# ISO/IEC JTC1/SC22/WG9 N 585

### Meeting Minutes

### Meeting #73 of ISO/IEC JTC 1/SC 22/WG 9

Friday 13 October 2017 in Lexington, MA

In accordance with Resolution 72-2, meeting #73 of WG 9 was held the morning of Friday 13 October 2017 in Lexington, Massachusetts, at the AdaCore offices. The meeting started at 9:10am EDT.

The detailed agenda was distributed as [N582](http://www.open-std.org/jtc1/sc22/wg9/n582.docx).

### AGENDA

[Opening Orders](#OO), Meeting Convenor

[Introductions and Reports](#RnI)

[Liaison Reports and Introductions](#Liaisons) (as needed)

* [Ada Europe](#AdaEurope): Dirk Craeynest
* [SIGAda](#SIGAda): David Cook
* [WG 23](#WG23): Erhard Ploedereder
* [Fortran](#FORTRAN): Van Snyder

[Convenor's Report](#Convenor)

[Project Editor Reports](#ProjectEd) (as needed)

* [IS 8652](#IS8652): Jeff Cousins, Ed Schonberg, and Randy Brukardt
* [IS 15291](#ISO15291): Bill Thomas and Greg Gicca
* [TR 15942](#TR15942): Ben Brosgol
* [IS 18009](#ISO18009): Erhard Ploedereder
* [TR 24772-2](#TR24772): Joyce Tokar

[Rapporteur Group Reports](#Rapporteurs) (as needed)

* [Report of Ada Rapporteur Group](#ARG): Jeff Cousins/Steve Baird, Chair
* [Report of Annex H Rapporteur Group](#HRG): Joyce Tokar, Chair

[Review of Open Action Items and Unimplemented Resolutions](#AIs)

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Recess

### Opening Orders

Call to Order

Appointment of Meeting Secretary – Brad Moore

Welcome and Administrative Arrangements

Approval of the [Agenda](#Agenda)

Approval of [N576](http://www.open-std.org/jtc1/sc22/wg9/n576.docx): Meeting #72 Minutes. Resolution [73-1](#meeting_minutes_aproval).

### Reports and Introductions

### Canada – Brad Moore (HOD)

### Italy – Tullio Vardanega (HOD)

### Portugal – Luis Miguel Pinho (HOD)

There are no changes in the structure or activities related to the NB. Portugal is still a P member of SC22, and WG9 is the only WG active in the SC. The main focus of the technical work being developed continues to be in the parallelism extensions being proposed for Ada, including compatibility with OpenMP.

### Spain – Juan Antonio de la Puente (HOD)

There is nothing to report since the last WG9 meeting.

### Switzerland – Nicholas Kaethner (HOD)

### UK – Jeff Cousins (HOD)

I regret to say that Michael Pickett, a stalwart member of the UK NB’s Ada Panel, passed away on September 5th, after a long illness.

Activity of the UK NB’s Ada Panel comprised the editorial review of AIs and the occasional e-mail correspondence.

The UK delegation is Jeff Cousins (HOD) for this meeting of WG 9.

### USA – Tucker Taft (HOD)

### Guests – None

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### Liaison Reports and Introductions

**[Ada Europe](http://www.ada-europe.org) –** Dirk Craeynest

Ada-Europe would like to inform the WG9 convener that it is unable to send a liaison delegation to Meeting #73 in Lexington, Massachusetts, USA, on Friday 13 October 2017, neither IRL nor via WebEx.

For now, we mainly want to remind everyone that the next Ada-Europe conference will be held on June 18-22, 2018, in Lisbon, Portugal, and we reconfirm our usual hospitality agreement for WG9, ARG and HRG, as well as for WG23. The Preliminary Call for Papers was distributed at the Vienna conference in June 2017, is available on the event's web site [1], and the full CfP will be distributed shortly via various channels.

[1] http://www.ada-europe.org/conference2018

We will submit a more complete report for meeting #74 in June 2018.

**SIGAda –** David Cook

**WG 23 –** Erhard Ploedereder

**Fortran, INCITS/PL22.3** – Van Snyder

WG5 (Fortran) and ANSI/INCITS PL22.3 thank WG9 for revising subclause B.5 of ISO/IEC 8652 concerning interfacing with Fortran.

A joint meeting of WG5 and PL22.3 was held at the Leibnitz Rechenzentrum in Garching bei München (Munich) during the week of 26-30 June. A committee draft (CD) of ISO/IEC 1539-1 was prepared, for which a ballot is in progress. A PL22.3 (not WG5) telecon is scheduled for 16 August to resolve some issues that were not resolved at Garching and any that arise during the CD ballot. The next in-person PL22.3 meeting is scheduled for 16-20 October in Las Vegas, NV, at which the Draft International Standard (DIS) will be completed. The ballot for the DIS will commence in November, to be completed before May 2018. The next joint WG5/PL22.3 meeting is scheduled for 11-15 June in Berkeley, CA, at which development of the work plan for the next revision will begin.

