# ISO/IEC JTC1/SC22/WG9 N 539

### Draft Meeting Minutes

***Draft 2 10 Dec 2013***

### Meeting #65 of ISO/IEC JTC1/SC22/WG9

**Friday 15 November 2013 in Pittsburgh, PA, USA**

In accordance with Resolution 64-5, the next meeting, meeting #65 was conducted in conjunction with the [High Integrity Language Technology 2012 (HILT 2013)](http://www.sigada.org/conf/hilt2012), Friday morning 15 November 2013 in Pittsburgh, USA. The meeting started at 9:10

A special session with Ada Vendors is scheduled to begin at 11:00 to discuss Ada 2012 and beyond.

The announcement and preliminary agenda for this meeting were circulated as [N537](#N537).

### AGENDA

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[Liaison Reports and Introductions](#LiasonReports)

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* [SIGAda](#SIGAda): David Cook
* WG 23: 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](#ARG): Jeff Cousins, Chair
* [Report of Annex H Rapporteur Group](#HRG): Alan Burns, Chair

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### Opening Orders, Joyce Tokar, Meeting Convenor

* Call to Order
* Appointment of Meeting Secretary – Clyde Roby was appointed Meeting Secretary.
* Approval of [Agenda](#Agenda)
* Welcome and Administrative Arrangements
* Approval of [N535](#N535): Meeting #64 Minutes (modified Juan de la Puente’s organization, changed HILT 2012 to 2013) – Resolution [65-1](#r1)

[AGENDA](#A1)

### National Body Reports

##### National Body Representatives:

|  |  |  |
| --- | --- | --- |
| Canada | Brad Moore (HOD), Stephen Michell | [Report](#Canada) |
| France | Jean-Pierre Rosen (HOD) (unable to attend) | [Report](#FRANCE) |
| Germany | *TBA* (HOD) | Report |
| Italy | Tullio Vardanega (HOD) (unable to attend) | [Report](#ITALY) |
| Portugal | Miguel Pinho (HOD) | [Report](#PORTUGAL) |
| Spain | Juan Antonio de la Puente (HOD) (virtual) | [Report](#SPAIN) |
| Switzerland | Patrick Gautschi (HOD) | No Report |
| UK | Jeff Cousins (HOD), John Barnes | [Report](#UK) |
| USA | S Tucker Taft (HOD), Randy Brukardt, Ed Schonberg | [Report](#USA) |

**Canada**

In Canada's previous national body report to WG9, it was proposed that Canada would initiate a request to SC22 at its September plenary to form a study group to determine the feasibility of creating a parallelism model that could be shared between programming languages. Such a model ideally would allow for optimal use of the system processing resources and avoid over-subscription of parallelism.

The request was made at the plenary, but SC22 declined to create such a study group, and instead encouraged other languages to participate in CPLEX.

Canada's previous national body report also proposed that a teleconference be scheduled to discuss this issue between WG9 members, however since the CPLEX meets by teleconference every 2 weeks, the need for a WG9 specific teleconference no longer seems necessary at this time.

Canada and Portugal in particular have been following the CPLEX discussions, and have contributed to the discussion.

*Discussion* –

The work on C Parallel Language Extensions (CPLEX) is being monitored by Tucker Taft, Steve Michell, Brad Moore, and Miguel Pinho. CPLEX is similar to Cilk Plus (<https://www.cilkplus.org/>) and Open Multi-Processing (OpenMP (<http://openmp.org>)). OpenMP was designed for multiple languages and is widely used in the parallel computing community. Currently, OpenMP has a C binding and a Fortran binding. Perhaps Ada should create an API to OpenMP. OpenMP is pretty widely supported and having a binding it to it may be a good start. If CPLEX becomes more widely available than OpenMP, then an API should be created for CPLEX. If such an API were created, it should be tied to C’s implementation of C’s APIs or C++’s APIs.

The discussion at SC22 was attempting emphasize the fact that programs are comprised on many different languages. An API would be valuable but it needs to be more than setting up the multi-core.

If such an API were created, it should be tied to C’s implementation of C’s APIs or C++’s APIs.

At the lower level, we have POSIX for kernel stuff. Here we talking about the layer above – the user space.

Perhaps we should create a Rapporteur group to get moving on the development of the API. Plan had been to put together a set of AIs to get the concept moving. Or maybe it should be a subgroup of the ARG. The small team, Brad, Steve, and Miguel, would generate AIs to get the API implemented.

The models underlying OpenMP and Cilk Plus are not compatible. It needs to be a subset of OpenMP. Need to support the mapping but can make it much safer in the Ada language. Set of Aspects in Ada code can be developed.

