened on Wednesday, April 22th. The meeting ended on Saturday, April 25th at 13.30 hour.

2. Minutes of Previous Meeting (WG11/N294)

No changes were made to the minutes of the September 1992 meeting; the minutes were approved.

3. Convenor Report

Liaison reports were received from JTC1/SC14 (SC22/N1093) indicating that SC14 sees no reason to have a further liaison with WG11, and from JTC1/SC24 (SC22/N1117) which appoints a liaison officer from SC24 to WG11.

A liaison statement from WG11 to SC21/WG6/RPC (SC22/N1099) on the alignment of the CLIPCM and RPC standards had been sent to SC21 secretariat. No formal reaction was received yet, however a positive email was received by the convenor from the RPC Rapporteur.

The chair of SC22, Mr. Bob Follett had informed the convenor that he was available to discuss general WG11 issues. This discussion took place on Friday, April 24th.

4. National Activity Reports

4.1 BSI IST/5/11

Brian Meek said that no official national activity report was available, but gave a verbal update. The panel had has three meetings but he had been unable to attend two of them. The UK had voted YES without comment on TR10182 (Bindings Guidelines). On CLID, the

UK had been hoping for a new draft which the panel would have reviewed in respect of previously expressed view on aggregates, pointers and procedures; without this, discussion, has mostly been confined to the IDN with respect to RPC (N305). The new CLIP draft (N295) was reviewed but with no particular comments.

A good deal of time has been spent in explaining LIA and answering concerns expressed by various people - including members of the parent (SC22 level) committee. The panel is trying to arrange a technical meeting at that level where Brian Wichmann can be present CD 10967 and answer queries. Brian Meek gave a presentation on the work of WG11 to WG21 C++ in London in March, and is presenting a paper to the regional DECUS symposium in May, entitled "Programming Languages: Towards greater Commonality", which draws on material in N194R and a contribution on "Arithmetic Standards" written for a forthcoming book on "User Needs in IT Standardization".

4.2 ANSI X3T2

Activities since the September 1991 SC22/WG11 meeting:

- A joint session between X3T2 and X3T5.5 was held in January. A number of IDN issues were discussed, but no US positions were formulated during this meeting.
- The US submitted to SC22 a clarification of our comments on the LIA part 1. This was done at the request of SC22 out of the SC22 plenary last September.
- X3T2 has recommended that the US vote YES without comments on the JTC1 ballot to approve DTR 10182 Guidelines for Language Bindings.
- The US voted NO on the DIS ballot for CD 11404 Common Language Independent Datatypes. A number of ballot comments were included that aimed at addressing the open issues remaining in the document. LI Within the US, the SC22 TAG has formed an ad hoc committee to look at the implementation of the Language Independent standards with SC22. This group is preparing a US contribution for the August 1992 SC22 plenary that will propose a policy for the development of bindings/mappings to the Language Independent standards.
- X3T2 has submitted for X3 approval two national projects dealing with a Common Language-Independent File Format Standard and a Common Language- Independent File Representation of Data Standard. It is the intent of X3T2 to propose these two projects as NPs as soon as they are approved nationally.

4.3 AFNOR/CG 97/CN 22/GE 11

No report was received.

5. Work Item 22.14 - Language Bindings Guidelines

The document DTR 10182 (WG11/N278) was during the SC22 plenary in Vienna handed over to the ITTF representative for registration as TR. Due to a misunderstanding the document was not sent to JTC1 until ~~xxx~~February 1992. Ballot in JTC1 closes on June 5th 1992. The document was also sent for information to SC22 (SC22/N1098).

Milestones for the Language Bindings Guidelines project:

5.3 92-09 TR published

6. Work Item 22.16 - Common Procedure Calling Mechanism

Based on the discussions during the previous meetings and input received the project editor had prepared CLIPCM WD#4 (WG11/N295) which was sent to SC22 for review and comment (SC22/N1082).

