

ACM SIGAda presents
SIGAda '98

(formerly Tri-Ada)

Annual International Conference

November 8-12, 1998

Omni Shoreham Hotel Washington, DC

Ada



in Context



FINAL PROGRAM

Sponsored by the ACM's Special Interest Group on the Ada Programming Language,
in cooperation with: SIGAPP, SIGBIO, SIGCAS, SIGCSE, SIGPLAN,
SIGSOFT, Ada-Europe, Baltimore SIGAda, and DC SIGAda

Message from the SIGAda Chair

ACM's Special Interest Group on Ada (SIGAda) is an international group dedicated to exploring the technical, business, and educational issues related to the Ada programming language. Chartered in 1981, we have continuously served an essential role in the Ada community with enthusiastic Working Groups, a timely and relevant newsletter, and a tradition of high-caliber, exciting conferences. As Chair of SIGAda, I welcome you to SIGAda '98 where you will learn about new Ada-related developments from the experts in the field. The successor to both the annual TRI-Ada exposition and the Washington Ada Symposium (WAdaS), SIGAda '98 is this year's largest Ada-focused conference, drawing participants worldwide from all segments of the software industry. In addition to the high-quality technical papers, you will see the latest offerings from Ada vendors in the exhibition hall, and you will hear candid and dynamic presentations from panels on various elements of Ada policy. You have made the right decision to attend SIGAda '98—you won't be disappointed!

Ben Brosgol, Aonix (brosgol@aonix.com)

Message from the Conference Chairs

We welcome you to ACM SIGAda's annual international conference on Ada Technology, SIGAda '98, in Washington DC, November 8-12, 1998. As the successor to the TRI-Ada Conference and Exposition, SIGAda '98 is this year's largest Ada-focused conference, and continues TRI-Ada's tradition as *the* meeting place for practitioners, educators and researchers interested in Ada technology.

Ada's proven track record and its full support for object-oriented design and programming makes it a viable language for a diverse number of applications. The installed base of Ada software continues to grow, and this growth is coming in a variety of domains.

It is well known that Ada is the preferred language for high-integrity software-based systems, including aerospace, commercial aviation, and military systems. Less heavily publicized is the significant degree to which Ada is being adopted in ground transportation, financial, medical and internet applications.

The theme of this year's conference, "Ada in Context," focuses on the expanding application of Ada in software development, highlighting that Ada is alive and well in all these contexts. Ada's well established support for sound software engineering also makes it an ideal language for introducing software engineering at undergraduate and graduate levels, and as such is of increasing interest to academia.

The conference includes tutorials, technical papers, experience reports, panels, and workshops on a wide range of topics, providing a wealth of information of interest to the Ada community. We thank you for joining us in Washington DC for SIGAda '98!



General Co-Chair,
Mr. Ed Seidewitz,
DHR Technologies
(seidewitz@acm.org)



General Co-Chair,
Dr. William Thomas,
MITRE
(bthomas@mitre.org)



Program Chair
Dr. Michael Feldman,
The George Washington University
(mfeldman@seas.gwu.edu)

SIGAda '98 International Conference

Officers

General Co-Chairs,
Mr. Ed Seidewitz,
DHR Technologies
(seidewitz@acm.org)

Dr. William Thomas,
MITRE
(bthomas@mitre.org)

Program Chair
Dr. Michael Feldman,
The George Washington University
(mfeldman@seas.gwu.edu)

Exhibits Chair
Dr. Benjamin Brosgol,
Aonix
(brosgol@aonix.com)

*SIGAda Vice Chair for Meetings
& Conferences*
Mr. Currie Colket,
(colket@acm.org)

Tutorial Chair
Dr. David Cook,
C.S. Draper Laboratory
(cookd@software.hill.af.mil)

Publicity Chair
Mr. David Harrison,
(dharrison@acm.org)

Workshops Chair
Dr. Alok Srivastava,
TRW
(alok.srivastava@trw.com)

Conference Treasurer
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TRW
(Hal.Hart@acm.org)

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US Department of Defense
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McDonald Bradley
(rprice9979@aol.com)

Proceedings Chair
Ms. Susan Carlson
IITRI
(scarlson@iitri.com)

ACM Program Director
Ms. Heather Levell
ACM
(levell@acm.org)



OMNI SHOREHAM HOTEL Washington, DC

November 8 - 12, 1998

(see pages 18 - 19 for Conference Maps)



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Brad Balfour, Objective Interface Systems
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Debora Weber-Wulff, Technische
Fachhochschule Berlin

David Wood, Aonix
Anna Yu, North Carolina A&T University



Keynote Speakers

“How Can We Trust Software-Based Safety-Critical Systems?”

George Romanski / Aonix



Tuesday, 9:00 AM

Safety critical systems may have deadly consequences if they fail. Software expresses the algorithms which make systems versatile. How do we balance the flexibility software gives us, with the safety of these control systems? If your life depended on correct and timely execution, what steps would you take to make sure you don't die? What steps would you expect others to take on systems that you use? Can we recognize the characteristics of software that appear to increase risk of system hazard? Can we remove these risks or make them “acceptably improbable”? What role does Ada play in these systems? Can we put our hands our hearts and say “trust me – it's safe”?

George Romanski is the Director of Safety Critical Software at Aonix. He has specialized in the production of software development environments for the last 28 years. The work focused on compilers, cross compilers, run-time systems and tools, primarily for embedded real time applications in several languages, but focusing on Ada over the last 18 years. Over the last six years George Romanski has concentrated on software tools and certification materials for safety critical applications. The results of the work have been used on avionics, railway and nuclear applications at the highest levels of criticality.

“Why Don't Those Dunderheads Agree with Us?”

Dennis J. Frailey / Raytheon and Southern Methodist University



Wednesday, 9:00 AM

Academia and Industry often seem to be at odds over curriculum, research topics and priorities. To the academic, commercial companies are myopic and capricious as they compete in the global marketplace. To those in industry, universities are bastions of the irrelevant and the impractical, as faculty compete for research funds, prestige and student enrollments.

Dennis J Frailey is a Distinguished Member of the Technical Staff at Raytheon Systems Company and an Adjunct Professor of Computer Science at Southern Methodist University. He has worked for both academia and industry for his entire career. He has also been active in ACM and other professional societies, in computer science accreditation, and in establishing software engineering as a profession.

“Embedding Ada in the 21st Century”

Franco Gasperoni / ENST and Ada Core Technologies



Thursday, 9:00 AM

With the emergence of a ubiquitous network along with powerful and inexpensive 32-bit processing, the next revolution may well be computing embedded in a person's living-room, car, wallet, ...

Will the presently segmented market of embedded processing be overtaken by caffeine-ridden technologies or will a draft from an open window blow it towards PC computing? Whatever its fate, applications in this forthcoming embedded arena will be large and will require real-time processing, something Ada is well equipped to tackle successfully. After having emerged as a key technology for safety critical systems, will the Ada marketplace be able to capitalize on its real-time and software-engineering strengths to establish Ada as a significant technology in the next wave of computing hype?

Franco Gasperoni is one of the founders of ACT-Europe, the European GNAT company and a professor of Computer Sciences at the ENST in Paris. He is one of the main architects of the GNAT-to-Java effort currently underway. His teaching experience encompasses courses on compiler design, programming languages (Ada, C, C++, Java), computer architecture and operating systems.

Special Invited Speakers

Ada is Alive and Well in Air Traffic Management

Judith Klein / Lockheed- Martin

Tuesday, 2:15 PM



Ada continues to play a major role in the development of modern Air Traffic Management (ATM) Systems. Lockheed-Martin has developed an Ada-based infrastructure supporting the distributed, real-time, highly-available applications typical in the ATM domain. This presentation will highlight Lockheed-Martin's experience with this infrastructure in the development of ATM applications, and will discuss their interest in porting the infrastructure to Ada95 to support future ATM systems development.

Ms Klein has over 20 years of systems experience building distributed, real-time systems of various sizes in different application domains. Air Traffic Management has been the focus over the last eight years. Ms Klein is a software architect for domestic Enroute systems. She has earned a BS from Carnegie Mellon University and an MS from Johns Hopkins University.

The Real Ada in Context

Betty Alexandra Toole

Wednesday, 2:15 PM



Ada Byron, Lady Lovelace, has been the source of myths, inspirations, and distortions in the popular press, movies, science fiction, as well as by scholars. She evokes attention and controversy wherever she goes. The recognition of her contribution to computer science and programming has even been called into question, yet the real Ada displayed the kind of thinking which is as important today as it was in 1843. It is only by seeing Ada clearly and carefully, by putting her in the appropriate context, that Ada "adds value" and works.

