Meeting of ISO/JTC1/SC22/WG5
Royal Roads Military College
Victoria B.C.
27 - 31 July 1992

1.   Opening of the Meeting

The meeting was opened by the convenor, Jeanne Martin.

2.   Welcome of the delegates

Lt Commander Bindernagel welcomed the delegates to Royal Roads Military College.

3.   Remarks from the Convenor

Fortran 90 has been launched. Both processors and books on Fortran 90 are now available. We are starting to look to the future of Fortran.

4.   Adoption of the Agenda N773

The agenda was adopted, proposed by Lawrie Schonfelder and seconded by Bruce Martin.

5.   Appointments

Drafting Committee:
David Muxworthy (chair)
Graham Warren
Jerry Wagener
Christian Weber
Masayuki Takata

Secretary Mike Roth
Vice Chair Bert Buckley, including chair of discussion of the strategic plan
Librarian Fausto Milinazzo

Subgroup Heads:
Strategic Plan Jerry Wagener
Maintenance John Reid

6.   National Activity Reports

The following National Activity Reports were presented:

Canada Graham Warren N810
Germany Christian Weber N801
Japan Masayuki Takata N807, N808

UK David Muxworthy N809
USA Ivor Philips N812

7. Progress of ANSI Standard

Jeanne Adams presented a particularly interesting little history of Fortran 90. This included personnel, public reviews, date history, the various public ballots and the resulting compromises, especially the four plans for compromises offered at the Paris meeting. The final form of Fortran 90 was based on one of these. Finally, when the committee thought it had a complete draft, the vote on the standard was all YES except for Boeing. Boeing changed their vote from NO to YES in May 1992. The Board of Standards Review was due to ratify the Fortran 90 standard on 6 August 1992.

8. Liaison Reports

There were no Liaison Reports

9. Approval of the Minutes of the Lund Meeting N745

The Minutes of the Lund Meeting, N745, were proposed by David Muxworthy and seconded by Tom Lahey.

10. Status of the Lund Resolutions N736

The status of the Lund Resolutions, N736 and N797 were presented by Jerry Wagener.

11. Adoption of a Management Plan for Future Fortran Evolution N760, etc.

Bert Buckley took the chair while Jeanne Martin presented the Management Plan for Future Fortran Evolution, N760, N774, N792, N793, N794 and N800. The discussion was scribed by Malcolm Cohen:

Initial Discussion

Martin: SC22 may not allow rapid procedures to be used, resulting in a two year delay; we must address a resolution to SC22 about this. Producing an amendment (instead of a technical corrigendum) requires our work item to be split.

Hendrickson: Why worry about 2 sets of standards (US and ISO)?

Martin: Synchronisation requires extra paperwork and thus effort.

Wagener: If synchronisation is lost then public reviews might end up being ignored (or we have a lessening of their quality).

Discussion on Collateral Standards, particularly parallel extensions

Hoffert: X3H5 is supposed to coordinate with X3J3 during development, not just at the end.

Schonfelder:	There is a danger here of US/ISO incompatibility.
Hoffert:	Only if X3H5 ever produce anything.
Schonfelder:	It is very bad to so delegate authority to change the standard.
Martin:	X3 said that X3H5 cannot change F77, only F90.
Tait:	ISO rules allow for several kinds of bindings, including syntax and semantics extensions; WG5 must accommodate these. A development body which has veto powers can ensure that things are ok.
Martin:	Language binding methods are described in a technical report; they have the weight of guidelines only, they are not rules.
Weaver:	SC22 has asked for descriptions of projects under way in this area.
Martin:	X3H5 does not appear in the US report.
Hirchert:	Any extension produced by X3H5 does not change the standard, it is only supplementary. Our problem really lies with groups which do not go through the normal channels (e.g. HPFF).
Ellis:	If X3J3 has veto power [over X3H5 proposals] we can trust them.
Adams:	It is unclear that X3H5 and HPFF will be compatible. Our question is what do we do with two independent conflicting collateral standards.
Meissner:	Extensions produced by X3H5 must be approved by X3J3 in terms of technical content as well as form.
Martin:	This may be the case but X3J3 could be under pressure [to approve].
Wagener:	My current understanding is that X3H5 do this with X3J3 being a "coordinating liaison"; this means that X3J3 gives X3 a review [of X3H5's work] and X3 takes the final decision. X3 will probably follow X3J3's recommendation but not necessarily. X3 has not yet given the go-ahead [to X3H5?].
Bierman:	X3H5 has submitted several Work Items; the only one which has been accepted so far is the language-independent model for shared-memory machines. There is a possibility that some members of X3H5 might distribute their binding for F77 despite X3's ruling; there is no consensus for this on X3H5.
Moss:	Why is the US not reporting its activity in X3H5? Perhaps we should consider it as a resolution.
Martin:	This is really an internal US matter and not within WG5's remit.
Moss:	We could ask for all parallel work happening.

