NFV & MEC Plugtests Event 1 – 15 October 2021 MEC Interoperability Test Plan



ETSI

650 Route des Lucioles F-06921 Sophia Antipolis Cedex – FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 – NAF 742 C Association à but non 2tandardi enregistrée à la Sous-Préfecture de Grasse (06) N° 7803/88

Important notice

Individual copies of the present document can be downloaded from: <u>http://www.etsi.org</u>

The present document may be made available in more than one electronic version or in print. In any case of existing or perceived difference in contents between such versions, the reference version is the Portable Document Format (PDF). In case of dispute, the reference shall be the printing on ETSI printers of the PDF version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status.

Information on the current status of this and other ETSI documents is available at

http://portal.etsi.org/tb/status/status.asp

If you find errors in the present document, please send your comment to one of the following services: http://portal.etsi.org/chaircor/ETSI_support.asp

Copyright Notification

No part may be reproduced except as authorized by written permission. The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2020. All rights reserved.

DECT[™], **PLUGTESTS**[™], **UMTS**[™], **TIPHON**[™], the TIPHON logo and the ETSI logo are Trade Marks of ETSI registered for the benefit of its Members.

3GPP[™] is a Trade Mark of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners. **LTE**[™] is a Trade Mark of ETSI currently being registered for the benefit of its Members and of the 3GPP Organizational Partners.

Contents

Forev	vord	5
Intro	luction	5
Intell	ectual Property Rights	5
1	Scope	5
2	References	5
2.1	Normative references.	
2.2	Informative references	
3	Definition of terms, symbols and abbreviations	
3.1	Terms	6
3.2	Abbreviations	6
4	Test Structure	6
4.1	Conventions	
4.2	Test Description pro-forma	
4.3	Interoperability Feature Statement (IFS)	
5	Architecture	8
6	Configurations	8
6.1	SUT_MEC_BASIC	8
6.2	SUT_MEC_SERVICES_SINGLE_APP	9
6.3	SUT_MEC_SERVICES_MULTI_APP	
6.4	SUT_MEC_NFVI	10
6.5	SUT_MEC_MANO	10
7	Test Summary	11
7.1	Test group 1 - MEC Application lifecycle	
7.1.1	Applicable configurations	
7.1.2	List of objectives	
7.2	Test group 2 – MEC Services	
7.2.1	Applicable configurations	
7.2.2	List of objectives	
7.3	Test group 3 – MEC Traffic	
7.3.1	Applicable configurations	12
7.3.2	List of objectives	12
7.4	Test group 4 – MEC Location API	12
7.4.1	Applicable configurations	12
7.4.2	List of objectives	12
8	Test Descriptions MEC	15
8.1	Test group 1- MEC Application Lifecycle Management	
8.1.1	Onboard an application	
8.1.2	Start an application instance	
8.1.3	Stop an application instance	
8.1.4	Retrieve application instance status	
8.1.5	Change application instance status	18
8.2	Test group 2 - MEC Services	
8.2.1	Query existing services	
8.2.2	Register a new service	20
8.2.3	Update an existing service	21
8.2.4	Deregister a service	22
8.2.5	Consume a service	23
8.2.6	Query time service	
8.2.7	Transport information query	
8.3	Test group 3 - MEC Traffic	
8.3.1	Traffic rule activation	
8.3.2	Traffic rule update	27

8.3.3	Traffic rule deactivation	
8.3.4	DNS rule activation	29
8.3.5	DNS rule deactivation	
8.4	Test group 4 – MEC-013	31
8.4.1	UE Location Lookup	31
8.4.2	UE Information Lookup	
8.4.3	UE Location Subscribe	35
8.4.4	UE Information Subscribe	37
8.4.5	Radio Node Location Lookup	39
8.4.6	UE Tracking Subscribe	40
8.4.7	UE Distance Lookup	41
8.4.8	UE Distance Subscribe	43
8.4.9	UE Area Subscribe	46
Annex	x A: Interoperability Feature Statement	50
A.1	Entities	
A.2	MEC App	50
A.3	MEC Platform	50
A.4	NFV Platform	50
A.5	MANO	50
Annex	x B: FUT Specific Information Pro-Forma	51
B.1	MEC App	51
B.2	MEC Platform	
B.3	NFV Platform	51
B.4	MANO	51
Annex	x: Bibliography	51
Chan	ge History	52

Foreword

This Test Plan has been produced by ETSI Centre for Testing and Interoperability during the preparation of the ETSI NFV & MEC Plugtests 2021 for the MEC Interoperability activity.

Introduction

The present document describes the Interoperability Test Plan that was followed during the ETSI NFV & MEC Plugtests held remotely in October 2021.

Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: "Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards", which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (http://webapp.etsi.org/IPR/home.asp). Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

1 Scope

The present document defines a test plan with the purpose of supporting the NFV & MEC Plugtests™ event. It contains:

- conventions summarizing all pro-formas and common rules for conduction the Plugtests event;
- the overall architecture describing the network including controllers, interfaces and applications;
- the configurations (CFG) summarizing the valid configurations derived from the overall architecture.
 A valid configuration is a specific subset of the overall architecture to which a given group of test descriptions applies used during test sessions:
- the Test Summary listing all test objectives. A Test Description (TD) will be developed for each test objective.
- the Test Descriptions (TD) compiling all the information required to execute a test. They describe all the steps required to achieve a test objective;
- the Interoperability Feature Statements (IFS) identifying the features which a Device Under Test (DUT) supports, including those which are optional and those which are conditional on the support of other features. The IFS are used to select applicable TDs for each test session.

2 References

2.1 Normative references

Normative references are not applicable in the present document.