Dr. Betty Alexandra Toole received her Bachelor and Doctorate in Education degrees from the University of California at Berkeley. While obtaining her doctorate, she worked full-time to support the development of a key innovation in silicon wafer fabrication and was co-owner of San Jose-based GaSonics International. She now works as a consultant and an adjunct professor of Computer Science.

Boeing's Open System Architecture and Ada - A Program Perspective

Kevin Wooley / Boeing

Thursday, 2:15 PM



Open Systems Architecture (OSA) is the basis for mission avionics systems on multiple large domestic and foreign Boeing programs. Discussion will include the definition and leverage of Open Systems concepts, DII COE compatibility in a real-time environment, challenges with multi-language/ multi-compiler / multi-program support, legacy systems re-engineering, evolutionary development, Ada83-Ada95 migration, concepts for addressing COTS plus cost avoidance to date. Hear the benefits and drawbacks of Ada from a large program perspective along with Open System challenges on the horizon.

Kevin Wooley has been sixteen years at the Boeing Company working in embedded software development on various software projects from Space Craft Control, Simulations and Airborne C2 Systems. His main background is in the design and development of large human in the loop systems and their integration. He has worked in Ada and COTS based systems since 1989, and in Software Program Management since 1992.

Conference at a Glance

- **Saturday, November 7**
10:00 AM - 4:30 PM Professional Development Seminars (PDS)

- **Sunday, November 8**
8:30 AM - 5:30 PM Tutorials (see pages 6-7)
6:00 PM - 10:00 PM ASIS Workshop (To participate, see page 8)

- **Monday, November 9**
8:30 AM - 5:30 PM Tutorials (see pages 6-7)
8:30 AM - 5:30 PM Workshop: Application of Software Design Patterns and Idioms (see page 9)
1:30 PM - 5:30 PM Workshop: Expediting the Commercial Use of Ada (see page 8)
5:30 PM - 7:00 PM Local SIGAda Representatives' Dinner Meeting (See page 13)
7:00 PM - 11:00 PM SIGAda Extended Executive Committee Meeting (open to all) (See page 13)

- **Tuesday, November 10**
8:30 AM - 5:30 PM Technical Program (see pages 10-11)
9:45 AM - 2:00 PM, 3:00 PM - 6:00 PM Exhibition Hall (see pages 14-16)
6:30 PM - 9:30 PM Reception and Gala "AdaGore, or The Microjunk Curse" (see page 9)

- **Wednesday, November 11**
8:45 AM - 5:30 PM Technical Program (see pages 10-11)
9:45 AM - 2:00 PM, 3:00 PM - 6:00 PM Exhibition Hall (see pages 14-16)
5:30 PM - 7:00 PM SIGAda Public Forum (open to all - see page 13)
7:30 PM - 11:00 PM Birds-of-a-Feather (BOF) sessions and Working Group meetings (see page 13)

- **Thursday, November 12**
8:45 AM - 4:30 PM Technical Program (see pages 10-11)
9:45 AM - 2:00 PM Exhibition Hall (see pages 14-16)



Photo courtesy of the Washington, DC Convention & Visitors Association

SIGAda '98 Conference Program

Tutorials

- Half-day morning tutorials are from 8:30 AM to 12:30 PM.
- Half-day afternoon tutorials are from 1:30 PM to 5:30 PM.
- Full day tutorials are from 8:30 AM to 5:30 PM.
- Tutorials with an AM time will include coffee from 8:00 AM to 8:30 AM, and a break from 10:15 AM to 10:45 AM.
- Tutorials with a PM time will include a break from 3:15 PM to 3:45 PM.

(See summary on pages 10-11)

Sunday Morning

SA1 Introduction to Ada95.

Dave Cook & Les Dupaix

GARBO

This tutorial is a gentle introduction to Ada 95. It assumes no prior experience with Ada, although some experience with another programming language would be helpful. It discusses the basic concepts of the language, and includes topics such as strong typing, tasking, exception handling, generics and packages. This tutorial is designed to inform participants of the capabilities of the Ada 95 programming language, to dispel common myths about the language, and will cover reasons why Ada is a superior language for maintainable, robust and reliable code development.

Sunday Afternoon

SP1 Ada, Java & GNAT: A Manager's and Developer's Road Map. *Franco Gasperoni, Gary Dismukes and Edmond Schonberg*

CAPITOL

The objectives of this tutorial are:

- Explain the important elements of the Java technology.
- Help managers and developers understand the opportunities represented by this emerging technology.
- Provide a road map for project managers & software engineers to help them understand where Ada fits in the world of Java, and how companies can take advantage of their Ada investments for the

Java platform.

- Explain how to write Ada applications for the Java platform using the GNAT compiler, which has recently been targeted to this platform.

The tutorial will contain down-to-earth examples to help participants acquire a concrete grasp of the concepts presented.

SP2 Introduction to Web Technologies for Effective Dissemination of Information.

Currie Colket, Clyde Roby, Brad Balfour, and John McCormick

EMBASSY

This tutorial is oriented towards providing SIGAda volunteers with the basic information to effectively disseminate information using the WWW. The tutorial addresses effective designs for web pages, the use of html for developing one's own web pages, incorporation of graphics, the use of ftp for posting pages to the network provider, and several automated tools (both UNIX-based and PC-based) useful to streamline the process. Strategies for announcements, configuration management, on-line mailing lists, on-line databases, and use of other document formats will be addressed for not only US dissemination, but also the international community. The use of the ACM host machine will be used as the model. Although the tutorial is specifically designed to support the needs of SIGAda Working Groups and SIGAda Chapters, the information will be useful to all interested in learning how to set up a WWW Home Page.

SP3 Developing Solutions in Windows 98/NT with Ada.

Eugene Bingue

GARBO

This tutorial/panel, designed for intermediate to experienced Ada programmers, will show how to develop and implement Ada programs on a Windows 95 or Windows NT platform. Panelists will provide a technical solution in one of the many areas of concern, such as GUI, OCX, and Active-X. An overview of the Windows API will be the starting point with an introduction into alternate GUI's such as TCL/TK.

Sunday Full Day

SF1 Ada 95 as a Foundation Language for Undergraduate Programs. *Michael Feldman*

FORUM

This tutorial will present the advantages of Ada 95 as a foundation introductory programming language for undergraduate computing curricula, including details of prototypical first- and second-level courses. Ada 95 combines the clear syntax and programming discipline of Pascal with a range of standard, industrial-strength features for encapsulation, template- and inheritance-based object-oriented programming, and language-defined multitasking.

SF2 Software Systems Architecture: a practical architecture method. *Dave Emery*

CONGRESSIONAL

The tutorial begins with an overview of architecture as a major part of the system life cycle. We then present an approach to architectural description, based on a "architectural metamodel," allowing an architecture to be described as a set of interrelated views, where each view is composed of components, connections and constraints.

SF3 FUSION: an object-oriented development method, with mapping to Ada. *Alfred Strohmeier*

CABINET

Fusion is an object-oriented software development method. It is a full-coverage method, providing for all of analysis, design, and implementation. By integrating and extending existing approaches, Fusion provides a direct route from a requirements definition through to an implementation. The advantage of the Fusion method is that it offers not only notations for describing models, but a process for development.

Room Assignments are subject to change. Please check the Bulletin Boards on site for latest changes.

Monday Morning

MA1 Object-Oriented Programming in Ada95. *Mordechai Ben-Ari*

CONGRESSIONAL

The tutorial will present the “object-based” constructs of Ada 83 (packages and private types), followed by the constructs of Ada 95 that support full object-oriented programming: tagged types and extensions, inheritance, class-wide types used for dynamic polymorphism and child packages for building hierarchical subsystems. The presentation is built around a large case-study: discrete event simulation.

MA2 Introduction to the Texel-Williams OO Process. *Putnam Texel*

FORUM

The morning tutorial is designed to introduce the Texel/William OO process, which provides technical project infrastructure that comes from process (parts, phases, activities and steps), products and metrics (including a precise definition of project progress metrics and project content). The OO methodology presented is notation independent, iterative, incremental, and based on use cases.

(see MP2 for continuation)

Monday Afternoon

MP1 What the Personal Software Process (PSP) means to your organization.

