



“Ada-WOW”

# Ada's Window On the World

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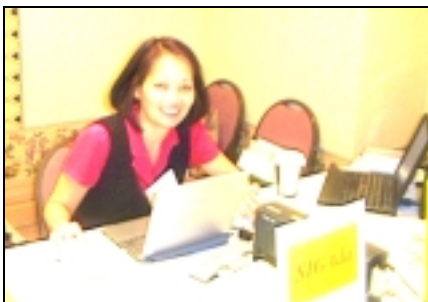
## ***Tutorials Over (Whew)! Conference Opens ...***

by Hal Hart (TRW)  
SIGAda'99 Conference Chair

By the time you read this, you are probably looking for or in the SIGAda'99 opening plenary session. In addition to Bran Selic's opening keynote address and the two tracks of technical papers you have surely already studied in the FP, today features 3 diversions to keep you going in every direction at once — the first of 3 SIGAda'99 workshop opportunities to shift gears from being in the audience, the Exhibit Hall opening at 10:30am, and tonight's conference opening Gala reception and musical/parody entertainment provided by Ada Core Technologies, now a SIGAda tradition. Read more about these, reviews of Tuesday tutorials, more local color, & an opinion piece in this issue.

I am pleased to report enthusiastic crowds at our Sunday and Monday tutorials, with energy and favorable reports on the quality of the “training” exceeding our hopes.

Finally, I am delighted that our registrar Carol Mann, from Registration Systems Lab in Florida, escaped just before hurricane Irene last Friday to join us here in Redondo Beach for SIGAda'99.



Carol Mann (RSL) – SIGAda'99 Registrar

## ***Highlights of Tutorial MA1: “Using GNAT for the Java platform”***

by Chris Sparks (Boeing)

On Monday, October 18, 1999, I attended a tutorial presented by Gary Dismukes (email address is [dismukes@gnat.com](mailto:dismukes@gnat.com)) of Ada Core Technologies, Inc. (ACT). The room was filled up with a total of 23 participants. Mr. Dismukes provided his guests with an outline of a product soon to be available which will allow Ada and Java to work together. This product is called JGNAT 1.0, “The GNAT Ada 95 environment for the Java Virtual Machine (JVM).” He told his audience that this product is almost ready for first release pending the completion of documentation. This product's goal is to compile Ada software and generate Java byte code. Mr. Dismukes inferred that Java and Ada are fairly cooperative technically. In essence “Java is very Ada friendly” and “JVM is an excellent Ada platform.”

ACT's implementation goal with JGNAT is to be 100% Ada 95 (core and annexes). JGNAT is written all in Ada95 and the sources will be available under the GPL license. For the first release he indicated that JGNAT is effectively 66% complete with some outstanding language design issues that will need work.

Mr. Dismukes presented architectural diagrams of the compilation system of both GCC/GNAT backend along with the JVM/GNAT backend. One nice feature that I thought interesting is that Ada task will map to Java threads and that Ada tasks can call Java thread code and vice versa.

When JGNAT is made available it will come bundled with a suite of support

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### Weather Forecast

Today (Sunny)  
High: 26 C (79 F)  
Low: 14 C (58 F)

Tomorrow (Sunny)  
High: 26 C (78 F)  
Low: 14 C (58 F)

tools. These are `jvmstrip`, `jvmlist`, `jvm2ada`, `jgnat`, `jgnatmake`, `jgnatbind`, and `jgnatlink`. Future plans for JGNAT will be the integration of GLADE technology.

One final curiosity of this presentation is that JGNAT will probably require a change through either a language extension (which is on the table with the Ada Rappateur Group, a.k.a. ARG) or relaxing some of the parameter accessing rules.



### ***Cheesecake Factory (No, this is not a design pattern...)***

by Mark Lundquist (Rational)

The Cheesecake Factory is on the other side of Harbor Drive from the hotel and a few blocks north. The food here is great, and our service was excellent too. The menu is quite extensive, so if you are like me you might need a while to figure out what to order. If you like spicy stuff, I can recommend the shrimp in black pepper sauce with plantains and mango salsa.

