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OPC unified architecture - Part 24: Scheduler

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PROJECT NUMBER: IEC 62541-24 ED1



NOTE FROM TC/SC OFFICERS:

65E/1049/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

	DATE OF CIRCULATION 2024-01-26	N:	CLOSING DATE FOR VOTING: 2024-04-19		
	SUPERSEDES DOCUM	ENTS:			
	65E/959/NP, 65E/1019/RVN				
IEC SC 65E: DEVICES AND INTEGRATION I	N ENTERPRISE SYSTEM	S			
SECRETARIAT:		SECRETARY:			
United States of America		Mr Donald (Bob) Lattimer			
OF INTEREST TO THE FOLLOWING COMMITTE	EES:	PROPOSED HORIZONTAL STANDARD:			
		Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.			
FUNCTIONS CONCERNED:					
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The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting. The CENELEC members are invited to vote through the					
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OPC Unified Architecture – Part 24: Scheduler					
PROPOSED STABILITY DATE: 2026					

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OPC UNIFIED ARCHITECTURE -

Part 24: Scheduler

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Report on voting

65F/XX/RVC

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- *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.
- 164 *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
- 176 reconfirmed,
- 177 withdrawn,
- replaced by a revised edition, or
- 179 amended.

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

<u>ileh Standards</u>

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XML

Extensible Markup Language

187		OPC Unified Architecture Specification
188		
189		Part 24: Scheduler
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192		
193	1 Scope	
194		nent specifies an OPC UA information model to expose information, at what dates
195 196		specific actions are executed by the OPC UA <i>Server</i> . Those schedules can optionally nipulated via the information model.
197	The schedu	ule defines on which dates they are active, and can also reference global calendars
198		ig specific dates, for example public holidays. In addition, the schedule defines times
199 200		s that should be executed at that time. The model defines writing <i>Variables</i> and hods, but can be extended to other actions as well.
201	2 Norma	ative references
202		ng referenced documents are indispensable for the application of this document. For
203 204		rences, only the edition cited applies. For undated references, the latest edition of ced document (including any amendments and errata) applies.
205	IEC 62541-	-1, OPC Unified Architecture – Part 1: Overview and Concepts
206	IEC 62541-	3, OPC Unified Architecture – Part 3: Address Space Model
207	IEC 62541-	4, OPC Unified Architecture – Part 4: Services
208	IEC 62541-	5, OPC Unified Architecture – Part 5: Information Model
209	IEC 62541-	-6, OPC Unified Architecture – Part 6: Mappings
210		7, OPC Unified Architecture – Part 7: Profiles 24:2024
os://st 211		.ai/catalog/standards/sist/d0fdcdf2-23d4-4acb-a68b-57fed0dcaa75/osist-pren-iec-63 s, abbreviated terms and conventions
212		rview
213		ned that basic concepts of OPC UA information modelling are understood in this
214		This document will use these concepts to describe the Scheduler Information Model poses of this document, the terms and definitions given in IEC 62541-1, IEC 62541-
215 216		41-4, IEC 62541-5, IEC 62541-7 as well as the following apply.
217	Note that C	OPC UA terms and terms defined in this document are <i>italicized</i> in the document.
218	3.2 Abb	reviated terms
219 220	HTTP	Hypertext Transfer Protocol
221	PMS	Production Management System
222	URI	Uniform Resource Identifier

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.
- 230 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
- 237 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

244 during summer.

standards.iteh.ai/catalog/stand 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						

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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
- 251 those dates individual or reference predefined dates that can be used in several schedules. In
- Table 2, an example is given.