

**SS IEC 62541-9 : 2019**  
**IEC 62541-9:2015, IDT**  
(ICS 25.040.40; 35.100)

**SINGAPORE STANDARD**

# **OPC unified architecture**

– Part 9 : Alarms and conditions



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IEC 62541-9:2015, IDT  
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**OPC unified architecture**  
– Part 9 : Alarms and conditions

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## CONTENTS

NATIONAL FOREWORD .....	11
FOREWORD .....	12
1 Scope .....	14
2 Normative references .....	14
3 Terms, definitions, and abbreviations .....	14
3.1 Terms and definitions .....	14
3.2 Abbreviations and symbols .....	16
3.3 Used data types .....	16
4 Concepts .....	16
4.1 General .....	16
4.2 Conditions .....	16
4.3 Acknowledgeable Conditions .....	18
4.4 Previous states of Conditions .....	19
4.5 Condition state synchronization .....	19
4.6 Severity, Quality, and Comment .....	20
4.7 Dialogs .....	21
4.8 Alarms .....	21
4.9 Multiple Active States .....	22
4.10 <i>Condition</i> Instances in the Address Space .....	23
4.11 Alarm and Condition Auditing .....	23
5 Model .....	23
5.1 General .....	23
5.2 Two-State State Machines .....	25
5.3 Condition Variables .....	27
5.4 Substate Reference Types .....	27
5.4.1 General .....	27
5.4.2 HasTrueSubState ReferenceType .....	27
5.4.3 HasFalseSubState ReferenceType .....	28
5.5 Condition Model .....	28
5.5.1 General .....	28
5.5.2 ConditionType .....	29
5.5.3 Condition and Branch Instances .....	32
5.5.4 Disable Method .....	32
5.5.5 Enable Method .....	33
5.5.6 AddComment Method .....	33
5.5.7 ConditionRefresh Method .....	34
5.6 Dialog Model .....	36
5.6.1 General .....	36
5.6.2 DialogConditionType .....	36
5.6.3 Respond Method .....	37
5.7 Acknowledgeable Condition Model .....	38
5.7.1 General .....	38
5.7.2 AcknowledgeableConditionType .....	38

5.7.3	Acknowledge Method .....	39
5.7.4	Confirm Method.....	40
5.8	Alarm Model .....	41
5.8.1	General .....	41
5.8.2	AlarmConditionType .....	42
5.8.3	ShelvedStateMachineType .....	44
5.8.4	LimitAlarmType .....	48
5.8.5	ExclusiveLimit Types .....	49
5.8.6	NonExclusiveLimitAlarmType .....	51
5.8.7	Level Alarm .....	53
5.8.8	Deviation Alarm.....	53
5.8.9	Rate of Change .....	54
5.8.10	Discrete Alarms.....	55
5.9	ConditionClasses.....	57
5.9.1	Overview .....	57
5.9.2	Base ConditionClassType .....	57
5.9.3	ProcessConditionClassType .....	58
5.9.4	MaintenanceConditionClassType.....	58
5.9.5	SystemConditionClassType .....	58
5.10	Audit Events .....	58
5.10.1	Overview .....	58
5.10.2	AuditConditionEventType .....	59
5.10.3	AuditConditionEnableEventType .....	60
5.10.4	AuditConditionCommentEventType .....	60
5.10.5	AuditConditionRespondEventType .....	60
5.10.6	AuditConditionAcknowledgeEventType.....	60
5.10.7	AuditConditionConfirmEventType .....	61
5.10.8	AuditConditionShelvingEventType.....	61
5.11	Condition Refresh Related Events .....	61
5.11.1	Overview .....	61
5.11.2	RefreshStartEventType .....	62
5.11.3	RefreshEndEventType.....	62
5.11.4	RefreshRequiredEventType.....	62
5.12	HasCondition Reference Type .....	63
5.13	Alarm and Condition Status Codes .....	63
5.14	Expected A&C Server Behaviours.....	64
5.14.1	General .....	64
5.14.2	Communication problems .....	64
5.14.3	Redundant A&C Servers .....	64
6	AddressSpace Organisation .....	65
6.1	General .....	65
6.2	Event Notifier and Source Hierarchy .....	65
6.3	Adding Conditions to the Hierarchy.....	66
6.4	Conditions in InstanceDeclarations .....	67
6.5	Conditions in a VariableType .....	68
Annex A (informative)	Recommended localized names .....	69