Les Dupaix

CONGRESSIONAL

This tutorial will introduce the SEI Personal Software Process (PSP). PSP is a self-improvement process designed to help programmers control, manage, and improve the way they work. Properly used, PSP allows developers to gather and interpret their historical data to better make and meet commitments, and also to improve personal quality. It can also be used to made the routine elements of your job (not just code development) more predictable and efficient. The only requirements for attending this tutorial are experience in either code development or project management. After attending this tutorial, attendees will see the benefits of PSP on both a personal level and from a managerial perspective.

MP2 Tailorings of the Texel-Williams OO Process from real project experience. *Putnam Texel*

FORUM

The afternoon tutorial is a presentation of sample tailorings of the process from real project experience. Experience in a programming language is not required. Experience in project management or OO design or architectural design would be beneficial.

MP3 Building Ada Development Tools: ASIS and other GNAT Technologies. *Sergey Rybin and Cyrille Comar*

CABINET

The tutorial will explain, how you can build your own development and program analysis tools when working with GNAT. The existing GNAT toolset and different approaches to tool development will be presented. One of the tool development technologies, ASIS (the Ada Semantic Interface Specification), will be discussed in details. The discussion will include presenting of some existing ASIS-based tools and of the ASIS implementation for GNAT.

The tools to be considered at the tutorial include, but are not limited to library management tools, metric tools, style checkers, code optimization tools, etc.

Monday Full Day

MF1 Real-time and non-Real-time CORBA programming for Ada95. *Brad Balfour*

HAMPTON

This tutorial is aimed at Ada 95 developers interested in using CORBA technology in their Ada 95 applications to create high-performance distributed client/server applications and/or to mix Ada 95 with other languages on heterogeneous computing environments. This tutorial assumes that the audience members can write and understand programs in Ada 95. Familiarity with object-oriented programming in Ada 95 will be helpful. No background or experience with CORBA is assumed.

MF2 Non-Standard Techniques in Ada (Or, What You Weren't Told in Ada 101). *Art Duncan*

CAPITOL

This tutorial is directed toward students and educators as well as professional Ada programmers. The techniques presented have the dual advantage of being both useful and fun.

These techniques include

- (1) declarative techniques for encapsulating control structures,
- (2) a flexible, data-driven technique that, for want of a better term, I have called “template-driven programming,”
- (3) use of inheritance and iterators to define generalized applications, and
- (4) a technique based on lazy evaluation for the creation and manipulation of infinite data structures.

MF3 Java for Ada Programmers. *Ben Brosgol*

GARBO

For this tutorial, some exposure to Ada 95 and OOP is helpful but not strictly necessary. Knowledge of Ada 83 is quite useful.

This tutorial will consist of four parts: Part one will cover Java fundamentals, basic properties of classes, and run-time models. Part Two will cover lexical properties, expressions and statements, data type topics, OOP: inheritance, polymorphism, dynamic binding, and interfaces. Part Three will cover exceptions, threads, and advanced OO features (cloning, inner classes). Part Four will cover the Abstract Windowing Toolkit and applets.

After the tutorial the participants will know how to write Java applications and applets, and how Java compares with other languages, particularly Ada.

MF4 Internet programming with Ada. *Terry Westley*

EXECUTIVE

Internet programming typically requires many disparate languages and technologies. This tutorial presents a unified approach for using Ada for both client and server-side Internet programming. Detailed information and many working programs are presented to teach Ada programmers how to build Java applets and CGI (Common Gateway Interface) programs in Ada.

SIGAda '98 Conference Program

Workshops

While there is no charge to attend these workshops, all participants must be registered for at least one full day of the Conference.

Sunday, November 8 6:00 - 10:00 PM

CABINET

ASIS Workshop

Goals & Focus:

The primary focus of the Ada Semantic Interface Specification (ASIS) Working Group and ASIS Rapporteur Group has been to evolve ASIS as an interface to the Ada 95 compilation environment. ASIS now provides a powerful mechanism to perform code analysis for mission-critical and safety-critical applications. A variety of highly effective tools have been built using ASIS. This interface should be an approved ISO standard by November 1998. But, where do we go from here?

The ASIS standard provides for conforming extensions. The ASIS compiler vendor community is already providing extensions. Would it be desirable to identify a secondary layer of such interfaces to support greater portability of ASIS programs? If so, which category of interfaces are needed; OO interfaces, library interfaces; tasking interfaces; run-time interfaces?

A Program View Layer was provided for Ada 83. Is such a layer desirable for ASIS for Ada 95?

ASIS currently provides a number of mechanisms to address OO analysis. The last couple of interfaces added to the ASIS standard provided direct benefit to the OO community. Would additional mechanisms be of value to the OO community?

A number of tutorials exist on the ASIS Home Page (<http://www.acm.org/sigada/wg/asiswg>). Are these useful to software engineers wanting to use ASIS? Would tutorials addressing a different focus be valuable?

Currently there is no textbook on the bookshelves addressing the value of ASIS and how to use ASIS effectively. Would such a book be desirable? Is this something we could author ourselves?

Some have suggested a closer tie to the analysis of linked object code and even run-time debugging tools. Would it be desirable to evolve extensions to facilitate such analysis? Or we could say we have completed our job, pat ourselves on the back and go home. Participants from the compiler vendor community, tool vendor community, and user community will be asked to identify needs not addressed by the ASIS standard. Hopefully their thoughts will trigger your ideas to identify things the ASIS Community should be doing to better support the Ada community.

Results: The results will be presented in a conference session, published in Ada Letters, and will guide the activities of the ASIS community for years to come..

Requirements for Attendance: Your input will be extremely valuable in planning your future. Please plan on coming.

Coordinator: Mr. Currie Colket colket@acm.org

Monday, November 9 1:30 - 5:30 PM

EMBASSY

Workshop on "How do we expedite the commercial use of Ada?"

Goals & Focus:

We are faced with a paradox. Ada has been immensely successful as a technology driven product. It is now possible to create reliable commercial software. To those of us who use PCs in our daily lives, this is truly a technological marvel. Unfortunately, this is complemented by a very strange marketing situation: Ada is a commercial marketing disaster. One does not find Ada compilers, or even products acknowledging that they were written in Ada, in stores that sell commercial software. Therefore, all of us, the Ada compiler and tool vendors, developers, and we Ada users have the same problem. How do we promote the use of Ada for commercial-off-the-shelf software?

Requirements for Attendance:

The taxpayers are spending large sums of money for software systems that do not work or that are (CENSORED) or are so poorly constructed that they have significant year 2000 problems. Therefore, anyone who has an interest in the subject of commercializing Ada is invited. If they wish to speak that is even better. In short, let us do something!

Results

The results will be presented in a conference session and will also be published through SIGAda (web page and/or newsletter, Ada Letters).

Coordinator: Dr. Robert Leif rleif@rleif.com

Monday, November 9

8:30 AM - 5:00 PM

CALVERT

Workshop on Application of Software Design Patterns and Idioms

Goals and Focus:

Within the software community, the interest on design patterns have been growing at a phenomenal pace. There have been numerous publications describing various design patterns for solving many different problems. The goal of this workshop is to provide a forum for discussion and understanding among software practitioners, who have successfully applied design patterns in developing commercial, or industrial software. The ultimate objective is to capture and articulate, knowledge, experience and lessons learned in applying design patterns in a wide variety of application domains.

The focus of this workshop will be on application of existing and published design patterns, rather than introduction of new ones. Patterns that failed to achieve their objectives (antipatterns) will also be of interest. Additionally, the workshop will focus on interesting and innovative idioms in Ada-95. Presentations describing implementations of design patterns in Ada95 will be of special interest.

Requirements for Attendance: Potential participants will be asked to submit a position paper describing their experiences using design patterns and/or Ada95 idioms in actual software development work. The related work should be in the context of commercial or industrial products, i.e. not research or prototype work. The position paper should be about 500 words. Submissions should be made by electronic mail to one of the workshop coordinators. The text may be RTF, postscript, or PDF formats. The deadline for submission of position papers is Friday September 18, 1998.

Criteria for participant selection: Participants will be selected based on the merit of their position papers and the need to achieve balance on design patterns related to different problems and application domains. Selected participant will be invited to make a short presentation, during the workshop, describing his/her work experience. It is anticipated that the number of participants will be limited to 15.

Results: The results of the workshop will be presented in a Conference session and will also be published through SigAda (webpage and/or the news letter).