Bierman:	Perhaps X3 thinks that nothing is happening on X3H5.
Lahey:	These other groups are solving real problems - we need to interact with them not the other way round. There is a high demand for X3J3 expertise on these committees; our procedures are irrelevant to commercial realities and we must bend to fit them.
Martin:	HPFF has a very open process and are highly qualified technically. They are also completely independent and we cannot control them.
Wagener:	X3H5, POSIX and HPFF are not suggesting that they can change the Fortran standard, they are coming up with new standards of their own. Tom is right, we need to build bridges to them in order to coordinate and influence them.
Tait:	We should provide services to resolve conflicts so that it is possible to put all these extensions into one document. It is important to react to this in a timely fashion; the train model could help us here.
Ellis:	We have to recognise that we shall have to standardise future existing practise; we do not need to control these groups, merely coordinate.
Meissner:	The official standards bodies will be ignored if a more competent group comes along and the official body tries to stem the tide.
Hirchert:	Most of these extensions are only providing facilities for small subgroups of the populace. Their expertise is limited to their own domains and they may not realise the consequences of their work being extended to other communities. We need to persuade them to avoid the tower of babel.

Break for lunch: begin discussion of train model vs. the rest

Lahey:	Setting dates in the management document is very hard. We should set out to achieve a task and finish it when we are done, not sign up for a deadline in the far future. Businesses do not work this way.
Martin:	We are not trying to predict the future, ISO rules require target dates and milestones.
Schonfelder:	The alternatives are not mutually exclusive, we can have annual corrigenda to fix urgent problems soon and still have a revision in 1995. We may need to publish amendments to handle other groups.
Philips:	I am very concerned about the looseness of the train model. It seems to imply a total lack of discipline if we just leave things behind. We ought to plan the passengers and only leave them behind in extreme circumstances. Perhaps we are trying to plan too far ahead?
Martin:	There is also the problem of overlap with the train model (asking users for their future requirements while finishing the previous revision).

Roth: In the train model the schedule is very rigid but the contents are not.

Ellis: It is putting the cart before the horse to schedule the revision before we know what is to be in it. We are still thinking in programming language development mode not in the mode of standardising existing practise.

B.Martin: We do want a revision by 1995; only option (d) allows this.

Adams: 1995 is only 2.5 years hence not 5 years. The train model is too eclectic, we need more overall planning, it does not consider the interrelationships between features.

Hirchert: Businesses do work very successfully using the train model; people care less about missing the train if another is coming along in 5 years. This is relatively frequent for language standards.

Meissner: Although the train model is attractive the most important features may be the ones which tend to miss the train and thus the others (which are on the train) will not be fully compatible with these.

Pollicini: After F90 we should only be seeking to make a minor revision.

Lahey: My problem is still with putting [any] dates up there.

Adams: What we are talking about is a schedule for major revisions and fixes.

Bierman: Most hardware companies use the train model because latency exceeds the time between updates. Having a predictable schedule is one of the best things we can do for people. It would gain user confidence and get us in change again, preventing the tower of babel.

Warren: Sometimes you need to have a goal in terms of a date before the functionality is fully decided. If a feature is important enough to delay the next train there will be a management decision to do so.

Schonfelder: We are in the train model anyway in the sense of having to revise, confirm or withdraw the standard every 5 years. But we still need to publish some corrections very soon because they are urgent to avoid divergent implementations. A 1995 revision requires a CD ballot by the end of 1993.

Straw Vote 1(a): Calendar-driven or Functionality-driven?

Calendar: 17 Functionality: 7 Both: 0 Undecided: 4

Discussion on whether to have a 1995 revision and/or corrigenda

Hoffert: Annual time-frame decisions would affect this straw vote.

J. Martin: We need to begin the next revision as soon as possible because we want the I-project status.

Weaver: We have already decided this question, the train model implies any minor changes can go.

Warren: We can decide to delay all changes until a later train to enhance stability (since F90 was such a big change).

Hendrickson: In the past few months there have been many interpretation requests; this would seem to imply there are implementors who need these technical responses now. The procedural details are less important - X3J3 can publish them informally ahead of time.

Schonfelder: The interpretation of the JTC1 guidelines by R. Follet is incorrect; corrigenda will be done quickly and they are the right mechanism.

Straw Vote 1(b): First revision in 1995 time-frame to allow minor changes?

Yes: 12 No: 9 Abstain: 6

Straw Vote 1(c): Have intermediate corrigenda?

