



Multi-access Edge Computing (MEC); API Conformance Test Specification; Part 1: Test Requirements and Implementation Conformance Statement (ICS)

ETSI GS MEC-DEC 032-1 V3.3.1 (2024-11)

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Reference

RGS/MEC-DEC32-1v331ApiTest

Keywords

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Foreword

This Group Specification (GS) has been produced by ETSI Industry Specification Group (ISG) Multi-access Edge Computing (MEC).

The present document is part 1 of a multi-part deliverable covering Conformance Test Specification for MEC APIs as identified below:

Part 1: "Test Requirements and Implementation Conformance Statement (ICS)";

Part 2: "Test Purposes (TP)";

Part 3: "Abstract Test Suite (ATS)".

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](https://standards.itsc.ai) (Verbal forms for the expression of provisions).

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Introduction

The development of standardized conformance test specifications is considered as a validation activity and is an integral part of the ETSI strategy for ensuring interoperability. The MEC Conformance Testing methodology consists of:

- Selection of Implementations Under Test (IUT).
- Identification of reference points.
- Development of test specifications, which includes:
 - Development of "Implementation Conformance Statements" (ICS).
 - Development of "Test Suite Structure and Test Purposes" (TSS&TP).
 - Development of "Abstract Test Suite" (ATS).

The present document focuses on ICS development.

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1 Scope

Based on the testing methodology guidelines and framework specified in ETSI GR MEC-DEC 025 [i.1], the present document specifies part 1 of a multi-part deliverable test specification. Part 1 (the present document) provides the Test requirements and Implementation Conformance Statement (ICS) for: MEC system, host and platform management as specified in ETSI GS MEC 010-1 [3]; Application Package Management and Application Lifecycle Management as specified in ETSI GS MEC 010-2 [4]; MEC Application Enablement as specified in ETSI GS MEC 011 [5]; and the MEC service APIs. The MEC service APIs in scope of the present document are specified in:

- ETSI GS MEC 012 [6];
- ETSI GS MEC 013 [7];
- ETSI GS MEC 014 [8];
- ETSI GS MEC 015 [9];
- ETSI GS MEC 016 [10];
- ETSI GS MEC 021 [11];
- ETSI GS MEC 028 [12];
- ETSI GS MEC 029 [13];
- ETSI GS MEC 030 [14];
- ETSI GS MEC 033 [15]; and
- ETSI GS MEC 040 [16]

2 References

2.1 Normative references

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.

Referenced documents which are not found to be publicly available in the expected location might be found at <https://docbox.etsi.org/Reference>.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

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

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|-----|---|
| [1] | Void. |
| [2] | ETSI GS MEC 002 (V3.2.1) (02-2024) : "Multi-access Edge Computing (MEC); Use Cases and Requirements". |
| [3] | ETSI GS MEC 010-1 (V1.1.1) (10-2017) : "Mobile Edge Computing (MEC); Mobile Edge Management; Part 1: System, host and platform management". |
| [4] | ETSI GS MEC 010-2 (V3.2.1) (02-2024) : "Multi-access Edge Computing (MEC); MEC Management; Part 2: Application lifecycle, rules and requirements management". |
| [5] | ETSI GS MEC 011 (V3.2.1) (04-2024) : "Multi-access Edge Computing (MEC); Edge Platform Application Enablement". |

- [6] [ETSI GS MEC 012 \(V2.2.1\) \(02-2022\)](#): "Multi-access Edge Computing (MEC); Radio Network Information API".
- [7] [ETSI GS MEC 013 \(V3.1.1\) \(01-2023\)](#): "Multi-access Edge Computing (MEC); Location API".
- [8] [ETSI GS MEC 014 \(V3.2.1\) \(02-2024\)](#): "Multi-access Edge Computing (MEC); UE Identity API".
- [9] [ETSI GS MEC 015 \(V3.1.1\) \(04-2024\)](#): "Multi-Access Edge Computing (MEC); Traffic Management APIs".
- [10] [ETSI GS MEC 016 \(V3.1.1\) \(03-2024\)](#): "Multi-access Edge Computing (MEC); Device application interface".
- [11] [ETSI GS MEC 021 \(V3.1.1\) \(02-2024\)](#): "Multi-access Edge Computing (MEC); Application Mobility Service API".
- [12] [ETSI GS MEC 028 \(V2.3.1\) \(07-2022\)](#): "Multi-access Edge Computing (MEC); WLAN Access Information API".
- [13] [ETSI GS MEC 029 \(V2.2.1\) \(01-2022\)](#): "Multi-access Edge Computing (MEC); Fixed Access Information API".
- [14] [ETSI GS MEC 030 \(V3.2.1\) \(02-2024\)](#): "Multi-access Edge Computing (MEC); V2X Information Services API".
- [15] [ETSI GS MEC 033 \(V3.1.1\) \(12-2022\)](#): "Multi-access Edge Computing (MEC); IoT API".
- [16] [ETSI GS MEC 040 \(V3.2.1\) \(03-2024\)](#): "Multi-access Edge Computing (MEC); Federation enablement APIs".