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 GS MEC 001 (V2.1.1) (01-2019): "Multi-access Edge Computing (MEC); Terminology"
[i.2]	ETSI GS MEC 010-2 (V2.1.1) (11-2019): "Multi-access Edge Computing (MEC); Application
	lifecycle, rules and requirements management"
[i.3]	ETSI GR MEC-DEC 025 (V2.1.1) (06-2019): "Multi-access Edge Computing (MEC); MEC
	Testing Framework"
[i.4]	ETSI GS MEC 011 (V2.2.1) (12-2020): "Multi-access Edge Computing (MEC); Edge Platform
	Application Enablement"
[i.5]	ETSI GS MEC 013 (V2.1.1) (09-2019): "Multi-access Edge Computing (MEC); Location
	API"

3 Definition of terms, symbols and abbreviations

3.1 Terms

For the purposes of the present document, the terms given in ETSI GS MEC 001 [i.Error! Reference s ource not found.] and the following apply:

3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

Function Under Test
Interoperability Feature Statement
Interoperability
System Under Test
Test Description
User Equipment

4 Test Structure

4.1 Conventions

The Test Ids of this Test Plan have been created as per the following naming convention: TEST ID = TD_<ROOT>_<GROUP>_<OPERATION> Where <ROOT> is "MEC".

4.2 Test Description pro-forma

Test Descriptions compile all the information required to execute a test. They describe all the steps required to achieve a test objective. The following information is provided with each Test Description:

- Identifier: A unique identifier is assigned to each Test Description. The usage of a well-defined naming convention allowing to put the TD into context (Functional Group, Feature, etc.) is recommended.
- Test Objective: Description of the objective of the TD (what).
- Configuration: Reference to the applicable configuration(s).
- References: Reference to the base specification(s) which describe the feature being tested.
- Applicability: List of items in the IFS that need to be supported by the FUTs in order to be able to execute the test.
- Pre-test conditions: Specific conditions that need to be met by the FUT prior to start executing the test sequence. It can include information about configuration, and/or initial state of the FUT.
- Test Sequence: Detailed description of the steps that are to be followed in order to achieve the stated test purpose. These steps are specified in a clear and unambiguous way but without placing unreasonable restrictions on how the step is performed. Clarity and precision are important to ensure that the step can followed exactly. The lack of restrictions is necessary to ensure that the test can apply to a range of different types of implementation.

Table 4.2-1: Test Description pro-forma

Interoperability Test Description					
Identifier	Unique	ue test description ID: TD_AB_XXX_00. Follows the naming convention as per			
	clause 4	4.1			
Test Purpose				st reflecting its purpose and allowing readers to easily	
				other test in the document	
Configuration			the applicable of		
References				e specification clause(s), use case(s), requirement(s),	
				the test or define the functionality being tested	
Applicability				es in the IFS which are required to be supported by the	
	FUTs ir	n orde	er to execute this	stest	
Pre-test conditions		t of test specific pre-conditions that need to be met by the FUT including			
		information about configuration, i.e. precise description of the initial state of the FUTs			
	prior to	prior to start executing the test sequence			
				T	
Test	s	tep	Type	Description	
Sequence	_			Otan description	
		1	<request></request>	Step description	
	_	2			
		3			
		4			
		5			
IOP Verdict					

The Steps in the Test Sequence can be of different type, depending on their purpose:

- A stimulus corresponds to an event that triggers a specific action on a FUT, like sending a message for instance:
- A configure corresponds to an action to modify the FUT or SUT configuration;
- An IOP check consists of observing that one FUT behaves as described in the standard: i.e. resource creation, update, deletion, etc. For each IOP check in the Test Sequence, a result can be recorded;
- The overall IOP Verdict will be considered OK if all the IOP checks in the sequence are OK.

4.3 Interoperability Feature Statement (IFS)

The Interoperable Feature Statement (IFS) identifies the standardized features of a FUT. These features can be mandatory, optional or conditional (depending on other features), and depend on the role played by the FUT. The IFS can also be used as a pro-forma by a vendor to identify the features that its FUT will support

when interoperating with corresponding features from other vendors. Annex A of the present document defines the IFS.

5 Architecture

The generic Interoperability Test Architecture follows recommendations contained in [i.3].

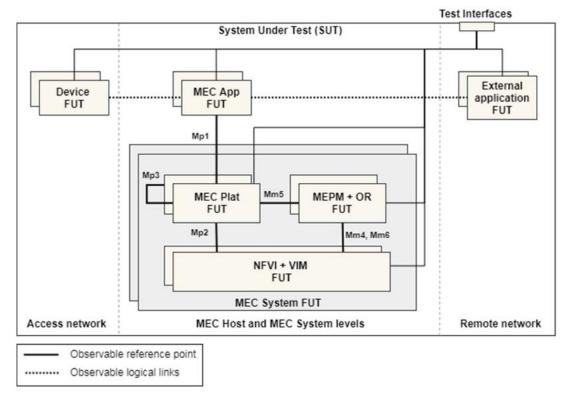


Figure 5-1: Generic Interoperability testing architecture as reported in [i.3]

6 Configurations

6.1 SUT MEC BASIC

The SUT_MEC_BASIC test configuration includes a single MEC application along with a MEC platform. In this configuration, the term "MEC Platform" is used to indicate any of the following components: MEC platform, MEC orchestrator or MEC platform manager. The providers of other components of the MEC system such as MEO or MEPM are out of scope. The MEC application runs – together with the MEC Platform - on the MEC host or the NFVI.

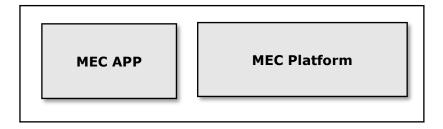


Figure 6.1-1: SUT_MEC_BASIC test configuration

6.2 SUT_MEC_SERVICES_SINGLE_APP

The SUT_MEC_SERVICES_SINGLE_APP test configuration is similar to the configuration SUT_MEC_BASIC, with a difference on the integration between the two elements. In this configuration, one (1) MEC application runs with in the MEC Host alongside the MEC platform. The configuration focuses on the capabilities around MEC Services such as the capability of applications and the platform to provide and register. The service is registered and available for discovery through the service registry in the MEC platform.

