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**OPC unified architecture –
Part 9: Alarms and conditions**

**Architecture unifiée OPC –
Partie 9: Alarmes et conditions**



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OPC UNIFIED ARCHITECTURE –

Part 9: Alarms and conditions

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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 additional details [ref 1622];

- c) updated ConditionRefresh Method to allow the use of the well know NodeIds 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.

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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/>

3 Terms, definitions, and abbreviations

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC TR 62541-1, IEC 62541-3, IEC 62541-4, and IEC 62541-5 as well as the following apply.

3.1.1

acknowledge

operator action that indicates recognition of a new *Alarm*

Note 1 to entry: This definition is copied from EEMUA. The term “Accept” is another common term used to describe *Acknowledge*. They can be used interchangeably. This standard will use *Acknowledge*.

3.1.2

active

state for an *Alarm* that indicates that the situation the *Alarm* is representing currently exists

Note 1 to entry: Other common terms defined by EEMUA are “Standing” for an *Active Alarm* and “Cleared” when the *Condition* has returned to normal and is no longer *Active*.