Yes: 16 No: 7 Abstain: 6

Discussion on User Requirements Collection

Ellis: The straw vote is moot by the train model, which implies that we do this all the time.

J.Martin: But we will not get requirements unless we make a concerted effort to gather them.

Weaver: We should be doing this constantly.

J.Martin: The question is whether we make the concerted effort.

B.Martin: I hope that we are not continually gathering requirements, we need to have a cut-off date for each train.

Hendrickson: We need to get requirements, allocate resources and plan for each train. We have to view it as an exception if something misses the train, not as normal procedure.

Schonfelder: Calendar driven is not necessarily identical to the train model, we do need to plan our work. The time spent detailing specifications can save much implementation work which is why the UK suggested extending it for a year.

Pollicini: The "train model" can be taken too far. Delaying a train might be bad but it could be good for a standard; we need to finish the work of the revision properly. I would not want to see a last-minute proposal jumping onto the standard because it may not be well enough developed.

Bierman: If we sign up for the train model we have a continually evolving product.

Hoffert: The collection process is ongoing but the setting of the actual requirements is not.

Straw Vote 2: When should we collect requirements?

Earlier: 3 Later: 6 Continually: 12 Undecided: 8

Straw Vote 3: Do you want X3J3 to be the primary development body provided it uses an I project?

Yes: 27 No: 1 Undecided: 1

SV4 discussion

Hendrickson: X3H5 et al. are not describing the syntax and semantics for Fortran but for extensions. We cannot stop this.

J.Martin: The question is whether L12 needs to be changed; this is intended to satisfy US demands, to change their vote (on L12) to Yes.

Philips: There may be circumstances where other groups are changing the standard with WG5 approval.

Hoffert: We are just trying to encourage extensions to syntax and semantics to come through X3J3 and WG5.

Bierman: N776 says that only procedural bindings are acceptable; we need to change L7.

Adams: Do we automatically adopt extensions from HPF?

J.Martin: No more than we automatically adopted the MIL-STD extensions in F90.

Straw Vote 4: Do we agree with Item C of the US comments (N774)?

Yes: 16 No: 0 Undecided: 9

Discussion on the proposed management committee

Hoffert: I would like to see a more open forum where members at large in WG5 can participate in decisions, particularly with only one meeting per year. More frequent meetings would be a solution.

Pollicini: I would prefer a smaller group; no more than convenor plus heads of delegations, because it is easier to work in a small group.

Tait: Unless the individuals on the management committee are dedicated it will not work. We need a fully working committee, not dead wood.

Hoffert: The committee must be open for the process of consensus to work; this is one of the strong points of WG5. We should avoid authoritative structures.

Walter:	There is no danger of authoritarianism; ref. the previous committee which just did the work of producing the [management] document.
Weaver:	I am worried about the possible abuse of power from having an ad hoc group with no charter. The letter ballot process should handle decision making.
Schonfelder:	The convenor has the real power anyway, WG5 is only advisory. We would not need an executive subgroup if it were easily possible to get the whole group together on email. But we ought to meet at least twice a year anyway.

Straw Vote 5: Do you approve the WG5 interim management committee?

Yes: 16 No: 8 Undecided: 4

Discussion on amendment procedure

J Martin:	The use of amendments has been found by another WG to be counter-productive, they use more resources than a full revision.
Hirchert:	The presumed advantage of amendments is that [public] comment is on the amendment only not on the full standard.
Weaver:	Change the straw vote to be positive; viz "use revisions and corrigenda".
Tait:	We cannot guarantee that we do not need to do amendments.
Schonfelder:	Agree; we should not remove a procedure that we may need (e.g. to do FORALL)
J Martin:	In N794 amendments do not appear so they are not explicitly excluded.

Straw vote 6: Amendments should be?

Explicitly included: 1 Explicitly excluded: 0 Not mentioned: 27 Undecided: 0

Discussion on storage association in collateral standards

Pollicini:	Storage association is a bad concept; we should prohibit its use in collateral standards and make it obsolescent in Fortran 2000.
Hirchert:	This is an attempt to reintroduce the deprecated feature list. We can discourage its use but we should not try to prohibit it.
Warren:	Currently storage association is a fully-fledged part of the Fortran standard, we ought not to deprecate it.
Schonfelder:	We should do this for future standards.
Hendrickson:	People know that there are problems with storage association, if they use it, it is because they need to. I see no necessity for prohibition.

Straw Vote 7: Should we discourage reliance on storage association in related standards?

Yes: 14 No: 11 Undecided: 4

Discussion on collateral standards

Schonfelder: We need to say something about these in the revised management document; they are happening now.

Wagener: It is critical that we address the issues raised by X3H5 et al.

Bierman: This is not a new problem (ref. GKS and F77). It is a good idea to address the issues but the L12 definition is too narrow.

