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| oneM2M-Logo |

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| **oneM2M**  **Technical Report** | |
| Document Number | TR-0079-V-0.0.1 |
| Document Name: | oneM2M-ROS Interworking |
| Date: | 2025-03-10 |
| Abstract: | Technical Report on oneM2M-ROS (Robot Operating System) Interworking |
| 'Template Version: January 2019 (do not modify) | |

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About oneM2M

The purpose and goal of oneM2M is to develop technical specifications which address the need for a common M2M Service Layer that can be readily embedded within various hardware and software, and relied upon to connect the myriad of devices in the field with M2M application servers worldwide.

More information about oneM2M may be found at: http//www.oneM2M.org

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# 1 Scope

This document defines candidate solutions for oneM2M and ROS interworking including the folloing topics:

- Technical overview of ROS

- Interworking scenarios for ROS based robots with oneM2M applications

- Interworking procedures with resource mapping

- Identification of any additional requirements to oneM2M for candidate interworking solutions

# 2 References

The following text block applies.

References are either specific (identified by date of publication and/or edition number or version number) or non‑specific. For specific references,only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

## 2.1 Normative references

*As a Technical Report (TR) is entirely informative it shall not list normative references.*

The following referenced documents are necessary for the application of the present document.

Not applicable.

## 2.2 Informative references

Clause 2.2 shall only contain informative references which are cited in the document itself.

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

[i.1] oneM2M Drafting Rules (<http://member.onem2m.org/Static_pages/Others/Rules_Pages/oneM2M-Drafting-Rules-V1_0.doc>)

# 3 Definition of terms, symbols and abbreviations

Delete from the above heading the word(s) which is/are not applicable.

## 3.1 Terms

Clause numbering depends on applicability.

* **A definition shall not take the form of, or contain, a requirement.**
* **The form of a definition shall be such that it can replace the term in context. Additional information shall be given only in the form of examples or notes (see below).**
* **The terms and definitions shall be presented in alphabetical order.**

For the purposes of the present document, the [following] terms and definitions [given in ... and the following] apply:

Definition format

**<defined term>:** <definition>

If a definition is taken from an external source, use the format below where [N] identifies the external document which must be listed in Section 2 References.

**<defined term>**[N]: <definition>

**example 1:** text used to clarify abstract rules by applying them literally

NOTE: This may contain additional information.

## 3.2 Symbols

Clause numbering depends on applicability.

For the purposes of the present document, the [following] symbols [given in ... and the following] apply:

Symbol format

<symbol> <Explanation>

<2nd symbol> <2nd Explanation>

<3rd symbol> <3rd Explanation>

## 3.3 Abbreviations

Abbreviations should be ordered alphabetically.

Clause numbering depends on applicability.

For the purposes of the present document, the [following] abbreviations [given in ... and the following] apply:

Abbreviation format

<ABBREVIATION1> <Explanation>

<ABBREVIATION2> <Explanation>

<ABBREVIATION3> <Explanation>

# 4 Conventions

The key words “Shall”, ”Shall not”, “May”, ”Need not”, “Should”, ”Should not” in this document are to be interpreted as described in the oneM2M Drafting Rules [i.1]

# 5 Overview of ROS

## 5.1 ROS middleware

## 5.2 ROS1

## 5.3 ROS2

## 5.4 Benefits of oneM2M-ROS interworking

# 6 Interworking scenarios

# 7 Resource mapping

# 8 Call flows

# 9 Conclusions

## Annex <A>: Title of annex

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Annex <B>:  
Title of annex *(style H9)*

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B.1 First clause of the annex *(style H1)*

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B.1.1 First subdivided clause of the annex *(style H2)*

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Annex <y>:  
Bibliography

The annex entitled "Bibliography" is optional.

It shall contain a list of standards, books, articles, or other sources on a particular subject which are not mentioned in the document itself.

It shall not include references mentioned in the document.

Use the **Heading 9 style** for the title and B1+ or Normal for the text.

* <Publication>: "<Title>".

OR

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# History

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| **Publication history** | | |
| V1.1.1 | <yyyy-mm-dd> | <Milestone> |
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| **Draft history** (to be removed on publication) | | |
| V0.0.1 | 2025-03-10 | Skeleton of the TR. |
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