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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives or www.iec.ch/members_experts/refdocs).

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This fourth edition cancels and replaces the third edition (ISO/IEC 8652:2012), which has been technically revised. It also incorporates the Technical Corrigendum ISO/IEC 8652:2012/Cor.1:2016.

The main changes are as follows:

- improved support for parallel execution is provided via the introduction of parallel loops, parallel blocks, parallel container iteration, and parallel reduction;
- more precise specification of subprogram interfaces is supported via the new aspects Global, Global'Class, and Nonblocking. The Global aspects, in particular, help to determine whether two constructs can safely execute in parallel;
- Pre and Post aspects can now be specified for access-to-subprogram types and for generic formal subprograms; a postcondition for the default initialization of a type can be specified using the new Default_Initial_Condition aspect;
- the behavior of many predefined container operations is now more precisely specified by using pre- and postcondition specifications instead of English descriptions; a restricted ("stable") view for most containers is introduced to support more efficient iteration;
- more flexible uses of static expressions are supported via the introduction of static expression functions along with fewer restrictions on static strings;
- the Image attribute is supported for nonscalar types, and a user-specifiable attribute Put_Image is provided, which determines the value of the Image attribute for a user-defined type;