Assuming that we do this, what happens next? Should WG9 put out a Technical Report or a Technical Specification? The subgroup needs to outline what they are going to do and what they are going to bring to the ARG. Then what becomes of the work that is done to develop the API and associated artifacts? It needs to be brought to the public space at some point in time. APIs should be brought before the Ada vendors to get their support. Also, may need to get support of OpenMP and/or CPLEX communities.

SC22’s discussion emphasized that programs have many languages used in their creation. APIs would be valuable but must be on multi-cores.

[Action Item 65-1](#ai1): The group of four (Taft, Moore, Michell, Pinho) will develop a plan on what is to be done next to be presented at the ARG meeting in June 2014.

On the topic of ASIS, Canada believes that ASIS is a useful specification, but it comes into question whether it makes sense to continue work on the standard at this time, if there is only one vendor that implements the specification. Canada would like to hear if there are other vendors that would be interested in implementing an updated specification, if such an update were to be made available.

*Discussion* –

Much discussion in ARG about value of ASIS standard. Need to get input from vendors on their interest in it and their support of it.

### France The Ada group of AFNOR met on 2013-10-23. AFNOR is reinforcing the view that working groups should be not only financially viable, but also representative of the industry. Some of our industrial members have expressed the desire to experiment with Ada 2012 first, before being able to contribute actively to the group. This means that there is a risk that the group may enter a dormant state in 2014.

### *Discussion* –

### AdaCore has an office in Paris, why can’t they be part of AFNOR? There are number of multinational companies that belong to different National Bodies, e.g., Intel belongs to the Belgian NB as well as the US NB. Perhaps AdaCore can get together with JP Rosen to see what can be done to help this along.

### AFNOR would be happy to host a WG9 meeting in June 2014, provided the Ada group is still active next year.

### *Discussion* –

Why would WG9 meet at the AFNOR offices? While, it is close to JP Rosen’s office, it would be good for France as AFNOR is happy about it. At our previous WG9 meeting, it was decided not to meet at AFNOR as it is not close to the Paris Ada-Europe conference meeting location. It was suggested that a high-level invitation (very official level from ISO) be sent to AFNOR to come to Paris and meet with WG9. AFNOR is not too far away from Paris by train. Joyce can start the process so that ISO sends an invitation to AFNOR to come to Paris and meet with WG9.

### [Action Item 65-2](#ai2): The Convenor of WG 9 will send a letter to AFNOR inviting them to attend the meeting at the Ada Europe conference location.

### The group reviewed the AIs and expressed no objection to their approval. AFNOR will not be represented at the upcoming WG9 meeting, since no member is able to go to the SIGAda conference.

France might go into a hiatus until there are people that become interested in Ada.

**Italy**Nowadays, WG9-related business is conducted primarily upward, towards the SC22 level, by sending out recommendations on issues that matter the operation of WG9. Very little energy is available for networking downward, mostly because of the lack of commitment toward WG9 issues from industrial concerns in Italy.

As a HoD for Italy I did perform work for ARG and WG23 subsequent to the respective meetings in Berlin.

As for the WG9 meeting at the HILT, owing to heavy teaching duty back at home, I won't be able to attend in person and there won't be any substitute too.

Tullio apologized for not being present in person.

**Portugal**

There is no new information concerning the restructuring of the standardization activities in Portugal. Therefore National work related to WG9 continues to be in direct connection with the NB.

Have a similar issue as France, all of the changes associated with charging fees have been suspended. So, it is still possible to work on the WG and interact with the NB.

The delegation for this meeting of WG9 is Luís Miguel Pinho (HOD), attending in person.

**Spain**

5 November, 2013

Ada Spain will distribute the Ada 2012 Rationale to all its members, and will offer them the possibility of buying the Standard at a reduced price.

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

No organizational problems at the moment. No special requirements being asked for.

### UK

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 9. Alan Burns regrets that he is unable to attend and sends his apologies.

John Barnes completed the Ada 2012 Rationale. Jeff Cousins reviewed it and suggested changes, which were made. The Rationale is now with the publisher.

Cambridge University Press in the UK is now John’s publisher. It might be that an electronic device version of the Rationale may become available (Kindle) as they are more amenable in that area of publishing.

**USA**

The US has nothing special to report. Interested in the ASIS issue and what is the right story there. There was some discussion of pushing forward a SPARK standard, but internally AdaCore determined that this is premature, so that proposal has been withdrawn.

