

ISO/IEC JTC1/SC22/WG9 N 643

Draft Minutes

Meeting #86 of ISO/IEC JTC 1/SC 22/WG 9

Thursday, 12 October 2023

Meeting #86 of WG 9 was held Thursday, 12 October 2023. The meeting began at 16:30 UTC. The meeting was strictly virtual.

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Recess

Opening Orders

Call to Order

Appointment of Meeting Secretary

ISO Code of Conduct (CoC) review

https://standards.incits.org/apps/group_public/document.php?document_id=138721

Welcome and Administrative Arrangements

Approval of the [Agenda](#)

Approval of [N639](#): Meeting #85 Minutes.

Reports and Introductions

Austria – Johann Blieberger (HoD)

Canada – Brad Moore (HoD)

Finland – Niklas Holsti (HoD)

Italy – Tullio Vardanega (HoD)

Portugal – Luis Miguel Pinho (HoD)

Spain – Alejandro Mosteo (HoD)

Switzerland – Nicholas Kaethner (HoD)

UK – Jeff Cousins (HoD)

USA – Tucker Taft (HoD)

Guests – ?

[AGENDA](#)

Liaison Reports and Introductions

Ada Europe – Dirk Craeynest

Ada-Europe would like to inform the WG9 convener that its liaison delegation to Meeting #86, held online on Thursday 12 October 2023, will consist of Erhard Ploedereder and Dirk Craeynest.

As mentioned in our previous report, mid June the Ada-Europe conference (AEiC 2023) [1] took place in Lisbon, Portugal. Attendance figures are slowly returning to pre-COVID figures, and the conference balance closed with a modest surplus.

[1] <http://www.ada-europe.org/conference2023>

Preparations continue for the next Ada-Europe conference (AEiC 2024): it will be held in Barcelona, Spain, from 11 to 14 June, in close collaboration with BSC, the Barcelona Supercomputing Center. The conference web-site is online [2], and the Call for Contributions was distributed: deadlines are 15 January 2024 for the Journal-track and 26 February 2024 for all other submissions.

We reconfirm our usual hospitality agreement for WG9, ARG, HRG, and WG23, to co-locate their meetings at our conference.

[2] <http://www.ada-europe.org/conference2024>

The production of the Ada User Journal (AUJ) [3] continues as planned. Starting with this year's volume (Vol.44), readers of the AUJ have the opportunity to opt in for a digital-only distribution of new issues.

The joint publication of contents in the AUJ and SIGAda's Ada Letters continues as planned. The process for merging is not proceeding as swiftly as expected, and depends on SIGAda's future configuration.

[3] <http://www.ada-europe.org/auj>

Ada-Europe announced that the Ada 2022 Language Reference Manual will be published by Springer in its LNCS series later this year [4]. This work is ongoing: currently Springer is reviewing a sample of LRM material that was adapted to fit their production requirements.

[4] <http://www.ada-europe.org/press/20230614-Ada2022-Springer.pdf>

SIGAda – Tucker Taft

SIGAda is on the cusp of disappearing. Might become a technical committee within SIGPlan.

WG 23 – Erhard Plöedereder

Since my last report to WG9, WG23 has continued its schedule of weekly 2- or 3-hour conference calls with the equivalent of rapporteur groups, focusing on unfinished Parts of TR 24227 in turn. These are C++ (working with WG21/SG12), Fortran (working with a subgroup of WG5), and Python.

The numerous comments and change requests by the ISO editor have been reflected un Part 1; the document awaits resubmission to ISO as a DIS.

We are still awaiting a reaction by ISO to the WG23 inquiry via SC22 to get pre-approval of free availability before turning WG23 documents officially into Standards. SC22 supports our view. The inquiry to ISO is now more than two-and-a-half years old and yet unanswered (nor responded to in any form).

The Parts under active change have been converted to the style of International Standards and have been adjusted to the ISO editor's wishes. The Parts for which technical work had finished earlier are not yet converted.

WG23 offers to perform the remaining, mostly editorial work on the Ada and Spark Parts and prepare the documents for submission without involving WG9 as a whole. Of course, WG9 members are more than welcome to participate in the meetings performing and approving the respective changes. WG23 asks whether WG9 is willing to go along with this proposal, and, if so, for candidates to be invited to the editing sessions.