During the meeting the document was extensively discussed. It was agreed that concepts from section 6.1 (the Language-Independent Call Model) needed more precise definitions, for which text was proposed and agreed. Brian Meek asked it to be recorded that he could not give any assurance that the UK would support the inclusion of this material. He expressed his personal view that it went beyond the scope of the project and that he wished to dissociate himself from the decision to include it in the document.

The project editor will produce a updated working draft by June 1st, 1992 which will be distributed to WG11. The text for the 1st CD should be approved by WG11 during the October 1992 meeting. It was felt that, in order to assure that the proposed schedule could be met, an interim (editing) meeting is desirable.

Milestones for the CLIPCM project:

2.8 92-10 WD approved for registration as CD

7. Work Item 22.17 - Language-Independent Data Types

The CD ballot on the first CD had closed in November 1991, the member bodies comments are in SC22/N1069.

The comment accompanying the Canadian No vote to include a datatype "Processable Structured Alphabetic" was discussed extensively. Since this type does not appear in any international standard, it was felt that its appearance in CLID would be premature without the support of SC2. It was decided that WG11 does not have the expertise to judge the validity of the proposal and that guidance should be sought from WG20 and the SC22 - SC2 liaison officer in this matter.

On items 1 and 2 of the US comment no consensus could be reached, although there was consensus that Annex A and all references to a minimum set of datatypes should be removed. The project editor will propose alternative text.

On item 15, there was consensus in the room to remove Annex D, but it was felt that the French and German national bodies, who were not represented, should be consulted. On item 20, listed as Major, there was no consensus on the rationale nor the proposed change. The editor was directed to clarify the model and the relationship between the syntax on the model, but the issue remains open.

A response document to SC22/N1069 will be prepared.

The French comments (N271) were discussed and a response document will be prepared.

On document N309 (individual expert comments from Mr. Roger Scowen) no position was taken: the document was received only a few days before the meeting and there was no sufficient time during the meeting to discuss the document properly. The author will be asked to review the document with the UK panel and forward the result of this discussion to WG11.

It was decided that the project editor will produce WD#6 of the document by June 1st for review and comment within WG11. The text for the 2nd CD should then be available shortly after the next meeting of WG11.

Milestones for the CLID project:

2.8 91-01 WD approved for registration as CD
 3.0 91-05 CD registered
 3.1 91-05 CD study initiated
 3.8 93-04 CD approved for registration as DIS

8. Work Item 22.28 - Language Independent Arithmetic, Part 1: Integer and Floating Point Arithmetic

It was noted that the WG11 proposal to produce a 3 part standard for the 3 work items (22.28, 22.33 and 22.34) was accepted by SC22 during the September 1991 plenary, and that the title of the project was changed from "Language Compatible Arithmetic Standard" to "Language Independent Arithmetic".

The changes proposed by the project editor, resulting from the discussions at the previous meeting (N292), the AFNOR comments on those proposed changes (N297) and the revised proposal for changes to LIA part 1 (N302) were discussed, and approved after some small amendments.

The comments from the IFIP Working Group 2.5 on CD10967 (SC22/N1109) were discussed with Mr. Jim Cody, member of that working group. The objections of IFIP WG2.5 to CD10967 were that this CD allows floating point systems with less desirable characteristics to conform to this standard, thereby giving these systems legitimacy that they do not deserve. A further concern was that this may lead in the future to a situation whereby manufacturers will design new floating point systems that conform to the LIA standard, but that are of lesser quality than for instance the IEEE 754 standard. After some discussion it was established that there is a difference in appreciation of the relation between CD10967 and IEEE 754. It was agreed that the position of the LIA standards between the language standards and the hardware standards need to be better explained in the foreword of the document. As it will be made more clear that the LIA is a descriptive document and should not be used as a design document, and since the notification section has been changed in response to the US comments, Mr. Cody expressed his opinion that the new document would meet less resistance from the IFIP WG2.5 working group, if the document is further changed to remove prescriptive specifications which go beyond conformance to the LIA model. Members of WG11 (from the UK and The Netherlands) will contact members of WG2.5 in their countries in order to, by direct informal liaison, prevent that misunderstandings of this kind can occur again.

