



## Multi-access Edge Computing (MEC); API Conformance Test Specification; Part 3: Abstract Test Suite (ATS)

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Reference

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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 3 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).**

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## 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](#) (Verbal forms for the expression of provisions).

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# 1 Scope

Based on the testing methodology guidelines and framework specified in ETSI GR MEC 025, this work item develops part 3 of a multi-part conformance test specification for the MEC service APIs (currently ETSI GS MEC 012, 013, 014, 015, 016, 028, 029 & 030) and the MEC Application Enablement API (ETSI GS MEC 011).

The present document includes the Abstract Test Suites (ATS) in TTCN-3 and Robot Framework.

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## 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.

- [1] ETSI GS MEC 002 (V2.1.1): "Multi-access Edge Computing (MEC); Phase 2: Use Cases and Requirements".
- [2] ETSI GS MEC 010-1 (V1.1.1): "Mobile Edge Computing (MEC); Mobile Edge Management; Part 1: System, host and platform management".
- [3] ETSI GS MEC 010-2 (V2.1.1): "Multi-access Edge Computing (MEC); MEC Management; Part 2: Application lifecycle, rules and requirements management".
- [4] ETSI GS MEC 011 (V2.1.1): "Multi-access Edge Computing (MEC); Edge Platform Application Enablement".
- [5] ETSI GS MEC 013 (V2.1.1): "Multi-access Edge Computing (MEC); Location API".
- [6] ETSI GS MEC 014 (V1.1.1): "Mobile Edge Computing (MEC); UE Identity API".
- [7] ETSI GS MEC 015 (V1.1.1): "Mobile Edge Computing (MEC); Bandwidth Management API".
- [8] ETSI GS MEC 016 (V2.1.1): "Multi-access Edge Computing (MEC); UE application interface".
- [9] ETSI GS MEC 029 (V2.1.1): "Multi-access Edge Computing (MEC); Fixed Access Information API".

### 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.

Editor's note: TBD

## 3 Definition of terms, symbols and abbreviations

### 3.1 Terms

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

- Use the **Normal** style.
- The term shall be in **bold**, and shall start with a lower case letter (unless it is always rendered with a leading capital) followed by a colon, one space, and the definition of term starting with a lower case letter and no ending full-stop.

<term>: <definition of term>

*EXAMPLE 1:*

**communal site**: location at which there is more than one fixed transmitter (*style Normal*)

NOTE: There are two types of communal site; one having separate equipment and antennas but housed in a common equipment room, and the other having an engineered system employing common antenna working where the isolation between equipment is determined by the filter system.  
At all communal sites equipment installed on the site meet the limits as specified in the relevant standards. (*style NO*)

*EXAMPLE 2:*

**fast channel**: channel with low latency but higher BER in comparison to the slow channel (*style Normal*)

EXAMPLE: In contrast to the slow channel, the fast channel is not interleaved. (*style EX*)

Editor's note: TBD

### 3.2 Symbols

Editor's note: TBC

### 3.3 Abbreviations

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

*EXAMPLE:*

DPC	Dynamic Power Control ( <i>style EW</i> )
CCI	Co-Channel Interference ( <i>style EX</i> )

Editor's note: TBD

## 4 ATS conventions

### 4.1 Introduction

The abstract test suites specified in the present document provide conformance tests for MEC API servers according to the ETSI MEC specifications.

In order to promote adoption and ease deployment of MEC technology, the present document targets a broad set of communities involved in the specific context of MEC. This fundamental and specific goal of MEC is addressed by requiring application of best practices for testing, most relevant for the telecommunication and software engineering communities.

In this regard, the Test Purposes specified in ETSI MEC-DEC 032-2 have been the basis for the development of two Abstract Test Suites, formalized in two different languages for the testing domain: TTCN-3 and Robot Framework.

The quality and coherency between the two ATS are sustained by the common Test Purposes and by a set of conventions used by the contributors. The conventions applied are described in the following clauses of the present document.

## 4.2 Testing conventions

Editor's note: TBC

## 4.3 Naming conventions

Editor's note: TBC

## 4.4 On-line documentation

Editor's note: In this section will be provided the online documentation for usage of both Robot Framework and TTCN-3 ATSS. It will contain references to the common documentation and to user guidelines to facilitate the understanding of the ATSS and prerequisites for their utilization.

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## Annex A (normative): TTCN-3 Abstract Test Suite (ATS)

The TTCN-3 MEC API Conformance Test Suite has been developed using the Testing and Test Control Notation (TTCN) according to ETSI ES 201 873-1 [ix].

This test suite has been compiled error-free using a third party TTCN-3 compiler. The TTCN-3 library modules, which form parts of the present document, are accessible from the ETSI Forge at <https://forge.etsi.org/rep/mec/g032p3-ttcn-test-suite/tree/v0.0.2>.

**Draft**



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## Annex B (normative): Robot Framework Abstract Test Suite (ATS)

The Robot Framework MEC API Conformance Test Suite has been developed using the Robot Framework language v3.1.2 according to <http://robotframework.org/robotframework/latest/RobotFrameworkUserGuide.html> [i.7].

This test suite has been validated error-free using the official Robot Framework Python distribution. The Robot Framework test definitions, keyword definitions and configuration files, which form parts of the present document, are accessible from the ETSI Forge at <https://forge.etsi.org/rep/mec/g3032p3-robot-test-suite/tree/v0.0.2>.

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## Annex C (informative): Test System Deployment and Execution

### C.1 Information on deployment of the Test System

*Editor's note: In this clause it will be explained step by step how to deploy the Test System*

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### C.2 Information on execution of the TTCN-3 test suite

Given the design of TTCN-3, users of the Test Suite need to follow four main steps for the execution of the tests:

- 1) installation and configuration of the required software, in particular of a TTCN-3 interpreter or compiler;
- 2) compilation of the ATS modules into an ETS;
- 3) configuration of the IUT specifics (e.g. ICS selection);
- 4) execution of the compiled ETS against the IUT.

The detailed information needed to compile and run the TTCN-3 test suite is available at <https://forge.etsi.org/rep/mec/g032p3-ttcn-test-suite/blob/v0.0.2/README.md>.

The documentation provided suggests possible approach by means of virtualized solutions to install and setup the TTCN-3 environment.

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### C.3 Information on execution of the Robot Framework test suite

The execution of the Robot Framework test suite comprises three main steps:

- 1) installation and configuration of the required software, in particular the prerequisites for the Robot Framework;
- 2) configuration of the IUT specifics (e.g. ICS selection);
- 3) execution of the test against the IUT.

The detailed information needed to compile and run the TTCN-3 test suite is available at <https://forge.etsi.org/rep/mec/g032p3-robot-test-suite/blob/v0.0.2/README.md>.

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## Annex D (informative): Change History

Date	Version	Information about changes
July 2019	V0.0.1	Initial proposal: MECDECODE(19)000015
Nov 2019	V0.0.2	Incorporated MECDECODE(19)000076
Nov 2019	V0.0.3	Move to "stable draft" after editHelp! review

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## History

Document history		
V0.0.1	July 2019	Document skeleton.
V0.0.2	November 2019	Incorporated MECDECODE(19)000076, which was approved at MECDECODE#6-F2F.
V0.0.3	November 2019	Clean-up done by <i><a href="#">editHelp!</a></i> E-mail: <a href="mailto:edithelp@etsi.org">mailto:edithelp@etsi.org</a>

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