Co-ordinators: Dr. Shan Barkataki, California State University Northridge and Litton Data Systems, shan@csun.edu or sbarkataki@vines.littondsd.com and Patricia Dousette, Litton Data Systems, Agoura Hills, CA, Pdousett@vines.littondsd.com

Reception & Gala

Tuesday, November 10

(Reception at 6:30 PM - Performance begins at 7:30) REGENCY



AdaGore Inc. or The Microjunk Curse

AdaGore is a struggling consulting company of Ada programmers, eager to work, but having difficulty landing contracts because of the overwhelming market dominance of Microjunk Inc.

We discover in Act I that the CEOs of Microjunk are under a curse which requires them to ensure that one serious bug is placed in the code every day, making the use of Ada out of the question. Robin is considering adopting Ada for his new real-time project, and the programmers of AdaGore are hopeful, urged on by their leader Lady Ada.

But all is not as it seems. Is Despard really the CEO of Microjunk? What dark secret lies in Robin's background? And what of Mary, driven mad by being forced to program in C++? Perhaps the ghost of the first CEO of Microjunk, William, will provides some answers. Will all be resolved happily, will the CEO of Microjunk see the light, and will AdaGore get the new real-time contract that it is looking for? Join us Tuesday evening, for our fully staged production with a full orchestra and an all-star cast to find out the answers!

Sponsored once again by Ada Core Technologies, and produced by Maestro Robert Dewar and fellow teacher, compiler writer, lyricist, and accompanist Ed Schonberg. This innocent plot is blatantly lifted from Gilbert and Sullivan's "Ruddigore", to whom we are also indebted for the magnificent music.

Summary Conference Schedule

CONFERENCE

(See details of Keynote and Invited Addresses on pages 4-5)

Tuesday, November 10	
8:30 - 9:00am	Welcome and overview
9:00 - 9:45am	Keynote Address by George Romanski (Aonix)
9:45am - 2:00pm	Exhibition (Vendor Presentations 10:00 - 11:00am. See pages 14-16)
11:00am - 12:30pm	<i>Parallel tracks:</i>
	High-Integrity Software:
	Language Issues I:
	Distributed Systems:
	<p>The Ravenscar Tasking Profile for High-Integrity Real-Time Programs. <i>Brian Dobbing (Aonix)</i></p> <p>Looking into Safety with the High-Integrity Rapporteur Group (HRG). <i>Stephen Michell (Maurya Software), Mark Saalink (ORA Canada), and Brian Wichmann (National Physical Laboratories, UK)</i></p> <p>An ASIS-Based Static Analysis Tool for High-Integrity Systems. <i>William Pritchett and John Riley (DCS Corporation)</i></p>
	<p>Hardware/Software Co-design: VHDL and Ada 95 Code Migration and Integrated Analysis. <i>Mike Mills and Greg Peterson (US Air Force Research Lab)</i></p> <p>Kernel Ada to Unify Hardware and Software Design. <i>Gertrude Levine (Fairleigh Dickinson University, NJ) and Sy Wong (Adaware)</i></p> <p>The Rendezvous is Dead - Long Live the Protected Object. <i>Dragan Macos and Frank Mueller (Humboldt University, Berlin)</i></p>
	<p>A Dataflow Model Using Protected Types in a Distributed System. <i>Scott James, MCCI</i></p> <p>Implementing Shared Passive Packages using Multicast Technology. <i>Samuel Tardieu and Laurent Pautet (ENST)</i></p> <p>Multi-u: An Ada 95 Based Architecture for Fault Tolerance Support of Real-Time Systems. <i>L. M. Pinho (Polytechnic Institute of Porto), and F. Vasques (University of Porto, Portugal)</i></p>
12:30 - 2:00pm	Lunch
2:00 - 2:15pm	SIGAda Awards and Announcements
2:15 - 3:00pm	Invited Address by Judith Klein (Lockheed-Martin)
3:00 - 6:00pm	Exhibition (Vendor Presentations 3:00 - 4:00pm. See pages 14-16)
4:00 - 5:30pm	<p>Opening Panel</p> <p>"Ada after the 'Mandate'" Moderator: Hal Hart (TRW)</p> <p>Panelists: Dennis Frailey (Raytheon), Richard Riehle (AdaWorks), Tucker Taft (AverStar/ARA)</p>
6:30 - 9:30pm	<p>Reception and Gala</p> <p>(Reception at 6:30 - Performance at 7:30. See details on page 9)</p> <p>REGENCY BALLROOM</p> <p>Ada Core Technologies presents the further musical adventures of Lady Ada "AdaGore or The Microjunk Curse"</p>

Wednesday,	
8:45 - 9:00am	Announcements
9:00 - 9:45am	Keynote Address by Dennis Frailey (RA)
9:45am - 2:00pm	Exhibition (Vendor Presentations 10:00 - 11:00am)
11:00am - 12:30pm	<i>Parallel tracks:</i>
	University Education:
	Reusable Software:
	Ada 95:
	<p>Using Ada in Non-CS Majors. <i>A. T. Chamillard, Ronald J. Lisowski, and Richard R. Young (US Air Force Academy)</i></p> <p>A Controlled Study of Web-based Algorithm Animation Courseware in an Ada Data Structures Course. <i>Duane Jarc (The George Washington University, DC)</i></p> <p>An Outcome-Based Comparison of Ada and Pascal in an Introductory Computer Science Course. <i>Jeanne L. Murtagh (Air Force Institute of Technology) and John A. Hamilton, Jr. (United States Military Academy)</i></p>
	<p>A Reusable Library Executive for and Control Structures. <i>Nathan Fleener, Moody, and M. Stewart (Boeing Company)</i></p> <p>Patterns, Architecture, and Reuse. <i>John Ken Ray (Information Systems Division)</i></p> <p>Reusable Ada Supporting Infrastructure. <i>G. Duncan (Polytechnic Institute)</i></p>
	<p>Multi-u: An Ada 95 Based Architecture for Fault Tolerance Support of Real-Time Systems. <i>L. M. Pinho (Polytechnic Institute of Porto), and F. Vasques (University of Porto, Portugal)</i></p>
12:30 - 2:00pm	Lunch
2:00 - 2:15pm	Announcements
2:15 - 3:00pm	Invited Address by Betty Alexandra To
3:00 - 6:00pm	Exhibition (Vendor Presentations 3:00 - 4:00pm)
4:00 - 5:30pm	<i>Parallel tracks:</i>
	Development Tools
	The Ada-Java
	Ada 95:
	<p>Visual Support for Incremental Abstraction and Refinement in Ada 95. <i>T. Dean Hendrix, James H. Cross II, Larry A. Barowski, and Karl S. Mathias (Auburn University, Alabama)</i></p> <p>RAPID: Towards a Visual Ada. <i>Martin C. Carlisle (US Air Force Academy)</i></p> <p>An Application Engineering Workbench for Tailoring Ada Flight Components. <i>Ross H. Wainwright (Space Sensing And Vehicle Control Branch, Air Force Research Laboratory)</i></p>
	<p>A Comparison of Concurrency of Ada and Java. <i>Benjamin M. E. (Aonix)</i></p> <p>Using Java A Native Ada C. <i>Shayne Flint (National University)</i></p> <p>A Portable Implementation of the Discrete Systems Annex. <i>Mordecai Ben (Weizmann Institute, Science, Israel)</i></p>
	<p>Ada Public Forum (see page 13)</p>
5:30 - 7:00pm	Ada Public Forum (see page 13)

SIGAda '98 Public Forum

Wednesday, 5:30 - 7:00 PM PALLADIAN BALLROOM

Moderator: Ben Brosgol Refreshments sponsored by Aonix

The Public Forum was instituted at Tri-Ada '96 and continued at Tri-Ada '97 as an opportunity for members of the Ada community to interact with leaders of SIGAda, the Ada vendors' Ada Resources Association (ARA), and the Ada Joint Program Office (AJPO). Although the AJPO will have been closed by the time of the conference, the Public Forum will remain your chance to meet and converse with this year's notables at SIGAda '98.