The delegation for this meeting of WG 9 is S. Tucker Taft (HoD), Randy Brukardt, and Ed Schonberg. Note, in the future, the USA will notify the Convenor prior to the meeting who will be attending in the USA delegation and who will be the Head of Delegation.

[AGENDA](#A2)

### Liaison Reports

**Ada-Europe Liaison Report:**

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

Ada-Europe would like to inform the WG9 convener that it will send a 2 person Ada-Europe liaison delegation to Meeting #65 in Pittsburgh, PA, USA, on Friday 15 November 2013.  
  
The delegation consists of:  
- Erhard Ploedereder  
- Dirk Craeynest (presenter)  
  
As mentioned in earlier meetings, the next Ada-Europe conference will be held on June 23-27, 2014, in Paris, France, and we reconfirm our usual hospitality agreement for WG9, ARG and HRG, as well as for WG23.  
  
Although no firm decisions have been taken yet, we are expecting the 2015 conference to be organized by Ada-Spain in the Madrid area.  
  
Ada-Europe regrets that John Benito had to resign from WG23, and we are worried about the future of the work of WG23 (and its impact on WG 9).  
  
Ada-Europe reconfirms its commitment to support the Ada standardization related activities.  As in previous years, Ada-Europe is committed to continue supporting the WG9 convener, hopefully together with SIGAda and the ARA.  
  
Furthermore, Ada-Europe co-sponsored the Ada 2012 work, by supporting the RM editor of the new language standard, and, after publishing the Rationale chapters in its Ada User Journal, has now produced together with the ARA and AdaCore the book version of the Rationale.  
  
On the occasion of HILT 2013 its free availability for downloading is announced, as well as its commercial publication in Springer's LNCS series (volume 8338).  At least 750 copies of the Ada 2012 Rationale LNCS 8338 are going to printed, and because of the large order we were able to considerably reduce the cost of production. Several national organizations (Spain, Belgium and Switzerland) bought a copy for each of their members, in other countries direct and indirect members decide on an individual basis.  
  
The plans for the near future include also publishing the Reference Manual in Springer's LNCS series (volume 8339).  Both publications have been self-financed, i.e. at no cost to Ada-Europe.

**SIGAda Liaison Report:**

**SIGAda Liaison Representative, David Cook (Chair, SIGAda)**

##### Background

SIGAda is a Category C Liaison to WG 9 (See N414)

**Report**

The next SIGAda meeting is planned for the Portland, Oregon area in the fall of 2014 (probably the week of October 20). Michael Feldman (George Washington University, Retired) has agreed to be the conference chair and Tucker Taft has agreed to be the Program Chair. In addition, Jeff Boleng has agreed to be Conference Treasurer. We are planning on co-locating this conference in conjunction with SPLASH (Conference on **Systems, Programming, Languages and Applications: Software for Humanity**), sponsored by SIGPLAN.

Discussion about when and where WG 9 will meet at that SIGAda meeting. WG 9 usually meets in a meeting room after SIGAda’s conference is over. However, David Cook says that “it will work”. If not at the same venue, there are other places in Portland where it can be located. It would be best for WG 9 to meet after the end of SIGAda’s conference on the same day as SPLASH’s opening session. Steve says, if it is possible, ARG could run parallel with HILT’s tutorials, perhaps ARG could meet during the weekend before HILT (usually when HILT’s tutorials are held). Tucker would rather not miss the HILT tutorials. Perhaps WG 9 could meet on Sunday or perhaps on an evening. Then ARG becomes more of a challenge because they usually have one or two full days.

In summer 2013, SIGAda held elections, and the new officers are: David A. Cook (Chair), Tucker Taft (Vice Chair), Clyde Roby (Secretary/Treasurer), and Dirk Craeynest (International Representative). Completing the Executive Committee are Ricky Sward (Past Chair) and Alok Srivastava (Editor of ACM Ada Letters).

**WG 23 Liaison Report:**

**WG 23 Liaison Representative, Erhard Ploedereder**

Since the June WG9 meeting, there has been one scheduled meeting of WG23 in Tokyo on Sept. 19-21, in conjunction with the SC22 meeting. Shortly before the meeting, the convenor John Benito lost his funding for the WG23 work and hence was unable to attend. Rex Jaesche stepped  
in to act as the meeting chair; Stephen Michell arranged the agenda. I was unable to attend myself in person or by tele-presence.  
  
