INTERNATIONAL STANDARD

ISO/IEC 30118-17

First edition
2021-10

Information technology — Open Connectivity Foundation (OCF) Specification —

Part 17: OCF resource to Zigbee cluster mapping specification

Technologies de l'information — Specification de la Fondation pour la connectivité ouverte (Fondation OCF) —

Partie 17: Spécification du mapping entre ressources OCF et grappe Zigbee



Reference number
ISO/IEC 30118-17:2021(E)

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Published in Switzerland

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Contents

Page

Foreword vii
Introduction viii
1 Scope 1
2 Normative references 1
3 Terms, definitions symbols and abbreviations 2
3.1 Terms and definitions 2
4 Document conventions and organization 3
4.1 Conventions 3
4.2 Notation 3
5 Theory of operation 4
5.1 Interworking approach 4
5.2 Mapping syntax 4
5.2.1 Introduction 4
5.2.2 General 4
5.2.3 Value assignment 4
5.2.4 Property naming 4
5.2.5 Range 4
5.2.6 Arrays 4
5.2.7 Default mapping 5
5.2.8 Conditional mapping 5
5.2.9 Method invocation 5
6 Zigbee translation 5
6.1 Operational scenarios 5
6.2 Requirements specific to Zigbee bridging function 6
6.2.1 Requirements specific to Zigbee 6
6.2.2 Exposing Zigbee 3.0 servers to OCF clients 6
6.2.3 Translation for well-defined set 8
6.2.4 Exposing a Zigbee 3.0 server as a virtual OCF server 8
7 Device type mapping 14
7.1 Introduction 14
7.2 Zigbee device types to OCF device types 14
8 Resource to zigbee cluster equivalence 14
8.1 Introduction 14
8.2 Zigbee clusters to OCF resources 14
8.2.1 Introduction 14
8.2.2 On/off 15
8.2.3 Level control 15
8.2.4 Color control 15
8.2.5 Thermostat 16
8.2.6 Window covering 16
8.2.7 Temperature measurement 17
8.2.8 Occupancy sensing 17
8.2.9 IAS zone 17
9 Detailed mapping APIs 18
9.1 Introduction 18

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9.2 Color control cluster - color space - control 18
9.2.1 Derived model 18
9.2.2 Property definition 18
9.2.3 Derived model definition 19
9.3 Color control cluster - color space - information 19
9.3.1 Derived model 19
9.3.2 Property definition 19
9.3.3 Derived model definition 20
9.4 Color control cluster - color temperature - information 20
9.4.1 Derived model 20
9.4.2 Property definition 21
9.4.3 Derived model definition 21
9.5 Color control cluster - color temperature - information 22
9.5.1 Derived model 22
9.5.2 Property definition 22
9.5.3 Derived model definition 22
9.6 Color control cluster - hue and saturation - control 23
9.6.1 Derived model 23
9.6.2 Property definition 23
9.6.3 Derived model definition 24
9.7 Color control cluster - hue and saturation - information 25
9.7.1 Derived model 25
9.7.2 Property definition 25
9.7.3 Derived model definition 25
9.8 IAS zone cluster - control 26
9.8.1 Derived model 26
9.8.2 Property definition 26
9.8.3 Derived model definition 26
9.9 IAS zone cluster - information 27
9.9.1 Derived model 27
9.9.2 Property definition 27
9.9.3 Derived model definition 31
9.10 Level control cluster - control 34
9.10.1 Derived model 34
9.10.2 Property definition 34
9.10.3 Derived model definition 35
9.11 Level control cluster - information 35
9.11.1 Derived model 35
9.11.2 Property definition 35
9.11.3 Derived model definition 36
9.12 Occupancy sensing cluster - information 36
9.12.1 Derived model 36
9.12.2 Property definition 36
9.12.3 Derived model definition 37
9.13 On/Off cluster - control 37
9.13.1 Derived model 37
9.13.2 Property definition 37
9.13.3 Derived model definition 38