SIGAda '98

November 8 - 12, 1998 Omni Shoreham Hotel

REFERENCE

Washington, DC

November 11

<p>Wright-Patterson and Southern Methodist University) 8:00am - 11:00am. See pages 14-16)</p>		
<p>Parallel tracks:</p>		
<p>Lightweight Command Systems. <i>Dr. Laura ...</i></p>	<p>Ada in Scientific Applications: Implementing a Culling and Self-Intersection Algorithm for Stereolithography Files in Ada 95. <i>John Reisner, Zeenat Lainwala, Tom Peters, Steven Demurjian, Sr. (University of Connecticut)</i></p> <p>Ada in Embedded Boards for Scientific and Medical Instruments. <i>Robert C. Leif and Suzanne B. Leif (Ada_Med)</i></p> <p>A Large Distributed Control System Using Ada in Fusion Research. <i>(John P. Woodruff (Lawrence Livermore National Laboratory)</i></p>	<p>Experience Reports: Ada in an On-board Military Communication System. <i>Victor Albertini (L-3 Communications Systems West)</i></p> <p>Ada 95 in Radar Simulation. <i>James Hopper (SAIC)</i></p> <p>Ada in the JAS 39 Gripen Flight Control System. <i>Bo Frisberg (SAAB)</i></p> <p>Reengineering a Legacy System Using Design Patterns and Ada 95 Object-Oriented Features. <i>Shan Barkataki et al (California State Univ. at Northridge and Litton Data Systems)</i></p>

8:00pm - 4:00pm. See pages 14-16)

<p>Parallel tracks:</p>		
<p>Connection</p>	<p>Experience Reports II</p>	<p>Command and Control on the World Wide Web. <i>Patricia Dousette (Litton Data Systems)</i></p> <p>A Layer 7 Routing Switch with Ada95 Software. <i>Mike Kamrad (BlazeNet)</i></p> <p>Algorithm Animation with Symbol Processing Robots. <i>Bard Crawford (Stage Harbor Software)</i></p> <p>The Personal Software Process (PSP)sm and Ada. <i>David Silberberg (US Dept. of Defense)</i></p>

GLADIAN BALLROOM

Thursday, November 12

8:45 - 9:00am	Announcements
9:00 - 9:45am	Keynote Address by Franco Gasperoni (ENST and Ada Core Technologies)
9:45am - 2:00pm	Exhibition (Vendor Presentations 10:00 - 11:00am. See pages 14-16)
<p>Parallel tracks:</p>	
<p>Language Issues II</p>	<p>Testing Generic Ada Packages with APE. <i>Daniel Hoffman and Jayakrishnan Nair (University of Victoria, Canada) and Paul Strooper, (The University of Queensland, Australia)</i></p> <p>Dependency Analysis of Ada Programs. <i>Janusz Laski, (Oakland University, Michigan)</i></p> <p>A Specification and Code Generation Tool for Message Translation and Validation. <i>Chuck Plinta (Accel Software Engineering)</i></p>
<p>Converting Ada 83 Serving Tasks to Ada 95 Protected Objects. <i>Bangqing Li and Baowen Xu (Southeast University, China) and Huiming Yu (North Carolina A&T University)</i></p> <p>Extensible Protected Types in Ada-EPT. <i>O.P. Kiddle and A.J. Wellings (University of York, UK)</i></p> <p>Ada 95 Language Issues. <i>Stephen H. Kaisler (U.S. Senate and The George Washington University)</i></p>	<p>(The Coordinators of each of the workshops held Sunday or Monday will present a summary of the results of the workshop. A detailed report will appear in <i>Ada Letters</i>)</p>
11:00am - 12:30pm	
12:30 - 2:00pm	Lunch
2:00 - 2:15pm	Announcements
2:15 - 3:00pm	Invited Address by Kevin Wooley (Boeing Company)
3:00 - 4:30pm	Closing Panel "Continuing the Ada Standard" Moderator: <i>Ben Brosgol (Aonix)</i> Panelists: <i>Tucker Taft (AverStar/ARA), Joyce Tokar (DDC-I/ANSI), Curtis Royster (DISA)</i>

TUTORIALS (Details on pages 6-7)

Sunday, November 8	
<p>Morning SA1 Introduction to Ada95 Dave Cook and Les Dupaix GARBO</p>	
<p>Afternoon SP1 Ada, Java & GNAT: A Manager's and Developer's Road Map CAPITOL Franco Gasperoni, Gary Dismukes and Edmond Schonberg</p> <p>SP2 Introduction to Web Technologies for Effective Dissemination of Information EMBASSY Currie Colket, Clyde Roby, Brad Balfour, John McCormick</p> <p>SP3 Developing Solutions in Windows 98/NT with Ada Eugene Bingue GARBO</p>	
<p>Full Day SF1 Ada 95 as a Foundation Language for Undergraduate Programs Michael Feldman FORUM</p> <p>SF2 Software Systems Architecture: a practical architecture method Dave Emery CONGRESSIONAL</p> <p>SF3 FUSION: an object-oriented development method, with mapping to Ada Alfred Strohmeier CABINET</p>	

Monday, November 9	
<p>Morning MA1 Object-Oriented Programming in Ada95 Mordechai Ben-Ari CONGRESSIONAL</p> <p>MA2 Intro to the Texel/Williams OO Process Putnam Texel FORUM</p>	
<p>Afternoon MP1 What the Personal Software Process (PSP) means to your organization Les Dupaix CONGRESSIONAL</p> <p>MP2 Tailorings of the Texel/Williams OO process from real project experience Putnam Texel FORUM</p> <p>MP3 Building Ada Development Tools: ASIS and other GNAT Technologies Sergey Rybin, Cyrille Comar CABINET</p>	
<p>Full Day MF1 Real-time and non-Real-time CORBA programming for Ada95 Brad Balfour HAMPTON</p> <p>MF2 Non-Standard Techniques in Ada (Or, What You Weren't Told in Ada 101) Art Duncan CAPITOL</p> <p>MF3 Java for Ada Programmers Ben Brosgol GARBO</p> <p>MF4 Internet programming with Ada Terry Westley EXECUTIVE</p>	

Room assignments are subject to change. Please check bulletin boards on site for latest changes.

SIGAda '98 Conference Program

Panels

Tuesday, 4:00 PM - 5:30 PM

Ada After the Mandate Moderator: Hal Hart, TRW

Panelists: Dennis Frailey (Raytheon) Richard Riehle (AdaWorks) Tucker Taft (AverStar/ARA)

Obviously Ada didn't "go away" after the DoD replaced its programming language policy in April, 1997. Leaders from Ada user, vendor, & training communities present their various perspectives on how Ada usage is faring in 1998, particularly examining change trends and ripple effects outside the DoD contractor community. The panel includes an update on implementation of the replacement DoD policy for "Software Engineering Plan Reviews" (SEPRs), an early system milestone trading off high-leverage engineering factors including architectures, reuse, processes, and tool environments in concert with programming language choice — plus discussion of one company's existing similar practices recognized as a industry "best practices" exemplar long before becoming a model for SEPRs. Are or can SEPRs help Ada and the software engineering objectives associated with Ada?

Thursday, 3:00 PM - 4:30 PM

Continuing the Ada Standard Moderator: Ben Brosgol, Aonix

Panelists: Tucker Taft (AverStar/ARA) Joyce Tokar (DDC-I/ANSI) Curtis Royster (DISA)

The past year and a half have witnessed some major changes in Ada policy within the US Department of Defense. Most significantly, the termination of the Ada Joint Program Office has resulted in a redistribution of responsibilities surrounding various Ada standards-related activities. This panel will discuss the issues involved and will provide a status update of the efforts.

Specific topics to be discussed would include ...

- How will Ada compilers be validated as conforming with the standard?
- How will a validation test suite be maintained?
- What would be the "authority" behind validation?
- How will the standard be interpreted and, when necessary, fixed?
- Are there plans to revise the standard? Big revisions? Small revisions?
- Are there plans to revise the validation test suite?

Check the Bulletin Boards for Announcements of Birds-of-a-Feather and Working Group Meetings.

(See page 13 for currently scheduled meetings)



Photo courtesy of the Washington, DC Convention & Visitors Association

Birds of a Feather/Working Group Meetings

Wednesday, 7:30 PM - 11:00 PM

Conference attendees interested in forming a **Birds of a Feather** get-together with colleagues or who would like to organize a **Working Group** meeting with those who share an interest, should contact SIGAda '98's Local Arrangements Chair, **Mr. Ronald Price**.

Please check bulletin boards and registration materials at the conference for late additions to this list.

