

Charter of the Ada High-Integrity Rapporteur Group (HRG)

The HRG will synthesize the essential requirements of typical sector-specific standards for high integrity applications which have a bearing on Ada and its supporting tools. Guidance will be developed for users, implementers, evaluators and certifiers. The guidance produced will be in a form suitable for reference in procurement.

Sector-specific standards to be considered are such as:

- DO-178C (Civil avionics)
- IEC 65A/CENELEC (Generic/rail)
- IEC 880 (Nuclear)
- Interim DEFSTAN 00-55 (UK Defence)
- ITSEC (EU Security)

The HRG will undertake the following activities:

Ada Language Issues

The HRG will produce and maintain an interpretations document.

The HRG will investigate pragma enhancement, such as additional parameters for restriction pragmas and additional pragmas.

The HRG will provide implementation advice, covering areas such as compilation and validation.

Taxonomy of Techniques

The HRG will produce a taxonomy of techniques for the construction and analysis of high integrity software, such as:

- The use of annotations in program construction
- Error detection by static analysis
- Design confirmation by static analysis
- Static timing analysis

Language Issues

The HRG will investigate the interaction of language issues with high integrity requirements, such as:

- Deterministic execution with compiler optimization and other property-based subsets
- Concurrency
- Software Vulnerabilities

Bindings and Interfaces

The HRG will support the interoperation of high integrity software and tools with other systems, such as:

- ASIS (Ada Semantic Information Specification)
- Ada compilers and run-time environments
- CORBA (Common Object Request Broker Architecture)
- Information Technology — Programming languages — Guidance to avoiding vulnerabilities in programming language