In October, John Benito resigned officially, since he had been unable to reestablish funding. The future of WG 23 is somewhat uncertain at this point, as there is no official replacement for the convenor of the group. A convenor needs to be nominated by a National Body; John is of the opinion that the US National Body has first opportunity to nominate his replacement. Given a new convenor, a new editor of the Vulterability TR needs to be found as well. The Code Signing TR is  
edited by Larry Wagoner. John Benito is also ending his involved on the C group within a year or so.

John Benito’s leaving WG 23 will give that group a little more time as things will slow down a little. 6 sub-chapters need to be added for 6 vulnerabilities. The main body has also changed too. The HRG should meet at some place where they all get together anyway so that they can complete this work. It is planned that the next version of the WG 23 TR should go out in the next 2 years.

Question asked about strong connection between Robert Seacord and CERT with WG 23? Trying to get people with money involved. Erhard answered that he was involved at first but is not now. Tucker said that it would be good if he were involved. His guidelines don’t give a rationale for why they are present. Whereas the TR has rationale but does not produce guidelines for particular languages. Seacord came to HILT 2013, participating on a panel, and seemed interested in how there could be synergy between CERT and secure coding standards and WG 23’s work. Annexes are closer to coding guidelines because they are produced by other WGs, e.g., WG9 produces it for Ada. It might be possible to get Seacord involved now. Evidently John Benito was more C-centric than perhaps other people might be.

Quoting or paraphrasing Stephen Michell's report from Tokyo: In September we agreed to focus on 17960 for the January and March telecons and work in the background with others to get the Annexes of the Vulnerability TR revised, and to revisit the issue of its next release in June. We were speculating at least 2 years from then. We did confirm that there needs to be a revision.  
  
The slower pace is not all bad news, as the various liaised WGs need to find the time anyhow to update the language-specific annexes of the Technical Report (as is the case for WG9 and HRG, respectively.

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

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

(Provided after the meeting)

Since the 1990 standard, FORTRAN has been spelt Fortran.  
  
I noticed the proposal from Canada to develop a language-independent API for parallelism along the lines of Cilk Plus and OpenMP.  These paradigms work well for closely-connected systems, such as multicore processors, but at least (according to Cray) OpenMP does not scale well to enormous numbers of processors, and does not work as well for more loosely connected systems such as Beowulf clusters as it does for closely  
connected ones.  
  
To address this, and also the proliferation of incompatible paradigms and interfaces (OpenMP, HPF, MPI, PVM, shmem...), since 2008 Fortran includes a single processor/multiple data (SPMD) form of parallelism called coarrays.  This facility is intrinsic to the language, not based upon a library of procedure interfaces.  The intent is that it can transparently be built upon OpenMP, MPI, PVM, shmem, or whatever the provider believes is most appropriate for the audience.  Indeed, the intent is that the processor might, under the covers, decide which transport mechanism is best for a particular transaction.  This idea is being studied by the C committee, has been implemented (to a certain extent) as a class (template?) library in C++, and is the basis for a new "language" called UPC, for Uniform Parallel C.  Perhaps the Ada community should be interested in this idea as well.  The primary movers and shakers behind coarrays in Fortran are John Reid <[john.reid@stfc.ac.uk](mailto:john.reid@stfc.ac.uk)> (the WG5 convenor), and Bill Long <[longb@cray.com](mailto:longb@cray.com)>.

[AGENDA](#A3)

### Convenor's Report

### Activities since the Last Session

JTC 1/SC 22 accepted the US National Body has endorsed of Dr. Joyce Tokar as the US candidate for Convenor of JTC 1/SC 22.WG 9 – Ada at the JTC 1/SC 22 Plenary in Japan. This term is for three years. At the end of this term, Dr. Tokar will be stepping down as Convenor. Hence, the US National Body needs to begin work on finding a new convenor for WG 9 or forfeiting the convenorship to another National Body.

**Welcome**

#### Goals for this Meeting

The major objectives for this meeting are:

1. Ada Conformity Assessment
2. Update to the Appendices to the WG 23 Technical Report on Vulnerabilities – discussion during the Committee as a Whole session
3. Discussion on the ASIS standard
4. Special session with Ada Vendors to discuss Ada 2012 and beyond.

[AGENDA](#A4)

### Project Editor Reports

### ISO/IEC 15291 (ASIS)

### ISO/IEC 18009 (Conformity Assessment of an Ada Language Processor) No activity to report. The resolutions of meeting 64 make a corrigendum or revision of the standard unnecessary.

### 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 92 Ada issues. The ARG meeting in Berlin during June 2013 discussed all of the High and Medium priority AIs, all of the Low priority Easy difficulty AIs and half of the Low priority Medium difficulty AIs. Most achieved some form or other of interim approval.

