Minutes of Meeting 142

J3 ANSI Fortran Standards Committee

August 11-15, 1997

Breckenridge, Colorado

J3/97-233
Table of Contents

1. Monday, August 11, 1997 ................................................................. 1
1.1 Opening business ................................................................. 1
1.2 Meeting objectives (work plan: 97-010r2) and Chair’s report .......... 1
1.3 Adoption of agenda .............................................................. 1
1.4 Approval of Meeting 141 minutes ........................................... 1
1.5 Secretarial arrangements ....................................................... 1
1.6 NCITS/OMC report ............................................................... 1
1.7 Other reports (ISO/WG5) ....................................................... 2
1.8 Treasurer’s report ............................................................... 2
1.9 Beginning membership report .............................................. 2
1.10 Local arrangements ............................................................ 2
1.11 Comments from members ................................................... 2
1.12 Discuss OpenGL binding ................................................... 2
1.13 Subgroup organization ....................................................... 2
1.14 Subgroup meetings ............................................................ 3
1.15 Subgroup reports ............................................................. 3
2. Tuesday, August 12, 1997 ........................................................... 3
2.1 Continuation of OpenGL binding discussion ............................ 4
2.2 Straw votes on Interoperability with C disposition .................... 4
2.3 Required (R) items processing ............................................ 4
2.4 /JOR report on Minor Technical Enhancements (MTE) status ........ 5
2.5 Subgroup meetings ............................................................ 5
2.5 Subgroup reports ............................................................. 5
3. Wednesday, August 13, 1997 ..................................................... 5
3.1 Organization of interpretation request processing .................... 5
3.2 /INTERVAL2 tutorial (97-224) ............................................. 6
3.3 /INTERVAL1 straw votes (97-222) ......................................... 6
3.4 Required items processing .................................................. 6
3.5 MTE processing .............................................................. 7
3.6 JOR report on Category B item status .................................... 7
3.4 Subgroup meetings ............................................................ 7
3.5 Subgroup reports ............................................................. 7
4. Thursday, August 14, 1997 ....................................................... 7
4.1 Response to WG5 Resolution V4 (Interop with C) (97-219) ....... 7
4.2 Required items processing .................................................. 7
4.3 Ballot comments for Interoperability with C TR ballot (97-223) .... 7
4.4 Review of CoCo document; response to WG5 Resolution V7 (97-221) .... 7
4.5 Required items processing (problems with 97-216) .................... 7
4.6 Straw votes on the inclusion and/or implementation of interval arithmetic .... 8
4.7 Subgroup meetings ............................................................ 8
4.8 Subgroup reports ............................................................. 8
4.9 TAG meeting .............................................................. 8
5. Friday, August 15, 1997 ............................................................. 8
5.1 Approval of OpenGL review letter (97-221r1) ......................... 8
5.2 Required items processing .................................................. 8
The format of the minutes attempts, wherever possible, to follow the structure of the agenda (see Appendix A). If an agenda title is listed but there is no text for that title, it means that portion of the meeting was unscribed or that there is nothing of import to record.

1. Monday, August 11, 1997

1.1 Opening business
The meeting was called to order at 8:30am. The Chair introduced the visitors at the meeting: Ron Silletti, OMC liaison; Tim Butler, new HP principal (replacing Reva Sacks); Wai Ming Wong, IBM alternate.

1.2 Meeting objectives (work plan: 97-010r2) and Chair’s report
The Chair summarized the meeting objectives as: continue processing of work plan, respond to the WG5 resolution on C Interoperability, review the conditional compilation (CoCo) specification, and plan for handling of F95 interpretation requests.

1.3 Adoption of agenda
A number of modifications were made to the draft agenda. See Appendix A for the final form of the agenda.

Motion: (Whitlock/Bierman) "Approve the agenda as amended." Unanimous consent (not done by roll call vote).

1.4 Approval of Meeting 141 minutes
Motion: (Dedo/no second) "Defer approval of the minutes until later in the meeting."
Motion: (Bierman/Whitlock) "Approve the minutes of meeting 141." Unanimous consent (not done by roll call vote).

1.5 Secretarial arrangements
Kurt Hirchert is acting secretary for this meeting in the place of John Cuthbertson since John was absent. The acting secretary for meeting 143 will be John Cuthbertson.

1.6 NCITS/OMC report
All formal votes at this meeting will still be roll call votes. The OMC will be asked if we can return to normal procedures at the next meeting. (Ron Silletti noted that he would recommend the return to normal voting procedures at the next OMC meeting.)

The Chair contacted the OMC on the question of whether or not an alternate must be from the same organization as the principal member. The OMC ruled that an alternate is not required to be a member of the same organization as the principal member.

The Chair also contacted the OMC on the question of whether or not a delegate to a WG5 meeting was required to be a member of the TAG. The OMC ruled that a delegate to a WG5 meeting is not required to be a member of the TAG (but such occurrences should be exceptional).

The Chair reminded the committee that there is a call out for volunteers for the J3 chair.

Ron Silletti, J3’s OMC liaison gave a report on the activities and status of OMC and other subcommittees under NCITS.
1.7 Other reports (ISO/WG5)

K. Bierman summarized the issues arising from the WG5 meeting in July in Vienna.

The key items from US point of view from the Vienna WG5 meeting are:
- Interval arithmetic can be a separate part of the standard
- Should J3 take over Interop with C work?

He also noted that so far as anyone knows, the F95 standard has not actually been published yet. It was claimed (not necessarily by Keith) that the document is not an official standard until it is actually physically published.

1.8 Treasurer’s report

The balance as of July 31 is $2093.28. Meeting 142 fee is $100, payable to "X3J3".

1.9 Beginning membership report

B. Runyan (Lahey) resigned.
J. Adams is new member; her alternate is W. Brainerd.
R. Maine is the alternate for M. Cohen.
J. Cuthbertson, R. Hendrickson, and K. Low are absent and not represented at this meeting.

There are now 19 members; majority is 10, quorum is 7.

1.10 Local arrangements

1.11 Comments from members

B. Kearfott: There is information available (brochures, etc.) on Lafayette, LA (site of meeting 144 - February 1998).

1.12 Discuss OpenGL binding

Preliminary discussion of what to do with propose F90 OpenGL binding.
R. Maine: Note that this is the first Fortran 90 binding.

1.13 Subgroup organization

Subgroup structure for this meeting was established to be:

JOR: primarily handling requirements R1, R2, R8, Minor Technical Enhancements (MTEs), and interpretation requests.
Whitlock (Head), Adams, Bleikamp, Butler, Dedo, and Rolison.

DATA: primarily handling requirements R3, R5, R6 and R7.
Cuthbertson (Head), Cohen (acting head this meeting), Hirchert, Maine, Martin, Snyder, and Wong.

INTERVAL1: Consider doing interval arithmetic as Part 4 of the standard.
Bierman, Kearfott, Warnock

INTERVAL2: Consider doing interval arithmetic as a module, possibly intrinsic.
Bleikamp (acting head), Meissner, Zongaro

INTEROP: An ad hoc subgroup set up to prepare comments for the WG5 ballot on the Interoperability Technical Report (TR) (combine comments from 97-187r1, 97-188r1)
Dedo and Zongaro.

Coco review: An ad hoc subgroup to review the Conditional Compilation document.  
Martin (head), Adams, Dedo

Note: guests are included in subgroup assignments.

Prior to recessing for the subgroup meetings, the committee discussed the location of meeting 145 (August 1998).

Straw vote: Where should meeting 145 (May 1998) be held?  
Terre Haute, IN (as previously planned) / Europe ("back to back" with WG5 meeting in Sweden) /  
undecided  8 / 2 / 5

The committee then recessed until 4:30pm for subgroup meetings.