The present technical status of the Parts from the viewpoint of WG23 is as follows (with the proviso above about ISO editor comments and awaiting free availability):

- Part 1 as an International Standard is at the DIS stage and will be resubmitted to ISO within the near future.
- The Ada Part as an International Standard is completed but the ISO editor's wishes are not yet incorporated.
- The SPARK Part as an International Standard is completed but the ISO editor's wishes are not yet incorporated.
- The Fortran Part has been completed and approved by WG5 on June 12th. Its progression will be voted upon at the next WG23 plenary.
- The C Part is approved by ISO as a Technical Report. The mostly editorial updates to turn it into an International standard are on hold.
- Technical work of WG23 on the Java Part as a TR is completed. However, it needs review by the Java community, which has not yet happened. There is new hope that such a review might happen soon.
- The Python Part is two or three rapporteur meetings away from completion. Broader review would then be useful, but unfortunately WG23 was as yet unsuccessful in identifying an addressable community.
- The C++ Part is making slow progress, as fine points of C++ semantics are being discussed.

[Convenor note: this work by WG23 is covered by a previous WG 9 resolution.]

Fortran, INCITS/PL22.3 – Van Snyder (apologies)

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Convenor's Report Activities since the Last Session

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Project Editor Reports (as needed)

IS 8652 (Information Technology--Programming Languages - Ada) (Randy Brukardt)

In compliance with resolution 44-4 of WG 9, this message is to inform you that the AIs listed below have completed Editorial Review, and are submitted to WG 9 for approval at the next meeting (meeting #86). It is expected that HODs and liaison representatives would take this opportunity to circulate these AIs for comments within their respective organizations, and return comments to the ARG as soon as feasible.

The editorial review period has just concluded, so we do not expect further changes to these AIs. Substantive comments from WG 9 organizations would probably cause the corresponding AIs to be removed from the list submitted to WG 9, as such comments are best addressed at an ARG meeting.

This represents the third batch of bug fixes and improvements to Ada 2022.

The AIs can be found online at <http://www.ada-auth.org/AI22-SUMMARY.HTML>.

Note that we are in the process of modernizing the format of AIs. A few AIs appear in both text and HTML formats on the Ada-Auth.org website; such AIs were converted to HTML during the deliberations and therefore the HTML version contains the current version of the AI.

Randy Brukardt, Project Editor, ISO/IEC 8652

AI22-0015-1/02 2023-09-07 -- Innermost master of the call is ambiguous
AI22-0025-1/03 2023-06-26 -- Accessibility of generalized iterators
AI22-0034-2/04 2023-09-07 -- Implementation model of dynamic accessibility checking
AI22-0045-1/06 2023-06-12 -- Issues with pragma placement
AI22-0049-1/03 2023-07-10 -- Seconds function with Time_Zone parameter
AI22-0053-1/05 2023-09-07 -- An unintended consequence of AI12-0101-1
AI22-0056-1/05 2023-08-24 -- Automatic creation of constructor functions
AI22-0057-1/04 2023-08-25 -- Floor and other rounding attributes for fixed point types
AI22-0058-2/02 2023-06-29 -- Wording for checking Task_Ids
AI22-0062-1/03 2023-09-07 -- Clarify "ceases to exist" definition
AI22-0064-1/03 2023-04-05 -- Basic rules for parenthesized expressions
AI22-0065-1/03 2023-09-07 -- Specialized Needs Annexes should be normative
AI22-0067-1/03 2023-08-24 -- The nominal subtype of an aggregate
AI22-0069-1/04 2023-08-25 -- Empty subsequences in parallel reduction expressions
AI22-0073-1/03 2023-08-25 -- Referencing the Unicode Standard
AI22-0074-1/01 2023-06-02 -- Postcondition error in Ada.Containers.Hashed_Sets
AI22-0078-1/01 2022-06-05 -- Decimal conversions for Big_Reals
AI22-0079-1/03 2023-06-28 -- Parameters of a protected type

IS 15291 (ASIS) (Bill Thomas, Greg Gicca)

TR 15942 (Guidance for the Use of Ada in High Integrity Systems) (Alejandro Mosteo)

IS 18009 (Conformity Assessment of an Ada Language Processor) (Erhard Plödereder)

No comments received; no actions needed.

