# ISO/IEC JTC1/SC22/WG9 N548

### Meeting Minutes

*Revision 2 15 June 2015*

### Meeting #67 of ISO/IEC JTC1/SC22/WG9

**Monday 20 Oct 2014[[1]](#footnote-1)**

In accordance with Resolution 66-4, meeting #67was held in conjunction with [High Integrity Language Technology 2014 (HILT 2014)](http://www.sigada.org/conf/hilt2014), on the morning of 20 Oct 2014 in the Laurelhurst room. The meeting started at 7:10 on Monday 20 October 2014 (PDT).

The detailed agenda for this meeting were circulated as [N547](#N547).

### AGENDA

[Opening Orders](#Opening)

[Introductions](#_National_Body_Reports)

[Liaison Reports and Introductions](#LiasonReports)

* Ada Europe: Dirk Craeynest
* SIGAda: Rick Sward
* SC 23/OWGV: Erhard Ploedereder
* Fortran, INCITS/PL22.3: Van Snyder

[Convener's Report](#Convener)

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

* IS 8652: Ed Schonberg and Randy Brukardt
* IS 15291: Bill Thomas and Greg Gicca
* TR 15942: Brian Wichmann
* IS 18009: Erhard Ploedereder
* TR 24718: Alan Burns

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

* Report of Ada Rapporteur Group: Jeff Cousins, Chair
* Report of Annex H Rapporteur Group: Alan Burns, Chair

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

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[Final Consideration of Resolutions](#final)

[Recess](#recess)

### Opening Orders, Joyce Tokar, Meeting Convenor

* Call to Order
* Appointment of Meeting Secretary
* Change of Meeting Protocol

At our last meeting, we briefly discussed the new direction from ISO regarding the membership and organization of Working Groups. According to ISO anyone participating in an official WG meeting should be designated by an O- or P-member of SC 22, a liaison, or a 1/2/few-time guests of the convener. As such, WG 9 will conduct our business as a group of experts who have been designated by a National Body or Liaison Organization. National Body comments and concerns regarding the business of WG 9 may be raised by a designated expert during the Introductions and put on the agenda to be discussed during the Committee as a Whole session.

Also, under the new JTC 1 rules for WG participation effective 1 January 2014:   
"Working Groups are comprised of INDIVIDUAL EXPERTS appointed by National Bodies and Liaison Organizations. These experts MUST be entered into Global Directory to be considered a member of the WG and to receive documents. National Bodies are responsible for ensuring that their expert appointments are up to date; Liaison Organizations work via ITTF to maintain their expert members. If the expert is NOT in Global Directory, he/she will not receive documents and will NOT be considered a member of the WG."

Please ensure that this is done ASAP or your experts will not be be allowed to attend if they are not registered experts.

* Welcome and Administrative Arrangements
* Approval of the [Agenda](#Agenda)
* Approval of [N544](#N544): Meeting #66 Minutes. Resolution [67-1](#r1).

[AGENDA](#A1)

**Introductions**

### Canada

Brad Moore

Canada is glad to hear that work in WG 23 is continuing on. Hopefully, this will mean that the work on the Annexes and the document will continue. Welcome Steven Michell as the Acting Convenor of the group.

Steve Michell

### Italy

Tullio Vardenaga did not join.

**Portugal**

Luis Miguel Pinho

Concerning Portugal, situation is the same as reported last June. There is no new information on the restructuring of the standardization activities in Portugal (or associated fees). National work related to WG9 continues to be in direct connection with the NB. Portugal is a P member of SC22, but AFAIK 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.

**Spain**

Juan Antonio de la Puente

There has been no significant activity in the period from the last WG9 meeting.

The Spanish delegation for this meeting of WG 9 is Juan de la Puente (HOD), who will participate via WebEx.

### UK

Jeff Cousins

The UK panel now conducts its business by e-mail.

The UK delegation is Jeff Cousins (HOD) and John Barnes for this meeting of WG.