The project editors will produce a revised version of N306 (Response to International Comments on the CD ballot) and of N307 (Response to comments from IFIP).

The project editor was instructed to prepare the text for a 2nd CD which will be forwarded to SC22 for ballot. The document should be available around June 1st so that the ballot can close before the October 1992 WG11 meeting.

Milestones for the LIA Part 1 project:

3.8 92-10 CD approved for registration as DIS

9. Work Item 22.33 - Language Independent Arithmetic, Part 2: Language Compatible Mathematical Procedure Standard

Due to the work on LIA part 1, no progress was made with this project. The project editor hopes to have a skeleton document available by the next WG11 meeting, and the first full WD by the first 1993 meeting of WG11.

Milestones for the LIA Part 2 project:

2.1 91-09 WD study initiated
 93-01 First draft circulated
 2.8 93-11 WD draft for CD registration

10. Work Item 22.34 – Language Independent Arithmetic, Part 3: Language Compatible Complex Arithmetic and Procedure Standard

Due to the work on LIA part 1 and the resulting delay for LIA Part 2, the milestones for Part 3 are shifted by 6 months.

Milestones for the LIA Part 3 project:

- 2.1 91-09 WD study initiated
- 93-09 First draft circulated
- 2.8 94-07 WD draft for CD registration

11. Cross language issues

11.1 Presentation on SQL by Mr. Leonard Gallagher

Mr. Gallagher presented the current work on ADTs (Abstract Data Types) in the SQL-3 project in SC21/WG3/SQL (information appended to these minutes) and proposed work on ADT packages (N311 and N312). He expressed the wish of the SQL group to cooperate with WG11 in the area of datatypes.

It was agreed that SC21/WG3/SQL will be kept updated by WG11 on the latest versions of the WG11 documents.

11.2 Meeting with Mr. Bob Follett

On April 24th, a meeting with the chairman of SC22, Mr. Bob Follett was arranged. The following topics were discussed:

1. WG11 membership and support.

It was noted that, although in principle there are 5 member bodies participating in WG11, for 3 of these MBs (France, Germany and Netherlands) the active participation at meetings depend on one individual per country.

2. Relationships with other WGs within SC22.

The US will at the next SC22 plenary (August 1992 in Finland) come with a proposal for an SC22 policy to encourage the language groups to incorporate in their program of work the issues identified by the cross language working groups (WG11 and WG20).

The WG11 convenor will try to produce before this plenary a document on the current SGFS activities in the area of functional standardization of Open Systems and the impact that this may have on the base (language) standards and the generic (language independent) standards.

It is planned to have an ad-hoc meeting during the plenary to discuss language independent issues.

3. Relation with groups outside SC22.

An increasing number of groups is using the WG11 documents as a basis for their work. This puts pressure on WG11 to finalize the documents in a timely manner.

The relations with the RPC (SC21/WG6) group, the SQL (SC21/WG3) group, SC24 and IFIP were discussed.

4. Possible new work items.

Various new areas of work were mentioned (an LIA Part 4 on fixed point arithmetic as suggested in the response to the comment from Japan on LIA, language independent file formats as currently under consideration in the US); it was however established that such new work items could not be handled by WG11 unless new active membership could be guaranteed.

5. Use of email.

It was felt that email was an easy and quick medium to correspond informally within the working group, and that the email service as provided by Keld Simonsen is very effective. Craig Schaffert offered to act as gateway between the email system and those active members of WG11 that have neither email nor fax, by sending these members printed copies of email messages on a regular basis. Member bodies should be encouraged to provide a similar service for those participants from their country that have no access to email.

