

To: WG5
From: Miles Ellis
Date: 10 December 1995
Subject: Letter from the Convenor

1. San Diego Meeting

We had a very successful, and well-attended, meeting in San Diego last month, at which we achieved far more than, to be honest, I had dared to hope for. My thanks and congratulations to everyone who was there for the positive and hard-working way in which they all contributed to the meeting's success.

1.1 Fortran 95

The main item on the agenda, of course, was the processing of the comments received in the CD ballot. I have to admit that my heart sank when I received the results and the comments from the SC22 Secretariat at the beginning of October. By the time I had collated them all into a single document (N1135) in order to ease their processing I had a 50 page document! That we processed them all satisfactorily (apart from half a dozen that we deferred to X3J3 to resolve the next week) was a great tribute to the various subgroups who worked their way through them all. In the process we managed to resolve all the US reasons for voting NO, so that, in a sense, their vote now changes to YES with comments. Our editor, Richard Maine (US), then did a quite fantastic job in having the revised document available electronically less than two weeks after the end of the X3J3 meeting – and Thanksgiving occurred during those two weeks! Thank you, Richard.

The draft DIS is included in this distribution as N1166, together with a list of the edits used to produce it, N1167. Before sending this document to ISO for final processing I am asking all WG5 members to review it to check that all the edits approved by WG5 in response to the CD ballot have been correctly incorporated; document N1168 is a ballot for this purpose.

Although the proposed change to DIS balloting rules will not now take effect, as explained in N1143, it still seems appropriate to confirm that, as a result of the edits approved in San Diego, the document is now acceptable as the new Fortran Standard. Under the old rules, which are still in place, minor editorial changes are allowed following the DIS ballot; however, it would be preferable to submit a document which does not require any changes at this stage, as would have been essential under the proposed new rules. Document N1169 is a ballot **for member bodies only** to ascertain whether there are likely to be any editorial, or other, comments in this ballot. (Since only the US voted NO in the CD ballot, and all their reasons for voting NO were resolved, I am assuming that there will be no NO votes in the DIS ballot!)

1.2 Type 2 Technical Reports

The proposal to use Type 2 Technical Reports as a means of accelerating the development of a limited number of key features, which was adopted in Tokyo, had led to considerable debate. Although SC22 had approved all three projects at its Plenary Meeting in September, it had also asked WG5 to review the content of one of these, and to notify it of any changes (SC22 resolution 95-5).

In fact, WG5 reviewed the direction of all three TRs.

In the case of the proposed TR on floating point exception handling it took the view that an approach based on intrinsic procedures related to the IEEE standard on this topic was preferable to one based on ENABLE, and instructed the editor, John Reid (UK), accordingly. (John had, in fact, been the one to propose this approach, based on a paper submitted by Keith Bierman (US) – N1137)

The TR on interoperability with C (or more properly, the provision of features to allow Fortran programs to call C functions) was the least advanced, due to the withdrawal of CERN from Fortran Standards work. The Convenor had put his own name forward as Project Editor for the purpose of obtaining SC22 approval for the project, but WG5 was very grateful to accept the offer of Michael Hennecke (Germany) to take over this duty.

Finally, after considerable discussion, it was agreed to remove the question of parameterized derived types from the scope of the TR on data type enhancements, but to add allocatable arguments and function results to the previously included allocatable derived type components. However, WG5 did not totally close the door on parameterized derived types, and has asked Steve Morgan (UK) to refine proposals in this area for further consideration at its next meeting.

Email reflectors are being established by Kurt Hirschert (US) for use by the development bodies, and any interested observers, for each of these projects. To be added to any of these mailing lists please contact Kurt at <hirschert@ncsa.uiuc.edu>.

WG5 also refined its policy paper (N1111) on the use of its TR process, in order to eliminate certain infelicitous phrases, and to clarify the circumstances in which changes could be made to the syntax and semantics described in such a TR when they are incorporated into a future revision of the Fortran Standard. This revised policy is described in N1152.

1.3 Other proposed new work items

WG5 also addressed requests for new work items for conditional compilation and interval arithmetic.

The case for conditional compilation had been made in Tokyo, and member bodies had been asked to put forward proposals for further action. The US had done so, and after a presentation on the topic by David Epstein (US) WG5 agreed that it wished to pursue this topic in the form of a separate, optional, part of the Fortran Standard. It is expected that formal proposals will be brought to the next meeting, with a view to a request for approval being made to SC22 at its Plenary in September 1996.

A request for Facilities for interval arithmetic to be added to Fortran had been submitted by a DIN on behalf of an international group of mathematicians, and after a presentation by Baker Kearfott (US) WG5 decided that the topic should be investigated further, with a view to deciding at its next meeting what action, if any, should be taken. All members, and member bodies, with an interest in this topic are requested to liaise with Baker in formulating proposals.

Email reflectors are being established by Kurt Hirchert (US) for use by those interested in each of these projects. To be added to any of these mailing lists please contact Kurt at <hirchert@ncsa.uiuc.edu>.

