Maintenance and Revision of the Ada Programming Language
(Outline Announcement)

With Ada 2012 coming to fruition, it is appropriate to remind the community that suggestions for future enhancements to the language are always welcome. Remember that two critical organizations are involved, namely WG 9 and the ARG, and both of them encourage participation in their activities by all who are interested in Ada.

ISO/IEC JTC 1/SC 22/WG 9 is responsible for the maintenance and revision of the Ada Programming Language and associated standards and technical report. The Ada Rapporteur Group (ARG) is charged by the WG 9 committee to maintain the Ada Reference Manual and to supervise the evolution of the language. The ARG is composed of programming language experts, implementers, and users of the language. The ARG receives input from the Ada community at large, in the form of Ada comments and Ada Issues, following a procedure established two decades ago. ISO rules require that a standard be revised periodically, and the ARG is currently engaged in the preparation of an Amendment to Ada 2005, that will define the next version of the language. WG 9 has given the next edition of the Ada language the working name Ada 2012, which sets narrow boundaries for the revision work. The reasons for this choice and their impact on ARG work are outlined below.

The process of language evolution, from Ada 83 to Ada 95 to Ada 2005, and on to Ada 2012, has itself changed over time. The resources that were invested in the Ada9X process, which led to the Ada 95 standard, were simply not available for the next revision, and are not available today, The WG 9 committee, after discussions with the ARG and with members of the Ada community, has instructed the ARG to complete the Amendment to Ada 2005 so that ISO standardization of the new version can be completed by 2012. This is a relatively short horizon, but it matches the interval between previous releases, demonstrates that the language continues to evolve, and at the same time guarantees that the changes to the language are evolutionary and do not present an undue implementation burden on existing compilers.

The ARG welcomes suggestions for language enhancements at any time. These should be sent to ada-comment@ada-auth.org. If the suggestion is for a correction to an error in the existing Reference Manual and the error is significant, it will certainly be included in the Amendment. If it is a large-scale enhancement it may be worth discussing for the next version of the language (circa 2017). If it is a suggestion for new libraries, the most productive approach will be for interested members of the community to implement the libraries and put them in circulation before eventual standardization, in order to receive feedback from users. The guidelines presented for the Ada 2005 revision (see http://archive.adaic.com/news/pressrelease/call4apis.html) are still active.

The software industry has changed radically in the last decade, and software evolves much more rapidly than language standards, through informal mechanisms that are a universe away from the staid ISO procedures. For those interested in more ambitious extensions to the language, it is worth recalling that there is an open-source Free Software implementation of Ada 2005 that anyone can use as a workbench for language design.

The ARG has focused its work on two areas of particular interest to the Ada community: improved facilities for program correctness, and enhanced container libraries. There are numerous other proposed enhancements, and the interested reader can find the current state of these at http://www.ada-auth.org/AI05-SUMMARY.HTML. Some of these proposals originated with members of the ARG, and some others from members of the community at large. We consider that the basic ingredients of the Amendment are already at hand, even though much work

remains to determine which of the Ada Issues already under discussion will in fact be incorporated in the language.

We are confident that the ongoing work of the ARG, with the received input from all interested parties, will converge to a design that satisfies the needs of Ada programmers, and remains faithful to the spirit and "feel" of the language.

The ARG and WG 9 encourages members of the Ada community at large to use the guidelines outlined above to provide input to WG 9 and ARG for needed revisions and upgrades to the Ada programming language.