Tait: There is no real process to handle these. If a feature covered by a collateral standard is important it should be in the main language.

Straw Vote 8: Should we remove references to collateral standards?

Yes: 1 No: 15 Undecided: 13

SV9 discussion

Tait: WG5 should not allocate tasks outside the development body (there should be only one).

Straw Vote 9: Who should manage development?

WG5: 3 The Development Body: 13 Undecided: 10 with non-X3J3 members only 4 3 5

12. Review of Fortran 90 Maintenance N784

There was a discussion of the Fortran 90 Maintenance Document, N784, also numbered X3J3/S20.121. This topic is also covered in N785, N798 and N799. The discussion started on Monday, with Malcolm Cohen continuing to scribe, and continued on Tuesday without his valuable help:

Schonfelder: According to new JTC1 guidelines, the ITTF publishes the defect report as well as the edits, making it very much like S20.

Bierman: Why are we discussing an internal X3J3 document, X3J3 has the responsibility for it not WG5.

J.Martin: X3J3 cannot send S20 to SC22, only WG5 can do that.

Bierman: WG5 should wait until J3 publishes S20, it has delegated its power.

Reid: We should be working together on this as we did in London.

Bierman: The question is who is the last court of appeal [on questions of interpretation?]

J Martin: We arrive at a consensus.

Warren: Agree with Keith, WG5 should have said that it wanted it [S20] now.

Walter: Surely clarifications can appear in a corrigendum.

Tait: We need one document. I do not think that ISO rules allow us to do this combining editorial corrections, technical fixes and interpretations. S20 is X3J3's attempt to produce a single document. There were many mistakes in the first draft of S20; WG5 should look foolish sending stuff to SC22 without having someone else look at it.

Wagener: Given that S20 exists, why do we need to make an official change to the standard? Doing this will detract from future work.

Moss: We do need a single document but it is difficult to decide what is an erratum and what is an interpretation. We need to establish who owns the base document for edits.

Tait: We need corrigenda to make [the alterations to the standard] legally binding.

Hendrickson: I am not opposed to corrigenda but X3J3 and WG5 must agree on content.

Schonfelder: This is an area where the train model works very well; that is what N786a was trying to do. Since X3J3 meets next week we can look at the approved items in S20 and ask X3J3 to finalise them so the convenor can send them to SC22.

Bierman: The force of law [of corrigenda] is irrelevant, vendors will follow S20.

Muxworthy: I do not agree that all vendors are in touch with S20 (ref. some non-US compiler efforts).

Hoffert: We need to learn how to publish corrigenda. One possibility is to take S20.122 and N786a to X3J3 and submit S20.122 as an ISO Technical Report after having a WG5 letter ballot.

Meissner: I am going to press in mid-September for the December Fortran Forum; the whole issue could be devoted to an official Fortran 90 edit list if it happened. The deadline for this would be the end of the X3J3 meeting.

J Martin: We should make a resolution to SC22 to clarify our procedures to ensure that we can have just one document.

Reid: We should provide leadership by going ahead and producing one document and informing SC22 that we wish to do it this way.

<u>General agreement</u>

This discussion continued the following day (Tuesday). These are no longer Malcolm Cohen's scribe notes.

J Martin: Do we wish to work on corrections, clarifications and interpretations?

Reid: Don't go for ISO technical corrections but use a technical report.

Hoffert: This would eventually be included in a review.

Schonfelder: This would satisfy users but not lawyers.

Moss: How does this document become available to people outside of this committee?

Bierman: Use the standard, which says for interpretation ask the standardizations body.

Moss: Decouple the preparation of the document for corrections, clarifications and interpretations from the procedures for publication.

John Reid asked for a straw vote: Should we create another document for corrections, clarifications and interpretations more formal than S20 by letter ballot of WG5 and X3J3? 23-2-1.

Schonfelder: These ballots should be treated as if the document were a Committee Draft.

Meissner: What happened to public reviews?

Weaver: We still need formal procedures.

Martin: Who determines what we have a letter ballot on?

Hoffert: Get to an I project as fast as possible. Meanwhile get a technical report out.

Schonfelder: We should be using the procedures described in Section 6.13 of N788.

Meissner: We should work directly towards Fortran 96 as an I project now.

John Reid asked for a straw vote: Do we want to go through a process to go forward to SC22 to produce technical corrigenda? 25-1-2.

Ivor Philips asked for a straw vote: X3J3 creates the content of the ballot document and performs any subsequent rework. 26-0-3.

13.   <u>Guidelines for Bindings to Fortran 90 N776</u>

David Muxworthy presented Paper N776 on Guidelines for Bindings to Fortran 90.

Meissner: Is syntax that appears to Fortran as a comment the kind of alien syntax that is deprecated by this document?