1.14 Subgroup meetings

1.15 Subgroup reports

- 97-214 OpenGL
  - /JOR:  R1: derived type I/O (97-184); changes will be made and paper will come out later  
  R2:  asynch I/O (97-185); changes needed for copy-in/copy-out  
  M1: increased stmt length - nothing for this meeting.  
  M2: pointer intent (97-202, 204 (see in particular the last paragraph))  
  M4: pointer lower bounds (97-205); explains anomaly  
  M5: MIN/MAX for character (97-207); added some clarifications  
  M6: enhanced initialization expressions (97-208); added in list of intrinsic functions  
  M10: named scratch files (97-193)
  M15: renaming defined operators (from modules); nothing for this meeting
  M16: fix-up for defined assignments (97-197); as interp
  M17: enhance complex constants; nothing for this meeting
  /JOR will not bring forward anything on command lines this meeting
- /DATA:  R3: procedure pointers/variables (97-190, from last meeting); will have paper later
  R5: parameterized derived types; paper later primarily for edits
  R6: conceptually split into inheritance and polymorphism; feeling is this should be two individual items - the Chair might split them; subgroup will produce papers later;
  97-196 is background
  R7: constructors/destructors; will be revising 97-209
- /INTERVAL1: 97-199 is current summary of the state of interval arithmetic
- /INTERVAL2: no report; wish to talk with J. Wagener to get his ideas
- CoCo ad hoc: no report; looking for input from other members
- /EDIT: 97-206 (skip pointer bounds stuff), see MAXVAL/MINVAL comments/questions; need to formally approve the editorial changes the editor (R. Maine) made
- Summary: 202, 204 discussion  193 M10 vote
  205 M4 vote  199 discussion
  207 M5 vote  206 vote
  208 M6 vote  197 read and give comments to M. Cohen

2. Tuesday, August 12, 1997

The meeting was called to order at 8:30am.
2.1 Continuation of OpenGL binding discussion
Straw vote: How should J3 deal with this issue?
   Committee-approved report / Something less / Do nothing / Undecided 6 / 8 / 3 / 1

Straw vote: (Refinement of the above)
   Committee-approved report / Report that is not committee approved / Undecided 11 / 5 / 2

An ad hoc group was chartered to prepare report for committee consideration. R. Maine volunteered to head the group. Other members were H. Zongaro and L. Rolison.

2.2 Straw votes on Interoperability with C disposition
Straw vote: Should J3 accept responsibility for C Interoperability requirement?
   As TR / as F2000 "R" item / no at all / undecided 0 / 16 / 0 / 1

2.3 Required (R) items processing
   ■ Discussion of M2 (97-204)
      Paper identifies situation where feature can either be irregular in F2K or incompatible with F95.
      Paper was written to be irregular.

Straw vote: Which way? Irregular (as is) / incompatible (change) / undecided 2 / 9 / 7

Straw vote: Which way is unacceptable? As is / change / neither 5 / 3 / 9

   ■ M4 (97-205)
      Motion: (Whitlock/Maine) "Move paper 97-205."
      Roll Call vote #1 (Appendix F); passed unanimous.

   ■ M5 (97-207) The paper not presented because it was determined that additional work is needed.

   ■ M6 (97-208)
      Motion: (Whitlock/Meissner) "Move paper 97-208, as amended."
      Roll Call vote #2 (Appendix F); passed 15-1.

   ■ M10 (97-193)
      Motion: (Whitlock/Dedo) "Move paper 97-193, as amended."
      Amendment: (Maine/Meissner) "Strike the new note." (amendment was not accepted by the seconder)
      Roll Call vote #3 on the amendment to the main motion (Appendix F); passed 15-1.
      Roll Call vote #4 main motion (Appendix F); passed unanimous.

Straw vote: Should C. Dedo produce a paper on inquiring whether a unit is a scratch file?
   Yes / no / undecided 6 / 6 / 6

   ■ 97-206
      Straw vote: Should suggested change to the description of MAXVAL/MINVAL be made?
      Yes / no / undecided 11 / 0 / 6
      Motion: (Maine/Whitlock) "Approve edits in 97-206, including the change to MAXVAL/MINVAL."
      Roll Call vote #5 (Appendix F); passed unanimous.

Straw vote: Do you favor continuation of the "aggressive" editorial process described in 97-206?
   Yes / no / undecided 18 / 0 / 0
Discussion of “=” vs. “:=”
Straw vote: Two forms of assignment?
Never / Intervals only / All numeric types / undecided 5 / 5 / 4 / 3

Straw vote: If there are two forms, which should be default?
Interline optimization prohibited (as in current standard) / Interline optimization allowed (as in 97-199) / undecided 4 / 11 / 2

Straw vote: If there are two forms of assignment for all numeric data types, where should they be defined?
Part 1 / Part 4 / undecided 13 / 1 / 3

Discussion of allowing mixed-mode arithmetic between interval and real (but not complex)
Straw vote: Should expressions mixing intervals and intervals be allowed?
Yes / no / undecided 1 / 13 / 3

[ Not related to R item processing: Continued brief discussion about where to meet in August 1998. ]

2.4 /JOR report on Minor Technical Enhancements (MTE) status
No discussion.

The committee recessed until 4:30pm for subgroup meetings.

2.5 Subgroup meetings

2.5 Subgroup reports
Papers for potential consideration tomorrow:

- /INTERVAL1: 97-222; straw votes tomorrow
- /INTERVAL2: 97-170, 181 (both from meeting 141)
- /DATA: 97-218 procedure pointers; discussion tomorrow; vote later in week
- /JOR: 97-207 withdrawn; L. Meissner will work on it between meetings and bring back to meeting 143
  97-216 asynch I/O; vote tomorrow
  97-217 derived type I/O; spec & syntax; vote tomorrow
  97-202 see top of page 6 with respect to INTENT(IN); vote tomorrow
  97-204 discuss INTENT(OUT) of pointer dummy arg; vote

3. Wednesday, August 13, 1997
Meeting was called to order 8:30am.

3.1 Organization of interpretation request processing
The Chair created a new subgroup to handle interpretation requests. The subgroup consists of: S. Whitlock (head), R. Bleikamp, M. Cohen, L. Rolison, and H. Zongaro. S. Whitlock will continue to head /JOR but that subgroup’s work should decrease as /INTERP’s increases.

The Chair also noted that the /JOR subgroup would then consist of the following members: S. Whitlock (head), J. Adams, R. Bleikamp, T. Butler, and C. Dedo.

The Chair noted that an /INTEROP subgroup would also be formed consisting of: T. Butler, L. Rolison, and H. Zongaro (head of subgroup to be determined).
3.2 /INTERVAL2 tutorial (97-224)
A tutorial/summary was presented by R. Bleikamp on the /INTERVAL2 position paper 97-224.

3.3 /INTERVAL1 straw votes (97-222)
A discussion took place on multiple forms of assignment ("=" issues).