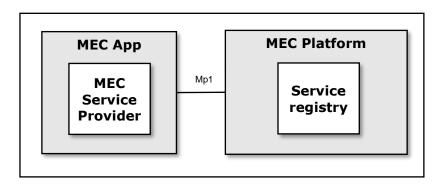


Figure 6.2-1: SUT MEC SERVICES SINGLE APP test configuration

6.3 SUT MEC SERVICES MULTI APP

The SUT_MEC_SERVICES_MULTI_APP configuration is similar to the configuration SUT_MEC_SERVICES_SINGLE_APP, with a difference on the integration between both elements. In this configuration, two (2) MEC applications run together alongside the MEC Platform. The configuration focuses on the capabilities around MEC Services such as the capability of applications and the platform to provide, discover or consume MEC services.

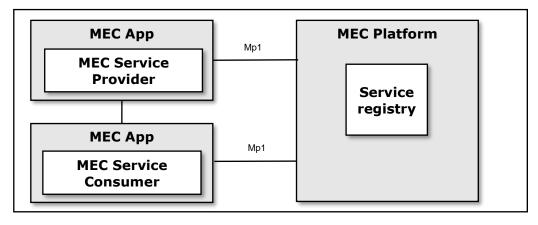


Figure 6.3-1: SUT MEC SERVICES MULTI APP test configuration

6.4 SUT_MEC_NFVI

The SUT_MEC_NFVI configuration, the MEC platform and the MEC application(s) are hosted and executed by a third party NFV Infrastructure. The focus is on interoperability of virtualization technologies and VIM APIs in a multivendor scenario.

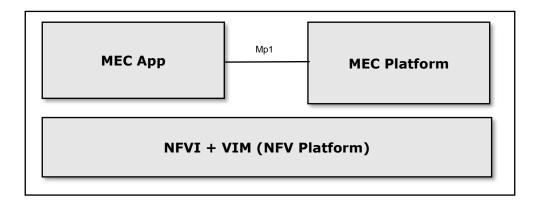


Figure 6.4-1: SUT_MEC_NFVI test configuration

6.5 SUT_MEC_MANO

The SUT_MEC_MANO focuses on the MEC-in-NFV scenario. In this scenario the MEC application(s) and the MEC platform are packaged as VNFs and are managed by a third-party MANO platform in an NFV infrastructure. The availability of other components of the MEC system (such as MEAO, MEPM and specific VNFM) is out of scope.

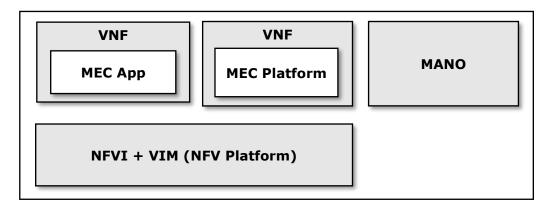


Figure 6.5-1: SUT_MEC_MANO test configuration

7 Test Summary

7.1 Test group 1 - MEC Application lifecycle

7.1.1 Applicable configurations

The configurations applicable to the test group 1 are:

- SUT_MEC_BASIC
- SUT_MEC_SERVICES_SINGLE_APP
- SUT_MEC_NFVI
- SUT_MEC_MANO

7.1.2 List of objectives

Table 7.1.2-1: Test Objectives for group 1 – MEC Application lifecycle

Test ID	Objective
TD_MEC_APP_ONBOARD	Verify that a MEC application can be successfully onboarded in a MEC System.
TD_MEC_APP_START	Verify that a MEC application can be successfully started in a MEC Host.
TD_MEC_APP_STOP	Verify that a MEC application running in a MEC Host can be stopped.
TD_MEC_APP_STATUS	Verify that the status of a MEC application running in a MEC Host can be queried.
TD_MEC_APP_CHANGE	Verify that the status of a MEC application running in a MEC Host may be changed.

7.2 Test group 2 – MEC Services

7.2.1 Applicable configurations

The configurations applicable to the Services tests are:

- SUT_MEC_SERVICES_SINGLE_APP
- SUT_MEC_SERVICES_MULTI_APP

7.2.2 List of objectives

Table 7.2.2-1: Test objectives for Group 2 - MEC Services

Test ID	Objective
TD_MEC_SVC_QUERY	Verify that a MEC App successfully retrieves the list of available services from the
	MEC Platform.
TD_MEC_SVC_REGISTER	Verify that a MEC App successfully registers a new service in the MEC Platform
	Service Registry.
TD_MEC_SVC_UPDATE	Verify that a MEC App successfully updates an existing service in the MEC
	Platform Service Registry.
TD_MEC_SVC_DEREGISTER	Verify that a MEC App successfully deregisters a service existing in the MEC
	Platform Service Registry.
TD_MEC_SVC_CONSUME	Verify that a MEC App successfully consumes a service exposed by a different
	MEC App and registered in the MEC Platform Service Registry.
TD_MEC_SVC_QUERYTIME	Verify that a MEC App successfully queries the time information from the MEC
	Platform.
TD_MEC_SVC_TRANSPORTS	Verify that a MEC App successfully queries the list of available transports from the
	MEC Platform.

7.3 Test group 3 – MEC Traffic

7.3.1 Applicable configurations

The configurations applicable to the Network tests are:

- SUT_MEC_BASIC
- SUT_MEC_SERVICES_SINGLE_APP
- SUT MEC NFVI
- SUT_MEC_MANO

7.3.2 List of objectives

Table 7.3.2-1: Test Objectives for Group 3 - Traffic and DNS rules

Test ID	Objective
TD_MEC_NTW_ACTIVATE	Verify that a MEC application successfully requests a rule to be activated in
	the MEC Platform.
TD_MEC_NTW_UPDATE	Verify that a MEC application successfully requests an update to an existing
	rule in the MEC Platform.
TD_MEC_NTW_DEACTIVATE	Verify that a MEC application successfully requests a rule to be deactivated in
	the MEC Platform.
TD_MEC_NTW_DNS_ACTIVATE	Verify that a MEC application successfully requests a DNS rule to be activated
	in the MEC Platform.
TD_MEC_NTW_DNS_DEACTIVATE	Verify that a MEC application successfully requests a DNS rule to be
	deactivated in the MEC Platform.