Muxworthy: Yes.

Moss: You do need to address different types of binding.

Roth: Oracle have a binding to SQL, called Pro*Fortran, which does not follow these recommendations.

Weaver: Is choosing KIND types a binding?

Jerry Wagener presented an X3H5 Proposal to Develop a Fortran 90 Binding, N804.

14. Subgroup Activity

The committee split into subgroups. Their subsequent reports were:

Wagener: The strategic plan is not quite complete.

Reid: The Maintenance Subgroup considered various papers. Two were considered as inclusions in an amendment document if there is one. These are N779 on Initial Pointer Nullification and N780 on Pointer bounds.

Kurt Hirchert reported on recommendations for S20, Papers N786 and N786a. We should askX3J3 to consider these papers.

Hendrickson: Should it be up to X3J3 to decide whether this is regarded as an amendment?

Muxworthy: The drafting committee has drafted 11 resolutions.

15. Varying Length Character String Module N777, N778

Lawrie Schonfelder presented Paper N777, now being balloted. The module has been tested except for read_string. Editorial corrections are being considered.

Bierman: Should this be a module or an extension to the language?

Schonfelder: I am strongly in favour of using the module interface mechanism.

16. High Performance Fortran Status

Maureen Hoffert presented Paper N791 on High Performance Fortran: A Perspective, produced by the Edinburgh Parallel Computing Centre.

Moss: Will there be a resolution of this more welcoming than D11?

17. Initial Processing of Victoria Resolutions

David Muxworthy presented the first draft, N814a, of the Victoria Resolutions. I will report the discussion of these resolutions in numerical order of the resolutions rather than the chronological order in which they were discussed.

D7 or D8 Development body for Fortran

These are two alternative resolutions for establishing the Development Body: effectively the choice is between WG5 and X3J3.

D9 Processing of Maintenance Material for the international Fortran standard

This resolution establishes the procedure for determining the detailed format of JTC1 technical corrigenda. Part of this resolution included the words 'that X3J3 be requested to adopt this format for its maintenance document S20'. There was some detailed discussion suggesting deleting these words. Concern was expressed over the elapsed time that could be used up considering S20.

Martin: Much of D9 also belongs in the Strategic Plan rather than a resolution.

Tait: Even if these points are in the Strategic Plan, we still need a resolution to state what we are doing now.

Meissner: In the third bullet, February 1993 is too late. I request a straw vote to change 'February 1993' to 'August 1992'. 14-3-11.

1. D10 Associated Standards

There was a straw vote that the content of D10 should be part of the Strategic Plan, L12, rather than a resolution:

a L12   17
b Resolution   0
c both   1
d undecided   13

18.   Subgroup Reports

John Reid reported that the Maintenance Subgroup had been productive. More work had been done on S20, especially on the subject and meaning of pointer association and host association. Jerry Wagener reported that the Strategic Plan Subgroup had been productive, having included 8 straw votes. It is now reasonably clear what the shape of the document should be. By having only two people rewrite the document, it is now nearly ready.

19.   Second Processing of Victoria Resolutions

David Muxworthy presented the second draft, N814b, of the resolution document. This is again reported in numerical order of resolutions.

1. D5 Maintenance Procedures for SC22
There are two alternative wordings for this resolution.
2. D7 or D8 or D8a Primary development body for Fortran

Roth: What does D8 mean?

Adams: WG5 and X3J3 should be one group.

Schonfelder: The main difference is that the development body reports to SC22 rather than to X3.

Hoffert: We should try the I project first and reject it only if it fails.

Adams: Who takes a formal ballot?

Martin: SC22.

Straw vote: non-J3

D7	143
D8	115
neither	11
either	21
undecided	00

D9 Processing of Maintenance Material for the International Fortran Standard

Moss: The goal is to get these procedures in place in time.

Weaver: Please identify the editor.

Andrew Tait was appointed as editor.

Walter: Delete 'possible' from the first bullet of D9.

Straw vote on the date in the first bullet:

August 1992	1
November 1992	17
undecided	7

Straw vote on second bullet: Have a WG5 ballot after each X3J3 meeting. 10-11-4.

Schonfelder: Should the back to back meetings of WG5 and X3J3 be the other way round so that WG5 meets immediately after an X3J3 meeting?

Straw vote on changing the last line from 'following the November 1993 X3J3 meeting' to 'after the WG5 meeting each year'. 1-6-13.

D10 Associated Fortran Standards

This has been transferred to the Strategic Plan, but this did not prevent discussion of two types of auxiliary standards - Supplementary Standards that do not, and Extension Standards that do need extension to the syntax or semantics of the Fortran Language.