John Barnes’ Programming in Ada 2012 has been published.

John Barnes

**USA**

S. Tucker Taft

Hope the conference is a success. Did a little bit of homework for WG 23. Had a successful ARG meeting before WG 9. Aiming to produce a corrigendum.

Randy Brukardt

**Liaisons**

Erhard Ploedereder (Ada Europe)

**Guests**

None

[AGENDA](#A2)

### Liaison Reports

**Ada-Europe Liaison Report:**

**Ada-Europe Liaison Representative, Dirk Craeynest**

Ada-Europe Liaison Report to WG9 for meeting #67 Ada-Europe Liaison Representative, Dirk Craeynest

Ada-Europe would like to inform the WG9 convener that it will send a 1-person Ada-Europe liaison delegation to Meeting #67 in Portland, Oregon, on Monday 20 October 2014.

The delegation consists of:

- Erhard Ploedereder (presenter)

The next Ada-Europe conference will be held on June 22-26, 2015, in Madrid, Spain, and we reconfirm our usual hospitality agreement for WG9, ARG and HRG, as well as for WG23. The next Real-Time Ada Workshop (IRTAW-17) will be held in the week of 20 April 2015, in Vermont, USA. The Calls for Papers for both events are distributed at this HILT conference.

Although no firm decisions have been taken yet, we are expecting the Ada-Europe 2016 conference to be organized in the area of Pisa, Italy.

We reconfirm our willingness to support the Ada standardization related activities. As in previous years, Ada-Europe is willing to continue supporting the WG9 convener, hopefully together with SIGAda and the ARA.

We reported earlier the commercial publication of the Ada 2012 Rationale and Reference Manual in Springer's LNCS series (volumes 8338 and 8339 resp.). Several national organizations bought a copy for each of their members, in other countries direct and indirect members decided on an individual basis. The e-book RM version that we produced is still available freely from the Ada-Europe web-page with online resources, which has been accessed approx. 1,700 times between June and today. Furthermore, we also obtained a special deal with Cambridge University Press for John Barnes' latest book:

"Programming in Ada 2012". Over 120 copies were ordered by and shipped to Ada-Europe members. All these publication actions have been self-financed, i.e. at no cost to Ada-Europe, and offered great value to Ada-Europe members.

Finally, Ada-Europe is happy to report a healthy situation with the Ada User Journal (AUJ). Four issues are published each year.

In addition to the several articles published, the Journal continues printing material from the industrial track and tutorials of the Ada-Europe conference, as well as proceedings of workshops which took place together with AE conferences. The AUJ also continues with its traditional Quarterly News Digest, Conference Calendar and Forthcoming Events sections, and after finishing the publication of the Rationale 2012 series written by John Barnes, and the series of selected Ada Gems, the Journal is now publishing the ongoing SPARK.

2014 Rationale articles, and fostering a series of hand-on articles on embedded programming with Ada.

Resolution [67-6](#r6).

**SIGAda Liaison Report:**

**SIGAda Liaison Representative, David Cook**

Tucker Taft (reporting) SIGAda continues to support the WG9 efforts, and plan on doing so in the future.   As of October 2014, SIGAda does not have plans for a conference in 2015 - we are considering having an Ada Workshop, potentially in conjunction with another SIG.  It is expected that our next conference will be 2016, hopefully in conjunction with SIGSoft in Austin, TX during May.

In March 2014, SIGAda was put on a “two year status” by ACM - below is the recommendation passed by the SIG Governing Board.

Discussed the issue of working with Ada Europe to have the Ada User Journal publication of the conference proceedings as well as the Ada Letters. David Cook has the action to contact ACM and see what needs to happen.