7.4 Test group 4 – MEC Location API

7.4.1 Applicable configurations

The configurations applicable to the Network tests are:

- SUT_MEC_BASIC
- SUT_MEC_SERVICES_SINGLE_APP
- SUT_MEC_NFVI

7.4.2 List of objectives

Table 7.4.2-1: Test Objectives for Group 4 – MEC Location API

Test ID	Objective
TD_MEC_LOC_UE_LKP_1	Verify that MEC application can successfully retrieve the location information of
	a specific UE
TD_MEC_LOC_UE_LKP_2	Verify that MEC application can successfully retrieve the location
	information of a group of UEs
TD_MEC_LOC_UE_INF_LKP_1	Verify that MEC application can successfully look up UE information in
	a particular location
TD_MEC_LOC_UE_INF_LKP_2	Verify that MEC application can successfully look up UE(s) information
	of a group of UEs in a particular location
TD_MEC_LOC_UE_SUB_1	Verify that MEC application can create a subscription to receive
	notifications about location information changes of a specific UE or a
	group of UEs
TD_MEC_LOC_UE_SUB_2	Verify that MEC application can cancel a UE Location subscription

TD_MEC_LOC_INF_SUB_1	Verify that MEC application can create a subscription to receive
	notifications of UE information updates for the list of UEs in a particular
	location
TD_MEC_LOC_INF_SUB_2	Verify that MEC application can cancel a UE Information subscription
TD_MEC_LOC_RNL	Verify that MEC application can make a location enquiry about the
	radio nodes currently associated with the MEC host
TD_MEC_LOC_TRACK	Verify that MEC application can create a subscription to receive notifications of
	UE information updates for a specified UE.
TD_MEC_LOC_DIST_1	Verify that MEC application can obtain the current distance between 2 UEs
TD_MEC_LOC_DIST_2	Verify that MEC application can obtain the current distance between a UE and
	a geographical location
TD_MEC_LOC_DIST_SUB_1	Verify that MEC application can create a subscription to receive
	notifications about distance changes between 2 UEs
TD_MEC_LOC_DIST_SUB_2	Verify that MEC application can create a subscription to receive
	notifications about distance changes between a UE and a geographical
	location
TD_MEC_LOC_DIST_SUB_3	Verify that MEC application can cancel a UE distance subscription
TD_MEC_LOC_AREA_SUB_1	Verify that MEC application can create a subscription to receive
	notifications about UE entering a geographical area.
TD_MEC_LOC_AREA_SUB_2	Verify that MEC application can create a subscription to receive
	notifications about UE leaving a geographical area.
TD_MEC_LOC_AREA_SUB_3	Verify that MEC application can cancel a UE Area subscription

8 Test Descriptions MEC

8.1 Test group 1- MEC Application Lifecycle Management

8.1.1 Onboard an application

Interoperability Test Description					
Identifier	TD_MI	TD_MEC_APP_ONBOARD			
Test Objective	Verify	that a MEC a	pplication can be successfully onboarded in a MEC System.		
Configuration		MEC_BASIC			
			CES_SINGLE_APP		
	SUT_N	MEC_NFVI			
References	[i.2], "C	Onboarding A	pplication Package" (section 5.2.2)		
Applicability	IFS_M	EC_APP_AP	PD, IFS_MEC_PLAT_SRV		
Pre-test	MEC F	Platform runni	ng		
conditions		MEC application descriptor available (AppD as defined in [i.2])			
	MEC a	pplication ima	age available by the MEC Platform		
	OSS (ı	eal or simula	ted) connected to the MEC platform		
Test Sequence	Step	Туре	Description		
•	1	Stimulus	OSS platform sends an on-board application package request to the MEC system (or to MEO if present).		
	2	Response	MEC Platform acknowledges the application package on-		
			boarding to the OSS.		
	3	IOP Check	Verify that the MEC application has been onboarded		
successfully in the MEC system.					
IOP Verdict					



Figure 8.1.1-1: On-board application package flow

8.1.2 Start an application instance

Interoperability Test Description						
Identifier	ntifier TD_MEC_APP_START					
Test Objective	Verify t	hat a MEC ap	plication can be started in a MEC Platform.			
Configuration		MEC_BASIC				
			ES_SINGLE_APP			
		IEC_MANO				
References	[i.2] "A	oplication Insta	antiation Operation". Section 5.3.1			
Applicability	IFS_M	EC_APP_APP	PD, IFS_MEC_PLAT_SRV			
Pre-test	MEC P	latform runnin	g			
conditions	MEC a	pplication onb	oarded in MEC Platform (or MEO)			
	OSS (r	eal or simulate	ed) connected to the MEC platform			
Test Seguence Step		Туре	Description			
•	1	Stimulus	OSS platform sends a start instance request to the MEC Platform (or MEO)			
	2	Response	MEC platform sends an instantiate application response to			
			the OSS with the result of the instantiation operation.			
	3	IOP Check	Show that the MEC application has been started successfully.			
	4	IOP Check	Verify that the MEC platform sends the right configuration to			
	the MEC application instance.					
IOP Verdict						

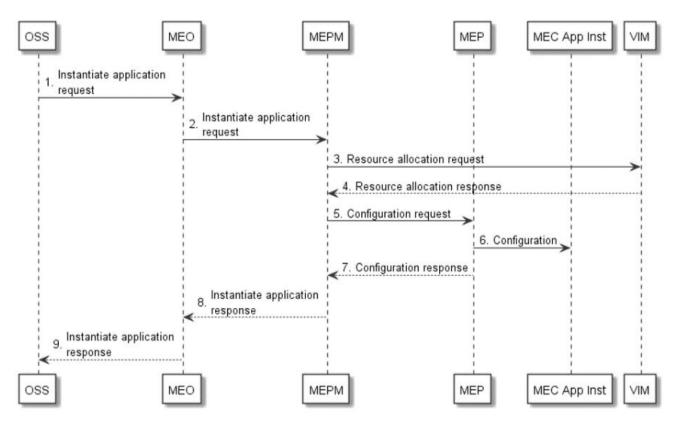


Figure 8.1.2-1: Instantiation of a MEC App flow

NOTE: In the Context of the Plugtests, MEO, MEPM and MEP may be be bundled therefore their exchanges will not be performed in the tests.

