

Subject: Response from SC22/WG11 to the JTC1 Policy on Conformity Assessment and JTC1 Policy on Inter-operability (SC22/N2039)

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Whereas most standardization projects within SC22 are focused on portability at source code level by defining programming language standards, the focus of (most of) the WG11 projects is at achieving interoperability at source code level by defining standards for the definition of interfaces in a programming language independent way.

The benefits with respect to interoperability of the programming language independent approach are:

- Programming language independent interface specifications encourage cleaner specifications which give better assurance for interoperability, specifically (but not only) in mixed programming language environments: by defining interfaces in a way that is independent of any particular programming language, the interface specification will not be tailored to features which are specific to one particular programming language and which are (or may be) the consequence of (hidden) implementation assumptions. The specifications are instead made to be adaptable to any general programming language.
- A programming language independent service specification ensures that there is only one specification of the service (rather than multiple, language dependent service specifications).
- By standardizing the bindings between the various programming languages and the language independent specification techniques for datatypes and procedure calling, a consistent interpretation of the language independent interface specification is ensured.

WG11 projects that are relevant in this area are:

**ISO/IEC 11404:1996 - Language Independent Datatypes**

This standard specifies a collection of datatypes, mechanisms to construct new datatypes and an Interface Definition Language (IDL) which can be used in the definition of programming language independent interface specifications

**ISO/IEC 13886:1996 - Language Independent Procedure Calling**

This standard specifies a programming language independent approach to the concepts of a procedure call and parameter passing, based on the same IDL as specified in ISO/IEC 11404.

**ISO/IEC TR 10182:1994 - Guidelines for language bindings**

This Technical Report identifies a number of different binding techniques (like procedural interfaces, embedded alien syntax, binding pre-existing language elements), discusses the strong and weak points of the various binding techniques and gives a number of guidelines for the applicability of the binding techniques.

**WDTR 14369 - Language Independent Service Specifications**

This WDTR provides a set of guidelines for the preparation of language independent service specifications. A first PDTR is expected by 1Q97.