**WG 23 Liaison Report:  
WG 23 Liaison Representative, Erhard Ploedereder**

In July and early August the WG23 convenor Tom Plum scheduled five one-hour teleconferences with the main agenda item to produce documents for SC22 containing the arguments against and for continuation of WG23. The process was heavily deadline-driven, as business plans by the WGs were due at SC22 secretariat early in August. The outcome were four documents:

one on the facts agreed upon by everyone, including a summary of the resources available for future deliverables by the WG;

one with the minority arguments against continuation (favored by Tom Plum and at most one other WG23 member participating in the teleconferences);

one with the majority arguments for continuation (favored by everybody else);

and, lastly, the business report and plan of WG23 written by the convenor in a non-committal style that allowed for both outcomes of the continuation question.

A small amount of technical work was done between two of the teleconferences, mainly as a demonstration that the group had the resources and willingness for actual achievements.

The SC22 meeting then confirmed the continuation of WG23. There was no support for the position of US PL-22. Tom Plum resigned as convenor of WG23 and Steve Michell was chosen as the new acting convenor of WG23. A few weeks later, Tom Plum resigned from WG23 altogether.

WG23 is holding a teleconference at 1 p.m. following the WG9 meeting in Portland. The business plan needs to be rewritten now that SC22 has decided to continue WG23. A time schedule for the Annex productions will be part of this plan.

WG23 asks WG9 to pick up the work on the Ada annex and possibly support the producers of the SPARK Annex, now that the future of WG23 is assured. Subject to confirmation by WG23 this afternoon, I will be the co-editor of the Ada Annex on the WG23 side and provide whatever is needed for facilitating the work of WG9 and its rapporteur groups.

**FORTRAN, INCITS/PL22.3 Liaison Report:**

**FORTRAN, INCITS/PL22.3 Liaison Representative, Van Snyder**

No Report.

[AGENDA](#A3)

### Convener's Report

### Activities since the Last Session

Resolution 30A of last year’s JTC1 meeting changes the participants in WGs from NB-endorsed to individual participation. The format and conduct of this meeting is an attempt to conform to this resolution. As mentioned earlier, all participants also need to ensure that you are registered in ISO’s Global Directory as that is the mechanism that we are being encouraged to use for document distribution.

In 2012, the ISO Technical Management Board (TMB) adopted TMB Resolution 64/2012 which made the use of Livelink mandatory for engaging in ISO technical work. By default in JTC 1, the LiveLink documents of a WG will be visible to the world.  Documents will only be protected if the WG specifically chooses a particular document to protect.  For example, even after moving to LiveLink, WG 9 and WG 23 will be able to see each other's documents, and outsiders will be able to see those documents as well. I will be working on uploading current documents over the next few months.

WG 9 conducted a ballot on whether to include the designation of country or organization in the listing of the Rapporteur Group (RG) members. The result of the ballot was split. More discussion on this ballot will be conducted during the [Committee as a Whole](#CAAW) session.

WG 9’s concern about the dissolution of WG 23 was shared by members of SC 22. As a result of the strong position by most of the National Bodies attending the SC 22 meeting, WG 23 will continue its work on Software Vulnerabilities. The US is relinquishing its role as convenor of WG 23. Mr. Stephen Michell (Canada) is the acting convenor.

JTC 1 is removing one level of balloting on Technical Reports (TR) and Technical Specification (TS). This cuts in half the time that it takes to progress a product to standard.

**Goals for this Meeting**

The major objectives for this meeting are:

1. Ada Issues
2. Update to the Ada and SPARK Annexes to the WG 23 Technical Report on Vulnerabilities
3. Approach to developing Ada 202x
4. Develop Technical Reports or Standards improving the Ada libraries
5. Consider proposals for extending the language

[AGENDA](#A4)

### Project Editor Reports

### ISO/IEC 15291 (ASIS)

### ISO/IEC 18009 (Conformity Assessment of an Ada Language Processor)

### There are no activities to report.

### IS 8652 (Information Technology--Programming Languages—Ada)

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

### TR 24718 (Guide for the Use of the Ravenscar Profile in High Integrity Systems)

[AGENDA](#A5)

### Rapporteur Reports

**Rapporteur Report ARG:**

The Ada 2012 standard has already generated 128 Ada Issues (AIs). The ARG meeting in Paris during June 2014 discussed all but the two lowest priority “regular” (i.e. on the current standard, not the potential Ada 2020 amendment) AIs on the agenda. (The agenda excluded a few AIs still awaiting input).

