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GB/T 22270.5-2023

Industrial automation systems and integration - Service interface for testing applications - Part 5: Application program service interface

工业自动化系统与集成 测试应用的服务接口 第5部分：应用程序服务接口

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents" Drafting:

This document is Part 5 of GB/T 22270 "Service Interface for Industrial Automation Systems and Integrated Test Applications": GB/T 22270 the following sections have been published:

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---Part 1: Overview;

---Part 2: Resource management service interface;

---Part 3: Virtual device service interface;

---Part 4: Equipment capability specific template;

---Part 5: Application service interface:

This document is equivalent to ISO 20242-5:2020 "Service Interface for Industrial Automation Systems and Integrated Test Applications Part 5:

Application Service Interface":

Introduction

The idea for the ISO 20242 series of standards came from the international automotive industry and its suppliers: The motivation was to promote automated acquisition equipment and their Integration of peripheral components with computer application software: This document defines the use of automation in the context of automation applications, measurement applications in the context of automation and measurement Create rules and operating status of device drivers in a large number of application environments:

The main goal of GB/T 22270 is to provide users and applications with:

---Independence from the computer operating system;

---Independence of device connection technology (device interface/network);

---Independence from equipment suppliers;

---The ability to verify device drivers for connected devices and their behavior given the computer platform;

---Independence of influence on the development of future technical equipment:

The GB/T 22270 series does not require the development of new equipment or the use of specialized interface technology (network): This document describes the equipment and its communication interface the ports are packaged together to be compatible with other devices of the same type in specified applications:

GB/T 22270 "Service Interface for Industrial Automation Systems and Integrated Test Applications" is intended to consist of the following parts:

---Part 1: Overview: The purpose is to specify the definition and main composition of the service interface of the test application:

---Part 2: Resource management service interface: The purpose is to specify the resource management service interface in the service interface of the test application:

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---Part 3: Virtual device service interface: The purpose is to specify the virtual device service interface in the service interface of the test application:

---Part 4: Equipment capability specific template: The purpose is to specify the device capability-specific template in the service interface of the test application and provide Provides standardized representation of equipment:

---Part 5: Application service interface: The purpose is to specify the application service interface in the service interface of the test application so that the resource management service interface, virtual device service interface and device capability specialized template defined in Part 2~Part 4 are used:

---Part 6: Conformance test methods, standards and reports: The purpose is to specify the test methods and test methods in the service interface of the test application:

Report structure and writing method provide standardized testing solutions for testing application service interfaces:

This document is Part 5 of GB/T 22270 "Service Interface for Industrial Automation Systems and Integrated Test Applications": It needs to be consistent with the standard Used in combination with other parts:

This document defines an object-oriented interface formalization and semantic description method using the coordinator service, and also defines a virtual Formal and semantic description methods for devices and virtual environments as well as the framework of application service interfaces, and interface design and interface programming are given reference guide:

Part 1 of GB/T 22270 defines the composition structure of the series of standards and the architecture of the test application service interface: This part is the same as Section 3 in collaboration with Part 4, it guides the integration of device drivers and virtual device service interfaces; in collaboration with Part 4, it guides the integration of parameterized instance descriptions, device capabilities Power description and device interface specification: Part 2 defines integrated system resources: Part 6 combines with ISO 13209 to provide test application services:

Conformance testing methods, standards and reports for service interfaces:

Industrial Automation Systems and Integration Test application service interface Part 5: Application Service Interface

1 Scope

This document defines an object-oriented interface using the coordinator service and the formalization and semantics of virtual device configuration and environment building:

oriented description criteria:

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2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text: Among them, the dated quotations for undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document:

ISO 20242-1 Service interfaces for industrial automation and system and integrated test applications Part 1: Overview (Industrialauto-Note: GB/T 22270.1-2008 Service interfaces for industrial automation and system and integrated test applications Part 1: Overview (ISO 20242-1:

2005,IDT)

ISO 20242-2 Service interfaces for industrial automation and system and integration test applications Part 2: Resource management service interfaces Note: GB/T 22270.2-2012 Service interface for industrial automation systems and integrated test applications Part 2: Resource management service interface (ISO 20242-2:2010,IDT) ISO 20242-3 Service interfaces for industrial automation and system and integration test applications Part 3: Virtual device service interfaces Note: GB/T 22270.3-2015 Service interface for industrial automation and system and integration test applications Part 3: Virtual device service interface (ISO 20242-3:2011,IDT) ISO 20242-4 Service interfaces for industrial automation and system and integrated test applications Part 4: Equipment capability specific templates Note: GB/T 22270.4-2015 Service interface for industrial automation and system and integrated test applications Part 4: Equipment capability specific template (ISO 20242-4:2011,IDT) ISO 13209-1 Road vehicle open test sequence exchange format (OTX) Part 1: General and use cases [Road ISO 13209-2 Road vehicle open test sequence exchange format (OTX) Part 2: Core data model specifications and requirements ments]

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