Day	Time	Session	Room	Organizer
Sunday	6:00 - 10:00pm	ASIS Workshop	Cabinet	Currie Colket
Monday	8:30am - 5:00pm	Workshop: Application of Design Patterns and Idioms	Calvert	Patricia J. Dousette, Shan Barkataki
	1:30 - 5:30pm	Workshop: "How Do We Expedite the Commercial Use of Ada?"	Embassy	Robert Leif
	5:30 - 7:00pm	Local SIGAda Representatives' Dinner Meeting	Garbo	Ron Oliver
	7:00 - 11:00pm	SIGAda Extended Executive Committee Meeting (open to all)	Cabinet	Ben Brosgol
Wednesday	5:30 - 7:00pm	SIGAda '98 Public Forum (open to all)	Palladian	Ben Brosgol
	7:00 - 9:00pm	Joint SAFEWG/ASISWG BOF	Garbo	Currie Colket

Reception & Gala

Tuesday (Reception at 6:30 PM - Performance begins at 7:30)
REGENCY BALLROOM

A TRADITION CONTINUES!

SIGAda's spectacular Opening Night

By popular acclaim, the further musical adventures of Lady Ada - presented live - onstage with soloists, chorus, and full orchestra. These Gilbert & Sullivan parodies have been among the most memorable events at the preceding two TRI-Ada and AdaEurope Conferences.

(See page 9 for details)



SIGAda '98 Public Forum

Wednesday, 5:30 - 7:00PM

Moderator: Ben Brosgol

Refreshments sponsored by Aonix

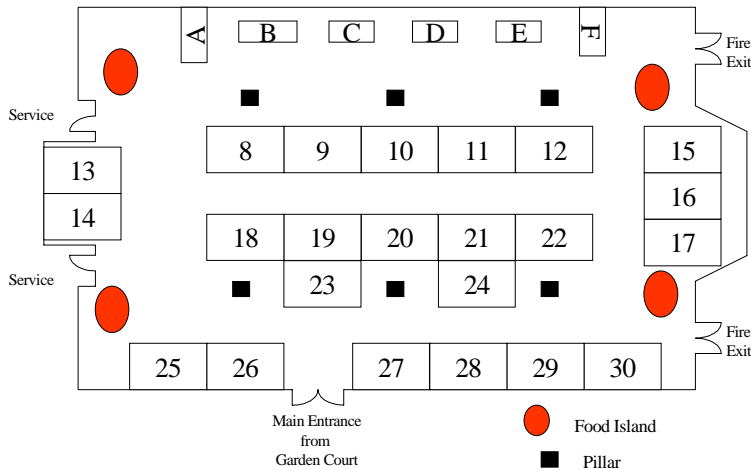
Palladian Ballroom

The Public Forum was instituted at Tri-Ada '96 and continued at Tri-Ada '97 as an opportunity for members of the Ada community to interact with leaders of SIGAda, the Ada vendors' Ada Resources Association (ARA), and the Ada Joint Program Office (AJPO). Although the AJPO has been closed by the time of the conference, the Public Forum will remain your chance to meet and converse with this year's notables at SIGAda '98.

SIGAda '98

Floorplan and Exhibitor Directory

SIGAda'98 Exhibition Hall - Blue Room



Exhibitor

Booth

Ada Core Technologies, Inc.	27-28
Aonix	13-14
DDC-I	25-26
Green Hills Software	16-17
Objective Interface Systems, Inc.	23
OC Systems	24
Paul Morris Personnel	F
pragma Systems Corporation	15
Quality Checked Software	22
Rational Software	11-12
Reiters Scientific Books	B
Rockwell Collins	21
RR Software	A
Silicon Graphics	29
Top Graph'X	18
US Army Aviation & Missile Command	30
Vector Software	8

**THE EXHIBIT HALL CLOSSES AT
2:00 THURSDAY**

Ada Core Technologies

73 Fifth Avenue, Suite 11B
New York, NY 10003
Tel: (212) 620-7300
E-mail: sales@gnat.com
Web site: www.gnat.com

Booth 27-28

ACT provides support for all areas of Ada software development. We develop GNAT Professional Ada 95, the only complete, validated Ada compiler. GNAT implements all of the Specialized Needs Annexes and includes a very rich set of programming tools. ACT provides consulting and customization in all areas of software engineering. Come visit our booth and see the latest tools available for GNAT Professional Ada 95, VxWorks, and our advances with GLADE, ASIS, and GNORT. Don't miss our Java Robot Demo!

Aonix

5040 Shoreham Place
San Diego, CA 92122
Phone: 619-457-2700
Email: info@aonix.com
Web Site: www.aonix.com

Booth 13-14

Aonix is a leader in the corporate and technical object-oriented (OO) tools market, placed among the top fifty software companies worldwide. A long-time provider of Ada solutions, we offer the ObjectAda integrated tools environment for developing portable, reliable, efficient applications. Supporting multi-language development (Ada, C/C++, Java), ObjectAda is available for Windows, UNIX, and Real-Time targets. ObjectAda Real-Time RAVEN is a new embedded system toolset, capable of targeting safety-critical applications to the highest level of criticality (FAA DO-178B Level-A).

DDC-I

400 N. 5th Street; Phoenix, AZ 85004
602-275-7172
Fax: 602-252-6054
Email: jc@ddci.com
www.ddci.com

Booth 25-26

Since 1980, DDC-I has focused on real-time embedded development. Numerous safety critical programs have been built using Ada and JOVIAL software development tools provided by DDC-I. We are committed to these programs, to our customers and to their end users. Recent partnerships with tool suppliers offer exciting options for our customers providing complete, high quality development environments. Stop by booth #25/26 for information on the variety of options available.

Green Hills Software

2708 Alternate 19 N.
Suite 506
Palm Harbor, FL 34683
Phone: 813-781-4909
Email: adasales@ghs.com
Web Site: www.ghs.com

Booth 16-17

Green Hills Software will showcase AdaMULTI, the most comprehensive Ada 95 software development environment available for embedded applications. The fully validated AdaMULTI automates the edit-build-debug cycle by integrating a source-level debugger, editor, program builder, source code control system, profiler, browser, and more. AdaMULTI supports Green Hills' Ada 95, C, C++, and Fortran compilers, enabling seamless development in any combination of these languages. AdaMULTI is available for real-time VxWorks/Tornado and native UNIX and Win32 application developers. It supports PowerPC, Pentium/x86, SPARC, MIPS R3000/R4000, 680x0/683xx, and RAD6000 architectures and is available for SPARC/Solaris, Windows NT/95 and HP-UX hosts.

OC Systems

9990 Lee Highway, #270
Faifax, VA 22030
Phone: 703-354-8160
Email: info@ocsystems.com
Web Site: www.ocsystems.com

Booth 24

OC Systems provides state-of-the-art software tools, including Aprobe, a Software Comprehension tool for C, C++, and Ada applications available for multiple targets, and PowerAda for Ada application de-

velopment on PowerPC targets. Our compilers and tools have been used to develop air traffic control, simulations, and other complex and long-lived software applications worldwide.

Our code quality is consistently superior to similar products, and our standard support often resembles other companies' custom packages. OC Systems is an employee-owned company founded in 1993 and located in Virginia. Welcome to SIGAda '98!

Objective Interface Systems

1892 Preston White Drive
Reston, VA 20191
Tel: (703) 295-6500
E-mail: info@ois.com
Web site: www.ois.com

Booth 23

Objective Interface develops ORBexpress for Ada 95 — a fast, high-performance CORBA. ORB designed with an emphasis on both real-time and embedded applications. ORBexpress is the product line that has made Objective Interface the market leader in real-time CORBA. Objective Interface products are the cornerstone in many successful distributed systems architectures. ORBexpress allows these systems to integrate today's widely dispersed networks into efficient, interoperable applications. ORBexpress is an object request broker that combines high-speed performance with extreme reliability.

Paul Morris Group

3155 NE 31st Ave.
Lighthouse Point, FL 33064-8535
Tel: (954) 788-9686
E-mail: paul@morrisgroup.com

Table F

Paul Morris Personnel is the recognized leader providing staffing and career services for the Object Oriented Software Career Marketplace. To advance your career or identify critical staff, send e-mail to paul@morrisgroup.com.

pragma SYSTEMS Corporation

8704 Lee Highway, Suite 303
Fairfax, VA 22031-2141
Tel: (703) 560-4669
E-mail: info@pragmasystems.com
Web site: www.pragmasystems.com

Booth 15

pragma SYSTEMS' intranet web product, processMax, dramatically shortens the time required for software development organizations to improve their processes based on the Software Engineering Institute's Capability Maturity Model (CMM). processMax includes all required policies, procedures, guidelines, and templates, integrated into CMM-compliant processes. processMax2 provides guaranteed compliance with the CMM.