Six amendment AIs were also discussed.

Most AIs achieved some form or other of interim approval; a few were designated “keep alive” for further investigation and reporting back.

It is intended to produce a Corrigendum in 2015. As of 01 October 2014, 44 AIs have been approved by WG 9, 20 by the ARG but not yet by WG 9, and 45 are work items for discussion at the ARG. Of the 45, 14 are binding interpretations and thus candidates for the Corrigendum 2015 (1 previously ARG approved but re-opened, 1 new and to be discussed for the first time), and 31 are candidates for the potential Ada 2020 amendment (6 new and to be discussed for the first time).

A number of AI's have completed editorial review and are ready for approval by WG 9. The list follows. As usual, the full text of the AI's can be found at [www.ada-auth.org/ais.html](http://www.ada-auth.org/ais.html). (This list was distributed to the ARG on 30 July 2014 and to WG 9 on 2 Sept 2014. Note that the versions of most AIs have incremented since then as a result of the editorial review):

AI12-0042-1/11 2014-09-29 -- Type invariant checking rules

AI12-0055-1/06 2014-09-29 -- All properties of a usage profile are defined by pragmas

AI12-0068-1/02 2014-07-22 -- Predicates and the current instance of a subtype

AI12-0074-1/06 2014-09-29 -- View conversions and out parameters passed by copy

AI12-0080-1/08 2014-09-29 -- More presentation errors in Ada 2012

AI12-0095-1/03 2014-09-29 -- Generic formal types and constrained partial views

AI12-0096-1/02 2014-09-29 -- The exception raised when a subtype conversion fails a predicate check

AI12-0097-1/02 2014-07-15 -- Tag of the return object of a simple return expression

AI12-0098-1/02 2014-09-29 -- Problematic examples for ATC

AI12-0099-1/03 2014-09-29 -- Wording problems with predicates

AI12-0100-1/02 2014-07-14 -- A qualified expression makes a predicate check

AI12-0101-1/03 2014-09-29 -- Incompatibility of hidden untagged record equality

AI12-0102-1/02 2014-10-02 -- Stream\_IO.File\_Type has Preelaborable\_Initialization

AI12-0104-1/02 2014-10-02 -- Overriding an aspect is undefined

AI12-0105-1/03 2014-10-02 -- Pre and Post are not allowed on any subprogram completion

AI12-0107-1/03 2014-10-02 -- A prefixed view of a By\_Protected\_Procedure interface has convention protected

AI12-0110-1/02 2014-07-23 -- Tampering checks are performed first

AI12-0114-1/03 2014-10-02 -- Overlapping objects designated by access parameters are not thread-safe

AI12-0116-1/03 2014-10-02 -- Private types and predicates

AI12-0120-1/04 2014-10-02 -- Legality and exceptions of generalized loop Iteration

Work on the ASIS standard remains paused.

Future meetings are scheduled for 18-19 October 2014 in Portland, Oregon, U.S.A., in conjunction with the HILT (formerly SIGAda) 2014 conference, and provisionally for late June 2015 in Madrid, Spain, in conjunction with the Ada-Europe 2015 conference.

Continuation of the ARG: Resolution [67-2](#r2).

Approval of AIs: Resolution [67-5](#r5)

**Rapporteur Report HRG:**

The HRG has restarted its work on the Ada and SPARK annexes for the Vulnerabilities report. Currently the Ada Annex is being updated to respond to the changes to Ada and to the new vulnerabilities that have been introduced in the latest version of the report.