Len Moss request a straw vote in the strategic Plan: Change the definition of Extension Standards as those that change the syntax or semantics to the Fortran Language and Supplementary Standards that do not. 12-0-12.

20. Initial Processing of Strategic Plan N820

J Martin: Should this be part of the report to SC22? - Yes.

Moss: In 4.4, change 'not unanimously accepted' to 'not achieving consensus'.

Hoffert: In 4.3, please enter dates where blank.

In response to requests for clarification of 3.7, especially as compared with D14, Jerry Wagener explained that 'Requirements' is divided into collecting a database of requirements and selecting those for the next standard. These may be termed 'Needs identification' and 'Suggested requirements'.

Moss: Please alternate between minor revisions and major revisions.

Wagener: We may think differently in five years' time, so we should not tie down what kind of revision we will have next time.

Ivor Philips requested a straw vote to add a resolution that the 1995 revision gives absolute priority to corrections, clarifications and interpretations. 20-2-4.

Reid: Delete the middle sentence of the second paragraph of 4.4

Philips: Please give reediting of the strategic plan to the management committee.

Straw vote on John Reid's proposal: 13-2-8

Moss: Straw vote that we formally adopt N820 as our plan and accept that the management committee will continue to revise it. 20-0-4.

21. Procedural

As there was now concern that there was very little time left for the formal ballot of the resolutions, Bert Buckley called for a vote on whether to go on to 5pm. This was passed 16-7. Although this was accepted as a democratic decision, it should be recorded that some of those opposed were very strongly opposed.

22. Third Processing of the Victoria Resolutions

David Muxworthy presented the third draft, N814c, of the resolution document. There was a straw vote on each:

D1 and D2: Unanimous.
D3

Keith Bierman requested a straw vote to modify the wording to offer this to the Russians: 22-3-3
Original wording: 17-6-5

D5
Alternative A 4
Alternative B 22
undecided   1
D5B with 'single' changed to 'unified': 27-0-0
D6

J Martin: Add 'as the current working draft'

Bruce Martin requested a straw vote: Do you want this to be adopted as a Standing Document?
21-0-5.

J Martin: Our current Standing Documents are:

1 Document Register
2 WG5 Membership List
3 Resolutions

This is therefore Standing Document 4.

Moss: In Section 4.3, add text at the end similar to the second sentence of D8B.

Martin: Change N820 to N820a.

Wagener: Add to the end: ',which becomes Standing Document 4'

D6 with these last two additions: 26-2-1
D7/8

Martin: Change 'X3 I-Project rules' to 'JTC1 standards project rules'

Walter: Make that 'Under international rules only as a JTC1 standards project'.

Straw vote on Jeanne's wording: 10-16-2
Straw vote on Wolfgang's wording: 10-15-3.

Lahey: Add words to the effect that the content and schedule are to be negotiated 12-6-9.

After some discussion this straw vote was repeated with the result 6-13-8.

A straw vote to choose between 8a and 8b was unanimously in favour of 8b

Which alternative?

7   1
8   5

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8b              21
undecided       2
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Finally, on Resolution 8b: 27-0-1.
D9

Warren: Change what follows the comma in the second bullet to 'the disposition of items not approved unanimously is at the convenor's discretion' 18-2-5

D9 with this change: 28-1-0
D11

Muxworthy: Drop 'National' from the title but not from the text.

Straw vote to remove 'National' from both: 23-1-3
D11: 26-0-3
D12: Unanimous
D13

Despite some suggestions that this resolution should refer to a defect editor for a defect index report, this was almost unanimous.
D14

Martin: Change 'requirements' to 'suggested requirements'.

Weaver: Delete 'for Fortran 2000'.

Schonfelder: Delete D14

Wagener: Change D14 to Appoint editor of database.
8-15-7
D15

Reid: Delete ',... standard' 15-1-7

Lawrie Schonfelder: Change 'not clarifications or corrections' to 'not technical defects'
Straw vote on D15: 7-10-7
D16

Philips: Name countries, not people. The L12 committee will do.

Weaver: The membership of this committee should consist of a representative from each of five delegations, appointed by the heads of these delegations.

Almost unanimous.
D17

Suggested corrections to this resolution were that 'N815 and N815a[???]' be changed to N815a. N816b and N818, along with the explanations that N815a and N816b contain requests for new interpretations and N818 contains comments on S20. With these corrections the straw vote on this

resolution was unanimous.

D18: Unanimous

Ivor Philips asked for a resolution that top priority be given in the next revision to clarifications, corrections and interpretations. 11-9-2

23. Future Meetings

On behalf of the German National Standards Institute, Christian Weber invited us to Berchtesgaden, Bavaria for the July 5-9, 1993 meeting. This invitation was also issued as N821 by Karl-Heinz Rotthauser. Suggestions for future meetings are 1994 in Edinburgh, Scotland and Spring 1995 in Tokyo, Japan.