A.1	Recommended State Names for TwoState Variables .....	69
A.1.1	LocaleId “en” .....	69
A.1.2	LocaleId “de” .....	69
A.1.3	LocaleId “fr” .....	70
A.2	Recommended Dialog Response Options .....	70
Annex B (informative)	Examples .....	71
B.1	Examples for Event sequences from Condition instances .....	71
B.1.1	Overview .....	71
B.1.2	Server Maintains Current State Only .....	71
B.1.3	Server Maintains Previous States .....	72
B.2	Address Space Examples .....	73
Annex C (informative)	Mapping to EEMUA .....	77
Annex D (informative)	Mapping from OPC A&E to OPC UA A&C .....	78
D.1	Overview .....	78
D.2	Alarms and Events COM UA Wrapper .....	78
D.2.1	Event Areas .....	78
D.2.2	Event Sources .....	79
D.2.3	Event Categories .....	79
D.2.4	Event Attributes .....	80
D.2.5	Event Subscriptions .....	80
D.2.6	Condition Instances .....	82
D.2.7	Condition Refresh .....	82
D.3	Alarms and Events COM UA Proxy .....	83
D.3.1	General .....	83
D.3.2	Server Status Mapping .....	83
D.3.3	Event Type Mapping .....	83
D.3.4	Event Category Mapping .....	84
D.3.5	Event Category Attribute Mapping .....	85
D.3.6	Event Condition Mapping .....	88
D.3.7	Browse Mapping .....	88
D.3.8	Qualified Names .....	89
D.3.9	Subscription Filters .....	90
Bibliography	.....	92
Figure 1	– Base Condition State Model .....	17
Figure 2	– AcknowledgeableConditions State Model .....	18
Figure 3	– Acknowledge State Model .....	19
Figure 4	– Confirmed Acknowledge State Model .....	19
Figure 5	– Alarm State Machine Model .....	21
Figure 6	– Multiple Active States Example .....	22
Figure 7	– ConditionType Hierarchy .....	25
Figure 8	– Condition Model .....	29
Figure 9	– DialogConditionType Overview .....	36
Figure 10	– AcknowledgeableConditionType Overview .....	38



Figure 11 – AlarmConditionType Hierarchy Model .....	42
Figure 12 – Alarm Model .....	42
Figure 13 – Shelve state transitions .....	44
Figure 14 – Shelved State Machine Model .....	45
Figure 15 – LimitAlarmType .....	48
Figure 16 – ExclusiveLimitStateMachine .....	49
Figure 17 – ExclusiveLimitAlarmType .....	51
Figure 18 – NonExclusiveLimitAlarmType .....	52
Figure 19 – DiscreteAlarmType Hierarchy .....	55
Figure 20 – ConditionClass Type Hierarchy .....	57
Figure 21 – AuditEvent Hierarchy .....	59
Figure 22 – Refresh Related Event Hierarchy .....	62
Figure 23 – Typical Event Hierarchy .....	66
Figure 24 – Use of HasCondition in an Event Hierarchy .....	67
Figure 25 – Use of HasCondition in an InstanceDeclaration .....	68
Figure 26 – Use of HasCondition in a VariableType .....	68
Figure B.1 – Single State Example .....	71
Figure B.2 – Previous State Example .....	72
Figure B.3 – HasCondition used with Condition instances .....	74
Figure B.4 – HasCondition reference to a Condition Type .....	75
Figure B.5 – HasCondition used with an instance declaration .....	76
Figure D.1 – The Type Model of a Wrapped COM AE Server .....	80
Figure D.2 – Mapping UA Event Types to COM A&E Event Types .....	84
Figure D.3 – Example Mapping of UA Event Types to COM A&E Categories .....	85
Figure D.4 – Example Mapping of UA Event Types to A&E Categories with Attributes .....	88
Table 1 – Parameter Types defined in IEC 62541-3 .....	16
Table 2 – Parameter Types defined in IEC 62541-4 .....	16
Table 3 – TwoStateVariableType Definition .....	26
Table 4 – ConditionVariableType Definition .....	27
Table 5 – HasTrueSubState ReferenceType .....	28
Table 6 – HasFalseSubState ReferenceType .....	28
Table 7 – ConditionType Definition .....	30
Table 8 – Simple Attribute Operand .....	32
Table 9 – Disable Result Codes .....	33
Table 10 – Disable Method AddressSpace Definition .....	33
Table 11 – Enable Result Codes .....	33
Table 12 – Enable Method AddressSpace Definition .....	33
Table 13 – AddComment Arguments .....	34
Table 14 – AddComment result Codes .....	34