Straw vote: Limit ":=" to numeric types? Yes / no / undecided 1 / 11 / 5

Straw vote: What should we call these?
   Mathematical assignment & value assignment / symbolic assignment & value assignment /
   assignment & value assignment / undecided 3 / 5 / 3 / 6

Straw vote: Lazy evaluation allowed for ":="? Yes / no / undecided 10 / 1 / 3

Straw vote: How to control retrocompatibility?
   Processor dependent mechanism / pragma, possibly in comments /
   special USE / undecided 14 / 2 / 0 / 1

Straw vote: Provide additional means to request extra precision for a variable?
   Yes / no / undecided 0 / 17 / 0

Straw vote: Should standard be rewritten to allow inter-line optimization?
   Yes / no / undecided 12 / 0 / 5

3.4 Required items processing

■ Discussion of procedure pointers (97-218)
   Straw vote: Associate an external or dummy actual argument with procedure pointer?
      Yes / no / undecided 6 / 9 / 3

Straw vote: Support direction of 97-218? Yes / no / undecided 12 / 1 / 5

■ Discussion of derived type I/O (97-217)
   Correction to example on page 9: "1x," -> ".,"
   Motion: (Bleikamp/Whitlock) "Approve 97-217 as specifications and syntax for derived type I/O, as amended."
   Roll Call vote #6 (Appendix F); passed unanimous.

■ Discussion of asynchronous I/O (97-216)
   Motion: (Bleikamp/Whitlock) "Approve relevant parts of 97-216 as edits for asynchronous I/O, as amended."
   Roll Call vote #7 (Appendix F); passed unanimous.

   There was a suggestion to change the ASYNCHRONOUS specifier to ASYNCHRONOUS=init_expr in READ and WRITE statements but it was withdrawn for reconsideration by subgroup.

■ Discussion of edits to clean up concept of "subobject" (97-202)
   Motion: (Maine/Whitlock) "Approve paper 97-202, as amended."
   Roll Call vote #8 (Appendix F); passed unanimous.

■ Discussion of INTENT attribute for pointer arguments (97-204)
Motion: (Maine/Whitlock) "Approve paper 97-204, as amended."

Motion: (Zongaro/Hirchert) "Amend main motion to make the association status of INTENT(OUT) pointers initially undefined."

Roll Call vote #10 on amendment (Appendix F); failed 7-8.
Roll Call vote #9 on main motion (Appendix F); passed unanimous.

3.5 MTE processing

3.6 JOR report on Category B item status

The committee recessed until 4:30pm for subgroup meetings.

3.4 Subgroup meetings

3.5 Subgroup reports

- 97-219 vote tomorrow
- /JOR: 97-216 continuing to be discussed; paper tomorrow; vote Friday
- /DATA: 97-218r1 vote tomorrow
  97-196r1 tomorrow for Friday vote
- /INTERVAL1: 97-226 explains Sun's position on standardization of interval arithmetic and standardization in general; just read
- /INTEROP ad hoc: 97-223 comments for ballot; vote tomorrow
- /CoCo ad hoc: 97-221 discuss and vote tomorrow

4. Thursday, August 14, 1997

Meeting was called to order 8:30am.

4.1 Response to WG5 Resolution V4 (Interop with C) (97-219)

Motion: (Rolison/Maine) "Approve paper 97-219, as amended."
Roll Call vote #11 (Appendix F); passed unanimous.

4.2 Required items processing

Discussion of procedure pointers (97-218r1)

Motion: (Snyder/Hirchert) "Approve syntax as described in paper 97-218r1, as amended."
Roll Call vote #12 (Appendix F); passed unanimous.

4.3 Ballot comments for Interoperability with C TR ballot (97-223)

Motion: (Bierman/Zongaro) "Approve paper 97-223, as amended."
Roll Call vote #13 (Appendix F); passed unanimous.

4.4 Review of CoCo document; response to WG5 Resolution V7 (97-221)

Motion: (Martin/Adams) "Approve paper 97-221."
Roll Call vote #14 (Appendix F); passed 14-1.

4.5 Required items processing (problems with 97-216)

R. Bleikamp described the problems that have been uncovered in trying to describe association between a variable in an asynchronous I/O list and other variables, like those associated via storage association, etc. He feels a new term is needed to describe this pending I/O storage sequence (not necessarily
contiguous). And there are still problems specifying when the ASYNCHRONOUS attribute is needed. The /JOR subgroup is trying to define the class of variables that need the attribute (mostly problems with variables in other scoping units).

[ Off topic note: R. Maine noted that 97-007r1 will come out after this meeting and will be the base document for edits at the next meeting. ]

4.6 Straw votes on the inclusion and/or implementation of interval arithmetic

Straw vote: Which is the "technically better" way to incorporate interval arithmetic into Fortran?

- Intrinsic data type / derived type / undecided 5 / 9 / 3

Members only straw vote: Should we ask WG5 to withdraw the interval arithmetic requirement?

- Yes / no / undecided 8 / 3 / 3

Members only straw vote: Should we mention Part 4 in our recommendations to WG5? 4 / 8 / 2

The committee recessed until 4:30pm for subgroup meetings.

4.7 Subgroup meetings

4.8 Subgroup reports

- 97-228 vote tomorrow
- /INTERVAL1: 97-229 vote tomorrow
- /DATA: 97-209r1 discussion only; 97-230 vote tomorrow
- /JOR: 97-216r1 syntax and edits for asynch I/O; vote only on some parts
- 97-227r1 vote tomorrow

4.9 TAG meeting

5. Friday, August 15, 1997

Meeting was called to order 8:30am.

5.1 Approval of OpenGL review letter (97-221r1)

Motion: (Maine/Rolison) "Approve paper 97-22r1, as amended."
Roll Call vote #15 (Appendix F); passed unanimous.
R. Maine will forward the letter to the author of the OpenGL binding document.

5.2 Required items processing

- Single inheritance (97-196r1)
  Motion: (Cohen/Martin) "Approve paper 97-196r1, as amended, as draft syntax for single inheritance."
  Roll Call vote #16 (Appendix F); passed unanimous.

- Dynamic dispatch (procedure polymorphism) (97-230)
  Motion: (Cohen/Whitlock) "Approve paper 97-230, as amended, as specifications for polymorphism (dynamically bound procedures)."
  Roll Call vote #17 (Appendix F); passed unanimous.
5.3 J3 recommendation regarding interval arithmetic (97-228)

Motion: (Meissner/Bierman) "Approve paper 97-228 as the communication from J3 to WG5 regarding interval arithmetic."

Roll Call vote #19 (Appendix F); passed unanimous.

5.4 Interval arithmetic subprojects (97-229)

Motion: (Bierman/Kearfott) "Approve paper 97-229, as amended, as a possible set of subprojects to enable implementation of interval arithmetic."

Roll Call vote #20 (Appendix F); passed 11-1.

5.5 Closing business

5.6 Review of action items

None were outstanding, and no new action items were created.

5.7 Future meetings

Meeting 143: November 10-14, 1997 in Las Vegas

Meeting 144: February 16-20, 1998 in Lafayette, LA. Hotel Acadia. Reservation deadline is 2 Feb 1998. It was noted that Mardi Gras is the preceding week.

Meeting 145: May 25-29, 1998 in Terra Haute, IN.

Meeting 146: August 10-14, 1998 in either Seattle or San Diego (to be determined by meeting 143).

The Chair noted that he will not be seeking a third term. Since his term expires between the November and February meetings, it will fall to the Vice-Chair (or other volunteer) to lead the February meeting if no applicant for Chair is forthcoming. The Vice-Chair’s term expires March 1, 1998, and, like the Chair, the Vice-Chair also will not be seeking an additional term.

5.8 Treasurer’s report

The treasurer’s report was read. This meeting produced approximately $2300 in expenses and $2000 in income.

Motion: (Meissner/North) "Establish the meeting fee for the next meeting to be $50."

Roll Call vote #21 (Appendix F); passed unanimous.

5.9 Closing membership report

No members in danger of losing membership. J3 has 19 members.
5.10 Ideas for next meeting agenda
The Vice-Chair recorded some suggestions for agenda items for the next meeting. Other agenda items to be gathered between meetings.

