

SIGAda

The ACM Special Interest Group on Ada

acm

Association for Computing Machinery
1515 Broadway
New York, NY 10036-5701
Phone: +1 (212) 869-7440
Fax: +1 (212) 302-5826

Reply To:

Mr. Currie Colket
Chair ACM SIGAda
The MITRE Corporation
7515 Colshire Drive
McLean, Virginia 22102-7508
Phone: +1 (703) 883-7381
FAX: +1 (703) 883-1339
Email: colket@acm.org



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Dear SIGAda Members:

We are pleased to dedicate this issue for the reprint of one of the most significant Ada documents, the *Guide for the use of the Ada Ravenscar Profile in High Integrity Systems*, by Dr. Alan Burns [University of York], Mr. Brian Dobbing [Praxis Critical Systems Ltd.], and Dr. Tullio Vardanega [University of Padua]. As most of you know, Ada has been proven to be an excellent application for high integrity, high assurance, and real-time applications. Typically these applications utilize subsets of deterministic constructs to ensure full analyzability of the source code. Historically tasking has been excluded from these subsets due to its non-determinism and inefficiency. The Ravenscar Profile has upped the ante by allowing the inclusion of a restricted, but powerful subset of the Ada tasking model. Advances in the areas of schedulability analysis currently allow hard deadlines to be checked, even in the presence of a run-time system that enforces preemptive task scheduling based on multiple priorities. Applications built on this model can be demonstrated to be deterministic. More importantly, the restrictions allow for the creation of a highly efficient kernel allowing the desirable use of Ada tasking in high integrity systems with little or no performance penalty. The Ravenscar Model has opened the way for tasking constructs to be used in high integrity applications while retaining the core elements of the Ada language of predictability and reliability. This document is one of the most significant Ada documents and because of this, it is highly appropriate that it is reprinted in *Ada Letters*, making it available to our membership. We are extremely grateful to Dr. Burns, Mr. Dobbing, and Dr. Vardanega for allowing us to reprint the document in *Ada Letters*. The original document was printed as a University of York Department of Computer Science (YCS) publication, YCS 348(2003).

We had an excellent conference in San Diego last December. The proceedings were printed in last quarter's *Ada Letters*. Not identified in the proceedings were the winners of the SIGAda awards. The **Outstanding Ada Community Contribution Award for 2003** was awarded to **Dr. Michael González Harbour** of Spain. There are two recipients for the **ACM SIGAda Distinguished Service Award for 2003**, **Mr. Leslie Dupaix**, from the United States and **Dr. S. Ron Oliver**, also from the United States. The winner of the SIGAda 2003 Outstanding Student Paper Award was Mr. Eric Potratz for his paper titled: "A Comparison of Java to Ada in Implementing a Real-Time Embedded System". Eric was an undergraduate student at the University of Northern Iowa. Details on the award recipients are provided immediately after this letter.