Table 15 – AddComment Method AddressSpace Definition .....	34
Table 16 – ConditionRefresh Parameters .....	35
Table 17 – ConditionRefresh ReturnCodes .....	35
Table 18 – ConditionRefresh Method AddressSpace Definition .....	36
Table 19 – DialogConditionType Definition .....	36
Table 20 – Repond Parameters .....	37
Table 21 – Respond ResultCodes .....	38
Table 22 – Respond Method AddressSpace Definition .....	38
Table 23 – AcknowledgeableConditionType Definition .....	39
Table 24 – Acknowledge Parameters .....	39
Table 25 – Acknowledge result codes .....	40
Table 26 – Acknowledge Method AddressSpace Definition .....	40
Table 27 – Confirm Method Parameters .....	40
Table 28 – Confirm Result Codes .....	41
Table 29 – Confirm Method AddressSpace Definition .....	41
Table 30 – AlarmConditionType Definition .....	43
Table 31 –ShelvedStateMachine Definition .....	45
Table 32 – ShelvedStateMachine Transitions .....	46
Table 33 – Unshelve Result Codes .....	46
Table 34 – Unshelve Method AddressSpace Definition .....	46
Table 35 – TimedShelve Parameters .....	47
Table 36 – TimedShelve Result Codes .....	47
Table 37 – TimedShelve Method AddressSpace Definition .....	47
Table 38 – OneShotShelve Result Codes .....	48
Table 39 – OneShotShelve Method AddressSpace Definition .....	48
Table 40 – LimitAlarmType Definition .....	48
Table 41 – ExclusiveLimitStateMachineType Definition .....	50
Table 42 – ExclusiveLimitStateMachineType Transitions .....	50
Table 43 – ExclusiveLimitAlarmType Definition .....	51
Table 44 – NonExclusiveLimitAlarmType Definition .....	52
Table 45 – NonExclusiveLevelAlarmType Definition .....	53
Table 46 – ExclusiveLevelAlarmType Definition .....	53
Table 47 – NonExclusiveDeviationAlarmType Definition .....	54
Table 48 – ExclusiveDeviationAlarmType Definition .....	54
Table 49 – NonExclusiveRateOfChangeAlarmType Definition .....	55
Table 50 – ExclusiveRateOfChangeAlarmType Definition .....	55
Table 51 – DiscreteAlarmType Definition .....	56
Table 52 – OffNormalAlarmType Definition .....	56
Table 53 – SystemOffNormalAlarmType Definition .....	56
Table 54 – TripAlarmType Definition .....	57