2.2 Informative references

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.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

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] ETSI GR MEC-DEC 025 (V2.1.1) (06-2019): "Multi-access Edge Computing (MEC); MEC Testing Framework".
- [i.2] ETSI GR MEC 001 (V3.2.1) (02-2024): "Multi-access Edge Computing (MEC); Terminology".

3 Definition of terms, symbols and abbreviations

3.1 Terms

For the purposes of the present document, the terms given in ETSI GR MEC 001 [i.2] and the following apply:

conformance testing: purpose of conformance testing is to determine to what extent a single implementation of a particular standard conforms to the individual requirements of that standard

3.2 Symbols

Void.

3.3 Abbreviations

For the purposes of the present document, the abbreviations given in ETSI GR MEC 001 [i.2] and the following apply:

AMS	Application Mobility Service
ATS	Abstract Test Suite
FAI	Fixed Access Information
ICS	Implementation Conformance Statement
IUT	Implementation Under Test
SUT	System Under Test
TP	Test Purpose
TSS	Test Suite Structure

4 Conformance requirement concerning ICS

If it claims to conform to the present document, the actual ICS pro forma to be filled in by a supplier shall be technically equivalent to the text of the ICS pro forma given in annex A, and shall preserve the numbering, naming and ordering of the pro forma items.

An ICS which conforms to the present document shall be a conforming ICS pro forma completed in accordance with the instructions for completion given in clause A.1.

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Annex A (normative): MEC ICS Pro forma

A.0 The right to copy

Notwithstanding the provisions of the copyright clause related to the text of the present document, ETSI grants that users of the present document may freely reproduce the ICS pro forma in this annex so that it can be used for its intended purposes and may further publish the completed ICS.

A.1 Guidance for completing the ICS Pro forma

A.1.1 Purpose and structure

The purpose of this ICS pro forma is to provide a mechanism whereby a supplier of an implementation of the requirements defined in ETSI MEC APIs specifications may provide information about the implementation in a standardized manner.

The ICS pro forma is subdivided into clauses for the following categories of information:

- guidance for completing the ICS pro forma;
- identification of the implementation;
- identification of the ETSI MEC API;
- global statement of conformance;
- requirements and ICS tables.

A.1.2 Instructions for completing the ICS pro forma

The supplier of the implementation shall complete the ICS pro forma in each of the spaces provided. In particular, an explicit answer shall be entered, in each of the support or supported column boxes provided.

If necessary, the supplier may provide additional comments in space at the bottom of the tables or separately.

More detailed instructions are given at the beginning of the different clauses of the ICS pro forma.

A.2 Identification of the implementation

A.2.1 Introduction

Identification of the Implementation Under Test (IUT) and the system in which it resides (the System Under Test (SUT)) should be communicated so as to provide as much detail as possible regarding version numbers and configuration options.

Clause A.2 provides a template to provide such information.

The product supplier information and client information should both be filled in if they are different. A person who can answer queries regarding information supplied in the ICS should be named as the contact person.

A.2.2 Date of the statement

.....

A.2.3 Implementation Under Test (IUT) identification

IUT name:

.....

.....

IUT version:

.....

.....

A.2.4 System Under Test (SUT) identification

SUT name:

.....

.....

Hardware configuration:

.....

.....

.....

A.2.5 Product supplier

Name:

.....

Address:

.....

.....

.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....

.....

.....

A.2.6 Client (if different from product supplier)

Name:

.....

Address:

.....

.....

.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

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A.2.7 ICS contact person

(A person to contact if there are any queries concerning the content of the ICS.)

Name:

.....

Telephone number:

.....

Facsimile number:

.....

E-mail address:

.....

Additional information:

.....

.....

.....

