BS EN IEC 62541-8:2020

BSI Standards Publication

OPC Unified Architecture

Part 8: Data Access

bsi.

National foreword

This British Standard is the UK implementation of EN IEC 62541-8:2020. It is identical to IEC 62541-8:2020. It supersedes BS EN 62541-8:2015, which will be withdrawn on 15 February 2021.

The UK participation in its preparation was entrusted to Technical Committee GEL/65/3, Industrial communications: process measurement and control, including fieldbus.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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English Version

OPC Unified Architecture - Part 8: Data Access (IEC 62541-8:2020)

Architecture unifiée OPC - Partie 8: Accès aux données (IEC 62541-8:2020)

OPC Unified Architecture - Teil 8: Zugriff auf Automatisierungsdaten (IEC 62541-8:2020)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 65E/708/FDIS, future edition 3 of IEC 62541-8, prepared by SC 65E "Devices and integration in enterprise systems" of IEC/TC 65 "Industrial-process measurement, control and automation" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62541-8:2020.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2021-04-27
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2023-07-27

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Endorsement notice

The text of the International Standard IEC 62541-8:2020 was approved by CENELEC as a European Standard without any modification.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

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International Standard IEC 62541-8 has been prepared by subcommittee 65E: Devices and integration in enterprise systems, of IEC technical committee 65: Industrial-process measurement, control and automation.

This third edition cancels and replaces the second edition published in 2015. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) added new VariableTypes for AnalogItems;
b) added an Annex that specifies a recommended mapping of OPC UA Dataccess to OPC COM DataAccess;
c) changed the ambiguous description of "Bad_NotConnected";
d) updated description for EUInformation to refer to latest revision of UNCEFACT units.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
65E/708/FDIS	65E/726/RVD

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

Throughout this document and the other parts of the IEC 62541 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 IEC 62541 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, with a few exceptions, 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, published under the general title *OPC Unified Architecture*, can be found on the IEC website.

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

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

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 –

Part 8: Data access

1 Scope

This part of IEC 62541 is part of the overall OPC Unified Architecture (OPC UA) standard series and defines the information model associated with Data Access (DA). It particularly includes additional *VariableTypes* and complementary descriptions of the *NodeClass*es and *Attributes* needed for Data Access, additional *Properties,* and other information and behaviour.

The complete address space model, including all *NodeClass*es and *Attributes* is specified in IEC 62541-3. The services to detect and access data are specified in IEC 62541-4.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC TR 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*

UN/CEFACT: UNECE Recommendation N° 20, *Codes for Units of Measure Used in International Trade*, available at https://www.unece.org/cefact/codesfortrade/codes_index.html

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC TR 62541-1, IEC 62541-3, and IEC 62541-4 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1.1
DataItem
link to arbitrary, live automation data, that is, data that represents currently valid information

Note 1 to entry: Examples of such data are

- device data (such as temperature sensors),