5.11 Comments from members
None scribed.

Meeting adjourned 10:30am.
Appendix A

Agenda for J3 Meeting 142

1. Monday, August 11, 1997  8:30 am
   1.1 Opening business J. Wagener
   1.2 Meeting objectives (work plan: 97-010r2) and Chair’s report J. Wagener
   1.3 Adoption of agenda J. Wagener
   1.4 Approval of Meeting 141 minutes (97-192) J. Wagener
   1.5 Secretarial arrangements (if needed - K. Hirchert acting this meeting) J. Wagener
   1.6 NCITS/OMC report J. Wagener/R. Silletti
   1.7 Other reports (ISO/WG5) K. Bierman
   1.8 Treasurer’s report M. North
   1.9 Beginning membership report L. Rolison
   1.10 Local arrangements M. North
   1.11 Comments from members
   1.12 Discuss OpenGL binding R. Maine
   1.13 Subgroup organization J. Wagener
   1.14 Subgroup meetings
   1.15 Subgroup reports (4:30 pm)

2. Tuesday, August 12, 1997  8:30 am
   2.1 Continuation of OpenGL binding discussion R. Maine/J. Wagener
   2.2 Straw votes on Interoperability with C disposition J. Wagener
   2.3 Required (R) items processing Subgroup heads
       (97-010r2, 97-104r2, 97-174r1, 97-184, 97-185, 97-190, 97-194, 97-195, 97-196, 97-198, 97-199)
   2.4 /jor report on Minor Technical Enhancements (MTE) status S. Whitlock/Champs
   2.5 Subgroup meetings
   2.6 Subgroup reports (4:30 pm)

3. Wednesday, August 13, 1997  8:30 am
   3.1 Organization of interpretation request processing R. Bleikamp
   3.2 /intervals.2 tutorial (97-170, 97-181) R. Bleikamp
   3.3 /intervals.1 straw votes (97-222) B. Kearfott
   3.4 Required items processing (97-010r2, ... ) Subgroup heads
   3.5 MTE processing (time permitting) S. Whitlock/Champs
       (M.2 (97-204), M.6 (97-208), M.10 (97-193), M.16)
   3.6 /jor report on Category B item status S. Whitlock/Champs
       (97-151, 97-152, 97-153, 97-201, 97-203)
   3.7 Subgroup meetings
   3.8 Subgroup reports (4:30 pm) Subgroup heads

4. Thursday, August 14, 1997  8:30 am
   4.1 Response to WG5 Resolution V4 (Interop with C) (97-219) J. Wagener
   4.2 Required items processing (97-218r1) V. Snyder
   4.3 Ballot comments for Interop with C TR ballot (97-223) H. Zongaro
   4.4 Review of CoCo document; response to WG5 Resolution V7 (97-221) J. Martin
   4.5 Required items processing (problems with 97-216) R. Bleikamp
   4.6 Straw votes on the inclusion and/or implementation of interval arithmetic J. Wagener
   4.7 Subgroup meetings
   4.8 Subgroup reports (3:30 pm) Subgroup heads
   4.9 TAG meeting (4:00 pm) K. Bierman

5. Friday, August 15, 1997  8:30 am
   5.1 Approval of OpenGL review letter (97-221r1) R. Maine
   5.2 Required items processing (97-196r1, 97-230, 97-209r1, 97-216r1) Subgroup heads
   5.3 J3 recommendation regarding interval arithmetic J. Wagener
   5.4 Interval arithmetic subprojects K. Bierman
5.5 Closing business
5.6 Review of action items (if any)
5.7 Future meetings
5.8 Treasurer's report
5.9 Closing membership report
5.10 Ideas for next meeting agenda
5.11 Comments from members

Adjournment
# Appendix B

## J3 Register of Documents for 1997

### Standing Documents

<table>
<thead>
<tr>
<th>Paper Number</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>J3/97-000</td>
<td>Register of Documents</td>
</tr>
<tr>
<td>J3/97-001</td>
<td>Membership List</td>
</tr>
<tr>
<td>J3/97-002</td>
<td>(Unused)</td>
</tr>
<tr>
<td>J3/97-003</td>
<td>X3J3 Member References</td>
</tr>
<tr>
<td>J3/97-004</td>
<td>Journal of Development</td>
</tr>
<tr>
<td>J3/97-005r1</td>
<td>X3J3 Resolutions and Responses to WG5 Resolutions</td>
</tr>
<tr>
<td>J3/97-006</td>
<td>Defect Report</td>
</tr>
<tr>
<td>J3/97-007</td>
<td>Draft Revision to Fortran 95</td>
</tr>
<tr>
<td>J3/97-008</td>
<td>Editorial Considerations for Fortran 2000 Draft Revision</td>
</tr>
<tr>
<td>J3/97-009</td>
<td>Technical Proposals for Future Revisions</td>
</tr>
<tr>
<td>J3/97-010</td>
<td>J3 Fortran 2000 Work Plan</td>
</tr>
<tr>
<td>J3/97-011</td>
<td>97/100 are currently unassigned</td>
</tr>
</tbody>
</table>

