IEC TR 62541-1

Edition 2.0 2016-10

TECHNICAL REPORT

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OPC unified architecture – Part 1: Overview and concepts

IEC TR 62541-1:2016-10(en)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ICS 25.040.40; 35.100.01

ISBN 978-2-8322-3640-6

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OPC UNIFIED ARCHITECTURE –

Part 1: Overview and concepts

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IEC TR 62541-1, which is a technical report, 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 technical report is based on the following documents:

Enquiry draft	Report on voting
65E/414/DTR	65E/463/RVC

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

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This second edition cancels and replaces the first edition of IEC TR 62541-1, published in 2010.

This edition includes no technical changes with respect to the previous edition but includes updates to reflect changes or additions in normative parts of IEC 62541.

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

Throughout this document and the referenced 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, 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 website 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.

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OPC UNIFIED ARCHITECTURE –

Part 1: Overview and concepts

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1 Scope

This part of IEC 62541, which is a Technical Report, presents the concepts and overview of the OPC Unified Architecture (OPC UA). Reading this document is helpful to understand the remaining parts of this multi-part document set. Each of the other parts is briefly explained along with a suggested reading order.

2 Normative references

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

IEC TR 62541-2, *OPC Unified Architecture – Part 2: Security Model*

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*

IEC 62541-8, *OPC Unified Architecture – Part 8: Data Access*

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IEC 62541-10, *OPC Unified Architecture – Part 10: Programs*

IEC 62541-11, *OPC Unified Architecture – Part 11: Historical Access*

IEC 62541-13, *OPC Unified Architecture – Part 13: Aggregates*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

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

3.1.1
AddressSpace
collection of information that an OPC UA *Server* makes visible to its *Clients*

Note 1 to entry: See IEC 62541-3 for a description of the contents and structure of the *Server* AddressSpace.