As there is not yet a work item for a further amendment, only the most promising amendment AI (Index parameters in array aggregates) was discussed. It was greeted with relative enthusiasm.

As of 25 Oct 2013, 11 AIs have been approved by WG 9, 19 by the ARG but not yet by WG 9 and 38 are work in progress. 24 of the 38 are candidate amendments.

A number of AI's have completed editorial review and are ready for approval by WG 9. The list follows. As usual, 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 8 Oct 2013):

AI12-0001-1/06 2013-08-27 -- Independence and Representation clauses for atomic objects

AI12-0030-1/06 2013-07-19 -- Formal derived types and stream attribute availability

AI12-0032-1/07 2013-07-17 -- Questions on 'Old

AI12-0033-1/08 2013-10-07 -- Sets of CPUs when defining dispatching domains

AI12-0034-1/05 2013-10-07 -- Remote stream attribute calls

AI12-0035-1/05 2013-10-07 -- Accessibility checks for indefinite elements of containers

AI12-0044-1/05 2013-10-07 -- Calling visible functions from type invariant expressions

AI12-0050-1/04 2013-07-17 -- Conformance of quantified expressions

AI12-0054-2/05 2013-10-07 -- Aspect Predicate\_Failure

AI12-0056-1/05 2013-07-03 -- Presentation errors in Ada 2012

AI12-0062-1/02 2013-07-03 -- Raise exception with failing string function

AI12-0067-1/02 2013-10-07 -- Accessibility level of explicitly aliased parameters of procedures and entries

AI12-0069-1/02 2013-10-07 -- Inconsistency in Tree container definition

AI12-0070-1/03 2013-10-07 -- 9.3(2) does not work for anonymous access types

AI12-0072-1/05 2013-10-07 -- Missing rules for Discard\_Names aspect

AI12-0073-1/02 2013-07-05 -- Synchronous Barriers are not allowed with Ravenscar

AI12-0076-1/04 2013-10-07 -- Variable state in pure packages

AI12-0077-1/02 2013-10-07 -- Has\_Same\_Storage on objects of size zero

AI12-0078-1/01 2013-06-14 -- Definition of node for tree container is confusing

Work on the ASIS standard continues to be more-or-less non-existent, apart from a useful matrix from Jean-Pierre Rosen listing which AIs are likely to have impacted ASIS. The editor has no funding for work on ASIS, which is a contributing factor to the lack of progress.

Future meetings are scheduled for 15-17 November 2013 in Pittsburgh, Pennsylvania, U.S.A., in conjunction with the HILT (formerly SIGAda) 2013 conference, and provisionally for 27-29 June 2014 in Paris, France, in conjunction with the Ada-Europe 2014 conference.

Continuation of the ARG: Resolution [65-2](#r2).

Approval of the AIs: Resolution [65-5](#r5).

**Rapporteur Report HRG:**

The HRG is tasked with responding to the new version of the Language Vulnerabilities Report within the context of the new version of Ada (2012). Both of these updates will require modifications to the Ada (and Spark) annex.

An initial meeting of the HRG took place on the 13th November 2013. During which time it was decided that Alan will allocate work to HRG membership to get first round of materials in Ada-Europe June time-frame. Then at the IRTAW meeting in September to do final updates. Alan said that he will send out the task assignments to the HRG membership on Monday when he returns to office. So HRG will do the updates.

A further meeting will occur during Ada Europe 2014.  
  
Membership of HRG remains unchanged.

Continuation of the HRG: Resolution [65-3](#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 #66.

**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.

**Action 63-6**

Dan Eilers will work with JP Rosen to provide a preliminary list of the issues that prevent public packages, libraries, and bindings from working on all compilers and provide this to Tucker Taft.

*Discussion:* No action at this time.

**Action 63-7**

Find out what compilers are validated against what versions of the Standard (Randy Brukardt, Dirk Craeynest).

*Discussion:* No action at this time

**Action 64-1:** JP Rosen (France) will investigate the possibilities of conducting Meeting #66 at AFNOR and report back to WG 9 no later than Meeting #65.

*Discussion:* Closed – WG 9 decided during meeting #64 that we would meet at the Ada-Europe conference venue. Further discussion during this meeting confirmed the decision to meet at the Ada-Europe conference venue and invite the AFNOR membership to participate in the meeting.

**Resolution** **64-11:**

ISO/JTC 1/SC 22/WG 9 instructs ACAA Technical Agent to update the ACAA Procedures to specify the meaning and realization of telepresence with respect to witness testing.

