INTERNATIONAL STANDARD

ISO 20242-1

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Industrial automation systems and integration — Service interface for testing applications —

Part 1:
Overview

Systèmes d'automatisation industrielle et intégration — Interface de service pour contrôler les applications —

Partie 1: Vue d'ensemble

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Foreword

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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.

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ISO 20242-1 was prepared by Technical Committee ISO/TC 184, *Industrial automation systems and integration*, Subcommittee SC 5, *Architecture, communications and integration frameworks*.

In addition to this part, ISO 20242 is envisaged to consist of several more parts dealing with:

• Resource management service interface;

• Virtual device service interface;

• Device capability profile template;

• Application program service interface;

• Conformance test methods, criteria and reports.

Introduction

The motivation for this International Standard stems from international automotive industries and their suppliers to facilitate the integration of automation and measurement devices, and other peripheral components for this purpose, into computer based applications. It defines rules for the construction of device drivers and their behaviour in the context of an automation and/or measurement application.

The main goal of ISO 20242 is to provide users with:

- independence from the computer operating system;

- independence from the device connection technology (device interface/network);

- independence from device suppliers;

- the ability to certify device drivers with connected devices and their behaviour in the context of a given computer platform;

- independence from the technological device development in the future.

ISO 20242 will not involve the development of new device families or the use of special interface technologies (networks). It encapsulates a device and its communication interface to make it compatible with other devices of that kind for a given application.

Industrial automation systems and integration — Service interface for testing applications —

Part 1:
Overview

1 Scope

This part of ISO 20242 provides an overview of the particularities of this International Standard and its use in the computer aided testing environment.

2 Terms and definitions

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

2.1

application program

resource designed to help users perform a specific task

NOTE   In this International Standard, an application program does any task necessary to run a computer-aided test station running, with the special requirement that communication with peripheral devices is done.

2.2

application program service interface

interface to communicate with a coordinator

NOTE   This will be specified in another part of ISO 20242.

2.3

communication object

existing object which may be accessed with a communication function to read or write a value

2.4

coordinator

program with a specified interface to handle the access of an application program to one or more device drivers and to manage real-time application aspects, synchronization and events

2.5

device capability description

text file containing information about the capabilities of virtual devices in a defined format (i.e. structure, syntax)

NOTE   This will be specified in another part of ISO 20242.

2.6

device driver

program with an ISO 20242-specified interface containing service functions that call the platform adapter to access physical devices

2.7

interface

<device capability description> keyword identifying a class for the description of device functions