TS 24718 (Guide for the Use of the Ravenscar Profile in High Integrity Systems) (Alan Burns, Tullio Vardanega)

Thanks to the generous aid of Bill Ash, we have made the second submission of the Ravenscar document – now as a Technical Specification – to the ISO editors, clearing all of the editorial and typographical hurdles that their standard processing practices impose.

TR 24772-2 (Guidance to avoiding vulnerabilities in programming languages – Vulnerability descriptions for the programming language Ada) (Joyce Tokar)

We want to move them forward to match ISO CS editors requirements.

TR 24772-6: (SPARK Part of Programming Language Vulnerabilities) (Stephen Michell, Erhard Plödereder, Tullio Vardanega)

We want to move them forward to match ISO CS editors requirements.

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Rapporteur Group Reports (as needed)

Rapporteur Report ARG

Since the last report (June 2023), the ARG has met (electronically) once (Oct 2023). Several AIs were approved at that meeting, but those are not intended for consideration at this WG 9 meeting. The AIs that are intended for WG 9 review at this meeting were listed in a message Randy sent to the WG 9 on Sept 7 and are repeated here:

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AI22-0015-1/02	2023-09-07	-- Innermost master of the call is ambiguous
AI22-0025-1/03	2023-06-26	-- Accessibility of generalized iterators
AI22-0034-2/04	2023-09-07	-- Implementation model of dynamic accessibility checking
AI22-0045-1/06	2023-06-12	-- Issues with pragma placement
AI22-0049-1/03	2023-07-10	-- Seconds function with Time_Zone parameter
AI22-0053-1/05	2023-09-07	-- An unintended consequence of AI12-0101-1
AI22-0056-1/05	2023-08-24	-- Automatic creation of constructor functions
AI22-0057-1/04	2023-08-25	-- Floor and other rounding attributes for fixed point types
AI22-0058-2/02	2023-06-29	-- Wording for checking Task_Ids
AI22-0062-1/03	2023-09-07	-- Clarify 'ceases to exist' definition
AI22-0064-1/03	2023-04-05	-- Basic rules for parenthesized expressions
AI22-0065-1/03	2023-09-07	-- Specialized Needs Annexes should be normative

AI22-0067-1/03 2023-08-24 -- The nominal subtype of an aggregate
AI22-0069-1/04 2023-08-25 -- Empty subsequences in parallel reduction expressions
AI22-0073-1/03 2023-08-25 -- Referencing the Unicode Standard
AI22-0074-1/01 2023-06-02 -- Postcondition error in Ada.Containers.Hashed_Sets
AI22-0078-1/01 2022-06-05 -- Decimal conversions for Big_Reals
AI22-0079-1/03 2023-06-28 -- Parameters of a protected type

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The AIs can be found at

<http://ada-auth.org/AI22-VOTING.HTML>

Some of the older AIs are still in text format while the newer AIs are in HTML.

The editor's report will include a status update for the Ada 2022 RM ISO FDIS.

Randy created an "ARG future work" document which was positively received; nothing in that document is viewed as requiring WG 9 review, but such review would certainly be welcome if anyone is interested. See Randy for details.

Ed Schonberg has requested a change in status from voting member of the ARG to observer. Many thanks to Ed for all of his valuable ARG contributions since (at least) attending ARG meeting #3 in Oct 1996.

Rapporteur Report HRG

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Open Action Items and Unimplemented Resolutions

This is the "To Do" list for WG 9. Some are informal action items assigned to various participants. Some are formal resolutions, which are not yet implemented. Some items are simply in suspense awaiting action by other groups.

AI-78-3: WG 9 members should individually prepare to discuss WG 9 work items after delivery of Ada 202x. Examples could include: additional activities for the HRG along reliability and security lines; co-joining efforts with the real-time workshops in order to produce standards-related documents; adoption of SPARK and its environments into the WG9 scope.

Status: Open.

AI-81-3: Pat to get the WG 9 documents transferred to the ISO Documents facility, pending resolution of retaining public free access to the documents in the official ISO document system.

Status: Open. Does not look good for free access to anything other than documents that are specific to a draft.

AI-82-2: Alejandro to submit sections of TR 15942 to WG 9 as they become available.

Status: Open. Pat to look for a "mentor" to answer questions but not produce document text. [Tucker Taft volunteers to provide some time as a mentor.]

AI-83-1: Tullio and Pat to investigate the amount of effort required to move TR 24718 to a TS.