It is called "Cheesecake Factory" for a reason ... they really do have an impressive array of cheesecakes – maybe two dozen or so. If you are not into the cheesecake thing, there are other desserts including the demurely named "Apple Dumpling", which is really a massive pastry with (pardon the pun) an apple at its core.



### ***Yesterday's Coffee House***

by Mark Lundquist (Rational)

This is kind of a Bohemian Café type of thing located on Catalina Avenue, the road that runs behind the hotel. It is on the other (east) side of the road, a short walk south (right next door to the Strip Joint – a furniture refinisher!)

This is perfect place for a BoF meeting or just to go hang out with some colleagues (or maybe by yourself, if you need to get away from your colleagues). Good coffee and tea are featured in an atmosphere of comfortably worn furniture (some of it is ready for the Strip Joint), Miles or Coltrane on the stereo, and a staff and climate of young beatnik types (thankfully, the interior is smoke-free).



### ***Lady Ada's Greatest Hits***

**Tuesday, October 19, 7:30 p.m.  
(following the SIGAda '99 Reception)**

by Chris Sparks (Boeing)

Hold onto your hats and strike out the band, Ada is coming so lets give her a hand! Well I thought it was cute when I wrote it! ☺ Seriously folks we will be graced tonight with a grand presentation by our colleagues from ACT. This gala event will capture the essence of Lady Ada's 150 year musical career. With help from Ed Schonberg and special featured friends we will no doubt be enthralled and delirious with laughter. I am confident that this event will be very memorable. To quote our modern day Ada (Karen Syck), "You will not want to miss it!"



### ***Highlights of Tutorial MPI "Building Ada Development Tools with ASIS-for-GNAT"***

by Chris Sparks (Boeing)

On Monday, October 18, 1999, I attended a tutorial presented by Sergey Rybin of ACT. The room was filled up with a total of 19 participants. I personally haven't delved into ASIS, so this was my opportunity to get a bird's eye view of how to use it for potential development tools that I may compose. ASIS is the acronym for the Ada Semantic Interface Specification. Its intended use is to perform static analysis on previously compiled code. This has obvious advantages in that a software engineer can write programs to help analyze his software. Mr. Rybin used a style checker example to illustrate how ASIS could be used.

Mr. Rybin was very detailed in his presentation and presented a thorough examination of ASIS. According to Mr. Rybin his ASIS-GNAT product is still a partial implementation of ASIS 95, however, the main parts of ASIS 95 functionality are implemented. He also indicated that DOS and Macintosh environments are not supported at this time.

I will one day experiment with ASIS to develop some useful tools to help me better understand ASIS' power. Mr. Rybin closed his speech with, "ASIS is THE solution for highly portable free and proprietary software analysis tools."



### ***Is Ada Fancy Enough?***

by Haiping Xu  
(Univ. of IL at Chicago)

Ada folks have caught up all the fancy stuffs nowadays. During these two days, I attended two tutorials that talked about UML and CORBA. These new technologies are usually *talked* in the context of C++ or Java. Does anyone realize that Ada never goes behind of other languages? It turns out that no matter UML or CORBA, these new features are so seamlessly connected with Ada program paradigm.

The Unified Modeling Language (UML), whether or not it's too flexible, is the Object Management Group (OMG)'s standard. Effective use of UML requires good guidelines. The great benefit of UML is that all software developers and researchers have a common and practical language to talk about software engineering. Since 1995, Ada incorporates all the features of object-oriented methodology, UML seems as a pretty good tool for specifying and designing a complex system which will be written in Ada 95. During yesterday's lecture, Prof. Shan Barkataki clearly described most of the models and diagrams that could be produced by using UML. To activate atmosphere, Prof. Barkataki also gave us wording riddles to work on. Here is an interesting one: What does "T rn" implies a commonly used phrase? What's your answer? Wait a

minute ... I'll give you the answer shortly. Is your answer something like "missing you"? You must be a romantic person!

In today's tutorial that I attended, Mr. Brad Balfour first introduced the concept of CORBA, then he explained how IDL (Interface Definition Language, the key of CORBA) were mapped into Ada 95, which was achieved by using a compiler called `idl2ada`. Now we have the expectation that we could write Ada servers for those C++ or Java folks, although they might not quite understand what Ada really is, they will finally realize that how reliable Ada programs could be.

