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Industrial automation systems and integration — Manufacturing software capability profiling for interoperability —

Part 6:
Interface services and protocols for matching profiles based on multiple capability class structures

Systèmes d'automatisation industrielle et intégration — Profil d'aptitude du logiciel de fabrication pour interopérabilité —

Partie 6: Services d'interface et protocoles pour la correspondance des profils fondés sur les structures de classe d'aptitude multiple

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 16100-6 was prepared by Technical Committee ISO/TC 184, *Automation systems and integration*, Subcommittee SC 5, *Interoperability, integration, and architectures for enterprise systems and automation applications*.

ISO 16100 consists of the following parts, under the general title *Industrial automation systems and integration — Manufacturing software capability profiling for interoperability*:

— *Part 1: Framework*

— *Part 2: Profiling methodology*

— *Part 3: Interface services, protocols and capability templates*

— *Part 4: Conformance test methods, criteria and reports*

— *Part 5: Methodology for profile matching using multiple capability class structures*

— *Part 6: Interface services and protocols for matching profiles based on multiple capability class structures*

Introduction

The motivation for ISO 16100 stems from the industrial and economic environment, in particular:

a) a growing base of vendor-specific solutions;

b) user difficulties in applying standards;

c) the need to move to modular sets of system integration tools;

d) recognition that application software and the expertise to apply that software are assets of the enterprise.

ISO 16100 is an International Standard for the computer-interpretable and human-readable representation of a capability profile. Its goal is to provide a method to represent the capability of manufacturing application software relative to its role throughout the life cycle of a manufacturing application, independent of a particular system architecture or implementation platform. This can lead to reduced production and information management costs to users and vendors/suppliers of manufacturing applications.

Certain diagrams in this part of ISO 16100 are constructed following UML conventions. Because not all concepts embodied in these diagrams are explained in the text, some familiarity with UML on the part of the reader is assumed.