### 1997 Papers

<table>
<thead>
<tr>
<th>Paper Number</th>
<th>Submitter</th>
<th>Date</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>J3/97-101</td>
<td>Bleikamp</td>
<td>970117</td>
<td>Functional Specification for Derived Type I/O (WG5-N1246)</td>
</tr>
<tr>
<td>J3/97-102</td>
<td>Bleikamp</td>
<td>970115</td>
<td>Syntax and Edits for Async I/O</td>
</tr>
<tr>
<td>J3/97-103</td>
<td>Maine</td>
<td>970124</td>
<td>Specs and Preliminary Syntax for R.3 Procedure Pointers</td>
</tr>
<tr>
<td>J3/97-104r2</td>
<td>Maine</td>
<td>970114</td>
<td>Specifications and Syntax for R.5 Parameterized Derived Types</td>
</tr>
<tr>
<td>J3/97-105</td>
<td>Kearfott</td>
<td>970118</td>
<td>Interval Arithmetic - The Data Type and Low-Level Operations</td>
</tr>
<tr>
<td>J3/97-106</td>
<td>Cuthbertson</td>
<td>970126</td>
<td>A Proposal for OO Features in Fortran (J3/96-172)</td>
</tr>
<tr>
<td>J3/97-107</td>
<td>Hennecke</td>
<td>961203</td>
<td>Interoperability with C and Binding to POSIX.1 (WG5-N1235)</td>
</tr>
<tr>
<td>J3/97-110</td>
<td>Dedo</td>
<td>970106</td>
<td>Command Line Arguments and Environmental Variables (WG5-N1242)</td>
</tr>
<tr>
<td>J3/97-111</td>
<td>Epstein</td>
<td>970112</td>
<td>Part III, Conditional Compilation</td>
</tr>
<tr>
<td>J3/97-112</td>
<td>Rollison</td>
<td>970117</td>
<td>cpp-Like Source Processing (CoCo)</td>
</tr>
<tr>
<td>J3/97-113</td>
<td>Kearfott</td>
<td>970124</td>
<td>Interval Intrinsic Functions</td>
</tr>
<tr>
<td>J3/97-114r2</td>
<td>Snyder</td>
<td>970122</td>
<td>Proposals for Discussion for Fortran 95, Fortran 2000, and Fortran 2005</td>
</tr>
<tr>
<td>J3/97-115</td>
<td>Dedo</td>
<td>970124</td>
<td>Strategic Planning Assumptions for Fortran 2000</td>
</tr>
<tr>
<td>J3/97-116</td>
<td>Dedo</td>
<td>970124</td>
<td>General Planning Considerations for Fortran 2000</td>
</tr>
<tr>
<td>J3/97-117</td>
<td>Clodius</td>
<td>970207</td>
<td>Parametric Procedures and Modules</td>
</tr>
<tr>
<td>J3/97-118</td>
<td>Clodius</td>
<td>970207</td>
<td>Example Syntaxes for Parametric Procedures and Modules</td>
</tr>
<tr>
<td>J3/97-119</td>
<td>Clodius</td>
<td>970207</td>
<td>Critical Issues for Object-Oriented Fortran</td>
</tr>
<tr>
<td>J3/97-120</td>
<td>Snyder</td>
<td>970210</td>
<td>Extended TYPE and SUBTYPE Notation for Fortran</td>
</tr>
<tr>
<td>J3/97-121</td>
<td>Snyder</td>
<td>970210</td>
<td>Impact of Uniform Syntax on Parallel Computation</td>
</tr>
<tr>
<td>J3/97-122</td>
<td>Snyder</td>
<td>970210</td>
<td>Comments on SC22/WG5/N1188: Class Inheritance and Dynamic Binding Polymorphism in Fortran 2000</td>
</tr>
<tr>
<td>J3/97-123</td>
<td>Snyder</td>
<td>970210</td>
<td>Alternative to N1237 and 97-108</td>
</tr>
<tr>
<td>J3/97-124</td>
<td>Cuthbertson</td>
<td>970211</td>
<td>/Data Category-1 Requirements</td>
</tr>
<tr>
<td>J3/97-125</td>
<td>Bierman /HPC97211</td>
<td>970211</td>
<td>Assertions</td>
</tr>
<tr>
<td>J3/97-126</td>
<td>Bierman /HPC97211</td>
<td>970211</td>
<td>IEEE I/O</td>
</tr>
<tr>
<td>J3/97-127</td>
<td>Zongaro /HPC97211</td>
<td>970211</td>
<td>Pointer Association Classes</td>
</tr>
<tr>
<td>J3/97-128</td>
<td>Whitlock/MISC 970211/MISCellaneous Requirements for F2000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>J3/97-129r1</td>
<td>van Waveren 970211</td>
<td>970211</td>
<td>Volatile Requirement</td>
</tr>
<tr>
<td>J3/97-130</td>
<td>Ellis</td>
<td>970211</td>
<td>Objection to the Proposed Cancellation of Project 1.24.02.09 CD of GKS Fortran Binding</td>
</tr>
<tr>
<td>J3/97-131</td>
<td>Cohen</td>
<td>970211</td>
<td>Single Inheritance Model</td>
</tr>
<tr>
<td>J3/97-132</td>
<td>Cuthbertson 970211</td>
<td>970211</td>
<td>/Data Category-2 Requirements</td>
</tr>
<tr>
<td>J3/97-133</td>
<td>Reid</td>
<td>970212</td>
<td>Schedule for Fortran 2000</td>
</tr>
<tr>
<td>J3/97-134</td>
<td>Reid</td>
<td>970212</td>
<td>Strategic Plan for Fortran Standardization (WG5-N1151)</td>
</tr>
<tr>
<td>J3/97-135</td>
<td>Hennecke</td>
<td>970212</td>
<td>Required Changes to N1237 (97-108)</td>
</tr>
</tbody>
</table>
J3/97-136 Kearfott 970213 Interval Relational Operators
J3/97-137r1 Dedo 970213 Fortran-Like CoCo Scribe Notes (WG5-N1266)
J3/97-138r1 Ellis 970213 Content of Fortran 2000
J3/97-139 Ellis 970213 Result of SC22 Ballot on Technical Corrigendum 3 to IS 1539:1991
J3/97-140r1 Wagener 970213 Requirements Priorities
J3/97-141 Bierman 970213 Interval Intrinsic (Exceptions)
J3/97-142r2 Muxworthy 970213 Resolutions of the WG5/J3 Joint Meeting on February 10 to 14, 1997, in Las Vegas, Nevada
J3/97-143 Hendrickson 970213 Mixed Mode Interval Calculations Prohibited
J3/97-144 Bleikamp 970213 Copyin/Copyout and Async I/O
J3/97-145 Cohen 970213 Derived Type Encapsulation
J3/97-146 Reid 970213 Internationalization
J3/97-147r1 Maine 970213 Specifications and Preliminary Syntax for R.3, Procedure Pointers (97-103)
J3/97-148 Ellis 970214 Fortran 2000 Numbers for J3 Papers
J3/97-149 North 970214 Meeting 140 Treasurer's Report
J3/97-150 Meissner 970214 Meeting 140 Minutes
J3/97-151r1 Dedo 970221 Command Line Arguments and Environment Variables - Technical Specification
J3/97-152 Dedo 970221 Command Line Arguments and Environment Variables - Questions and Answers
J3/97-153 Maine 970225 Proposed Specs and Syntax for System Arguments
J3/97-154 Hennecke 970313 Interoperability of Fortran and C (First PDTR) (WG5-N1277)
J3/97-155 Kearfott 970407 Proposed Syntax for Interval Intrinsic Functions
J3/97-156 Meissner 970409 Syntax and Edits for M5: Extend Max and Min Intrinsics to Character Type
J3/97-157 Meissner 970409 Syntax and Edits for M6: Extend Initialization Expressions
J3/97-158 Bierman 970410 Compile Time Optimization of Point and Interval Expressions
J3/97-159 Snyder 970415 Access to Status Error Messages
J3/97-160 Dedo 970419 SYSTEM_CLOCK Fixup
J3/97-161 Dedo 970419 Lower Case and Mixed Case Syntax Elements
J3/97-162 Dedo 970419 Named Scratch Files
J3/97-163 Dedo 970424 Command Line Arguments and Environment Variables - Ideas for Straw Votes
J3/97-164 Hendrickson 970424 Preliminary Module Proposal for Interval Arithmetic
J3/97-165 Bierman 970425 RFI's from Robert Corbett
J3/97-166 Wagener 970429 Annual Report
J3/97-167 Snyder 970505 Comment on 97-101 - Functional Specifications for Derived Type I/O
J3/97-168 Snyder 970505 Comment on 97-102 - Syntax and Edits for Derived Type I/O
J3/97-169 Maine 970507 Procedure Variables
J3/97-170 Kearfott 970513 Properties of a good Interval Arithmetic Standard
J3/97-171 Kearfott 970513 Additional Thoughts on Interval Arithmetic
J3/97-172 Kearfott 970513 Handling IEEE 754 Invalid Operation Exceptions in Real Interval Arithmetic
J3/97-173 Kearfott 970513 On Handling of IEEE 754 Exceptions in Interval Relational Operators and Intrinsics
J3/97-174r1 Maine 970513 Procedure Variable/Pointer Examples
J3/97-175r1 Kearfott 970513 Justification for Interval Intrinsic Operators
J3/97-176 Kearfott 970513 Interval Exceptions on Non-IEEE Machines
J3/97-177 /JOR 970513 DT I/O and Async I/O Direction
J3/97-179 Wagener 970514 ISO/IEC JTC 1 N 4564 - Distribution of Electronic ISO Documents
J3/97-180 Kearfott 970514 Direction for Optimal Intervals
J3/97-181 Hendrickson 970514 Module Approach to Intervals
J3/97-182r1 Cohen 970514 Dynamic Binding and Polymorphism
J3/97-183r2 Cohen 970514 Single Inheritance Model - Type Extension
J3/97-184 Bleikamp 970514 Revised Spec. for Derived Type I/O
J3/97-185 Bleikamp 970514 Revised Syntax and Partial Edits for Async I/O
J3/97-186r1 Bierman 970515 Named Expressions
J3/97-187r1 Zongaro 970515 U.S. Comments on Interoperability PDTR Ballot
J3/97-188r1 Zongaro 970515 U.S. Comments on Interoperability PDTR Ballot (III)
J3/97-189 Hirchert 970515 Comments on C Interoperability Report
J3/97-190 Hirchert 970515 Procedure Identities: Variables, Pointers, or Something
Appendix C
Future Meetings and Distribution/Secretarial Assignments

