

Minutes of Meeting of ISO/IEC JTC1/SC22/WG5

7-11 June, 1999

**Chateau de Cadarache
Cadarache, France**

1. Opening of the meeting

The meeting was called to order by the Convenor at 9:00 am on 7th June, 1999.

2. Opening business

2.1 Introductory remarks from the Convenor

The Convenor outlined the business of the meeting for the week.

2.2 Welcome from the Hosts

The WG5 participants were welcomed to the Chateau de Cadarache by M. Jean-Claude Rousseau, Coordinnateur de l'Informatique Scientifique de la D.R.N., CEA-DRN/CIS Grenoble. Chateau de Cadarache is maintained by the French atomic energy research authority (CEA) as a major conference centre. M. Rousseau then went on to explain the importance of Fortran to the work of CEA before wishing the delegates good luck in their deliberations.

2.3 Local arrangements

Patrice Lignelet gave an account of the local arrangements made for the meeting.

2.4 Appointments for this meeting

The following appointments were made:

Drafting Committee: David Muxworthy, Jerrold L. Wagener, Wolfgang Walter,
Masayuki Takata, Patrice Lignelet.

Librarian: Miles Ellis

Secretary: Malcolm Cohen

2.5 Adoption of the Agenda

The agenda was adopted unanimously.

2.6 Approval of the Minutes of the Trollhattan Meeting [N1324]

The minutes of the Trollhattan meeting, 8-12 June 1998 (N1324) were unanimously approved.

3. Matters arising from the minutes

There were none that were not already on the Agenda.

4. Status of Trollhattan Resolutions [N1323]

The Trollhattan resolutions were briefly reviewed and detailed discussion was held under the appropriate other agenda items.

5. Reports

5.1 SC22 Matters (Convenor)

The Convenor gave a verbal report on SC22 activities during the past year.

5.2 National Activity Reports (Heads of Delegations)

France's national activity report is in document N1337.
Germany's national activity report is in document N1334.
Japan's national activity report is in document N1339.
The Netherlands national activity report is in document N1338.
Sweden's national activity report is in document N1369.
The UK national activity report is in document N1340.
The US national activity report is in document N1341.

5.3 Report from Primary Development Body (NCITS/J3 Chair)

The J3 chair reported that J3 would not be able to deliver a Working Draft in January 2000; it would be delayed at least until January 2001. Interpretation processing needed for F95 maintenance could add another year's delay. The requirements that were furthest behind were R5 (Object Oriented technologies) and R9 (Interoperability with C).

5.4 Reports from other Development Bodies (Editors/Heads)

The editor of part 2 (IS 1539-2) reported that the FCD ballot had passed and that after resolution of the ballot comments the document could be published.

The editor of part 3 (Conditional Compilation) of the Fortran standard reported that this part (IS 1539-3) had been published.

The editors of TR 15580 and TR 15581 reported that both these reports had been published, and that implementations of the features described in these reports were becoming available.

5.5 Liaison Reports

There were no liaison reports.

6. Resolution of Comments Received during FCD Ballot for Revision of Part 2 of the Fortran Standard (Varying Length Strings)

A subgroup was established for processing the ballot comments on 1539-2 and produced the document N1362.

SV: Accept changes detailed in N1362 to the draft 1539-2? 19-0-0

Document N1367 was produced by the subgroup as the ballot response...

SV: Change wording in N1367 by adding "it is possible that" before "a program" in the second sentence of the proposed new paragraph, and changing "may" to "might" in the same sentence? 7-3-9

7. Review of Progress on Fortran 2000

7.1 Primary Development Body Scheduling/Content Recommendations

The Primary Development Body indicated that the current schedule, which called for the draft CD to be delivered to WG5 in early 2000 was now quite out of the question and that a delay of up to three years was now anticipated; moreover, it was felt that removal of the "difficult" items from the draft would take almost as much time as completing the work. One of the reasons for this delay was that there were felt to be a number of defect items in Fortran 95 which needed resolution before the final work on the Fortran 200x draft CD could be completed.

Three subgroups were set up to look at (a) the potential result of attempting to keep as closely as possible to the original schedule, (b) the potential result of attempting to keep to the original requirements, and (c) any other options.

