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Intelligent transport systems — Systems architecture, taxonomy and terminology — Using CORBA (Common Object Request Broker Architecture) in ITS standards, data registries and data dictionaries

Systèmes intelligents de transport — Architecture, taxinomie et terminologie des systèmes — Emploi de CORBA (Common Object Request Broker Architecture) dans les normes, registres de données et dictionnaires de données ITS



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Foreword

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Introduction

CORBA is one of many software technologies involved in distributed systems and system integration. There is a significant number of existing CORBA deployments in ITS, and discussions on best practice and standardization have naturally emerged, and discussion can often lead to comparisons between different technologies and confusion, even apparent “competition” between different software technologies.

The objective of this Technical Report is to identify the role of and provide guidelines for the use of CORBA in ITS.

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1 Scope

This Technical Report clarifies the purpose of CORBA and its role in ITS. It provides some broad guidance on usage, and prepares the way for further ISO deliverables on the use of CORBA in ITS.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1

General Inter ORB Protocol

inter ORB protocol that defines the message formats between ORBs in a distributed environment

2.2

Interface Definition Language

language for defining interfaces to CORBA objects which is independent of platform, operating system and programming language

2.3

Internet Inter ORB Protocol

inter ORB protocol that allows ORBs to use the Internet as a communications bus by mapping inter ORB messages onto TCP/IP

NOTE This is an implementation of GIOP.

2.4

Model-Driven Architecture

method of writing specifications and developing applications, based on a platform-independent model (PIM)

NOTE A complete MDA specification consists of a definitive platform-independent base UML model, plus one or more platform-specific models (PSM) and interface definition sets, each describing how the base model is implemented on a different middleware platform.

2.5

Object Request Broker

function within the CORBA architecture that acts as a broker in fulfilling client requests for services from objects in a distributed environment

2.6

Platform-Independent Model

model of a software system that is independent of the specific technological platform used to implement it