HIGHLIGHTS of 10 June 1996 ASISWG/ASISRG Meeting

On Monday, 10 June 1996, the **Ada Semantic Interface Specification Working Group (ASISWG)** and the **Ada Semantic Interface Specification Rapporteur Group (ASISRG)** met at Montreux, Switzerland in conjunction with Ada-Europe'96. An ASIS paper and a 3-hour ASIS 95 Panel were presented as part of the conference. On Friday, 14 June 1996 a preliminary version of ASIS was presented to ISO/IEC JTC1/SC22 WG9. Highlights from these meetings include =>

1. There had been significant email traffic concerning the potential to implement ASIS using a client/server approach. At the last meeting, Issue #0009, titled "Don't preclude a client/server ASIS implementation" had been approved. However, the resolution was not satisfactory to many. The resolution was that the ASIS interface should not preclude implementation by a client/server. Many wanted a more positive resolution. Although it is viewed that a standard interface to the ASIS facilities will be provided by most implementations, an additional client/server approach using the Common Object Request Broker Architecture (CORBA) Interface Definition Language (IDL) would provide many benefits. Consequently we are now investigating IDL approaches for using the ASIS interface. There are some technical issues which must be resolved (e.g., generics are not available across the IDL interface). If we can resolve these issues, we plan to provide an IDL interface on the ASIS Home Page; perhaps the IDL interface will be incorporated in some manner in the ASIS specification.

2. A draft ASIS Working Draft had been distributed on 1 June 1996. The primary goal of the ASISWG/ASISRG meeting was to identify changes to this draft in order to submit the draft to ISO/IEC JTC1/SC22 WG9 for their vote as a Committee Draft. Those changes identified included:

- Provide a section addressing what is meant by the Ada 95 compilation environment;
- Provide a section addressing implementation permissions to include client/server approaches;
- Review the current specification for incompatibilities with IDL and either provide functionality via alternative means (e.g., replace generic procedures with procedures having subprogram parameters) or identify mapping from an IDL-generated ASIS specification to the current ASIS specification.
- Obtain feedback on Object-Oriented capabilities from SIGAda's Object-Oriented Working Group (OOWG);
- Provide an annex with additional examples of ASIS usage;
- Clean up inconsistencies within the specification;
- Update the glossary;
- Make minor wording corrections as redlined at this meeting;
- Remove sentinels denoting open issues and differences between ASIS 83 and ASIS 95; and
- Eliminate package Local_Renames within the Data_Decomposition package.

3. On Tuesday 13 June, Dr. Sergey Rybin (Moscow State University) presented his paper on *"ASIS for GNAT: From the Prototype to the Full Implementation*." On Wednesday 14 June, a 3-hour ASIS Panel co-chaired by Mr. Currie Colket (U.S. Navy) and Dr. Sergey Rybin was presented; this included presentations by Mr. Jesper Jørgensen (DDC-I), Mr. Pascal Leroy (Rational Corporation), Mr. Bertrand Petitprez (Sema Group Grenoble), Mr. Clyde Roby (Institute for Defense Analyses), Mr. Tom Strelich (GRC), and Mr. Bill Thomas (MITRE). The paper and panel were highly professional and well received. Copies of these presentations are available on the ASIS Home page at URL =>

http://www.acm.org/sigada/wg/asiswg [note new and shorter URL]

4. On Friday, 14 June, the draft ASIS Working Draft was presented to ISO/IEC JTC1/SC22 WG9 with the request that they provide feedback to the ASISRG for changes they would like to see prior to their approval. Preliminary guidance WG9 has provided includes:

- A rationale is required; A small rationale may be included in the Committee Draft; a larger one will probably be provided as a separate document.

- An index is not required, but desirable.
- All ASIS packages shall be child packages of ASIS. This will reduce the potential for name space conflicts.
- Error processing shall use the Ada 95 methodology to identify errors in a task safe manner.
- A statement needs to be made concerning the effect of multiple tasks accessing the ASIS interface simultaneously (i.e., the "tasking safeness" of ASIS).
- All examples need to be compiled and working to the current specification (the current example was only tested to the 2.0.E specification and has an error in the context clause).
- The current document called a draft Committee Draft should be called a Working Draft. It is not to be called a Committee Draft until approved by WG9.

5. After the ASIS specification has been updated, it will be sent to ASIS-Technical for a 2-week review, and then, if satisfactory, will be sent to WG9 for a ballot. WG9 will then commence balloting on a 60-day cycle, providing comments to be resolved until they are satisfied with the ASIS specification.

6. Also at the WG9 meeting, Mr. Steve Michell from the Safety and Security Rapporteur Group (HRG) presented a proposal for a new language feature, ***pragma annotate,*** which is dependent on ASIS. Pragma annotate would provide a means to embed assertions in Ada code, possibly in the form of:

```
pragma annotate (assert,  X>Y,  Z=0);
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The expressions "X>Y" and "Z=0" could then be evaluated using ASIS to ascertain where X, Y, and Z are declared. A tool using ASIS interfaces could then analyze the code to verify that these assertions held true at the location of the pragma annotate statement. Note that the Ada comment "--| assert X>Y, Z=0" does not provide the similar capability as there would be no mapping to the declarations of X, Y, and Z and consequently there would be no capability to verify the assertion. Such a pragma could be extremely valuable in evaluating Ada code for safety-critical applications. Additional information on the HRG and this pragma can be found on the HRG Home Page => http://www.npl.co.uk/npl/cise/systems/hrg.html.

7. For those who would like to comment on the ASIS specification, the fastest way to find it on the ASIS Home page is to follow the link called: "ISO Standardization of ASIS: The ASIS draft Working Draft document." Items you would like to be turned into formal issues should be sent to: ASIS-Comment@sw-eng.falls-church.va.us using the format described in the section titled: "Instructions for Comment Submission." Other comments can be sent to ASIS-Technical@sw-eng.falls-church.va.us for discussion. An updated version will be placed on the Home Page by Monday, 1 July 1996 with minor changes to the document.

Overall, our first international ASISWG/ASISRG meeting and our ASIS activities at Ada-Europe'96 were very successful. This was due to the hard work of the people who did attend the meeting and in part to the hard work of many people who could not attend the meeting. Thank you all for your important work in getting ASIS to where it is today. A very special thanks to the ASIS 95 Panelists who all did a superb job. Also a very special thanks to Dr. Alfred Strohmeier and Mr. Stephane Barbey who facilitated the ASIS activities during Ada-Europe'96. The next ASISWG/ASISRG meeting will be held in conjunction with Tri-Ada'96 in Philadelphia, Pennsylvania, the United States on 2 or 3 December 1996. We are also planning a panel or BOF for Tri-Ada'96.

v/r
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An additional cheerful note: Balloting for the ASIS New Work Item at JTC1 had closed on 28 May 1996. It was approved and Project 22-15291 assigned. The voting summary will be distributed in SC22 document N2188 in the next mailing.