*Status*: Closed

*Discussion:* The Agent has updated the procedures, but has not discussed the changes with the ACATS Advisory Board at this time. The word “physcial” appears once in the current procedures; this can be easily corrected. The concept of “telepresence” needs to be better defined in the document to ensure that the necessary work is achieved. There is a concept that is related to this that also needs to be corrected. Need to have some discussion on how witness testing is done virtually.

**Resolution** **64-12:**

ISO/JTC 1/SC 22/WG 9 will contact ISO/JTC 1/SC 22/WG 14 to enquire about developing a cooperative effort on parallel programming models, e.g., CPLEX, and report back to ISO/JTC 1/SC 22/WG 9 at Meeting #65.

*Discussion:* The work on CPLEX is being monitored by Tucker Taft, Steve Michell, Brad Moore, and Miguel Pinho. See [Action Item 65-1](#ai1).

[AGENDA](#AA)

### Committee as a Whole

* Issues from the ISO/IEC JTC 1 Plenary (Michell)

Report to ISO/IEC/JTC 1/SC 22/WG 9 from the 2013 JTC 1 Plenary (4-10 Nov 2013) Stephen Michell

I attended the JTC 1 Plenary as a Canadian delegate. I would like to bring to WG 9's attention some developments that can be important to WG 9.

JTC 1 is still working through the process of aligning its supplement with the ISO/IEC combined directives.

One of the issues that JTC 1 has had to deal with is the slippage of ISO and IEC getting their directives out. This year the first JTC 1 saw of the combined directives was June 2012, well after our March meeting, which caused the JTC 1 supplement update to slip to Jan 1 2014.

ISO and IEC are exerting considerable pressure for JTC 1 to better align its processes with their processes. One example of this is the use of “delegates” or “experts” to WG meetings. Our parents believe that WG membership is for experts, and that decisions made should be by consensus of experts, not NB delegates. JTC 1 wording stating that technical experts should work within their NB position has been removed. The affect on WG 9 is that WG 9 may be directed in the future to conduct Working Drafts of its products exclusively by consensus and to not use NB positions as a basis for decisions.

It is important to note that pressure may be put on WGs in the not too distant future to comply with these processes.

Another area that these changes can affect WG 9 is in the use of TR's and TS's. At a SWG Directives meeting, the ISO ITTF representative pointed out to me that the way that SC WG's are producing TR's is wrong. His claim is that the documents that we call TR's should have been standards. In the ISO and IEC view of their products, Technical Reports are only collections of data put together by the experts without the weight of an official Project, and passed and published in a single level of balloting (CD level). JTC 1 currently has an ad hoc group looking at the TR and the TS processes. It is probable that this work will result in the elimination of the JTC 1-specific wording on these products.

The result for WG 9 is that WG 9 may be told in the near future to seriously consider the status of TR's for which it is responsible, with the possible expectation that such documents be reclassified as standards instead of being kept as Technical Reports. Another effect would be that WG 9 could not submit NP ballots for TR development.

Under ISO/IEC rules, Technical Specifications, they would continued to be used as near-standards, i.e. failed standards or documents that are expected to become standards within a few years of publication as a TS. Balloting of TS's would require a 2/3 majority of SC P-members in a subcommittee-level ballot (and no TC level ballot). Currently WG 9 has no documents that rate the status of TS.

*Discussion:* ISO believes that guidance should be captured in a standard rather than a Technical Report or a Technical Specification.

ISO is looking to drop Directives Part 2 – as it looks like no one is conforming to the content of the Part 2.

Would not be able to create a new work item to do a Technical Report. WG 9 may need to take an initiative to communicate with ISO the differences recognized in the field with respect to technical reports and standards. Standards imply conformance where as technical reports have little or no association with conformance or compliance, rather, they offer guidance.

* Future of ASIS
  + There has been a stream of discussion on the ARG mailing list regarding how to handle updating the ASIS standard or if we should update the ASIS standard. This session will enable members of the WG 9 to comment on their preferences.

There is not a large number of people that are interested on working on the ASIS standard.

AdaCore would not support anything on ASIS (premature) and ACATS (do not want vendor’s inputs). ARA money may be used to work on ACATS. AdaCore has funded Randy to continue work on the ARA website.

Only one vendor has shown any interest in ASIS. Because of the lack of other Ada 2012 compilers, there is not a lot push for ASIS.

Vendors support customers – add features to meet the needs of the customers. It is a good idea to work on ASIS now but there is no demand from the customer base. There is a need to create a customer need to gain momentum on ASIS.