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9.14 On/off cluster - information 39
9.14.1 Derived model 39
9.14.2 Property definition 39
9.14.3 Derived model definition 39
9.15 Temperature measurement cluster - information 40
9.15.1 Derived model 40
9.15.2 Property definition 40
9.15.3 Derived model definition 40
9.16 Thermostat cluster - cool - control 41
9.16.1 Derived model 41
9.16.2 Property definition 41
9.16.3 Derived model definition 42
9.17 Thermostat cluster - current temperature - information 42
9.17.1 Derived model 42
9.17.2 Property definition 43
9.17.3 Derived model definition 43
9.18 Thermostat cluster - heat - control 43
9.18.1 Derived model 43
9.18.2 Property definition 44
9.18.3 Derived model definition 44
9.19 Window covering cluster - configuration - control 45
9.19.1 Derived model 45
9.19.2 Property definition 45
9.19.3 Derived model definition 46
9.20 Window covering cluster - configuration - information 47
9.20.1 Derived model 47
9.20.2 Property definition 47
9.20.3 Derived model definition 51
9.21 Window covering cluster - lift percentage - control 53
9.21.1 Derived model 53
9.21.2 Property definition 53
9.21.3 Derived model definition 53
9.22 Window covering cluster - lift percentage - information 54
9.22.1 Derived model 54
9.22.2 Property definition 54
9.22.3 Derived model definition 54
9.23 Window covering cluster - lift position - control 55
9.23.1 Derived model 55
9.23.2 Property definition 55
9.23.3 Derived model definition 55
9.24 Window covering cluster - lift position - information 56
9.24.1 Derived model 56
9.24.2 Property definition 56
9.24.3 Derived model definition 56
9.25 Window covering cluster - tilt percentage - control 57
9.25.1 Derived model 57
9.25.2 Property definition 57
9.25.3 Derived model definition 58

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9.26 Window covering cluster - tilt percentage - information 58
9.26.1 Derived model 58
9.26.2 Property definition 58
9.26.3 Derived model definition 59
9.27 Window covering cluster - tilt position - control 59
9.27.1 Derived model 59
9.27.2 Property definition 59
9.27.3 Derived model definition 60
9.28 Window covering cluster - tilt position - information 60
9.28.1 Derived model 60
9.28.2 Property definition 60
9.28.3 Derived model definition 61

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted (see www.iso.org/directives or www.iec.ch/members_experts/refdocs).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html. In the IEC, see www.iec.ch/understanding-standards.

This document was prepared by the Open Connectivity Foundation (OCF) (as OCF Resource to Zigbee Cluster Mapping Specification, version 2.2.0) and drafted in accordance with its editorial rules. It was adopted, under the JTC 1 PAS procedure, by Joint Technical Committee ISO/IEC JTC 1, *Information technology*.

A list of all parts in the ISO/IEC 30118 series can be found on the ISO and IEC websites.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

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Introduction

This document, and all the other parts associated with this document, were developed in response to worldwide demand for smart home focused Internet of Things (IoT) devices, such as appliances, door locks, security cameras, sensors, and actuators; these to be modelled and securely controlled, locally and remotely, over an IP network.

While some inter-device communication existed, no universal language had been developed for the IoT. Device makers instead had to choose between disparate frameworks, limiting their market share, or developing across multiple ecosystems, increasing their costs. The burden then falls on end users to determine whether the products they want are compatible with the ecosystem they bought into, or find ways to integrate their devices into their network, and try to solve interoperability issues on their own.

In addition to the smart home, IoT deployments in commercial environments are hampered by a lack of security. This issue can be avoided by having a secure IoT communication framework, which this standard solves.

The goal of these documents is then to connect the next 25 billion devices for the IoT, providing secure and reliable device discovery and connectivity across multiple OSs and platforms. There are multiple proposals and forums driving different approaches, but no single solution addresses the majority of key requirements. This document and the associated parts enable industry consolidation around a common, secure, interoperable approach.