Continuation of the HRG: Resolution [67-3](#r3)

[AGENDA](#A5)

### Open Action Items and Unimplemented Resolutions

This is the "To Do" list for WG9. 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.

#### Action Item 50-1:

Investigate the possibility that ANSI might be willing to sell the revised ASIS standard ISO/IEC 15291:200x inexpensively, i.e. at a price similar to that of programming language standards -- $18.

*Status:* Open. *It has been surprisingly difficult to obtain the appropriate contact information.* Bill Thomas will look into this further and get back to us at the next meeting (#54).

ANSI does not set the prices. If they get a standard from ISO, then ISO sets the price and ANSI must conform to the prices set by ISO. ANSI could designate another organization to sell an ISO standard, but the ISO price must still be satisfied.

Is there an alternative to investigate here to distribute non-standard materials? Also look into the steps that John Benito has taken to distribute the C standard.

Bill Thomas will investigate further and report back at meeting #63.

Stephen Michell will investigate further and report back at meeting #67.

After some discussion, WG 9 has determined that this action is no longer needed. Closed.

**Action 63-3**

Determine if the IRTAW group is willing to update the ISO/IEC 15942 standard to be in alignment with Ada 2012. (Tullio Vardanega)

*Status: Open*

*Discussion:* Tullio has talked with Alan Burns but no further action has been taken at this time. Revisit at the next meeting.

How much of the old standard has been subsumed by Ada 2012? How has the environment of High Integrity Systems changed to impact the TR?

Joyce will develop a position paper for the next IRTAW meeting (April 2015) to get this topic onto the agenda.

[AGENDA](#AA)

### Committee as a Whole

* Country Designations on Rapporteur Group Membership (Tokar)

We conducted an email ballot after the last meeting of WG 9 to determine if we should continue including the country designation on the members of the Rapporteur Groups (RGs). The few responses received were split. However, given the need to include participants in the RGs that are not necessarily experts designated by a country, it is my recommendation that we do not continue to include the country designation on the RG members.

* How to proceed with Ada 202x?

Would this be driven by developments in parallelism? Wait to see what emerges and develop standardization of the concepts once the concepts are better defined.

Plans for the Corrigendum is to publish first draft in June 2015.

202x may be a roll-up of the updates that have been agreed to by WG 9. The model could be similar to that used by Fortran where changes are agreed to yearly and then the new edition of the standard is generated in 2020 that captures all of the changes.

Does parallelism fit in the standard as an Annex? Or would it be better to publish parallelism changes as a Technical Specification (TS) first prior to adding the changes to the standard. Can use this as a method to determine what the impact is on backward compatibility.

C++ uses the TS model for many of the concepts that they are considering.

In summary, the next revision of the Ada standard will be a roll-up of the TCs that are produced. The parallelism proposals will be captured in a TS. Then as the concepts mature, changes to the language standard may be considered.

How do we get the work on parallelism done and produced? Can we ask IRTAW to produce a draft TS on parallelism or should this work be assigned to a new RG or the ARG? Experience suggests that the work should be done as a subgroup of the ARG as the work done by other groups has not been successful.

Specifications for parallelism and multi-cores are different and needs to be captured in different TSs. Work on the parallelism should be done as a TS separate from multi-core.

Would it be possible to co-locate IRTAW with the ARG to develop the TS on parallelism? Perhaps this could be done in conjunction with the 2016 Ada Europe meeting? This is the plan for the 2016 Ada Europe conference, need to get IRTAW’s approval/cooperation.

Action Item [67-1](#A1).

Unfinished Business

**New Business**

Scheduling of Future Meetings

The next meeting of WG9 will be held in conjunction with the [20th International Conference on Reliable Software Technologies Ada-Europe 2015](http://www.ada-europe.org/conference2015), in the morning of Friday 26 June 2015 in Madrid, Spain.

The following meeting of WG9 will be held in the fall of 2015 at <TBD>.

