

**Instructions to the Ada Rapporteur Group from SC22/WG9 for Preparation of the Amendment to ISO/IEC 8652**  
10 October 2002

The ARG is instructed to prepare a working draft of an amendment to ISO/IEC 8652. The main purpose of the Amendment is to address identified problems in Ada that are interfering with Ada's usage or adoption, especially in its major applications areas (such as high-reliability, long-lived real-time and/or embedded applications and very large complex systems). The resulting language changes may range from relatively minor, to more substantial.

Examples of worthwhile changes are:

- inclusion of the Ravenscar profile;
- inclusion of a solution to the problem of mutually dependent types across packages.

The ARG is requested to pay particular attention to the following two categories of improvements:

- (A) Improvements that will maintain or improve Ada's advantages, especially in those user domains where safety and criticality are prime concerns;
- (B) Improvements that will remedy shortcomings in Ada.

Improvements in the real-time features are an example of (A) and should be considered a high priority. Improvements in the high-integrity features are an example of (A) and should be considered a high priority. Features that increase static error detection are an example of (A) and should be considered a priority, but less important than the two listed above. Improvements in the facilities for interfacing to other languages are an example of (A) and should be considered. Improvements in the object-oriented features—specifically, adding a Java-like interfaces feature and improved interfacing to other OO languages—are an example of (B) and should be considered.

In selecting features for inclusion in the amendment, the ARG should consider the following factors:

- Implementability (vendors concerns). Can the proposed feature be implemented at reasonable cost?
- Need (users concerns). Does the proposed feature fulfill an actual user need?
- Language stability (users concerns). Would the proposed feature appear disturbing to current users?
- Competition and popularity. Does the proposed feature help improve the perception of Ada, and make it more competitive with other languages?
- Interoperability. Does the proposed feature ease problems of interfacing with other languages and systems?
- Language consistency: Is the provision of the feature syntactically and semantically consistent with the language's current structure and design philosophy?

In order to produce a technically superior result, it is permitted to compromise backwards compatibility when the impact on users is judged to be acceptable.

The use of secondary standards should be minimized; secondary standards should be proposed only when they would include material so important as to require standardization but so voluminous as to preclude inclusion in the Ada language standard. In particular, material similar to the current ISO/IEC 13813, *Generic Packages of Real and Complex Vector and Matrix Type Declarations and Basic Operations for Ada*, should be incorporated into the language standard.

WG9 targets the following schedule for the development of the amendment:

- Dec 2002: Presentation at SIGAda, providing for discussion groups and feedback.
- Jun 2003: Similar presentation at Ada-Europe
- Sep 2003: Receipt of the final AIs from groups other than WG9 or delegated bodies
- Sep 2003: Presentation at IRTAW
- Autumn 2003: Presentation at SIGAda
- Dec 2003: Receipt of the final AIs from WG9 or delegated bodies
- Jun 2004: WG9 approval of the scope of amendment (perhaps by approving AIs, perhaps by reviewing draft amendment)
- Informal circulation of draft, receipt of comments and preparation of final text
- Spring 2005: Completion of proposed text of amendment to be contributed to WG9
- Mid 2005: WG9 email ballot
- 3Q 2005: SC22 FPDAM ballot
- Late 2005: JTC1 FDAM ballot