SLOVENSKI STANDARD
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Enotna arhitektura OPC - 24. del: Časovni razporejevalnik

OPC unified architecture - Part 24: Scheduler

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COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER: **IEC 62541-24 ED1**	
DATE OF CIRCULATION: **2024-01-26**	CLOSING DATE FOR VOTING: **2024-04-19**
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IEC SC 65E : DEVICES AND INTEGRATION IN ENTERPRISE SYSTEMS	
SECRETARIAT: United States of America	SECRETARY: Mr Donald (Bob) Lattimer
OF INTEREST TO THE FOLLOWING COMMITTEES:	PROPOSED HORIZONTAL STANDARD: ☐ Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.
FUNCTIONS CONCERNED: ☐ EMC ☐ ENVIRONMENT ☐ QUALITY ASSURANCE ☐ SAFETY	
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TITLE:

OPC Unified Architecture – Part 24: Scheduler

PROPOSED STABILITY DATE: 2026

NOTE FROM TC/SC OFFICERS:

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OPC UNIFIED ARCHITECTURE –

Part 24: Scheduler

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International Standard IEC 62541-24 has been prepared by subcommittee 65E: Devices and integration in enterprise systems, of IEC technical committee 65: Industrial-process measurement, control and automation.

The text of this international standard is based on the following documents:

CDV	Report on voting
65E/XX/CDV	65E/XX/RVC

Full information on the voting for the approval of this international standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

Throughout this document and the other Parts of the series, certain document conventions are used:

Italics are used to denote a defined term or definition that appears in the “Terms and definition” clause in one of the parts of the series.

Italics are also used to denote the name of a service input or output parameter or the name of a structure or element of a structure that are usually defined in tables.

The *italicized terms* and *names* are also often written in camel-case (the practice of writing compound words or phrases in which the elements are joined without spaces, with each element's initial letter capitalized within the compound). For example, the defined term is *AddressSpace* instead of Address Space. This makes it easier to understand that there is a single definition for *AddressSpace*, not separate definitions for Address and Space.

A list of all parts of the IEC 62541 series is included in IEC 62541-1 clause 4 Structure of the OPC UA series and published under the general title OPC Unified Architecture, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

OPC Unified Architecture Specification

Part 24: Scheduler

1 Scope

This document specifies an OPC UA information model to expose information, at what dates and times specific actions are executed by the OPC UA *Server*. Those schedules can optionally also be manipulated via the information model.

The schedule defines on which dates they are active, and can also reference global calendars representing specific dates, for example public holidays. In addition, the schedule defines times and actions that should be executed at that time. The model defines writing *Variables* and calling *Methods*, but can be extended to other actions as well.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments and errata) applies.

IEC 62541-1, *OPC Unified Architecture – Part 1: Overview and Concepts*

IEC 62541-3, *OPC Unified Architecture – Part 3: Address Space Model*

IEC 62541-4, *OPC Unified Architecture – Part 4: Services*

IEC 62541-5, *OPC Unified Architecture – Part 5: Information Model*

IEC 62541-6, *OPC Unified Architecture – Part 6: Mappings*

IEC 62541-7, *OPC Unified Architecture – Part 7: Profiles*

3 Terms, abbreviated terms and conventions

3.1 Overview

It is assumed that basic concepts of OPC UA information modelling are understood in this document. This document will use these concepts to describe the Scheduler Information Model. For the purposes of this document, the terms and definitions given in IEC 62541-1, IEC 62541-3, IEC 62541-4, IEC 62541-5, IEC 62541-7 as well as the following apply.

Note that OPC UA terms and terms defined in this document are *italicized* in the document.

3.2 Abbreviated terms

HTTP	Hypertext Transfer Protocol
PMS	Production Management System
URI	Uniform Resource Identifier
XML	Extensible Markup Language

4 General information to Scheduler

Schedulers allow to define per day of the week specific times at which specific actions are executed in the OPC UA *Server*.

In addition, schedulers can define special dates and times at which specific actions are executed in the OPC UA *Server*. If such a date occurs, the actions of the special date are executed, and the weekly schedule is ignored.

A scheduler can define the special dates by either

- defining a concrete date (e.g., 2022-01-17),
- defining a range of dates (e.g., 2022-01-17 until 2022-04-13)
- defining repeating dates with wildcards (e.g., every 1st January)
- or referencing global calendars containing for example all public holidays of a year

Per date an array of times and corresponding actions including parameterization is defined, when the action is executed. Actions can be the writing of *Variables* or calling *Methods*, but can also be extended to other actions.

5 Use cases

5.1 UC01: Scheduling actions on specific times on each weekday

The user wants to schedule that at specific times on each individual weekday a specific action is executed, for example the heating is set to a specific setpoint. In Table 1, an example of such a schedule is given. It contains the schedule for the heating of a school building, that is not used over the weekend. It may be needed to disable the schedule, e.g. when it is warm outside during summer.

Table 1 – Example Weekly Schedule

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
00:00 Night	07:00 On	07:00 On	07:00 On	07:00 On	00:00 Off	00:00 Off
07:00 On	16:30 Night	16:30 Night	16:30 Night	16:30 Off		
16:30 Night						

5.2 UC02: Scheduling actions on special dates

5.2.1 Overview

The user wants to schedule that on special dates or date periods a specific action is executed, for example switching off the heating during public holidays. The user wants to be able to define those dates individual or reference predefined dates that can be used in several schedules. In Table 2, an example is given.