ISO/IEC 30118 consists of eighteen parts, under the general title Information technology — Open Connectivity Foundation (OCF) Specification. The parts fall into logical groupings as described herein:

- Core framework
  - Part 1: Core Specification
  - Part 2: Security Specification
  - Part 13: Onboarding Tool Specification
- Bridging framework and bridges
  - Part 3: Bridging Specification
  - Part 6: Resource to Alljoyn Interface Mapping Specification
  - Part 8: OCF Resource to oneM2M Resource Mapping Specification
  - Part 14: OCF Resource to BLE Mapping Specification
  - Part 15: OCF Resource to EnOcean Mapping Specification
  - Part 16: OCF Resource to UPlus Mapping Specification
  - Part 17: OCF Resource to Zigbee Cluster Mapping Specification
  - Part 18: OCF Resource to Z-Wave Mapping Specification
- Resource and Device models
  - Part 4: Resource Type Specification
  - Part 5: Device Specification

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- Core framework extensions
  - Part 7: Wi-Fi Easy Setup Specification
  - Part 9: Core Optional Specification
- OCF Cloud
  - Part 10: Cloud API for Cloud Services Specification
  - Part 11: Device to Cloud Services Specification
  - Part 12: Cloud Security Specification

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Information technology — Open Connectivity Foundation (OCF) Specification —

Part 17:
OCF resource to Zigbee cluster mapping specification

1 Scope

This document provides detailed mapping information between Zigbee defined Clusters and OCF defined Resources.

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.

ISO/IEC 30118-1 Information technology – Open Connectivity Foundation (OCF) Specification – Part 1: Core specification
https://www.iso.org/standard/53238.html
Latest version available at: https://openconnectivity.org/specs/OCF_Core_Specification.pdf

ISO/IEC 30118-2 Information technology – Open Connectivity Foundation (OCF) Specification – Part 2: Security specification
https://www.iso.org/standard/74239.html
Latest version available at: https://openconnectivity.org/specs/OCF_Security_Specification.pdf

ISO/IEC 30118-3 Information technology – Open Connectivity Foundation (OCF) Specification – Part 3: Bridging specification
https://www.iso.org/standard/74240.html
Latest version available at: https://openconnectivity.org/specs/OCF_Bridging_Specification.pdf

ISO/IEC 30118-4 Information technology – Open Connectivity Foundation (OCF) Specification – Part 4: Resource type specification
https://www.iso.org/standard/74241.html
Latest version available at: https://openconnectivity.org/specs/OCF_Resource_Type_Specification.pdf

ISO/IEC 30118-5 Information technology – Open Connectivity Foundation (OCF) Specification – Part 5: Smart home device specification
https://www.iso.org/standard/74242.html
Latest version available at: https://openconnectivity.org/specs/OCF_Device_Specification.pdf

Derived Models for Interoperability between IoT Ecosystems, Stevens & Merriam, March 2016
https://www.iab.org/wp-content/IAB-uploads/2016/03/OCF-Derived-Models-for-Interoperability-Between-IoT-Ecosystems_v2-examples.pdf

Zigbee, *Zigbee Specification*, August 2015
http://www.zigbee.org/zigbee-for-developers/zigbee-3-0/

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Zigbee Cluster Library Specification, Version 1.0
http://www.zigbee.org/zigbee-for-developers/zigbee-3-0/

ZigBee Lighting & Occupancy Device, Version 1.0
http://www.zigbee.org/zigbee-for-developers/zigbee-3-0/

3 Terms, definitions symbols and abbreviations

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 30118-1, ISO/IEC 30118-2, and ISO/IEC 30118-3 and the following apply.

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

– ISO Online browsing platform: available at https://www.iso.org/obp

– IEC Electropedia: available at http://www.electropedia.org/

3.1.1
Zigbee Attribute
data entity which represents a physical quantity or state within Zigbee.

3.1.2
Zigbee Cluster
one or more *Zigbee Attributes* (3.1.1), commands, behaviours, and dependencies, which supports an independent utility or application function.

3.1.3
Zigbee Server
cluster interface which is listed in the input cluster list of the simple descriptor on an endpoint.

3.1.4
Zigbee 3.0 Server
Zigbee Server (3.1.3) which is built on Zigbee 3.0 stack

3.1.5
Zigbee Client
cluster interface which is listed in the output cluster list of the simple descriptor on an endpoint.

3.1.6
Zigbee 3.0 Client
Zigbee Client (3.1.5) which is built on Zigbee 3.0 stack

3.1.7
Zigbee Device
unique device identifier and a set of mandatory and optional clusters to be implemented on a single Zigbee endpoint.

3.1.8
Zigbee 3.0 Device
Zigbee Device (3.1.7) which is built on Zigbee 3.0 stack

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