8.1.3 Stop an application instance

		Interope	rability Test Description		
Identifier	TD_ME	TD_MEC_APP_STOP			
Test Objective	Verify that a MEC application can be stopped in a MEC Platform				
Configuration	SUT_MEC_BASIC SUR_MEC_SERVICES_SINGLE_APP SUT_MEC_NFVI				
References		IEC_MANO	ication instance terminate operation". (Section 5.3.2)		
Applicability			D, IFS_MEC_PLAT_SRV		
дриоцыпту	11 O_IVIL	-0_/\\), II O_IVILO_I L/(I_O)(V		
Pre-test		latform running			
conditions			nce running in MEC Platform (or MEO)		
	OSS (re	eal or simulated	d) connected to the MEC platform		
_	1	T			
Test Sequence	Step	Туре	Description		
	1	Stimulus	OSS platform sends a termination request for a specific instance to the MEC Platform. This request includes the instance id.		
	2 Response The MEC Platform sends a terminate application instance response to the OSS.				
	3 IOP Check Show that the MEC application has been stopped successfully.				
	4	IOP Check	Verify that a terminate app instance message is sent to the MEC application instance.		
IOP Verdict					

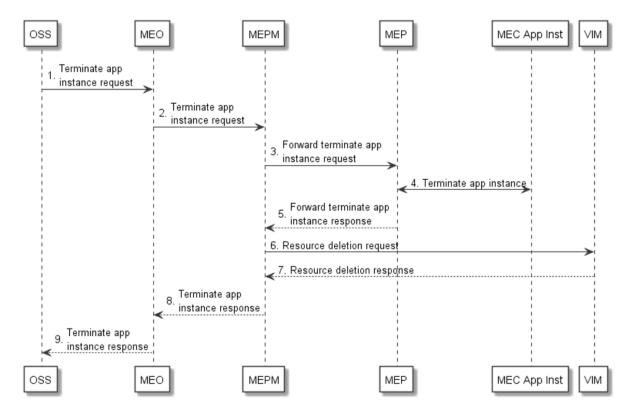


Figure 8.1.3-1: Instance Termination information flow

8.1.4 Retrieve application instance status

		Interop	erability Test Description		
Identifier	TD_MEC_APP_STATUS				
Test Objective	Verify the status of a MEC Application running in a MEC Platform is reported				
	success	successfully.			
Configuration		SUT_MEC_BASIC			
	SUR_N	IEC_SERVICE	ES_SINGLE_APP		
	_	EC_NFVI			
		EC_MANO			
References			ery application instance information operation". (Section		
	6.3.1.5)				
Applicability	IFS_ME	C_APP_APP	D, IFS_MEC_PLAT_SRV		
	1				
Pre-test		atform running			
conditions			ance running in MEC Platform (or MEO)		
	OSS (re	OSS (real or simulated) connected to the MEC platform			
	1	Г			
Test Sequence	Step	Туре	Description		
	1	Stimulus	OSS platform sends a status request for a specific instance to the MEC Platform. This request includes the instance id.		
	2	Response	The MEC Platform (or MEO) replies back to OSS with the status of the instance.		
	3	IOP Check	Show the status of the MEC application instance. Since the		
			MEC application instance was running before, it should report back that it is running.		
IOP Verdict					

8.1.5 Change application instance status

		Interop	perability Test Description		
Identifier	TD_MI	EC_APP_CHA	NGE		
Test Objective	Verify that a request made to the MEC platform to change the state of a specific instance will result in the instance changing status.				
Configuration	SUR_N	SUT_MEC_BASIC SUR_MEC_SERVICES_SINGLE_APP SUT_MEC_NFVI SUT_MEC_MANO			
References	6.3.1.4	!)	ange application instance operational state operation". (section		
Applicability	IFS_M	EC_APP_APF	PD, IFS_MEC_PLAT_SRV		
Pre-test conditions	MEC a	MEC Platform running MEC application instance running in MEC Platform (or MEO) OSS (real or simulated) connected to the MEC platform			
	1	•			
Test Sequence	Step	Туре	Description		
·	1	Stimulus	OSS platform sends a status change request for a specific MEC application running in a MEC platform. This is done through sending the instance id with the request.		
	2	Response	The MEC Platform, after changing the MEC application instance status, is replying back to the OSS with the operation outcome.		
	3	IOP Check	Show that the MEC application's status has changed according to the request made.		
IOP Verdict			, <u> </u>		

8.2 Test group 2 - MEC Services

8.2.1 Query existing services

		Interd	operability Test Description		
Identifier	TD_M	TD_MEC_SVC_QUERY			
Test Objective	Verify that MEC application can successfully query which service are available in a				
	MEC	olatform.			
Configuration	SUT_I	MEC_SERVIC	CES_SINGLE_APP		
	SUT_I	MEC_SERVIC	CES_MULTI_APP		
References	[i.4] M	EC 011, "Serv	vice availability Query". (Section 5.2.5)		
Applicability	IFS_N	IEC_APP_AP	PD, IFS_MEC_PLAT_SRV, IFS_MEC_APP_DISCOVER		
Pre-test	MEC	Platform runni	ng		
conditions	MEC a	application ins	tance running		
	At leas	At least one (1) MEC application service registered in the MEC platform			
Test Sequence	Step	Туре	Description		
•	1	Stimulus	MEC application instance to request the available service		
			through a service availability query, to the MEC platform.		
	2	Response	MEC Platform respond back with a list of available services in		
			the MEC platform.		
	3	IOP Check	Check that the MEC application instance received the list of		
			available services in the MEC platform.		
IOP Verdict					

