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# TECHNICAL REPORT



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## OPC Unified Architecture – Part 1: Overview and Concepts

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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### OPC UNIFIED ARCHITECTURE –

#### Part 1: Overview and Concepts

### FOREWORD

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IEC 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.

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The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
65E/92/DTR	65E/154/RVC

Full information on the voting for the approval of this 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.

A list of all parts of the IEC 62541 series, 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- withdrawn,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.

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## INTRODUCTION

This technical report introduces the specification for developers of OPC Unified Architecture applications. This technical report and specification are a result of an analysis and design process to develop a standard interface to facilitate the development of applications by multiple vendors that inter-operate seamlessly together.

## OPC UNIFIED ARCHITECTURE –

### Part 1: Overview and Concepts

#### 1 Scope

This part of IEC 62541 presents the concepts and overview of the Unified Architecture (OPC UA) specification produced by the OPC Foundation. Reading this report enables the reader to understand the series of IEC 62541 standards. Each of the other parts is briefly explained along with a suggested reading order.

#### 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) applies.

IEC 62541 (all parts), *OPC Unified Architecture*

#### 3 Terms, definitions, abbreviations and conventions

##### 3.1 Document conventions

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*.

##### 3.2 Terms and definitions

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

###### 3.2.1

###### **AddressSpace**

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

NOTE See IEC 62541-3 for a description of the contents and structure of the *Server AddressSpace*.

###### 3.2.2

###### **Alarm**

type of *Event* associated with a state condition that typically requires acknowledgement

NOTE See IEC 62541-9 or a description of *Alarms*.