Status: Done

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Committee as a Whole

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Unfinished Business

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New Business

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Scheduling of Future Meetings

The June 2024 meeting will be hybrid, in conjunction with the Ada Europe 2024 Conference 11-14 (Tuesday through Friday) in Barcelona Spain. Specific date to be determined via email (from Pat).

The October 2024 meeting will be held on the 10th at 16:30 UTC and will be virtual.

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Review of New Action Items

AI-86-1: Pat to send email to determine exact date for June 2024 meeting. To be sent by end of 2023.

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Final Consideration of Resolutions

Resolution 86-1: The meeting minutes of meeting #85 are approved.

Resolution 86-2: WG 9 approves the AI-22 AIs previously approved by the ARG in the recent ARG report.

Resolution 86-3: The June 2024 meeting will be hybrid, in conjunction with the Ada Europe 2024 Conference 11-14 (Tuesday through Friday) in Barcelona Spain. Specific date to be determined via email (from Pat).

The October 2024 meeting will be held on the 10th at 16:30 UTC and will be virtual.

Resolution 86-4: WG 9 requests the ARG to submit a draft plan for the next set of enhancements to the Ada language. To be provided by the June 2024 meeting.

Resolution 86-5: WG 9 wishes to express our appreciation to Ed Schonberg.

Resolution 86-6: WG 9 requests the HRG to submit a draft plan for the next set of high-integrity guidelines for the Ada language, possibly in consultation with WG 23. To be provided by the June 2024 meeting.

Resolution 86-7:

ISO/IEC JTC 1/SC 22/WG 9 continues its Annex H Rapporteur Group (HRG) until the next plenary meeting and expresses its grateful appreciation to the Rapporteur and the members for their continuing service.

Joyce Tokar is continued as Rapporteur.

The membership of the HRG is designated to be: Steve Baird, John Barnes, Ben Brosgol, Alan Burns, Rod Chapman, Gary Dismukes, Bob Duff, Michael Gonzalez Harbour, Stephen Michell, Brad Moore, Miguel Pinho, Erhard Plödereder, Juan Antonio de la Puente, George Romanski, Jean-Pierre Rosen, S. Tucker Taft, Joyce Tokar, and Tullio Vardanega.

The Convenor of WG 9 is authorized to act for WG 9 between meetings in appointing additional members of the HRG. In doing so, he shall consult with the Rapporteur and the National Body or Liaison Organization nominating the member.

Rapporteurs are permitted to allow other individuals to observe the deliberations of the Rapporteur Group. The admission of observers and the extent of participation permitted to observers are at the discretion of the Rapporteur with the concurrence of the membership of the Rapporteur Group.

Resolution 86-8:

ISO/IEC JTC 1/SC 22/WG 9 continues its Ada Issues Rapporteur Group (ARG) until the next plenary meeting and expresses its grateful appreciation to the Rapporteur and the members for their continuing service.

Steve Baird is continued as Rapporteur.

The membership of the ARG is designated to be: Raphaël Amiard, Steve Baird, John Barnes, Randy Brukardt, Alan Burns, Arnaud Charlet, Jeff Cousins, Gary Dismukes, Claire Dross, Robert Duff, Edward Fish, Niklas Holsti, Pascal Leroy, Brad Moore, Alejandro Mosteo, Jean-Pierre Rosen, Justin Squirek, Tucker Taft, Tullio Vardanega, and Richard Wai.

The Convenor of WG 9 is authorized to act for WG 9 between meetings in appointing additional members of the ARG. In doing so, he shall consult with the Rapporteur and the National Body or Liaison Organization nominating the member.

Rapporteurs are permitted to allow other individuals to observe the deliberations of the Rapporteur Group. The admission of observers and the extent of participation permitted to observers are at the discretion of the Rapporteur with the concurrence of the membership of the Rapporteur Group.

Appreciation 86-9: ISO/IEC JTC 1/SC 22/WG 9 expresses its grateful appreciation to Alok Srivastava for acting as secretary for Meeting #86.

Appreciation 86-10: ISO/IEC JTC 1/SC 22/WG 9 expresses its grateful appreciation to the Convenor, Pat Rogers, for his support of WG 9.

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References

See <http://www.open-std.org/jtc1/sc22/wg9/documents.htm> for the WG 9 Document Log, including the ability to download the documents.