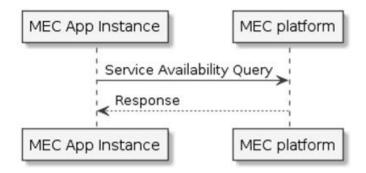


Figure 8.2.1-1: Service availability query flow

8.2.2 Register a new service

		Inter	operability Test Description		
Identifier	TD_MEC_SVC_REGISTER				
Test Objective	Verify a MEC service produced by a MEC application can be successfully registered				
	in a M	EC Platform			
Configuration	SUT_I	MEC_SERVI	CES_MULTI_APP		
References	[i.4] M	EC 011, "Ser	vice registration". (Section 5.2.4)		
Applicability	IFS_N	IEC_APP_AF	PPD, IFS_MEC_PLAT_SRV, IFS_MEC_APP_DISCOVER,		
	IFS_N	IEC_APP_PF	ROD		
	•				
Pre-test	MEC	Platform runn	ing		
conditions	MEC a	application in	stance providing a MEC service		
	MEC /	MEC Application instance registered to receive service notification			
Test Sequence	Step	Туре	Description		
•	1	Stimulus	The MEC application instance to send a new service registration		
			message to the MEC platform		
	2	Response	The MEC platform respond back with a successful registration.		
	3	IOP	Show that the MEC application instance registered the MEC		
		Check	service successfully.		
	4	IOP	Verify a notification is sent about the new service to the MEC		
		Check	application instance.		
IOP Verdict					

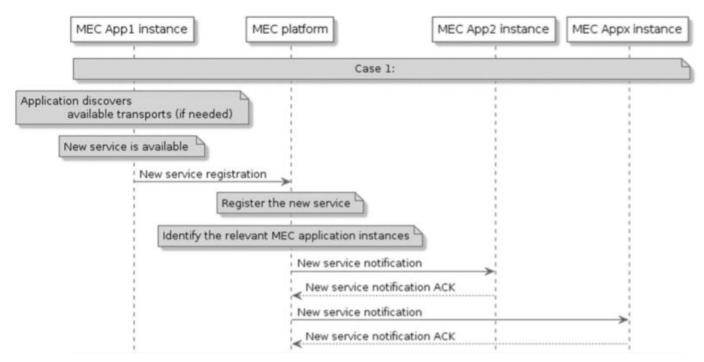


Figure 8.2.2-1: New service registration flow

8.2.3 Update an existing service

		Inter	operability Test Description		
Identifier	TD_M	TD_MEC_SVC_UPDATE			
Test Objective	Verify	Verify an existing MEC service in a MEC platform can be updated successfully.			
Configuration	SUT_I	MEC_SERVIC	CES_MULTI_APP		
References	[i.4] M	EC 011, "Serv	rice availability update" (Section 5.2.4)		
Applicability	IFS_N	IEC_APP_AP	PD, IFS_MEC_PLAT_SRV, IFS_MEC_APP_DISCOVER,		
	IFS_M	IEC_APP_PR	OD		
Pre-test	MEC	Platform runni	ng		
conditions	MEC a	application ins	tance providing a MEC service		
	MEC	Application ins	tance registered to receive service notification		
Test Sequence	Step	Туре	Description		
Sequence					
Sequence	1	Stimulus	The MEC service sends a service availability update message to the MEC platform to change its availability.		
Sequence	1	Stimulus Response	, ,		
Sequence			the MEC platform to change its availability.		
Sequence	2	Response	the MEC platform to change its availability. The MEC platform respond back with a notification change. Show that the MEC service availability has changed in the MEC		



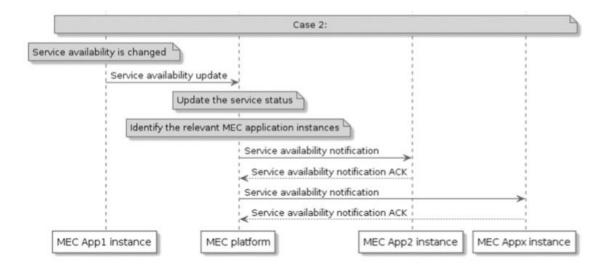


Figure 8.2.3-1: Service availability update flow

8.2.4 Deregister a service

		Intero	perability Test Description		
Identifier	TD_M	EC_SVC_DE	REGISTER		
Test Objective	Verify	Verify a MEC service produced by a MEC application instance can be successfully			
	deregi	deregistered from a MEC Platform			
Configuration	SUT_I	SUT_MEC_SERVICES_MULTI_APP			
References	[i.4] M	EC 011, "Serv	rice deregistration". (Section 5.2.11)		
Applicability		IFS_MEC_APP_APPD, IFS_MEC_PLAT_SRV, IFS_MEC_APP_DISCOVER, IFS_MEC_APP_PROD			
	1				
Pre-test		Platform runni			
conditions		• •	tance providing a MEC service		
		MEC Application instance registered to receive service notification			
	MEC	Application ins	tance registered to receive service notification		
T	MEC /	Application ins	stance registered to receive service notification		
Test Sequence	Step	Type	Description		
	Step	Туре	Description The MEC application instance sends a request to the MEC		
	Step 1	Type Stimulus	Description The MEC application instance sends a request to the MEC platform to deregister the MEC service it provides. The MEC platform deregisters the MEC service and returns a		
	Step 1	Type Stimulus Response	Description The MEC application instance sends a request to the MEC platform to deregister the MEC service it provides. The MEC platform deregisters the MEC service and returns a service deregistration acknowledgement. Show that the MEC service is no longer registered in the MEC		