24. Strategic Plan N820a

Jerry Wagener presented the final draft of the Strategic Plan.

25. Automatic Initial Pointer Nullification N779

Wolfgang Walter presented his paper, N779, on Pointers and Memory Management, which proposes that the initial association status of a pointer is disassociated.

Buckley: This is an excellent idea. It needs to be regular. Other things are not initialized. Why not initialize in the declarative?

Meissner: There are two levels of pointer. Some can be initialized when they are declared. The problem lies with those that cannot.

Hirchert: This is like a variable with the INTENT(INOUT) attribute. These always have this problem.

Schonfelder: N811 proposes a correction.

Straw vote: Treat as a technical defect. 10-7-7

Moss: We should be using correct procedures.

Buckley: Correcting this will not invalidate any programs that do their own initialization.

26. Controlling Pointer Bounds N780

Bert Buckley took the chair while Jeanne Martin presented paper N780 on a suggested amendment for controlling pointer bounds, but John Reid pointed out that unlike pointer initialization, an extension will not correct this. We should therefore not correct this error.

27. Technical Change Management N781

Aurelio Pollicini presented his papers N781, N803 and N817

Roth: There are millions of lines of Fortran invested in storage association. It will take a long time to update them.

Pollicini: We should encourage programmers not to use old features in new coding.

28. Adoption of Victoria Resolutions

Where the votes are not unanimous, the details are given in N806

V1. Convenorship of WG5

That WG5 congratulates Jeanne Martin on her reappointment as WG5 convenor at the 1991 SC22 meeting.

Unanimous

V2. Representation at SC22 meeting

That WG5 appoints Dick Hendrickson to represent the WG5 convenor at the SC22 meeting to be held at Tampere, Finland on August 24 to 28, 1992.

Unanimous

V3. Activities on Parallel Computing

Changes from N814d: Delete 'National' twice.

That WG5 requests the US delegation to SC22 to report to SC22 at its August 1992 meeting on developments of Fortran for parallel computing, and request Maureen Hoffert to provide the delegation with relevant background information.

Unanimous

V4. Russian Language Version if ISO 1539:1991

That WG5 recommends that SC22, after consultation with the Russian member body, request the ISO Central Secretariat to publish the existing Russian translation of ISO 1539:1991 expeditiously and at cost.

Individual vote: 27-2-0   *Country vote: 5-0-0*

V5. Maintenance Procedures for SC22

That WG5 advises SC22 that it intends to produce clarifications, corrections and interpretations for the International Fortran Standard as a unified document, namely an ISO Technical Corrigendum. WG5 believes that this is consistent with the procedures for the maintenance of JTC1 standards, as defined in the Proposed Second Edition of the JTC1 Directives (SC22/N1130 or WG5/N788). Further, WG5 believes that such a unified document will best serve the Fortran

community, whilst making the most effective use of the resources available for the maintenance and development of Fortran standards.

Unanimous

V6.   Strategic Plan for Fortran Standardization

That WG5 adopts the Strategic Plan for Fortran Standardization specified in WG5/N820a, which becomes WG5 Standing Document 4.

Individual vote: 27-0-2   *Country vote: 4-0-1*

V7.   Appointment of Editor for Database of Suggested Requirements

That WG5 appoints Ivor Philips to be the editor of the database for functional needs and suggested requirements for future revisions of the Fortran standard.

Individual vote: 22-3-3   *Country vote: 4-1-0*

V8.   WG5 Management Committee

Changes from N814d, suggested by Masayuki Takata: Change 'a representative from' to 'one representative each from'

That WG5 establishes a management committee, as defined in the Strategic Plan for Fortran Standardization, consisting of one representative each from the Canadian, German, Japanese, UK and US member bodies and the primary development body.

Unanimous

V9.   Primary development body for Fortran

That WG5 records its intent, as described in WG5 Standing Document 4 (N820a) "Strategic Plan for Fortran Standardization'. to produce a near-term revision of the international Fortran standard. This revision will incorporate corrections, clarifications and interpretations to the Fortran 90 standard and possibly selected new features particularly needed to be responsive to current needs in a timely fashion. To meet the schedule outlined in N820a development of this revision must begin by mid-year 1993 and proceed according to ISO rules without undue distraction. Therefore, WG5 requests SC22 to invite X3J3 to act as primary development body, as described in N820a, for this revision on the condition that the work proceed under X3 I-Project rules and that such a project be established by June 30, 1993. Should this condition not be fulfilled, WG5 records its intent to appoint a task group to act as primary development body for the next revision of the international Fortran standard.