Meeting conventions:

- 4 meetings per year
- attempt to schedule second full week of month
- attempt to schedule meeting back to back with WG5 annual meeting

Future meeting schedule:

143 November 10-14, 1997 in Las Vegas, NV (M. North, acting host)
   Pre-meeting distribution deadline: October 6, 1997
   Pre-meeting distribution: Electronic
   Post-meeting distribution: Electronic (K. Hirchert, if needed)
   Acting secretary: J. Cuthbertson (make-up from meeting 142)

144 February 16-20, 1998 in Lafayette, LA (B. Kearfott, host)
   Pre-meeting distribution deadline: January 12, 1998
   Pre-meeting distribution: Electronic
   Post-meeting distribution: Electronic (L. Rolison, if needed)
   Acting secretary: C. Dedo

145 May 25-29, 1998 in Terre Haute, IN (M. North, host)
   Pre-meeting distribution deadline: April 20, 1998
   Pre-meeting distribution: Electronic
   Post-meeting distribution: Electronic (T. Butler, if needed)
   Acting secretary: M. Cohen

146 Aug 10-14, 1997 in either Seattle or San Diego (no acting host yet)
   Pre-meeting distribution deadline: July 6, 1997
   Pre-meeting distribution: Electronic
   Post-meeting distribution: Electronic (B. Smith, if needed)
   Acting secretary: D. Hendrickson

Committee materials availability:

Agenda and meeting notice available.
   REQUIREMENT: Distribution 4 Weeks prior to meeting (SD-2 4.3.3)

Pre and post meeting distribution available via ftp or the World Wide Web*.
   REQUIREMENT: Distribution of Pre-Meeting 2 Weeks before meeting (documents for action - two week rule: SD-2 4.3.4:1)

* ftp addresses: ftp.ncsa.uiuc.edu/x3j3 or ftp.dfrc.nasa.gov/pub/x3j3/ncsa
Web address: http://www.ionet.net/~jwagener/j3

Minutes available at the J3 ftp site.
   REQUIREMENT: Distribution 4 Weeks Following Meeting Adjournment (SD-2 4.2.5, 4.3.6)
Appendix D
Committee Organization

D.1 Officers

Chair                  J. Wagener
Vice Chair             L. Rolison
International Rep.    K. Bierman
Secretary             Open (rotating: K. Hirchert acting for this meeting)
Treasurer             M. North
Librarian             M. North
Editor                R. Maine (WG5 appointment)
Maintenance           R. Bleikamp
Vocabulary Rep.       K. Hirchert

D.2 Subgroups

Due to the changing nature of work that needs to be accomplished as the committee moves into development of the Fortran 2000 standard, work groups generally vary from meeting to meeting as the work load dictates. The Chair suggests work groups prior to each meeting and then the membership and responsibilities of each work group are fine-tuned (usually dependent on the actual attendance) the morning of the first meeting day. As of the close of this meeting, the standing work groups are:

JOR: Responsible for the development and maintenance of the Journal of Development (standing document 004), handling requirements R1, R2, part of R4, R8, and MTEs.
  S. Whitlock (Head), R. Bleikamp, C. Dedo, L. Rolison, D. Hendrickson, L. Meissner

DATA Responsible for language design topics related to data and data structures such as procedure variables and parameterized derived types (primarily requirements R3, R5, R6 and R7)
  J. Cuthbertson (Head), M. Cohen (acting head at this meeting), K. Hirchert, K. Low, J. Martin, V. Snyder

INTERVAL
  Responsible for part of R4 (groundwork needed for introducing interval arithmetic effectively into Fortran).
  K. Bierman (Head), B. Kearfott, T. Warnock.

INTEROP Responsible for R9 (interoperability with C).
  L. Rolison, T. Butler, H. Zongaro.

INTERP Responsible for evaluating interpretation requests and for providing responses to the requests (standing document 006), possibly calling on other committee members to assist in their areas of expertise.
  S. Whitlock (Head), R. Bleikamp, M. Cohen, L. Rolison, H. Zongaro

Note: Only members of the committee are included in this listing. Guests at the meeting may also be assigned to the subgroups. The complete set of people for each subgroup for this meeting is listed in section 1.13.
## Appendix E

### Membership Summary

J3 Meeting Attendance (Principal Members)

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
<th>Location</th>
<th>Date</th>
<th>Presence</th>
<th>Voting</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Adams, Jeanne</td>
<td>self</td>
<td>TX</td>
<td>01</td>
<td>V</td>
<td>P</td>
</tr>
<tr>
<td>2. Bierman, Keith</td>
<td>Sun</td>
<td>HI</td>
<td>04</td>
<td>V</td>
<td>P</td>
</tr>
<tr>
<td>3. Butler, Tim</td>
<td>HP</td>
<td>CO</td>
<td>08</td>
<td>V</td>
<td>P</td>
</tr>
<tr>
<td>4. Cohen, Malcolm</td>
<td>EPC</td>
<td>CA</td>
<td>11</td>
<td>V</td>
<td>P</td>
</tr>
<tr>
<td>5. Cuthbertson, John</td>
<td>self</td>
<td>NV</td>
<td>02</td>
<td>V</td>
<td>P</td>
</tr>
<tr>
<td>6. Dedo, Craig</td>
<td>V</td>
<td>NV</td>
<td>05</td>
<td>V</td>
<td>P</td>
</tr>
<tr>
<td>7. Hendrickson, Dick</td>
<td>self</td>
<td>NV</td>
<td>08</td>
<td>V</td>
<td>P</td>
</tr>
<tr>
<td>9. Kearsott, R. Baker</td>
<td>self</td>
<td>NV</td>
<td>02</td>
<td>V</td>
<td>P</td>
</tr>
<tr>
<td>10. Low, Keng</td>
<td>Salford</td>
<td>NV</td>
<td>05</td>
<td>V</td>
<td>P</td>
</tr>
<tr>
<td>11. Meissner, Loren</td>
<td>self</td>
<td>NV</td>
<td>08</td>
<td>V</td>
<td>P</td>
</tr>
<tr>
<td>12. North, Mallory</td>
<td>Rose-Hulman</td>
<td>NV</td>
<td>11</td>
<td>V</td>
<td>P</td>
</tr>
<tr>
<td>13. Rolison, Larry</td>
<td>SGI/CR</td>
<td>NV</td>
<td>02</td>
<td>V</td>
<td>P</td>
</tr>
<tr>
<td>14. Smith, Brian</td>
<td>UNM</td>
<td>NV</td>
<td>05</td>
<td>V</td>
<td>P</td>
</tr>
<tr>
<td>15. Snyder, Van</td>
<td>Caltech</td>
<td>NV</td>
<td>08</td>
<td>V</td>
<td>P</td>
</tr>
<tr>
<td>16. Wagener, Jerry</td>
<td>Zvyvogs</td>
<td>NV</td>
<td>11</td>
<td>V</td>
<td>P</td>
</tr>
<tr>
<td>17. Warnock, Tony</td>
<td>LANL</td>
<td>NV</td>
<td>02</td>
<td>V</td>
<td>P</td>
</tr>
<tr>
<td>18. Whitlock, Stan</td>
<td>DEC</td>
<td>NV</td>
<td>05</td>
<td>V</td>
<td>P</td>
</tr>
<tr>
<td>19. Zongaro, Henry</td>
<td>IBM</td>
<td>NV</td>
<td>08</td>
<td>V</td>
<td>P</td>
</tr>
</tbody>
</table>