There are other ways to bring a standard and that is when an external group (e.g., AdaCore and Rational) brings it in. If two or more vendors want to agree, let them work together to define one, then if they want to bring it to WG9, they can.

For the time being, the WG work on ASIS will be put in the back ground.

It is possible for an external entity to develop an ASIS standard and bring it to ISO (WG 9) as a candidate.

* Modified process for changes to the language
  + As stated in an email from the Convenor on 17 Sep 2013, the FORTRAN WG corrects 'glitches' in their standard using yearly corrigenda. Some of the National Bodies have indicated that it is desirable to get corrections to the standard out to the public more frequently than the 5+ year cycle of the revision to the standard.

One of the issues at doing this is generating the deltas. There is a merged standard that is maintained by Randy Brukardt that could be accessed on-line but is not published as a revision.

It would be nice to do a corrigendum right now due to the items that have been approved by the ARG and WG 9 due to the introduction of new syntax and binding interpretations.

Need to produce a corrigendum document. Need to do wording all along as opposed to the ‘big bang’ that has been done previously.

The pain comes from reviewing the changes.

Effectively, ARG would bring corrections to the standard on a yearly basis and then every 5 years or so, put it into the standard (roll-up of the yearly Corrigenda). Advantage is that AI goes out publicly more often. We cannot publish this as a yearly revision due to the amount of work to get a revision organized and approved. It is mainly change pages to the standard. Randy doesn’t think it’s any additional work because he’s doing it already; he just needs to add an additional “cover page”. It seems that nobody will read the delta document, but people seem to like the updated merge document with AIs in them.

Randy’s tool now builds Corrigenda automatically, so creating them each year is easy to do – simply add that “cover page”. The consolidated version would be a “complete” update to the standard. Fortran does it against their base document (the 5-year version) each year. Thus, we need to find out what all that Fortran does and how it might affect us. The issue is what is the corrigendum is against?

[Action Item 65-3](#ai3): The Convenor will contact the FORTRAN Convenor and Richard Cook to determine what the process is for the generation of corrigenda and new revision and email the findings to the WG.

* Update to Ada Annex and SPARK Annex to the WG 23 Technical Report on Vulnerabilities (Tokar)
  + See [HRG Report](#_Rapporteur_Reports)
* Special Session with Vendors
  + ATEGO bought Rational’s APEX (which had a partial implementation of Ada 2005) – it would be interesting to find out what their plans are for Ada 2012.
  + OAR sends apologies for not being able to attend the meeting. President, Mark Johannes, had an emergency this morning and could not attend. In addition, sequestration caused them to cut their staff by 50%.

Unfinished Business

**New Business**

Scheduling of Future Meetings

The next meeting of WG-9 will be held in conjunction with the [19th International Conference on Reliable Software Technologies Ada-Europe 2014](http://www.ada-europe.org/conference2013), Friday morning 27 June 2014 in Paris, France.

The following meeting will be held in conjunction with [High Integrity Language Technology 2014 (HILT 2014)](http://www.sigada.org/conf/hilt2014), TBD in Portland OR, USA.

Resolution [65-4](#r4)

[AGENDA](#AC)

**Administrative Actions**

##### Resolution 65-1:

The minutes of Meeting #64 contained in document [N535](#N535) are approved.

##### Resolution 65-2:

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 (UK) is continued as Rapporteur.

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

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.

##### Resolution 65-3:

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.

Alan Burns (UK) is continued as Rapporteur.

The membership of the HRG is designated to be: Steve Baird (US), John Barnes (UK), Patrick de Bondeli (France), Alan Burns (UK), Rod Chapman (UK), Robert Dewar (US), Gary Dismukes (US), Bob Duff (US), Michael Gonzalez Harbour (Spain), Stephen Michell (Canada), Brad Moore (Canada), Miguel Pinho (Portugal), Erhard Ploedereder (Ada-Europe), Juan Antonio de la Puente (Spain), George Romanski (SIGAda), Jean-Pierre Rosen (France), S. Tucker Taft (US), Tullio Vardanega (Italy), and Brian Wichmann (UK).

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.

##### Resolution 65-4:

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

Meeting #66 in conjunction with the [19th International Conference on Reliable Software Technologies Ada-Europe 2014](http://www.ada-europe.org/conference2014), Friday morning 29 June 2013 in Paris, France.

Meeting #67, in conjunction with [High Integrity Language Technology 2014 (HILT 2014)](http://www.sigada.org/conf/hilt2014), <TBD> in Portland OR, USA

[AGENDA](#AD)

#### Review of New Action Items

**Action Item 65-1:** Taft, Moore, Michell, Pinho to develop and present plan on the way forward for WG9 with respect to the development of an API to OpenMP and/or CPLEX to be presented at the ARG meeting in June 2014.