A.3 Identification of the ETSI MEC APIs

This ICS pro forma applies to the following standards:

- ETSI GS MEC 010-2 (V3.2.1) (02-2024): "Multi-access Edge Computing (MEC); MEC Management; Part 2: Application lifecycle, rules and requirements management".
- ETSI GS MEC 011 (V3.2.1) (04-2024): "Multi-access Edge Computing (MEC); Edge Platform Application Enablement".
- ETSI GS MEC 012 (V2.2.1) (02-2022): "Multi-access Edge Computing (MEC); Radio Network Information API".
- ETSI GS MEC 013 (V3.1.1) (01-2023): "Multi-access Edge Computing (MEC); Location API".
- ETSI GS MEC 014 (V3.2.1) (02-2024): "Multi-access Edge Computing (MEC); UE Identity API".
- ETSI GS MEC 015 (V3.1.1) (04-2024): "Multi-access Edge Computing (MEC); Traffic Management API".
- ETSI GS MEC 016 (V3.1.1) (03-2024): "Multi-access Edge Computing (MEC); Device application interface".
- ETSI GS MEC 021 (V3.1.1) (02-2024): "Multi-access Edge Computing (MEC); Application Mobility Service API".
- ETSI GS MEC 028 (V2.3.1) (07-2022): "Multi-access Edge Computing (MEC); WLAN Information API".
- ETSI GS MEC 029 (V2.2.1) (01-2022): "Multi-access Edge Computing (MEC); Fixed Access Information API".
- ETSI GS MEC 030 (V3.2.1) (02-2024): "Multi-access Edge Computing (MEC); V2X Information Service API".
- ETSI GS MEC 033 (V3.1.1) (12-2022): "Multi-access Edge Computing (MEC); IoT API".
- ETSI GS MEC 040 (V3.2.1) (03-2024): "Multi-access Edge Computing (MEC); Federation enablement APIs".

A.4 Global statement of conformance

A.4.1 Introduction

Clause A.4 provides a template for a global statement of conformance.

Are all mandatory capabilities implemented? (Yes/No)

NOTE: Answering "No" to this question indicates non-conformance to the MEC API standard specification.

Non-supported mandatory capabilities are to be identified in the ICS, with an explanation of why the implementation is non-conforming, on pages attached to the ICS pro forma.

A.4.2 Functional entities and Reference Points

Table A.4.2-1

Item	Entity type	Mnemonic	Reference	Condition	Support
1	MEC Platform	MEC_PLAT	ETSI GR MEC-DEC 025, clause 6.1.3	C.1	O Yes O No
2	Other component of the MEC System	MEC_SYSTEM	ETSI GR MEC-DEC 025, clause 6.1	C.1	O Yes O No
3	MEC Service provider	SERVICES		C.1	O Yes O No
C.1: At least one shall be supported.					

A.4.3 API Resources and Reference Points

The IUT provider shall fill Table A.4.3-1 to express more specific capabilities of the IUT. By checking "Yes" in the support column, the IUT provider expresses the intention to be tested for conformance on all endpoints and operations defined in the related Table identified in the "Reference" column.

The mnemonic column contains an identifier for the group of capabilities, used in the definition of Test Purposes and Test Cases. The Mnemonic identifier is not provided for all groups, and when not defined the related cell shall contain "na" (not available).

Table A.4.3-1 specifies two types of items:

- Level 1 items, identified by a singular digit (e.g. 1), which identify base specification; and
- Level 2 items, identified by a two digits separated by a dot (e.g. 1.1), which identify sub elements of the base specification for more detailed statements.

To express that an IUT that does not support any of the Level 2 items for a certain certification, the IUT provider shall check "No" in the support column for the related Level 1 item. The related Level 2 items may be left unchecked and they will be assume not to be tested.

To express that an IUT does support some (or all) of the Level 2 items for a certain specification, the IUT provider shall check "Yes" in the support column for the related Level 1 item and mark all Level 2 items according to the IUT implementation capabilities.

Table A.4.3-1

Item	Entity type	Mnemonic	Reference	Condition	Support
1	ETSI GS MEC 010-2	na	Clause A.5.2	C.1	O Yes O No
>1.1	Application package management (Mm1)	APP_PACKAGE_MANAGEMENT_MM1	Table A.5.2.2-1	C.1	O Yes O No
>1.2	Application package management (Mm3)	APP_PACKAGE_MANAGEMENT_MM3	Table A.5.2.2-2	C.1	O Yes O No
>1.3	App Package Management notification callback	APP_PACKAGE_NOTIFICATIONS	Table A.5.2.2-3	C.1	O Yes O No
>1.4	Application life cycle management (Mm1 and Mm3)	APP_LCM_MANAGEMENT_MM1_MM3	Table A.5.2.2-4	C.1	O Yes O No
>1.5	Application life cycle management notification call-backs (Mm1, Mm3 and Mm3*)	APP_LCM_NOTIFICATIONS	Table A.5.2.2-5	C.1	O Yes O No
>1.6	Granting for application life cycle management operations (Mm3)	GRANTS_MANAGEMENT	Table A.5.2.2-6	C.1	O Yes O No
>1.7	Application life cycle management (Mm3*)	APP_LCM_MANAGEMENT_MM3*	Table A.5.2.2-7	C.1	O Yes O No