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### Convenor's Report Activities since the Last Session

The Convenor attended the SC 22 Plenary in London and provided an overview of the yearly report ([N5](#N564)72, see **References** for links page).

At the Plenary, the project to revise TR 24718was approved with an eight-week balloting period. Upon receipt of the proposed revision, ISO specified that the document must now conform to the official format and content for Technical Reports. This will require non-trivial effort. To be discussed in the **Committee as a Whole** section.

At the Plenary, the SC 22 Secretary reiterated that ISO now requires meeting participants register with the on-line ISO Meeting Participation tool. Stephen Michell (WG 23) explained the difficulties this would present for his group members and I explained that these would apply to WG 9 as well. Stephen took an action item to work with the Secretary to explore options.

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### Project Editor Reports (as needed)

**IS 8652 (Information Technology--Programming Languages - Ada)** (Jeff Cousins, Randy Brukardt)

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

**TR 15942 (Guidance for the Use of Ada in High Integrity Systems)** (Ben Brosgol)

The current plan is to have a draft available at Ada-Europe 2018.

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

**TR 24718 (Guide for the Use of the Ravenscar Profile in High Integrity Systems)** (Alan Burns)

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

The editor has participated in several meetings with WG 23 to move this document along in the standardization process.

Thanks to various members of the HRG, the editor was able to generate a new version of TR 24772-2 to address changes and modifications in the parent document, TR 24772-1.

A new version of TR 24772-2 was distributed to WG 9 on 11 Oct 2017 with the following changes:

 Added:

Section 5.2 Top Avoidance Mechanisms for Ada

Section 6.38 Deep vs Shallow Copying [YAN]

Section 6.43 Violations of the Liskov Principle or the Contract Model [BLP]

Section 6.44 Polymorphic Variables [BKK]

Section 6.65 Modifying Constants [UJO]

 Revised the document section numbering based on changes to TR 24772-1 and the above additions.

The editor would like WG 9’s approval to forward this TR to WG 23 for acceptance and publication.

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### Rapporteur Group Reports (as needed)

**Rapporteur Report ARG**

The Ada 2012 standard has so far (posted by 28 September 2017) generated 235 Ada Issues (AIs).

The ARG met in Vienna, Austria in June 2017, following a WG 9 meeting which had approved thirteen AIs.

Two regular and five amendment AIs were not discussed as they were awaiting action completion, 17 amendment AIs were not discussed as we ran out of time (all but one low or very low priority), and 18 amendment AIs were not discussed as they were expected to end up as no action.

Eleven regular AIs were approved (most with minor changes), two had their intent approved, and two require further investigation.

One amendment AI was approved (with a minor change), five had their intent approved and three require further investigation.

The proposal for parallelism was the major item of discussion, followed by global in and out annotations – a prerequisite of performing parallelism safely – and a further method of iteration.

The proposal from the HRG to replace the Earliest Deadline First scheduling option by the Deadline Floor Protocol was discussed.

As of 28 September 2017, 147 AIs had been approved by WG 9 (100 having already made it into the Corrigendum), 12 by the ARG but not yet by WG 9, and 47 are work items for discussion at the ARG. Of the 47, 7 are binding interpretations and 40 are amendments. (There is also one AI on presentation).

A number of AIs have completed editorial review and are be ready for approval by WG 9. The list follows. As usual, the full text of the AIs can be found at [www.ada-auth.org/ais.html](http://www.ada-auth.org/ais.html).

AI12-0201-1/03 2017-09-07 -- Missing operations of static string types

AI12-0206-1/02 2017-07-20 -- Nonoverridable should allow arbitrary kinds of aspects

AI12-0207-1/03 2017-08-03 -- Convention of anonymous access types

AI12-0216-1/03 2017-09-07 -- 6.4.1(6.16-17/3) should never apply to composite objects

AI12-0217-1/03 2017-09-07 -- Rules regarding restrictions on the use of the Old attribute are too strict

AI12-0219-1/02 2017-07-21 -- Clarify C interfacing advice

AI12-0222-1/02 2017-07-20 -- Representation aspects and private types

AI12-0224-1/03 2017-09-07 -- Use of Fortran C Interfacing features

AI12-0225-1/03 2017-07-21 -- Prefix of Obj'Image

AI12-0227-1/02 2017-07-21 -- Evaluation of nonstatic universal expressions when no operators are involved

AI12-0228-1/03 2017-09-07 -- Properties of qualified expressions used as names

AI12-0231-1/01 2017-06-05 -- Null\_Task\_Id and Activation\_Is\_Complete

Work on the ASIS standard remains paused.

Future meetings are scheduled for 13-15 October 2017 in Lexington, Massachusetts, U.S.A., and for 22-24 June 2018 in Lisbon, Portugal, in conjunction with the Ada-Europe 2018 conference.

**Rapporteur Report HRG**

An attempt was made to modify the charter of the HRG to capture the new work that has been taken on in generating the Vulnerability Report for Ada and to offer a revision to the meaning of the name HRG (Change from Annex H Rapporteur Group to the Ada High-Integrity Rapporteur Group).