Individual vote: 28-1-0   *Country vote: 5-0-0*

V10. Identification of Defect Report Index for Fortran 90 Maintenance

Changes from N814d: Change 'SC22 Resolution 157 and' to 'the' and 'draft directives (N1838)' to 'Directives (SC22/N1130 or WG5/N788)'.

That WG5 adopts X3J3/S20 as the Defect Report Index for Fortran (IS 1539:1991) as prescribed in the JTC1 Directives (SC22/N1130 or WG5/N788).

Unanimous

V11. Appointment of Defect Editor

Changes from N814d: Rewritten from V12.
Straw vote on this change:
a Original wording   3
b Revised wording   13
c undecided   5

That WG5 requests SC22 to appoint Andrew Tait as Defect Editor for Fortran (IS 1539:1991).

Individual vote: 27-1-1   *Country vote: 5-0-0*

V12. Defect Reporting

Changes from N814d: Starting from V11, change 'record' to 'records', delete 'informally', change 'Defect Report Index editor' to 'Defect Editor' and delete '(Andrew Tait)'.

That WG5 records its thanks to Tom Lahey for operating as the liaison for handling defect reporting between WG5 and X3J3, and it requests member bodies to refer future defect reports directly to the Defect Editor.

Unanimous

V13. Processing of Maintenance Material for the International Fortran Standard

Changes from N814d: Change 'ISO correction document' to 'ISO technical corrigendum'.

That WG5 establishes the following procedures for maintenance of the international Fortran standard:

- that X3J3, following its November 1992 meeting, forward to WG5 those items of the Defect Report Index that it considers completed for processing as an ISO technical corrigendum;
- that WG5 hold a letter ballot on these items; the disposition of items not approved unanimously is at the convenor's discretion;
- that WG5 directs its convenor to forward accepted items to the SC22 secretariat for further processing;

-   and that this procedure be repeated following the August 1993 X3J3 meeting.

Individual vote: 28-1-0   *Country vote: 5-0-0*

V14.   Guidelines for Bindings to Fortran 90

That WG5 thanks the UK member body for producing the first draft of the Guidelines for Bindings to Fortran (WG5/N776) and asks that they further develop the document as indicated at this WG5 meeting.

Unanimous

V15.   Other Fortran Groups

Changes from N814d: A straw vote to change 'to become involved with their activities and to liaise with WG5' to 'to serve as informal liaison between these groups and WG5' failed 8-3-18. Instead, change 'encourages its members to become involved with their activities and to liaise with WG5' to 'encourages members of WG5 to become involved with their activities and to serve as informal liaison between these groups and WG5'

That WG5 notes the growing interest and activities of other groups concerned with development of Fortran (for example HPFF, POSIX, X3H5) and encourages members of WG5 to become involved with their activities and to serve as informal liaison between these groups and WG5.

Unanimous

V16.   Appreciation of Jeanne Adams

That WG5 expresses its most sincere appreciation to Jeanne Adams for her services as Chair of X3J3 during the entire development of the Fortran standard (1977-1992) and her many other contributions to voluntary standards activities, including chairing meetings of WG5 and its parent body.

Passed by unanimous acclaim

V17.   Appreciation of Technical Contributions

That WG5 records its thanks to X3J3 for work on maintenance of the international Fortran standard, to Lawrie Schonfelder and the German member body for their development of the Varying Length String Module and to the German member body for providing the rationale for the Varying Length String Module.

Passed by unanimous acclaim

V18.   Vote of Thanks for Support

Changes from N814d: Correct the spelling of 'individuals', change 'IBM Toronto Development Laboratory' to 'IBM Canada' and insert a break before 'Principal'.

That WG5 thanks the following organizations and individuals for generously supporting the meeting:

IBM Canada
Hewlett Packard
Le Comte Winery
Barrodale Computing Services
University of Victoria Computer Science Department
Sun Microsystems
B. C. Systems Corporation
Vancouver Island Advance Technology Center

Principal of RRMC, Dr John Mothersill
Staff of the Royal Roads Military College
PO2 M Boyd
PO2 D Corneliuson
PO J E B Butler-Smythe
Cpl G S Conway

Passed by unanimous acclaim

V19. Vote of Thanks

That WG5 wishes to express its appreciation to the Convenor (Jeanne Martin), the vice chair (Bert Buckley, the secretary (Mike Roth), the librarian (Fausto Milinazzo), the drafting committee and the host (Royal Roads Military College) for their contributions to the success of the meeting.

Further that WG5 wishes to thank Bert Buckley and Fausto Milinazzo for their highly successful organization of the local arrangements and social events.

Passed by unanimous acclaim

29. Adjournment

Finally, Jeanne Martin thanked the hosts, who received thunderous applause.

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2 October 1992