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Information technology — Object Management Group Unified Modeling Language (OMG UML) —

Part 2: **Superstructure**

Technologies de l'information — Langage de modélisation unifié OMG (OMG UML) —

Partie 2: Superstructure

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Table of Contents

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 part of ISO/IEC 19505 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

This International Standard was prepared by Technical Committee ISO/IEC/TC JTC1, Information technology, in collaboration with the Object Management Group (OMG), following the submission and processing as a Publicly Available Specification (PAS) of the OMG Unified Modeling Language (UML) specification.

This International Standard is related to:

- ITU-T Recommendations X.901-904 | ISO/IEC 10746, the Reference Model of Open Distributed Processing (RM-ODP).

This International Standard consists of the following parts, under the general title *Information technology - Open distributed processing - UML specification*:

- Part 1: Infrastructure
- Part 2: Superstructure

Apart from this Foreword, the text of this International Standard is identical with that for the OMG specification for UML, v2.4.1, Part 2.

Introduction

The rapid growth of distributed processing has led to a need for a coordinating framework for this standardization and ITU-T Recommendations X.901-904 | ISO/IEC 10746, the Reference Model of Open Distributed Processing (RM-ODP) provides such a framework. It defines an architecture within which support of distribution, interoperability, and portability can be integrated.

RM-ODP Part 2 (ISO/IEC 10746-2) defines the foundational concepts and modeling framework for describing distributed systems. The scopes and objectives of the RM-ODP Part 2 and the UML, while related, are not the same and, in a number of cases, the RM-ODP Part 2 and the UML specification use the same term for concepts that are related but not identical (e.g., interface). Nevertheless, a specification using the Part 2 modeling concepts can be expressed using UML with appropriate extensions (using stereotypes, tags, and constraints).

RM-ODP Part 3 (ISO/IEC 10746-3) specifies a generic architecture of open distributed systems, expressed using the foundational concepts and framework defined in Part 2. Given the relation between UML as a modeling language and Part 2 of the RM ODP standard, it is easy to show that UML is suitable as a notation for the individual viewpoint specifications defined by the RM-ODP.

The Unified Modeling Language (UML) is a general-purpose modeling language with a semantic specification, a graphical notation, an interchange format, and a repository query interface. It is designed for use in object-oriented software applications, including those based on technologies recommended by the Object Management Group (OMG). As such, it serves a variety of purposes including, but not limited to, the following:

- a means for communicating requirements and design intent,
- a basis for implementation (including automated code generation),
- a reverse engineering and documentation facility.

As an international standard, the various components of UML provide a common foundation for model and metadata interchange:

- between software development tools,
- between software developers, and
- between repositories and other object management facilities.

The existence of such a standard facilitates the communication between standardized UML environments and other environments.

While not limited to this context, the UML standard is closely related to work on the standardization of Open Distributed Processing (ODP).