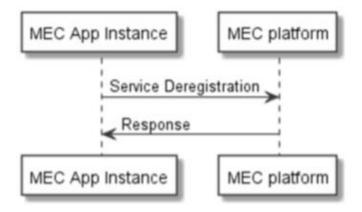


Figure 8.2.4-1: MEC service deregistration flow

8.2.5 Consume a service

		Intero	perability Test Description		
Identifier	TD_MEC_SVC_CONSUME				
Test Objective	Verify	Verify that a MEC service can be consumed by another MEC application.			
Configuration	SUT_I	MEC_SERVICE	ES_MULTI_APP		
References					
Applicability			D, IFS_MEC_PLAT_SRV, IFS_MEC_APP_DISCOVER, DD, IFS_MEC_APP_CONS		
Pre-test	MEC	Platform running	g		
conditions	MEC	service is availa	able (either by the MEC platform or a MEC application) (MEC		
	service	e provider)			
	MEC s	MEC service consumer has already discovered the service endpoint.			
	MEC a	MEC application instance consuming the MEC service (MEC service consumer)			
Test Sequence	Step	Туре	Description		
-	1	Stimulus	The MEC application instance (MEC service consumer)		
			request for the service.		
	2	Response	The MEC service provider provides such service as requested.		
	3	IOP Check	Show that the MEC service is provided, and consumed by the		
			respective component.		
IOP Verdict			, · · · · · · · · · · · · · · · · · · ·		

8.2.6 Query time service

		Intero	perability Test Description	
Identifier	TD_M	TD_MEC_SVC_TIMEQUERY		
Test Objective	Verify that a MEC App can successfully query the time information from the MEC			
	Platform.			
Configuration	_	SUT_MEC_SERVICES_SINGLE_APP		
	SUT_I	MEC_SERVIC	ES_MULTI_APP	
References				
Applicability			PD, IFS_MEC_PLAT_SRV, IFS_MEC_APP_DISCOVER,	
	IFS_M	IEC_APP_PRO	DD, IFS_MEC_APP_CONS	
	T			
Pre-test		Platform runnin	•	
conditions			able through the MEC Platform	
	MEC a	MEC application is running in MEC Platform		
T1	1			
Test Sequence	Step	Type	Description	
•	1	Stimulus	The MEC application instance (MEC service consumer)	
			request for the time from the MEC platform	
	2	Response	The MEC platform provides accurate time based on	
			location/format.	
	3	IOP Check	Show that the MEC application received the time properly.	
IOP Verdict				

8.2.7 Transport information query

		Intero	perability Test Description		
Identifier	TD_M	TD_MEC_SVC_TRANSPORTS			
Test Objective		Verify that a MEC App successfully queries the list of available transports from the MEC Platform.			
Configuration		SUT_MEC_SERVICES_SINGLE_APP SUT_MEC_SERVICES_MULTI_APP			
References					
Applicability			PD, IFS_MEC_PLAT_SRV, IFS_MEC_APP_DISCOVER, DD, IFS_MEC_APP_CONS		
Pre-test conditions	Trans		g n is available through the MEC Platform unning in MEC Platform		
Test Sequence	Step	Туре	Description		
·	1	Stimulus	MEC application instance sends a request to query the information about transports provided by the platform		
	2	Response	MEC platform responds with the message body containing the list of available transports information.		
	3	IOP Check	Show that the MEC application received the transports information properly.		
IOP Verdict		•			

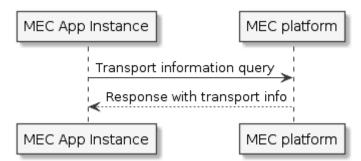


Figure 8.2.7-1: Transport information query flow

8.3 Test group 3 - MEC Traffic

8.3.1 Traffic rule activation

		Intero	perability Test Description	
Identifier	TD_M	EC_NTW_AC	TIVATE	
Test Objective	Verify a MEC application can activate a traffic rule in the MEC platform successfully			
Configuration	SUT_MEC_BASIC			
	_	SUT_MEC_SERVICES_SINGLE_APP		
	_	MEC_NFVI		
		MEC_MANO		
References			fic rule activation". (Section 5.2.7)	
Applicability			PD, IFS_MEC_PLAT_SRV, IFS_MEC_APP_TRAFFIC,	
	IFS_N	IEC_PLAT_TF	RAFFIC	
	_			
Pre-test		Platform runni	•	
conditions	MEC a	application ins	tance running	
Test Sequence	Step	Туре	Description	
-	1	Stimulus	The MEC application instance sends a traffic rule activation	
			request to MEC platform.	
	2	Response	The MEC platform sends a response to the MEC application	
		-	instance to indicate the results of the operation.	
	3	IOP Check	The traffic rule was activated successfully in the MEC platform.	
			The selected traffic type coming in the MEC platform is steered	
			accordingly.	
IOP Verdict				

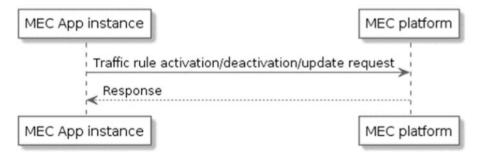


Figure 8.3.1-1: Traffic rule activation flow

8.3.2 Traffic rule update

		Intero	perability Test Description		
Identifier	TD_M	TD_MEC_NTW_UPDATE			
Test Objective	Verify	Verify a MEC application can update a traffic rule in the MEC platform successfully			
Configuration		SUT_MEC_BASIC			
			CES_SINGLE_APP		
		MEC_NFVI			
References		MEC_MANO	fic rule update". (Section 5.2.7)		
			. ,		
Applicability		IEC_APP_AP IEC_PLAT_TF	PD, IFS_MEC_PLAT_SRV, IFS_MEC_APP_TRAFFIC,		
	_ II O_IV	ILO_I LAI_II	VALLE TO		
Pre-test	MEC	Platform runnii	ng		
conditions		application ins	S Company of the comp		
		• •	in the MEC platform, impacted specific set of traffic.		
Test Sequence	Step	Туре	Description		
	1	Stimulus	The MEC application instance sends a traffic rule update		
		D	request to MEC platform.		
	2	Response	The MEC platform sends a response to the MEC application instance to indicate the results of the operation.		
	3	IOP Check	The traffic rule was updated successfully in the MEC platform.		
			The initially impacted traffic is now affected differently based on		
			the requested update.		
IOP Verdict					