Table 55 – BaseConditionClassType Definition.....	57
Table 56 – ProcessConditionClassType Definition .....	58
Table 57 – MaintenanceConditionClassType Definition.....	58
Table 58 – SystemConditionClassType Definition .....	58
Table 59 – AuditConditionEventType Definition .....	59
Table 60 – AuditConditionEnableEventType Definition .....	60
Table 61 – AuditConditionCommentEventType Definition .....	60
Table 62 – AuditConditionRespondEventType Definition .....	60
Table 63 – AuditConditionAcknowledgeEventType Definition .....	61
Table 64 – AuditConditionConfirmEventType Definition .....	61
Table 65 – AuditConditionShelvingEventType Definition .....	61
Table 66 – RefreshStartEventType Definition .....	62
Table 67 – RefreshEndEventType Definition.....	62
Table 68 – RefreshRequiredEventType Definition .....	63
Table 69 – HasCondition ReferenceType.....	63
Table 70 – Alarm and Condition Result Codes.....	64
Table A.1 – Recommended state names for LocaleId “en” .....	69
Table A.2 – Recommended display names for LocaleId “en” .....	69
Table A.3 – Recommended state names for LocaleId “de” .....	69
Table A.4 – Recommended display names for LocaleId “de” .....	70
Table A.5 – Recommended state names for LocaleId “fr” .....	70
Table A.6 – Recommended display names for LocaleId “fr” .....	70
Table A.7 – Recommended Dialog Response Options .....	70
Table B.1 – Example of a Condition that only keeps the latest state .....	72
Table B.2 – Example of a <i>Condition</i> that maintains previous states via branches.....	73
Table C.1 – EEMUA Terms.....	77
Table D.1 – Mapping from Standard Event Categories to OPC UA Event Types .....	79
Table D.2 – Mapping from ONEVENTSTRUCT fields to UA BaseEventType Variables .....	81
Table D.3 – Mapping from ONEVENTSTRUCT fields to UA AuditEventType Variables .....	81
Table D.4 – Mapping from ONEVENTSTRUCT fields to UA AlarmType Variables .....	82
Table D.5 – Event Category Attribute Mapping Table.....	86

## **National Foreword**

This Singapore Standard was prepared by the Working Group on Smart Manufacturing Readiness Level set up by the Technical Committee on Smart Manufacturing under the purview of MSC.

This standard is identical with IEC 62541-9:2015, "OPC unified architecture – Part 9: Alarms and conditions", published by the International Electrotechnical Commission.

NOTE – Reference to International Standards are replaced by applicable Singapore Standards and Technical References.

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**INTERNATIONAL ELECTROTECHNICAL COMMISSION**

**OPC UNIFIED ARCHITECTURE –**

**Part 9: Alarms and conditions**

**FOREWORD**

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International Standard IEC 62541-9 has been prepared by subcommittee 65E: Devices and integration in enterprise systems, of IEC technical committee 65: Industrial-process measurement, control and automation.

This second edition cancels and replaces the first edition published in 2012. This edition constitutes a technical revision.

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

- a) added section to describe expect behaviour for A&C servers and the associated information model in the case of redundancy or communication faults, see 5.14 for additional details.[ref 698 & 967];

- b) changed the DialogConditionType to be not abstract since it is expect that instance of this type will exist in the system, see Table 19 for additonal details [ref 1622];
- c) updated ConditionRefresh Method to allow the use of the well know Nodelds associated with the types for the MethodId and ConditionId instead of requiring the call to use only the MethodId and ConditionId that is part of an instance. Without this change, servers that do not expose instance may have problems with ConditionRefresh, see 5.5.7 for additional details [ref 2091];
- d) Fixed ExclusiveLimitStateMachineType and ShelvedStatemachineType to be sub-types of FinitStateMachineType not StateMachineType. See 5.8.3 and 5.8.5.2 for additional details [ref 2091].

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

CDV	Report on voting
65E/382/CDV	65E/408/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, 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.

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## OPC UNIFIED ARCHITECTURE –

### Part 9: Alarms and conditions

#### 1 Scope

This part of IEC 62541 specifies the representation of *Alarms* and *Conditions* in the OPC Unified Architecture. Included is the *Information Model* representation of *Alarms* and *Conditions* in the OPC UA address space.

#### 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 62541-1, *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 62541-8, *OPC Unified Architecture – Part 8: Data Access*

EEMUA: 2nd Edition EEMUA 191 – *Alarm System – A guide to design, management and procurement* (Appendixes 6, 7, 8, 9), available at <http://www.eemua.co.uk/>