**Action Item 65-2:** The Convenor of WG 9 will send a letter to AFNOR inviting them to attend the meeting at the Ada Europe conference location.

**Action Item 65-3**: The Convenor will contact the FORTRAN Convenor and Richard Cook to determine what the process is for the generation of corrigenda and new revision and email the findings to the WG.

[AGENDA](#AD)

### ****Review of New Resolutions****

##### Resolution 65-5:

AI12-0001-1/06 2013-08-27 -- Independence and Representation clauses for atomic objects

AI12-0030-1/06 2013-07-19 -- Formal derived types and stream attribute availability

AI12-0032-1/07 2013-07-17 -- Questions on 'Old

AI12-0033-1/08 2013-10-07 -- Sets of CPUs when defining dispatching domains

AI12-0034-1/05 2013-10-07 -- Remote stream attribute calls

AI12-0035-1/05 2013-10-07 -- Accessibility checks for indefinite elements of containers

AI12-0044-1/05 2013-10-07 -- Calling visible functions from type invariant expressions

AI12-0050-1/04 2013-07-17 -- Conformance of quantified expressions

AI12-0054-2/05 2013-10-07 -- Aspect Predicate\_Failure

AI12-0056-1/05 2013-07-03 -- Presentation errors in Ada 2012

AI12-0062-1/02 2013-07-03 -- Raise exception with failing string function

AI12-0067-1/02 2013-10-07 -- Accessibility level of explicitly aliased parameters of procedures and entries

AI12-0069-1/02 2013-10-07 -- Inconsistency in Tree container definition

AI12-0070-1/03 2013-10-07 -- 9.3(2) does not work for anonymous access types

AI12-0072-1/05 2013-10-07 -- Missing rules for Discard\_Names aspect

AI12-0073-1/02 2013-07-05 -- Synchronous Barriers are not allowed with Ravenscar

AI12-0076-1/04 2013-10-07 -- Variable state in pure packages

AI12-0077-1/02 2013-10-07 -- Has\_Same\_Storage on objects of size zero

AI12-0078-1/01 2013-06-14 -- Definition of node for tree container is confusing

The AI's can be found at [www.ada-auth.org/ais.html](http://www.ada-auth.org/ais.html) (this list was distributed 8 Oct 2013).

These AIs are hereby approved by WG9.

[AGENDA](#AD)

### Final Consideration of Resolutions

#### Appreciation

**Resolution 65-8:**

ISO/IEC JTC 1/SC 22/W 9 expresses its grateful appreciation to SIGAda for their gracious accommodations in hosting Meeting #65.

**Resolution 65-9:**

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.

##### Resolution 65-10:

ISO/IEC JTC 1/SC 22/W 9 expresses its grateful appreciation to Clyde Roby for acting as secretary for Meeting #65.

##### Resolution 65-11:

ISO/IEC JTC 1/SC 22/WG 9 expresses its grateful appreciation to Joyce Tokar for convening Meeting #65.

[AGENDA](#AF)

**Recess –**

The meeting ended at 11:45 The Convenor recessed the meeting subject to her call. HODs may anticipate email ballots to be conducted during the months between this meeting and the next one.

[AGENDA](#AG)

## REFERENCES

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[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

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[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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[N463](http://www.open-std.org/jtc1/sc22/wg9/n463.pdf), ISO/IEC Directives, Part 2, Rules for the structure and drafting of International Standards

[N464r](http://www.open-std.org/jtc1/sc22/wg9/n464r.pdf), 2nd Preliminary draft New Work Item Proposal for the Revision of ISO/IEC 15291, ASIS

[N465](http://www.open-std.org/jtc1/sc22/wg9/N465.pdf), Response of ISO/IEC JTC1/SC22/WG9 to SC22 Resolution 5-15

[N467](http://www.open-std.org/jtc1/sc22/wg9/n467.pdf), Submission of ISO/IEC 8652:1995/FPDAM 1 to SC22 for FPDAM ballot

[N468](http://www.open-std.org/jtc1/sc22/wg9/n468.pdf), Example approach for structuring the revised ASIS Standard

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[N477](http://www.open-std.org/jtc1/sc22/wg9/n477.pdf), Canadian Contribution, Initial Work Scope Summary for updating Ada POSIX Bindings IS 14519:2001 to POSIX Draft IS 9945:2008 and Ada 2005.

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