Quality Checked Software, Ltd.

P.O. Box 6656
Beaverton, OR 97007-0656
Tel: (503) 645-5610
FAX: (503) 645-5075
E-mail: info@qcsLtd.com
Web site: www.qcsLtd.com

Booth 22

Quality Checked Software is an independent firm devoted to sales of software testing and evaluation tools in the Workstation and Personal Computer marketplace. QCS provides practical and cost-effective real-world testing solutions that shorten testing time while improving product quality. We also offer training in how to use the tools and consulting in software testing methodology.

QCS distributes the AdaTEST and AdaTEST95 products from IPL (Information Processing Ltd) for Ada 83 and Ada 95 unit testing, metrics, and coverage analysis. Our customers represent a wide range of industries including software vendors, hardware manufacturers, government agencies, the military, and medical consumer products.

Rational Software

18880 Homestead Road
Cupertino, CA 95014
Tel: (800) 728-1212
E-mail: info@rational.com
Web site: www.rational.com

Booth 11-12

Rational Software (NASDAQ: RATL), creator of the Unified Modeling Language (UML) and the first validated Ada compiler, is the leading provider of a solution that unifies proven software development principles, tools, and services to improve the productivity of project teams and individuals. Our products span the critical activities of requirements management, visual modeling, testing, and configuration and change management. Rational Software has native and embedded Ada products on all major UNIX platforms and Windows NT.

Reiter's Scientific & Professional Books

2021 K Street NW
Washington DC 20006
202- 223-3327
800-537-4314
E-mail: books@reiters.com
Web site: www.reiters.com

Table B

Specializing in scientific, technical, reference, computer science, business, medical, engineering and

law. Over 60,000 titles in stock. Prompt UPS delivery. Discounts available to Preferred Institutional Accounts- ask about setting up your own account today! Free catalogs and newsletters available. Established 1936

Rockwell Collins, Inc.

1431 Opus Place, Ste. 200
Downers Grove, IL 60515
Tel: (630) 960-8262
Fax: (630) 960-8207

Booth 21

Rockwell Avionics & Communications /Air Transport Division is a manufacturer of major aircraft systems and navigation equipment, including satellite communications equipment, guidance systems, collision avoidance equipment, radar equipment, flight management systems, cockpit instrumentation, altimeters and flight directors. This unit was formed in 1979.

RR Software

P.O. Box 1512
Madison, WI 53701
Tel: (608) 245-0375
FAX: (608) 245-0379
E-mail: info@rrsoftware.com
Web site: www.rrsoftware.com

Table A

R.R. Software, founded in 1980, was the first company to implement the then new Ada programming language on a microcomputer. We are now the oldest independent vendor of Ada products in the world. RR Software has developed several Ada 95 products. Claw is a compiler-independent, object-oriented Ada 95 binding to the Windows 95, Windows 98, and Windows NT graphical user interface. With Claw, its extensive documentation, and its GUI Builder, you can construct Windows GUI applications solely in Ada 95, using your favorite Ada 95 compiler. Janus/Ada 95 is an Ada 95 compiler for personal computers. It is available for Windows 95/NT, MS-DOS, and SCO Unix.

Silicon Graphics

2011 N. Shoreline Boulevard
Mountain View, CA 94043
http://www.sgi.com
phone: 1.888.554.7442

Booth 29

Silicon Graphics is the world's leader in high-performance computing technology, dedicated to unleashing the power of human creativity and insight. The company's systems, ranging from desktop workstations and servers to the most powerful supercomputers in the world, deliver advanced computing and comprehensive visualization capabilities to scientific, engineering, and creative professionals and large enterprises. In addition, Silicon Graphics creates innovative high-performance software for design, Internet, and entertainment applications. Silicon Graphics provides solutions to several key industries, including defense, aerospace, manufacturing, entertainment, communications, energy, the sciences, and education.

Top Graph'X

10 Allee de la Mare Jacob 91290
La Norville, FRANCE
(33) 1 69 26 97 88
Fax : (33) 1 69 26 97 89
Email : sales@topgraphx.com
URL : http://www.topgraphx.com

Booth 18

Top Graph'X solutions give Ada users a real access to industry software standards. All software components are entirely written in Ada and have been updated to take advantage of Ada95 features. XInAda provides a full Ada implementation of X11 and Motif libraries. TeleUSE/XInAda provides the combination of a popular GUI builder and XInAda libraries. OrbAda is the Top Graph'X Ada 95 implementation of the OMG CORBA standard and includes : ORB, idl2ada compiler, COS services.

US Army AMCOM - SED

Attn: AMSAM-RD-BA-PM
Redstone Arsenal, AL 35898
Tel: (256) 876-0064

Booth 30

The US Army Aviation and Missile Command Software Engineering Directorate has been working with DARPA, the Open Systems Joint Task Force, the Software Engineering Institute and other research organizations to develop advanced software engineering technology. Among the products of this research being demonstrated in the SED booth is an Architecture Description Language used to model, analyze, and implement embedded real-time systems. The language and toolset is MetaH, and is compatible with both Ada83 and Ada95.

Vector Software

1130 Ten Rod Road
North Kingston, RI 02852
Tel: (401) 295-5855
Web site: www.vectors.com

Booth 8

Vector Software develops, markets and supports the VectorCAST line of automated module-level test tools. The VectorCAST products scan your Ada 83, Ada 95, C/C++, and JOVIAL source code and automatically generate the test code necessary to construct executable test harnesses for both host and embedded environments. Utilities are also included to construct and execute test cases, generate the reports necessary to provide an audit trail of expected and actual results, and perform automated regression testing and code coverage.

EXHIBIT HOURS

Tuesday, November 10

9:45AM - 2:00PM

3:00PM - 6:00PM

Wednesday, November 11

9:45AM - 2:00PM

3:00PM - 6:00PM

Thursday, November 12

9:45AM - 2:00PM

Vendor Presentations

(All Vendor Presentations are scheduled in the Garbo Room)

Tuesday, November 10

10:00 - 10:30 am

Vector Software

VectorCAST - Automated Unit-Level Testing

Bill McCaffrey

The VectorCAST products scan your Ada 83, Ada 95, C/C++, and JOVIAL source code and automatically generate the test code (stubs and drivers) necessary to construct executable test harnesses for both host and embedded environments. Utilities are also included to construct and execute test cases, generate the reports necessary to provide an audit trail of expected and actual results, and to perform automated regression testing and code coverage.

10:30-11:00 am

Aonix

Real-Time Win32 with ObjectAda

Dave Wood

Win32, the de facto standard OS interface specified by Microsoft and used by Windows 95/98, NT, and Win/CE, is not suitable for deterministic, hard real-time applications. Or is it? Aonix and Phar Lap combine resources to bring high-performance Ada code into the realm of embedded Win 32 applications.

3:00 - 3:30 pm

OC Systems

Software Comprehension

3:30 - 4:00 pm

OIS

CORBA for Real-Time and Non Real-Time Ada 95 Applications

Brad Balfour

CORBA, the Object Management Group (OMG) standardized middleware, provides developers with a technology to create mixed-language, heterogeneous, distributed-object programs. Developers are now using OIS' CORBA ORB — ORBexpress for Ada 95 — in both hard and soft real-time systems as well as for those non real-time systems where performance is important. In addition to describing CORBA and ORBexpress, this presentation will highlight the on going OMG effort to standardize a Real-Time CORBA ORB, OIS' role in that effort, and the many Real-Time features which are already included in ORBexpress Real-Time for Ada 95. Finally, information on OIS' newest implementations of CORBA Services and the current status of ORBexpress will be presented.

Wednesday, November 11

10:00 - 10:30 am

Quality Checked Software

Ada Test Case Generation

Ian Gilchrist (IPL)

This presentation will outline ideas for generating test case data for use during the module/unit testing stage of Ada software. Strategic or policy questions are addressed first, followed by test planning for individual units. Manual versus automated test data generation is considered

10:30-11:00 am

Ada Core Technologies

GNAT Technology Update

Robert Dewar

This presentation will address several topics: GNAT News (core technology, tools of the trade), ASIS, GLADE, GNAT Works for the embedded market, GNORT (GNAT for safety-critical applications), and GNAT-for-Java.