After discussion in subgroup and full committee, a straw vote was taken to choose between the three options:

- (i) keep as closely as possible to the schedule, trimming the requirements if necessary; ("schedule-based")
- (ii) keep the full requirements list and do all F95 maintenance work before producing a Working Draft; ("content-based")
- (iii) abandon F2000 and produce a minor revision based on F95 and one or two requirements instead.

Straw vote: option (i)/(ii)/(iii)/undecided: 8-2-6-3

A straw vote was then taken as to which options were acceptable (allowing more than one option to be voted for); the results were
option (i)/(ii)/(iii): 12-9-13

After consideration overnight both these straw votes were re-taken with the results:
Prefer option (i)/(ii)/(iii)/undecided: 8-2-3-6
Accept option (i)/(ii)/(iii): 13-13-10

After discussion some further straw votes were taken:

SV: Freeze Fortran at F95 (with corrigenda)? 3-15-1

SV: Include R9 "Interoperability with C" in F2000? 11-0-7

SV: Keep some or all of R7 (Constructors/Destructors) in F2000? 6-8-5

Following these discussions and straw votes it was agreed that the only realistic option was to attempt to complete the work as effectively as possible, and a revised schedule was agreed which would lead to two corrigenda being produced in 2000 and 2001, and the draft CD being delivered to WG5 in June 2002. The first of these corrigenda would be concerned with matters deemed to be critical to the completion of new features in Fortran 200x, while the second would contain most of the remaining defect items that had been submitted.

The revised schedule, which anticipates the Fortran 200x being published in December 2004, is contained in Resolution C4.

7.2 Detailed Progress on Individual Requirements

The J3 chair reported on the estimated meeting (subgroup) time required to finish the F2000 requirements. Estimates were rounded to the nearest half week of time required.

7.2.1 Floating Point Exception Handling (as in TR 15580)

Essentially complete: one week to finish, no time to remove.

7.2.2 Allocatable Components (as in TR 15581)

Edits complete: no time to finish, one week to remove.

7.2.3 Derived type I/O (R1)

Essentially complete: one week to finish, one week to remove.

Germany proposed an alternative syntax; after an initial discussion a straw vote was taken:

SV: Change syntax from a string to nested descriptors (in principle, subject to edits)? 12-2-5

Later in the meeting, Wolfgang Walter presented this alternative syntax and after further discussion another straw vote was taken:

SV: Stay with current (J3) derived-type i/o? 8
 Change to the German proposal? 4
 Undecided? 3

Wolfgang Walter presented a proposal to allow reentrant i/o within derived-type i/o routines.

SV: Allow reentrant i/o for derived-type i/o routines? 2-9-5

7.2.4 Asynchronous I/O (R2)

Essentially complete: one week to finish, one week to remove.

7.2.5 Procedure pointers (R3)

Edits complete: no time to finish, one week to remove.

7.2.6 Interval arithmetic enabling technologies (R4)

Of the three sub-requirements, two were complete (no time to finish, one week to remove) and the third was being handled as part of R7.

7.2.7 Parameterized derived types (R5)

Essentially complete: half a week to complete, one week to remove.

7.2.8 Object Oriented technologies (R6)

Essentially complete: one week to complete, one week to remove.

AFNOR submitted papers N1357, N1358, N1359, N1360 and N1361 on desirable additional object-oriented features. After extensive discussion in subgroup and full committee, some straw votes were taken:

SV: Add item (2) from N1361 to the requirements? 13-0-4

After yet more discussion, this straw vote was re-taken:

SV: Add item (2) from N1361 to the requirements? 11-1-6

SV: Forward item (3) from N1361 to J3 for possible inclusion as an MTE? 11-1-6

Malcolm Cohen presented document N1364 proposing new syntax for an existing facility.

SV: Add feature in N1364 after removing typographical errors? 11-2-3

Malcolm Cohen presented document N1365 detailing a scoping issue that causes problems with certain object-oriented features, and proposed a solution.

SV: Ask J3 to fix the problem described in N1365? 13-0-3

After discussion on how to fix the problem, another straw vote was taken:

SV: Prefer an IMPORT statement?	5
Prefer a USE statement?	4
Undecided?	6

7.2.9 Constructors/Destructors (R7)

Problematic: two weeks to complete, no time to remove.

7.2.10 Internationalization (R8)

Edits complete: no time to finish, no time to remove.