Resolution [67-4](#r4).

[AGENDA](#AC)

**Administrative Actions**

#### Resolution 67-1:

The minutes of Meeting #66 contained in document [N544](#N544) are approved.

This resolution passed unanimously.

##### Resolution 67-2:

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

Jeff Cousins is appointed as Rapporteur.

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

The Convenor of WG 9 is authorized to act for WG 9 between meetings in appointing additional members of the ARG. In doing so, she 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.

This resolution passed unanimously.

##### Resolution 67-3:

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

Alan Burns is continued as Rapporteur.

The membership of the HRG is designated to be: Steve Baird, John Barnes, Patrick de Bondeli, Alan Burns, Rod Chapman, Robert Dewar, 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, Tullio Vardanega, and Brian Wichmann.

The Convenor of WG 9 is authorized to act for WG 9 between meetings in appointing additional members of the HRG. In doing so, she 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.

This resolution passed unanimously.

##### Resolution 67-4:

ISO/IEC JTC 1/SC 22/WG 9 schedules future meetings as follows:

Meeting #68, in conjunction with the [20th International Conference on Reliable Software Technologies Ada-Europe 2015](http://www.ada-europe.org/conference2015), Friday morning 26 June 2015 in Madrid Spain.

Meeting #69, in the fall of 2015 at <TBD>.

This resolution passed unanimously.

[AGENDA](#AD)

#### Review of New Action Items

**Action Item 67-1**: The WG 9 Convenor will get in touch with the IRTAW leadership to encourage the development of preliminary parallelism proposals that may be used to develop at parallelism TS. And to discuss cooperating with Ada Europe 2016.

[AGENDA](#AD)

### Review of New Resolutions

**Resolution 67-5:**

AI12-0042-1/11 2014-09-29 -- Type invariant checking rules

AI12-0055-1/06 2014-09-29 -- All properties of a usage profile are defined by pragmas

AI12-0068-1/02 2014-07-22 -- Predicates and the current instance of a subtype

AI12-0074-1/06 2014-09-29 -- View conversions and out parameters passed by copy

AI12-0080-1/08 2014-09-29 -- More presentation errors in Ada 2012

AI12-0095-1/03 2014-09-29 -- Generic formal types and constrained partial views

AI12-0096-1/02 2014-09-29 -- The exception raised when a subtype conversion fails a predicate check

AI12-0097-1/02 2014-07-15 -- Tag of the return object of a simple return expression

AI12-0098-1/02 2014-09-29 -- Problematic examples for ATC

AI12-0099-1/03 2014-09-29 -- Wording problems with predicates

AI12-0100-1/02 2014-07-14 -- A qualified expression makes a predicate check

AI12-0101-1/03 2014-09-29 -- Incompatibility of hidden untagged record equality

AI12-0102-1/02 2014-10-02 -- Stream\_IO.File\_Type has Preelaborable\_Initialization

AI12-0104-1/02 2014-10-02 -- Overriding an aspect is undefined

AI12-0105-1/03 2014-10-02 -- Pre and Post are not allowed on any subprogram completion

AI12-0107-1/03 2014-10-02 -- A prefixed view of a By\_Protected\_Procedure interface has convention protected

AI12-0110-1/02 2014-07-23 -- Tampering checks are performed first

AI12-0114-1/03 2014-10-02 -- Overlapping objects designated by access parameters are not thread-safe

AI12-0116-1/03 2014-10-02 -- Private types and predicates

AI12-0120-1/04 2014-10-02 -- Legality and exceptions of generalized loop Iteration

These AIs are hereby approved by WG9.

This resolution passed unanimously.

**Resolution 67-6:**

Thank you to Ada Europe for arranging for the publication of the Ada Language Reference Manual (Ada 2012) and the Ada 2012 Rationale.

This resolution passed unanimously.