11.3 Presentation by Mr. Peter Eirich

Mr. Eirich presented the work going on in the ELA CDIF (CASE Data Interchange Format) Technical Committee, and distributed a paper on the harmonization possibilities between the CDIF work and CLID (N313). In the US the possibility is explored to bring this work forward to SC7; the relationship between CDIF and PCTE is unclear.

Actions resulting from this presentation are maintaining (informal) liaisons with the CDIF group (by sending documents) and informing SC7 informally that future work of SC7 may benefit of WG11 standards.

11.4 POSIX

Document N314 (WG15/N244) on the open issues in the POSIX LIS and C binding documents was discussed. A response paper will be prepared on the issues that are within the scope of WG11.

As a separate point it was noted that the POSIX documents are developed in accordance with the IEEE/TCOS document on Programming Language Independent Specification Methods (N284), but that this IEEE document has no international status. Since it can be expected that more US domestic language independent standards (which in a later stage can become international standards) will be developed based on this document, and since there is a perceived need to have a Guidelines document on the production of language independent specifications, WG15 will be advised to seek means to promote this document to a ISO technical report.

11.5 PCTE

The UK noted that when PCTE becomes a ISO project an official liaison will be needed with that project. When the CDIF project will also be accepted by SC7, and official liaison with SC7 may be needed.

11.6 IRDS

There was nothing to report on IRDS.

12. Planning and Future Meetings

The next meeting will be in Paris on October 12-16 1992, hosted by AFNOR.

It will be investigated to have an interim editing meeting for CLIPCM and CLID directly before the SC22 meeting in August in Finland. Proposed dates are: 21-23 August, with possible extension to August 24th. An alternative for this meeting may be 19-21 August in Amsterdam. The purpose of this interim meeting will be to discuss the outcome of the SC21/WG6/RPC editing meeting (May 1992 in Ottawa), and to align the CLIPCM document with the RPC document and (when needed) prepare recommendations for an RPC editing meeting following a possible ballot on RPC.

Invitations to host a WG11 meeting in March/April 1993 are welcomed. A possibility can be a 'back-to-back' meeting with X3T2, hosted by DEC in the Boston area in the 2nd half of March 1993.

— Possible interim meeting.

Date: August 21-23 (247), 1992
 Place: Tampere (Finland)

— Second meeting 1992

Date: October 12-16 1992
 Place: Paris (France)

Documents identified since last mailing

WG11 Nbr	Other Nbrs	Date	Author	Title
306		9203xx		Draft Disposition Comments on CD 10967 (WG11/N229)
307		9203xx		Draft response to WG 2.5 (WG11/N303)
308	SC22/N1111	9202xx	USA	USA Contribution on USA NO vote on LCAS
309		920416	Scowen	Generic base standards - Review of CLID5
310			Greengrass	Collected Electronic email contribution on CLIP
311		920423	Gallagher	Abstract Datatypes in SQL
312	WG3/N1298	920403		New Project Proposal: SQL ADT packages
313		911107	CDIF TC	Harmonization possibilities with CLID
314	WG15/N244	911204		IEEE 1003.1 US 1003.16 Open Issues
315		9204xx	Wakker	Minutes WG11 Meeting April 1992

**Incorporation of Abstract Data Types
(ADTs) into SQL**

Presentation

to

ISO/IEC JTC1/SC22/WG11
Language Bindings

April 23, 1992

by

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Object ADTs in SQL3

Abstract Data Types (ADTs)

Object Identifiers

Methods & Functions

Subtypes & Inheritance

Polymorphic Functions

Control Structures

Stored Procedures

Parameterized Types

Type Templates

- LIST
- SET
- MULTISSET
- ARRAY
- RECORD
- CHOICE

SQL ADT Packages

Full Text

Still Graphics

Animation

Still Image

Full Motion Video

Audio

Hypermedia

Spatial

Geographic

Music

Vector Space

Matrix

Euclidean Geometry

SQL External Repository Interface