7.2.11 Interoperability with C (R9)

Incomplete: three weeks to complete, one week to remove.

7.2.12 Minor Technical Enhancements

Essentially complete: one week to complete, ten weeks to remove.

7.3 Remedial Action Required (if any)

Lawrie Schonfelder presented a proposal to allow overloading the intrinsic structure constructor (done as part of R7 and R4).

SV: Keep all of R7 (Constructors/Destructors)?	2
Drop R7 entirely?	0
Drop the "Constructors" part of R7?	4
Replace the "Constructors" part of R7 with the JLS proposal?	12
Undecided?	1

Lawrie Schonfelder produced a preliminary version of document N1355 which details his proposal. After discussion, a straw vote was taken:

SV: Forward a more complete version of N1355 to J3 as our recommendation? 17-0-1

A subgroup was formed to examine and attempt to clarify unresolved technical issues in the draft for F2000 and this produced document N1356.

SV: Forward N1356 to J3 to help them deal with the unresolved issues? 18-0-0

The revised schedule, which anticipates the Fortran 200x being published in December 2004, is contained in Resolution C4.

8. Other Technical Issues

8.1 Maintenance of IS 1539-3:1998, TR 15580:1998 and TR 15581:1998

After discussion it was resolved to correct some minor errors in the two Technical Reports so that they were consistent with the draft for F2000, and to add a web reference where any further differences between the second edition of the reports and F2000 would be listed.

SV: Remove requirement to report signalling exceptions from TR 15580? 10-0-3

A subgroup was formed which produced the document N1366 which details this change.

SV: Adopt the change detailed in N1366 to TR 15580? 14-0-5

SV: Republish the two TRs with fixes and a web reference? 18-0-1

SV: Do we wish to have revised versions of the TRs available in both paper and electronic forms? 15-0-4

John Reid produced the document N1352 which contained further changes proposed to fix problems with TR 15580.

SV: Forward TR 15580 revised according to N1352 for further processing? 17-0-1

Malcolm Cohen produced the document N1353 which contained changes proposed to fix minor inconsistencies in TR 15581.

SV: Forward TR 15581 revised according to N1353 for further processing? 17-0-1

After discussion on the web references for the two TRs, a straw vote was taken:

SV: Leave it to the Convenor and the Project Editors to devise suitable wording for the web reference? 15-0-0

In discussion it was resolved that WG5 itself should act as the maintenance body for IS 1539-3.

8.2 CEA presentation on object technologies

Unfortunately, the representative of CEA was unable to attend the meeting until Friday morning, when there was insufficient time available for his presentation.

8.3 Any other Technical Items

There were no other technical items.

9. WG5 Business and Strategic Plans

In view of the significant delay in the processing of Fortran 200x it was felt inappropriate to develop plans for the development of Fortran after Fortran 200x. However, some time was spent considering potential options, in particular whether the present process, in which WG5 determines the requirements for each revision, was still appropriate, or whether a policy based on standardising only features that had already received acceptance in existing compilers would be more appropriate.

A revised strategic plan was adopted, which concentrated on the strategy and omitted most of the tactics which formed a part of the previous plan, as Resolution C11, while member bodies were also asked to consider the longer term during the period before the next meeting of WG5, see Resolution C12.

10. Closing Business

10.1 Future meetings

It was agreed during discussion that future meetings should be synchronised with the J3 meeting schedule to enable closer cooperation between the committees. After discussion between the Convenor and the J3 chair, it was proposed that next year's meeting be held in late August. The host of next year's meeting, Petri Mahonen, was contacted by fax to confirm the acceptability of this schedule, following which a straw vote was taken:

SV: Meet in 14-18 August/21-25 August/undecided? 2-2-14

Since the second week was preferred by the host, it was agreed that the next WG5 meeting would be in 21-25 August 2000.

10.2 Any other business

There was none.

11. Adoption of Cadarache Resolutions

The resolutions and the voting on them are recorded in N1343.

12. Adjournment

Before adjourning the meeting the Convenor announced that due to pressure of work he would not be putting his name forward for re-appointment as Convenor at the forthcoming SC22 Plenary meeting. He also indicated that the United Kingdom expected to propose a successor as Convenor once certain administrative details had been sorted out.

The meeting closed at 1pm on Friday, 18th June, 1999.