Unfortunately, this effort was not successful. Hence, the HRG membership has been asked to provide input to the new chair to generate an update to the charter.

A short document was written for the Ada User Journal describing the current efforts of the HRG and encouraging readers to join our group.

There is a need to revise TR 24718, Ravenscar TR, due to ISO formatting requirements. This will require a substantial amount of effort; deferred to the discussion in the upcoming WG 9 meeting.

See editor’s report on TR 15942, the Ada High-Integrity TR.

The revision to TR 24772-2, Vulnerabilities Ada Part, was completed and distributed to WG 9 for approval. Once WG 9 approves this document it will be forwarded to WG 23 for acceptance and publication (I think).

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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-71-1:** Florian Schanda will provide a draft for the SPARK Part of TR-24772 in March 2017, with a final version expected by June 2017.

**AI-71-2**: The ARG will recommend a program of work to WG 9 prior to the next WG 9 meeting.

Status: Done.

**AI-71-3**: The Ada Part of TR 24772-2 will move forward to WG 23.

Status: Done.

**AI-72-1:** Tullio Vardanega to update TR 24718, Guide for the use of the Ada Ravenscar Profile in high integrity systems to reference “Ada 2012 TC1” rather than “Ada 2015” in the opening text. The updated document will be sent to the Convenor for submission to ISO SC 22 (see **AI-72-2**).

Status: Done.

**AI-72-2:** The Convenor will alert the SC 22 chair and secretary that we are updatingTR 24718 (with wording such that the document number does not change, thus either “revision” or “edition” in the notification).

Status: Done

**AI-72-3:** Joyce Tokar to distribute (email) TR 24772-2 for review by WG 9, no later than 31 August 2017.

Status: Done.

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### Committee as a Whole

**Progression of TR 24772-2**

**Re-work of TR 24718:** The required rework requires changes to both format and content.The editors are considering the possibility and would appreciate feedback from WG 9 as to the considered importance of that effort. (ISO can schedule 48 weeks for the effort.)

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### Unfinished Business

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### New Business

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### Scheduling of Future Meetings

Friday, 22 June, immediately following Ada Europe 2018 in Lisbon.

Boston, Friday 12 October 2018 (tentative) with the SIGAda HILT Workshop

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**Review of New Action Items**

**AI-73-1:** Tullio to contact the Switzerland HOD (Nicholas Kaethner) to verify active role

**AI-73-2:** Pat to contact Drew Hamilton, new head of SIGAda, as replacement for David Cook

**AI-73-3:** Tucker to check whether 6.65 of TR 24772-2 requires a modification to the document

**AI-73-4:** Joyce to revise the HRG charter, by the June 2018 meeting

**AI-73-5:** The ARG will consider revising the ARG charter

**AI-73-6**: Randy to ensure Steve Baird and Joyce are on the WG9 list, and verify Joyce rejoined

**AI-73-7:** Tucker will encourage Florian to make progress on AI-71-1

**AI-73-8:** Tullio will move TR 24718 forward with the required changes per ISO, and ask for help if needed

**AI-73-9:** Tucker will get the final dates for the Boston meeting in 2018

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**Final Consideration of Resolutions**

**Resolution 73-1:** The meeting minutes of meeting 72 contained in document [N576](http://www.open-std.org/jtc1/sc22/wg9/n576.docx) are approved.

**Resolution 73-2:** The next meeting of WG 9 will be held at 9am the morning of Friday, 22 June, immediately following [Ada Europe 2018](http://ae2018.di.fc.ul.pt/index.html) in Lisbon.

**Resolution 73-3:** The Ada Issues presented by the ARG are approved.

**Resolution 73-4**: The HRG charter should be revised, by the June 2018 meeting.

**Resolution 73-5**: TR 24718, Guide for the use of the Ada Ravenscar Profile in high integrity systems, should be revised to adhere to ISO TR requirements.

**Resolution 73-6:**

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 Ploedereder, 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 73-7:**

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.

Jeff Cousins is continued as Rapporteur.

The membership of the ARG is designated to be: Raphaël Amiard, Steve Baird, John Barnes, Randy Brukardt, Alan Burns, Jeff Cousins, Gary Dismukes, Robert Duff, Pascal Leroy, Brad Moore, Erhard Ploedereder, Jean-Pierre Rosen, Florian Schanda, Ed Schonberg, Tucker Taft, and Tullio Vardanega.

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**Resolution 73-8:** ISO/IEC JTC 1/SC 22/W 9 expresses its grateful appreciation to Brad Moore for acting as secretary for Meeting #73.

**Resolution 73-9:** ISO/IEC JTC 1/SC 22/W 9 expresses its grateful appreciation to AdaCore for hosting meeting #73.

**Resolution 73-10:** ISO/IEC JTC 1/SC 22/W 9 expresses its grateful appreciation to Clyde Roby for maintaining the document list page.

**Resolution 73-11:** ISO/IEC JTC 1/SC 22/W 9 expresses its grateful appreciation to the Convener, Pat Rogers.

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**RECESS**

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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.