Mr. Balfour is a confident guy, giving us the impression that he knows every aspects of CORBA. In addition to his tutorial, he will also give us a presentation titled as "The Current State of CORBA" the day after tomorrow. If you would like to meet this guy any way, don't miss the plenary session on Wednesday afternoon.

Now, here is the answer to the wording riddle: No U-Turn. Did you get it?



### ***Exhibit Hall Opens Today!***

by JC Morrison

The exhibit hall opens at 10:30 AM today. Don't miss the exhibits on display in Salons 1, 2, and 3 just off the Redondo Foyer. Go see what Ada Core has in the way of GNAT technology – GNAT for Windows NT, RT-Linux, LynxOS, JGNAT, NT hosted PPC VxWorks, SCO Unixware and GtkAda. They are going to announce GLIDE, the new GNAT Professional IDE.

Go take a look at TRW to see cutting edge software and systems engineering technologies – command and control systems, satellite ground stations, image processing applications, and the new digital payload for the Astrolink system.

After that, stop by Green Hills Software where they are showcasing AdaMULTI 2000 – the most comprehensive Ada 95 software development environment available for embedded applications. Also on display is the fully ACVC 2.1

validated and ACAA conformance certified Ada 95 cross compilers. AdaMULTI supports Green Hills' Ada 95, C, C++, and FORTRAN compilers enabling seamless development of application programs in any combination of these languages.

Aonix is here, as well, in Booth E-1. Aonix is a world leader in the corporate and technical development tools market. Such products as ObjectAda Real-Time/ RAVEN, is an effective development toolset for real-time applications. ObjectAda Real-Time for Intel/ETS – the most cost-effective solution for real-time and embedded Intel targets. ObjectAda Real-Time for Tornado is a complete Ada 95 development environment supporting Wind River Systems Tornado/VxWorks. It provides real-time multi-language debugging support, dynamic task analysis, and real-time programming versatility. ObjectAda for UNIX is an Ada 95 development environment for full-featured UNIX application development. ObjectAda for Windows is the world's best selling environment for developing Windows and Java platform applications for the Ada language. ObjectAda offers fast compilation and compatibility with all Microsoft standards, including ActiveX, COM, Win32, CodeView, and MFC.

Some of the other vendors who are exhibiting their products this year are Vector Software, Absolute Software Company Inc., USC Center for Software Engineering, DDC-I, US Army Aviation & Missile Command, Irvine Compiler Corporation (ICC), Top Graph'X, Irvine Sci-Tech Books, Software Engineering Institute (SEI), Metamor ITS, Software Engineering Associates for JOVIAL Programming Office, OC Systems, RR Software, The Oliver Academy, Rational Software, and Quality Checked Software.

The exhibit hall will be open until 4:00 PM today and until 2:00 PM on Wednesday. So ... what more could you ask for? – go see it!



### ***Highlights of Tutorial MP2, "Windows Development with Ada"***

by Steven Doran (Litton Guidance & Control Systems)

Windows development is an exciting field in Ada and I was looking forward to Örjan Leringe's tutorial, "Windows Development with Ada." I am pleased to write that I was not disappointed. The base of the tutorial was the binding tools available for Ada's: Win32Ada, GUIBuilder from Aonix, Ada Foundation Classes (AFC), and Claw from rrsoftware. Mr. Leringe showed clear, detailed examples of code for each Ada tool. I was particularly impressed that Mr. Leringe diverted from his outline and explained "Ada Dispatching," (virtual functions in C++ speak.) This showed that Mr. Leringe was truly interested in teaching the subject mater. Several times the example code was run and this helped the attendee's understand the code by "seeing the code in action." Windows bindings are not easy to comprehend at first, and like I described before, Mr. Leringe did a wonderful job of teaching the material in such a way that is easy to understand.

All in all, Mr. Leringe did an excellent job and showed enthusiasm in his field on study. I hope that Mr. Leringe does more tutorials in future SIGAda's and I would recommend that anybody interested in expanding their Ada knowledge attend.