[AGENDA](#AD)

### Final Consideration of Resolutions

#### Appreciation

**Resolution 67-7:**

ISO/IEC JTC 1/SC 22/W 9 expresses its grateful appreciation to HILT for their gracious accommodations for Meeting #67.

This resolution passed unanimously.

**Resolution 67-8:**

ISO/IEC JTC 1/SC 22/W 9 expresses its grateful appreciation to Clyde Roby for his continuing service in maintaining the WG 9 Web Page.

This resolution passed unanimously.

##### Resolution 67-9:

ISO/IEC JTC 1/SC 22/W 9 expresses its grateful appreciation to Steve Michell acting as secretary for Meeting #67.

This resolution passed unanimously.

##### Resolution 67-10:

ISO/IEC JTC 1/SC 22/WG 9 expresses its grateful appreciation to Joyce Tokar for convening Meeting #67.

This resolution passed unanimously.

[AGENDA](#AF)

Recess –

The meeting ended at 8:59 the Convenor recessed the meeting subject to her call. ISO/IEC JTC 1/SC 22/WG 9 designated experts may anticipate email ballots to be conducted during the months between this meeting and the next one.

[AGENDA](#AG)

## REFERENCES

### Relevant WG9 Documents

[ISO/IEC 8652:2012](http://www.iso.org/iso/home/store/catalogue_ics/catalogue_detail_ics.htm?csnumber=61507) Information Technology--Programming Languages—Ada

[ISO/IEC 8652:1995](http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=22983) Information Technology--Programming Languages—Ada

[ISO/IEC 8652:1995/COR.1:2001](http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=35451), Technical Corrigendum to Information Technology--Programming Languages—Ada

[ISO/IEC 8652:1995/AMD.1:2007](http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=45001), Amendment to Information Technology--Programming Languages—Ada

[N388](http://www.open-std.org/jtc1/sc22/wg9/n388.htm), Request for Subdivision of Project ISO/IEC 8652:1995

[N406](http://www.open-std.org/jtc1/sc22/wg9/n406.pdf), Procedures of the Ada Rapporteur Group

[N412](http://www.open-std.org/jtc1/sc22/wg9/n412.pdf), Instructions to the Ada Rapporteur Group from SC22/WG9 for Preparation of the Amendment to ISO/IEC 8652, 10 October 2002

[N414](http://www.open-std.org/jtc1/sc22/wg9/n414.pdf), Notification of Approval of Category C Liaisons between SC22/WG9 and Ada-Europe and SIGAda

[N416](http://www.open-std.org/jtc1/sc22/wg9/n416.htm), Charter of the Annex H Rapporteur Group (HRG)

[N417](http://www.open-std.org/jtc1/sc22/wg9/n417.htm), Charter of the ASIS Rapporteur Group (ASISRG)

[N423](http://www.open-std.org/jtc1/sc22/wg9/n423.pdf), Convener's Comments on Instructions to the Ada Rapporteur Group from SC22/WG9 for Preparation of the Amendment to ISO/IEC 8652, December 2002

[N437](http://www.open-std.org/jtc1/sc22/wg9/n437.pdf), ARG Rapporteur's Proposal for Defining Scope of Amendment to ISO/IEC 8652:1995, 9 April 2004

[N456](http://www.open-std.org/jtc1/sc22/wg9/N456.pdf), Convener Proposal for the Revision of the ASIS Standard, ISO/IEC 15291

[N457](http://www.open-std.org/jtc1/sc22/wg9/n457.pdf), Approved Plan for the Revision of the ASIS Standard, ISO/IEC 15291

[N459](http://www.open-std.org/jtc1/sc22/wg9/n459.txt), Disposition of Informal Comments Received on Editor's Draft of Amendment, 23 March 2006

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1. <http://www.ft.com/cms/s/2/fb1d1cba-53bd-11e4-8285-00144feab7de.html> Interesting article about Ada Lovelace that was published in the Financial Times on October 17, 2014. [↑](#footnote-ref-1)