V  present and voting  
R  absent but represented  
RP represented by a previous member  
A  absent and not represented  
P  present but not voting  
E  excused  
Q  resigned  
** missed 2 of last 3 meetings  
*** LOST membership

Total Membership at beginning of Meeting: 19  
Majority: 10  
Quorum: 7  
Total Membership at end of Meeting: 19  
Total Members Attended or Represented: 17  
Total Attendees: 20  
(the 16 members listed above plus R. Bleikamp, R. Maine, R. Silletti, and W. Wong - see below)

Changes since Meeting 141:  
Resigned: B. Runyan  
New members: J. Adams (named Walt Brainerd as her alternate)
Other changes:
   T. Butler replaced R. Sacks as the representative from HP.
   M. Cohen named R. Maine to be his alternate.

Alternates representing principals at meeting: J. Martin (for B. Smith)

Non-voting alternates present: R. Bleikamp (alternate to T. Butler), R. Maine (alternate to M. Cohen), W. Wong (alternate to H. Zongaro)

Prospective members (observer meeting): None

Visitors at meeting: Ron Silletti (IBM, OMC)
Appendix F

Notes:
■ * indicates the person was "out of the room" for the vote
■ A blank cell indicates the member was absent for that vote.
■ J. Martin (alternate) voted for principal member B. Smith.

Table 1: Roll Call Vote Register 1-10

<table>
<thead>
<tr>
<th>Name</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. J. Adams</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>2. K. Bierman</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>3. T. Butler</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>4. M. Cohen</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>5. J. Cuthbertson</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. C. Dedo</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>7. R. Hendrickson</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. K. Hirchert</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>9. R. B. Kearfott</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>10. K. Low</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. L. Meissner</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>12. M. North</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. L. Rolison</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>*</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>14. J. Martin</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>15. V. Snyder</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>16. J. Wagener</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>17. T. Warnock</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>18. S. Whitlock</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. H. Zongaro</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
</tr>
</tbody>
</table>

The motions are as follows:
1. (Whitlock/Maine) "Move paper 97-205."
2. (Whitlock/Meissner) "Move paper 97-208, as amended."
3. (Maine/Meissner) "Strike the new note."
4. (Whitlock/Dedo) "Move paper 97-193, as amended."
5. (Maine/Whitlock) "Approve edits in 97-206, including the change to MAXVAL/MINVAL."
6. (Bleikamp/Whitlock) "Approve 97-217 as specifications and syntax for derived type I/O, as amended."
7. (Bleikamp/Whitlock) "Approve relevant parts of 97-216 as edits for asynchronous I/O, as amended.**No vote; motion withdrawn.**
8. (Maine/Whitlock) "Approve paper 97-202, as amended."
9. (Maine/Whitlock) "Approve paper 97-204, as amended."
10. (Zongaro/Hirchert) "Amend main motion to make the association status of INTENT(OUT) pointers initially undefined."

### Table 2: Roll Call Vote Register 11-21

<table>
<thead>
<tr>
<th>Name</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
<th>21</th>
</tr>
</thead>
<tbody>
<tr>
<td>J. Adams</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>K. Bierman</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>T. Butler</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>M. Cohen</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>J. Cuthbertson</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. Dedo</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>R. Hendrickson</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K. Hirchert</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>R. B. Kearfott</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>K. Low</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L. Meissner</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>M. North</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>L. Rolison</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>J. Martin</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>V. Snyder</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>J. Wagener</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>T. Warnock</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>S. Whitlock</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>H. Zongaro</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>
The motions are as follows:
11. (Rolison/Maine) "Approve paper 97-219, as amended."
12. (Snyder/Hirschert) "Approve syntax as described in paper 97-218r1, as amended."
13. (Bierman/Zongaro) "Approve paper 97-223, as amended."
14. (Martin/Adams) "Approve paper 97-221."
15. (Maine/Rolison) "Approve paper 97-22r1, as amended."
16. (Cohen/Martin) "Approve paper 97-196r1, as amended, as draft syntax for single inheritance."
17. (Cohen/Whitlock) "Approve paper 97-230, as amended, as specifications for polymorphism (dynamically bound procedures). "
18. (Bleikamp/Dedo) "Approve relevant portions of paper 97-216r1, as amended, as edits for asynchronous I/O."
19. (Meissner/Bierman) "Approve paper 97-228 as the communication from J3 to WG5 regarding interval arithmetic."
20. (Bierman/Kearfott) "Approve paper 97-229, as amended, as a possible set of subprojects to enable a module-based implementation of interval arithmetic."
21. (Meissner/North) "Establish the meeting fee to be $50 until further notice."
Appendix G
The Numerical Algorithms Group Ltd
Wilkinson House
Oxford OX2 8DR
ENGLAND

Email: malcolm@nag.co.uk
Phone: 44 (1865) 51 1245
Fax: 44 (1865) 31 0139
Alternate: Richard Maine

-------------------------
John S. Cuthbertson
Edinburgh Portable Compilers, Ltd.
17 Alva Street
Edinburgh EH2 4PH
SCOTLAND

Email: johnc@epc.co.uk
Phone: 011 44 131 225 6262
Fax: 011 44 131 225 6644
Alternate: Graham Barber

-------------------------
Craig T. Dedo
17130 W. Burleigh Place
Brookfield WI 53005

Email: Craig.Dedo@mixcom.com
Phone: (414) 783-5869

-------------------------
Richard A. Hendrickson
50 Melbourne Ave SE
Minneapolis MN 55414

Email: dick.hendrickson@worldnet.att.net
Phone: (612) 378-9694

-------------------------
Kurt W. Hirchert

-------------------------
Kurt W. Hirchert
University of Illinois
152 Computing Applications Bldg.
605 East Springfield Avenue
Champaign, IL 61820

Email: hirchert@ncsa.uiuc.edu
Phone: (217) 333-8093
Fax: (217) 244-2909
Alternate: Murray Freeman

-------------------------
R. Baker Kearfott
Department of Mathematics
University of Southwestern Louisiana
U.S.L. Box 4-1010
Lafayette, LA 70504-1010

Email: rbk@usl.edu
Phone: (318) 482-5270
Fax: (318) 482-5346

-------------------------
Keng Low
Salford Software Ltd
Adelphi House
Adelphi Street
Salford M3 6EN
ENGLAND

Email: keng@salford-software.com
Phone: +44 161 834 2454
Fax: +44 161 834 2148
Alternate: Ewan Cunningham

-------------------------
Loren P. Meissner
2 Kerr Avenue
Kensington, CA 94707

Email: lpmeissner@msn.com
Phone: (510) 524-5227
Dr. C. Mallory North, Jr.
Professor of Mechanical Engineering
Rose-Hulman Institute of Technology
5500 Wabash Ave.
Campus Box 150
Terre Haute IN 47803
Email: Charles.M.North@Rose-Hulman.Edu
Phone: (812) 877-8216
Fax: (812) 877-8025
Alternate: Patricia Brackin

Larry Rolison
Cray Research
A Silicon Graphics Company
655F Lone Oak Dr.
Eagan MN 55121
Email: lr@cray.com
Phone: (612) 683-5807
Fax: (612) 683-5307
Alternate: Jon Steidel