### ***Highlights of Tutorial MA2, "Systems Programming in Ada"***

by Steven Doran (Litton Guidance & Control Systems)

Monday's morning's tutorial, "Systems Programming in Ada" presented by Bryce Bardin covered the basic concepts of system programming and the tools Ada provides to write system programming applications. Mr. Bardin

started the tutorial with the proper use of `Attribute_Definition_Clauses`. `Attribute_Definition_Clauses` are a new tool in Ada 95 and many Ada programmers who have not moved to Ada 95 might not have been introduced to this powerful tool. It was my impression that this was the case of many of the attendees to the tutorial. Mr. Bardin then went into the System package and the changes that were made to the package for Ada 95. Mr. Bardin then discussed overlaying of data to break the strong typing of Ada in order to interface to eternal entities. This discussion led to Overlaying of access types. The tutorial concluded with interfacing to other programming languages in Ada 95 but unfortunately, the tutorial ran too long to go over this topic in any detail.

I found that Mr. Bardin did a good job of giving the tutorial attendees an overview of the special considerations that need to be thought about when writing system applications.

I do feel that the tutorial should have been all day, considering that amount of material that was presented. Still, my impression is that many of the attendee's did benefit from attending.

### ***Workshop of October 18, "Toward an Ada Standard Component Library"***

by Steven Doran (Litton Guidance & Control Systems)

A workshop will be held today from 10:30am - 4:00pm coordinated by Alexy Khrabrov from the University of Pennsylvania to discuss the acceleration of the ASCL formalization process. Ada Standard Component Library (ASCL) is an initiative to provide a robust, cohesive, general-purpose library of Algorithms and Data Structures (ADS) for Ada 95. The goal of ASCL is to provide and exceed the functionality similar to C++/STL and Java library. Two bodies of existing knowledge and experience will be reviewed and discussed: existing ADS component architectures and libraries for Ada, and those for other programming languages,

notably Java and C++. The workshop is open to all conference participants and will be held in the Ocean room.



### ***Clifford Stoll's New Book***

by Michael P. Walsh

Clifford Stoll, tracker of hackers and author of the books "The Cuckoo's Egg" and "Silicon Snake Oil: Second Thoughts on the Information Highway" has written a new book "High Tech Heretic" and reviewed by Susan Salter Reynolds in the Sunday, October 17, 1999 LA Times Book Review section. Stoll makes the case that computers do more harm than good, especially in the classroom, according to the reviewer. I am not certain that Stoll actually believes the world would be better off without computers, but he certainly doesn't regard them as a great aid to education. The review says Stoll is especially wary of products and people who insist that computers can make learning fun. They quote him saying "Most learning isn't fun. Learning takes work, Discipline." The reviewer finishes with "Stoll swims upstream on the information highway, populated, as he sees it, by refugees." As for my own view, I believe Clifford Stoll is quite sincere in his beliefs and I recommend the book "The Cuckoo's Egg", the only one that I have read, very highly. If his books continue to sell well he will do quite well with his negative views on what I would call current computer culture. At least it is good to have a critic who knows something about the technology whose effects he is criticizing.

Simple words will replace the computer language used in Internet searches.

This was in an article in the Monday, October 18, 1999 Los Angeles News by staff writer Jason Z. Cohen

Real Names, a San Carlos-based company, is working on a scheme to replace URL addresses with keywords. When the user types a one or more words in the browser's address window and the corresponding page will be displayed. He gave the example where

the user types "ford explorer" and the page on Ford Motor Co.'s web site for the Explorer model is displayed. Bill Washburn, chief policy officer of RealNames, said key words would be assigned using a set of guidelines that still is under development. RealNames is positioning itself to the primary source to register the keywords for a fee. Microsoft and Alta Vista are already on board.

My comment is that if there is a current battle over domain names (the subject of another article) then you can look forward to many new struggles over keywords. Perhaps one of the biggest employment growth opportunities will be for Internet lawyers.



**Mark Gerhardt & Ed Colbert in a scene that could be from 1985.**

### ***Ada's Window on the World***

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