3:00 - 3:30 pm

Rational

"Rational Apex from UNIX to Windows NT"

3:30-4:00 pm

DDC-I

Building a Better Mouse Trap

Joyce L. Tokar

DDC-I has been working hard this year building partnerships with third party tool suppliers to provide our customers with a complete, high quality, low cost software development environment. The focus of our endeavors has been on tools for safety critical applications. This presentation will outline the variety of options now available for our Ada customers.

Thursday, November 12

10:00-10:30 am

Top Graph'X

Mixing Ada95 and JAVA (and C++) with CORBA.

Bernard Maudry

Ada 83 users only had "bindings" to access the rest of the world (painfully ...). CORBA provides efficient and standard mechanisms to link Ada 95, Java and C++ components within an application. Mixing languages has become a comfortable reality for Top Graph'X OrbAda users.

10:30-11:00 am

pragma Systems

processMax - CMM Compliance Guaranteed!

Rebecca Bowerman

processMax is an integrated web of procedures, templates, guidelines, and policies that when used together ensure your organization is operating in compliance with the Capability Maturity Model for Software. processMax also structures and maintains your project and process documents for easy intranet web access. With processMax, projects have achieved CMM Level 2 compliance in just 6 months, well under the industry average of 30 months.



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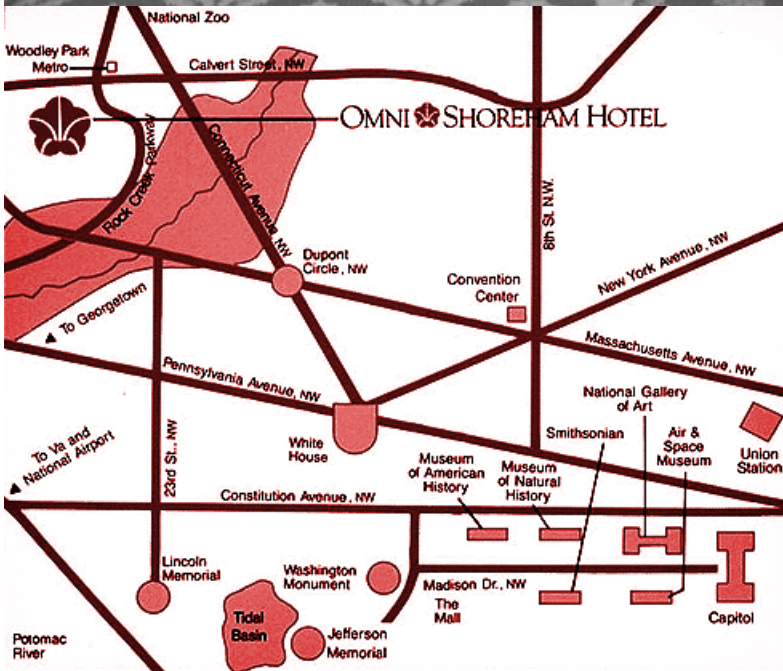
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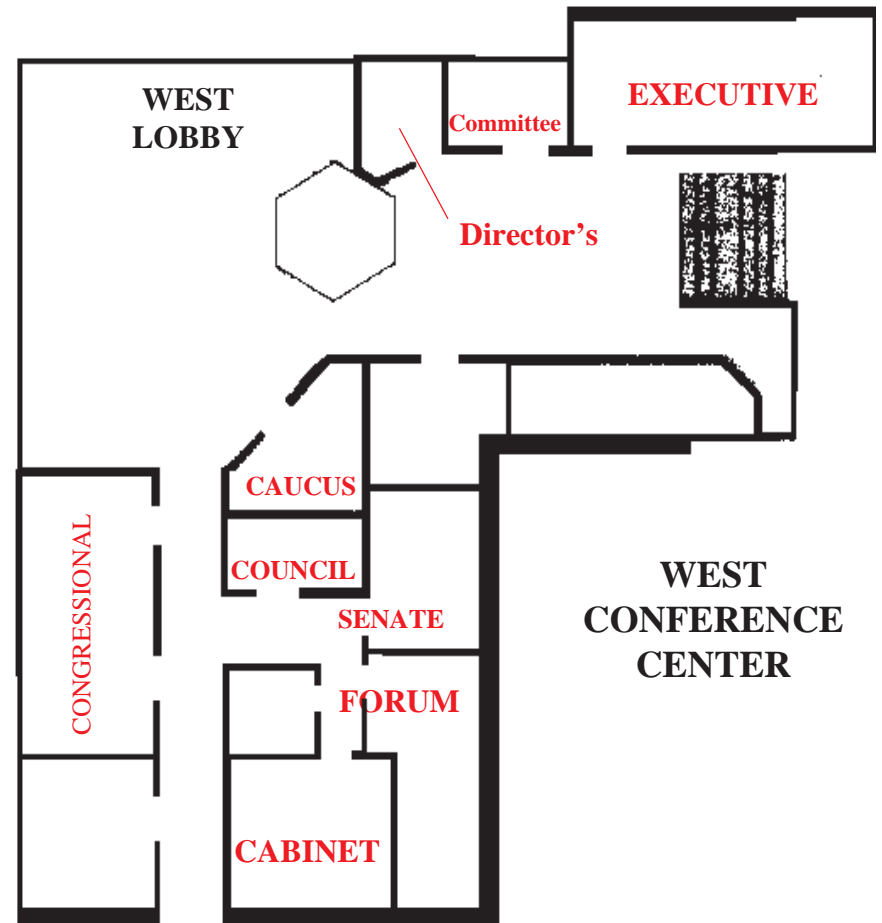
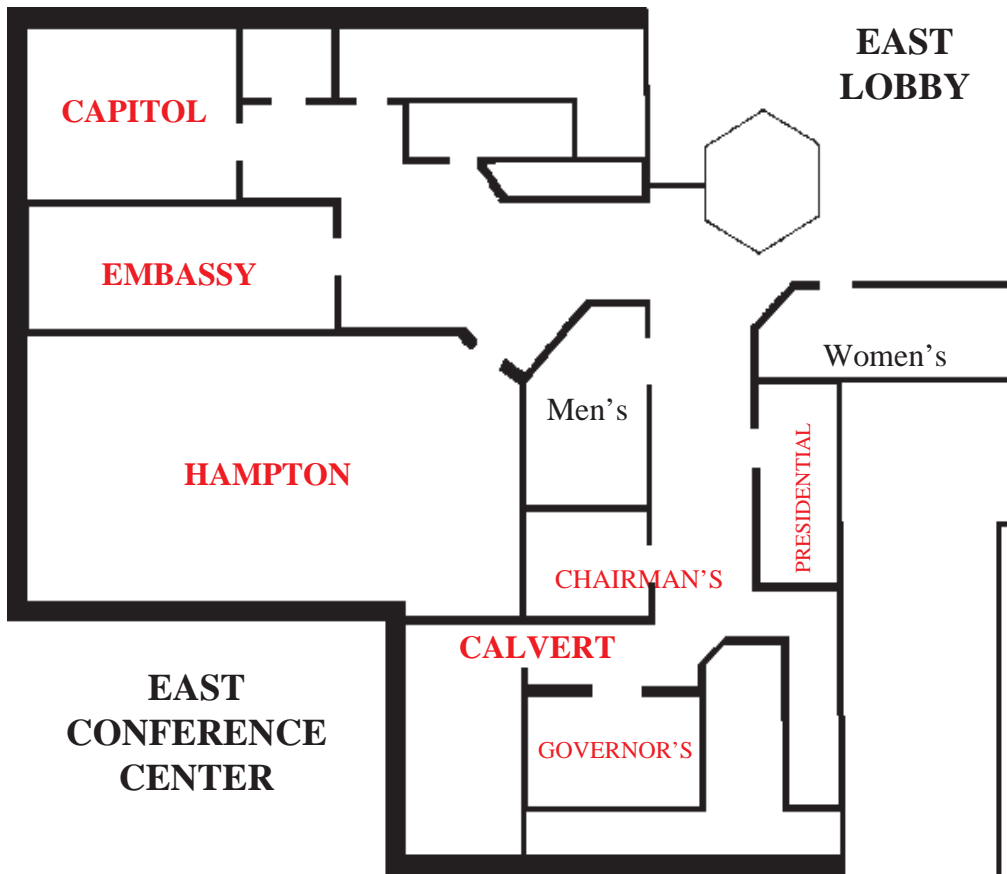
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