Brian T. Smith
University of New Mexico
Computer Science Dept.
339 Farris Engineering Center
Albuquerque NM 87131
Email: bsmith@arc.unm.edu
Phone: (505) 277-5500
Fax: (505) 277-0813
Alternate: Jeanne T. Martin

Van Snyder
Jet Propulsion Laboratory
4800 Oak Grove Drive

Mail Stop 300-323
Pasadena CA 91109-8099
Phone: (818) 354-6271
Fax: (818) 393-6720
Alternate: Rex Page

Jerrold L. Wagener
Zyvogs
6 East 5th
Suite 308
Tulsa OK 74103
Email: jwagener@ionet.net
Phone: (918) 592-3023
Fax: (918) 592-3023
Alternate: Alex Marusak

IBM Canada Ltd.
3T/123/1150/TOR
1150 Eglinton Avenue East
North York Ontario M3C 1H7
CANADA
Email: zongaro@vnet.ibm.com
Phone: (416) 448-6044
Fax: (416) 448-6057
Alternate: Wai Ming Wong

Graham Barber
Edinburgh Portable Compilers, Ltd.
17 Alva Street
Edinburgh EH2 4PH
SCOTLAND
Email: gra@epc.co.uk
Phone: 44 131 225 6262
Fax: 44 131 225 6644
Alternate to: John S. Cuthbertson

Richard Bleikamp
Convex Technology Center of Hewlett-Packard Company
300 Waterview Parkway
P. O. Box 833851
Richardson TX 75083-3851
Email: bleikamp@convex.com
Phone: (214) 497-4133
Fax: (214) 497-4500
Alternate to: Tim Butler

Dr. Patricia Brackin
Rose-Hulman Institute of Technology
Dept. of Mechanical Engineering
5500 Wabash Ave.
Campus Box 165
Walter S. Brainerd  
Unicomp Inc.  
1874 San Bernardino Ave NE  
Albuquerque NM 87122  
Email: walt@fortran.com  
Phone: (505) 275-0800  
Fax: (505) 856-1501  
Alternate to: Malcolm Cohen  
-------------------------  
Murray F. Freeman  
FOSI Limited  
P.O. Box 184  
Paupack PA 18451-0184  
Email: x3t2mf@delphi.com  
Phone: (717) 857-0658  
Fax: (717) 857-1378  
Alternate to: Brian Smith  
-------------------------  
Richard Maine  
NASA Dryden  
M/S D-2033  
P.O. Box 273  
Edwards CA 93523  
Alternate to: Larry Rolison  
-------------------------  
Jeanne T. Martin  
Lawrence Livermore Natl. Lab.  
7000 East Avenue  
P. O. Box 808  
L-561  
Livermore CA 94550  
-------------------------  
Rex L. Page  
School of Computer Science  
University of Oklahoma  
200 Felgar Street - Room 114  
Norman OK 73109  
Alternate to: Jerry Wagener  
-------------------------  
Jon Steidel  
Cray Research  
A Silicon Graphics Company  
655F Lone Oak Drive  
Eagan MN 55121  
-------------------------  
Email: jls@cray.com  
-------------------------  
OBSERVERS  
-------------------------  
David Mattoon  
1547 North Sheridan Road  
Lake Forest IL 60045  
Email: dmattoon@ix.netcom.com  
Phone: (312) 567-4716  
-------------------------  
Ivor R. Philips  
The Boeing Company  
P.O. Box 3707  
#MS 7L_22  
Seattle WA 98124-2207  
Email: ivor.r.philips@boeing.com  
Phone: (206) 865-3522  
-------------------------  
Michael Ross  
Intel Corp.  
JF3-363  
2111 NE 25th Ave  
Hillsboro OR 97124-7902
Email: Michael_L_Ross@ccm.jf.intel.com
Phone: (503) 264-0567
Fax: (503) 264-7902

-------------------------
OMC Secretary
ITIC
Suite 200
1250 Eye Street NW
Washington D.C. 20005
Email: x3sec@itic.nw.dc.us
Phone: (202) 626-5740
Fax: (202) 628-2829

-------------------------
LIAISONS
-------------------------
Miles Ellis
Director:
Educational Technology Resources Centre
University of Oxford
37-41 Wellington Square
Oxford OX1 2JF
ENGLAND
Email: Miles.Ellis@etrc.ox.ac.uk
Phone: +44 1865 270528
Fax: +44 1865 270527

[RW5 Convenor]
-------------------------
David Epstein
Imagine1
P.O. Box 250
Sweet Home OR 97386
Email: david@imagine1.com
Phone: (541) 383-4848

[Conditional Compilation]
-------------------------
Jeffrey Fried
Informix, Inc.
4100 Bohannon Drive
Menlo Park CA 94025
Email: jfried@informix.com
Phone: (415) 926-6893

Liaison from: X3H2 Database
-------------------------
Michael Hennecke
University of Karlsruhe
Computing Center (G20.21 R210) Zirkel 2
P.O. Box 69 80
Karlsruhe D-76128
GERMANY
Email: hennecke@rz.uni-karlsruhe.de
Phone: 49 721 608-4862
Fax: 49 721 32550

[Parameterized Derived Types]
-------------------------
Rochelle Lauer
Director High Energy Physics Computing Facility
Yale University, Physics Department
512 Gibbs Lab
260 Whitney Avenue
P.O. Box 208121
New Haven CT 06520-8121
Email: lauer@yaph2.physics.yale.edu
Phone: (203) 432-3366
Fax: (203) 432-6125

Liaison from: DECUS
-------------------------
Ron Silletti
IBM Corporation
500 Columbus Avenue
Thornwood NY 10594
Email: rsilletti@us.ibm.com
Phone: 44 (131) 650-6552
Fax: 44 (131) 650-3305

[Parameterized Derived Types]
-------------------------
Hiroshi Matsuo
Software Works
Hitachi Ltd.

-------------------------
J. Steve Morgan
The University of Liverpool
P.O. Box 147
Liverpool L69 3BX
ENGLAND
Email: j.s.morgan@liverpool.ac.uk
Phone: 44 (151) 794-3746
Fax: 44 (151) 794-3759

Liaison from: BSI
-------------------------
Jeffrey Fried
Informix, Inc.
4100 Bohannon Drive
Menlo Park CA 94025
Email: jfried@informix.com
Phone: 011 81 45 824-2311

Liaison from: WGS/Japan
-------------------------
J. Steve Morgan
The University of Liverpool
P.O. Box 147
Liverpool L69 3BX
ENGLAND
Email: j.s.morgan@liverpool.ac.uk
Phone: 44 (151) 794-3746
Fax: 44 (151) 794-3759

-------------------------
David T. Muxworthy
EUCS
JCMB
King’s Buildings
Edinburgh EH9 3JZ
SCOTLAND
Email: d.muxworthy@ed.ac.uk
Phone: 44 (131) 650-3305
Fax: 44 (131) 650-6552

Liaison from: BSI
-------------------------
Ron Silletti
IBM Corporation
500 Columbus Avenue
Thornwood NY 10594
Email: rsilletti@us.ibm.com
Phone: 44 (131) 650-6552
Fax: 44 (131) 650-3305

[Parameterized Derived Types]
-------------------------
Hiroshi Matsuo
Software Works
Hitachi Ltd.

-------------------------
Ron Silletti
IBM Corporation
500 Columbus Avenue
Thornwood NY 10594
Email: rsilletti@us.ibm.com
Phone: 44 (131) 650-6552
Fax: 44 (131) 650-3305

Liaison from: OMC
-------------------------
UNOFFICIAL OBSERVERS
-------------------------
Joanne Brixius