1.4 Fortran 2000

The pressure of other matters meant that it was only possible to have a brief discussion on the requirements for Fortran 2000. In the event we had a sort of “beauty contest” in which members indicated whether they felt that the various issues that had been raised in the repository of requirements was of high, medium or low priority for Fortran 2000. Based on a numeric weighting of the votes, the various items were then placed into a overall priority order. Document 1155 shows the items considered and the resulting priority order.

Obviously a great deal more work will be required before the content of Fortran 2000 is determined, however one thing that was apparent as a result of this somewhat hurried exercise was that Fortran 2000 may not be as major a revision as had been anticipated when the content of Fortran 95 was being determined. This subject will, however, be a major item on the agenda of the next meeting.

1.5 Strategic Plan (SD4)

Amongst all the technical work, WG5 also found time to revise its Strategic Plan to take us into the next revision cycle and to take account of the new procedures relating to Technical Reports and possible additional parts of the multi-part Fortran Standard. This revised strategic plan is included in this distribution as N1151.

In this context it is worth mentioning that WG5 discussed the nature of its multi-part standard in some detail. As far as is known, all parts of a multi-part standard are usually of equal weight. However, WG5 agreed that this was not the intention of the

Fortran multi-part Standard, where it is anticipated that it will only be mandatory for a “Standard-Conforming Compiler” to conform to Part 1 of the Standard, with conformance to the other parts being optional. At present there are only two parts – the second being the varying length string standard – and conformance to the second part is, indeed, optional. However, it is at least possible that additional parts may be proposed for such topics as interval arithmetic and conditional compilation, and the feeling of the meeting was that such additional parts should not be mandatory unless they were subsequently incorporated into Part 1 of the Standard – the main language definition standard.

1.6 Primary Development Body for Fortran 2000

As part of its review of the Strategic Plan, WG5 decided to continue the procedure that was first used for Fortran 95 and to appoint a Primary Development Body to whom would be delegated the technical work associated with the development of the standard, and with whom the other development bodies responsible for Technical Reports or other Parts of the Fortran standard would liaise in various ways.

In Resolution S14, WG5 invited X3J3 to act as the Primary Development Body for the next revision of the Standard. I am delighted to confirm that, at its meeting the following week, X3J3 voted to accept this invitation.

2. World Wide Web, FTP Servers and Electronic Document Distribution

In Tokyo, WG5 agreed to move to electronic distribution of documents, other than the provision of a single paper copy for any national body that requested it, and distribution of minutes, meeting announcements and preliminary meeting agendas, which would continue to be distributed in paper form to all members. Following the circulation of a questionnaire to all WG5 members an initial policy for this was determined and put into action with the establishment of an official WG5 server, and an official WG5 world wide web site.

Since then SC22 has addressed the issue of electronic document distribution at some length during its Plenary Meeting, and JTC1 has held a special ad hoc meeting on the subject. As a result of these discussions, and experience over the first few months of WG5’s electronic distribution, it seemed appropriate to discuss the issue again in San Diego. Document N1154 outlines the policy agreed for distribution of documents, but I should like to emphasise several points here, in addition.

- The WG5 WWW home page can be found at:

<http://www.etr.cox.ac.uk/wg5.html>

I shall attempt to keep these pages up to date, and will highlight any significant changes at the top of the home page. I strongly recommend that all WG5 members should check it every week or so to see if there any changes. In particular, there will always be information available here that is not readily available from any other source.

- The official WG5 ftp server is operated for us by NAG, and can be found at:

<ftp.nag.co.uk/sc22wg5>

It is also automatically mirrored at two US locations:

<ftp.ncsa.uiuc.edu/sc22wg5/ftp.nag.co.uk>

<ftp.dfrc.nasa.gov/pub/x3j3/wg5/ftp.nag.co.uk>

All official WG5 papers will be placed on these servers, generally in three forms: PostScript, Acrobat (pdf) and text. For those who have not used Acrobat I strongly recommend that you try it out – it appears set to become the standard format for document distribution and electronic publishing, for it preserves the document format in the same way as PostScript, while allowing display on screen, keyword searching, hyperlinks within documents and/or between documents, and many other goodies. Acrobat documents must be read by means of a special Acrobat Reader; however this is freely available (and freely distributable) for Windows, DOS, Macintosh and various Unix platforms (including SunOS, Solaris, HP and SGI). Copies are available via the WG5 WWW server.

- The overwhelming view of all those at the SC22 Plenary was that distribution in Word, WordPerfect or RTF, as proposed by JTC1, was highly undesirable for a number of reasons – both technical and political. This confirmed the view expressed by WG5 members, and so I do not propose to make documents available in any of these formats in future.

3. Future Meetings

The next meeting of WG5 will be hosted by Germany (DIN) and will be held in Dresden from 22nd to 26th July, 1996. Put the dates in your diaries now! Wolfgang Walter will be the local organiser, and further details will be available in due course.

We do not currently have any offers for meetings after 1996, so any countries willing to host a meeting are very warmly invited to contact me to discuss the possibility for 1997, or even later.