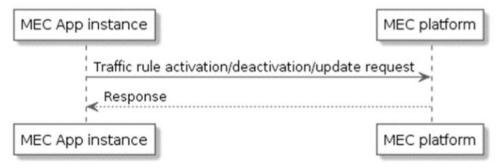


Figure 8.3.2-1: Traffic rule update flow

8.3.3 Traffic rule deactivation

Interoperability Test Description					
Identifier	TD_M	TD_MEC_NTW_DEACTIVATE			
Test Objective	Verify	Verify a MEC application can deactivate a traffic rule in the MEC platform			
	succe	ssfully			
Configuration		MEC_BASIC			
			CES_SINGLE_APP		
	_	MEC_NFVI			
		MEC_MANO			
References			fic rule update". (Section 5.2.7)		
Applicability			PD, IFS_MEC_PLAT_SRV, IFS_MEC_APP_TRAFFIC,		
	IFS_N	IEC_PLAT_TF	RAFFIC		
Pre-test		Platform runnii	•		
conditions		MEC application instance running			
	A traff	A traffic rule applied in the MEC platform, impacted a specific set of traffic			
	1	T	T		
Test Sequence	Step	Туре	Description		
•	1	Stimulus	The MEC application instance sends a traffic rule deactivate		
			request to MEC platform.		
	2	Response	The MEC platform sends a response to the MEC application		
		-	instance to indicate the results of the operation.		
	3	IOP Check	The traffic rule was deactivated successfully in the MEC		
			platform. The initially impacted traffic is no longer affected by		
			the traffic rule.		
IOP Verdict		•			



Figure 8.3.3-1: Traffic rule deactivation flow

8.3.4 DNS rule activation

Interoperability Test Description					
Identifier	TD_MEC_NTW_DNS_ACTIVATE				
Test Objective	Verify a MEC application can activate a DNS rule in the MEC platform successfully				
Configuration		MEC_BASIC			
			CES_SINGLE_APP		
	_	MEC_NFVI			
		MEC_MANO			
References			S rule activation". (Section 5.2.8)		
Applicability	IFS_M	IEC_APP_AP	PD, IFS_MEC_PLAT_SRV, IFS_MEC_APP_DNS,		
	IFS_M	<u> 1EC_PLAT_DI</u>	NS		
Pre-test	MEC	Platform runni	ng		
conditions	MEC a	application ins	tance running		
	•				
Test Sequence	Step	Туре	Description		
	1	Stimulus	The MEC application instance sends a DNS rule activation request to MEC platform.		
	2	Response	The MEC platform sends a response to the MEC application instance to indicate the results of the DNS rule activation.		
	3	IOP Check	The DNS rule activation was successful and the MEC platform		
			routes DNS request accordingly.		
IOP Verdict					

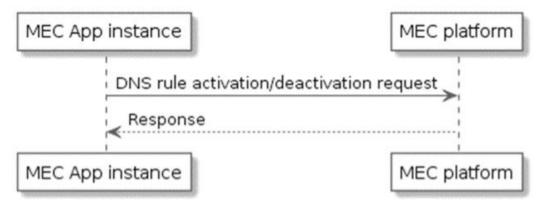


Figure 8.3.4-1: DNS rule activation flow

8.3.5 DNS rule deactivation

Interoperability Test Description					
Identifier	TD_MEC_NTW_DNS_DEACTIVATE				
Test Objective	Verify a MEC application can deactivate a DNS rule in the MEC platform successfully				
Configuration	SUT_N	MEC_BASIC			
	_	_	CES_SINGLE_APP		
	_	IEC_NFVI			
		MEC_MANO			
References			S rule activation". (Section 5.2.8)		
Applicability	_		PD, IFS_MEC_PLAT_SRV, IFS_MEC_APP_DNS,		
	IFS_M	EC_PLAT_DI	NS		
Pre-test	MEC P	latform runnii	ng		
conditions		• •	tance running		
	A DNS rule activated in the MEC platform				
Test Sequence	Step	Туре	Description		
-	1	Stimulus	The MEC application instance sends a DNS rule deactivation		
			request to MEC platform.		
	2	Response	The MEC platform sends a response to the MEC application		
			instance to indicate the results of the DNS rule deactivation.		
	3	IOP	The DNS rule deactivation was successful and the MEC		
		Check	platform does not route DNS request anymore.		
IOP Verdict		•			

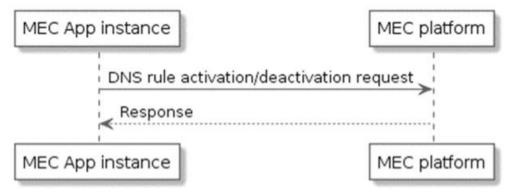


Figure 8.3.5-1: DNS rule deactivation flow

8.4 Test group 4 – MEC-013

8.4.1 UE Location Lookup

Interoperability Test Description					
Identifier	TD_M	EC_LOC_UE			
Test Objective	_	Verify that MEC application can successfully retrieve the location information of a specific UE			
Configuration			CES_SINGLE_APP CES_MULTI_APP		
References	[i.5], "l	UE Location Lo	ookup". (clause 5.3.2)		
Applicability	IFS_N	IEC_APP_CO	NS, IFS_MEC_PLAT_SRV, IFS_MEC_PLAT_LOC		
Pre-test conditions	 MEC Platform running MEC application instance up and running At least one MEC-013 Location service registered in the MEC platform MEC App has authN/Z rights to perform all the requests mentioned as stimulus in the test sequence. A UE connected to the radio nodes associated with the target MEC Host or at least its UE location information available from the Location service 				
_	•	A UE conn	ected to the radio nodes associated with the target MEC Host or at		
Test Sequence	Step	A UE conn	ected to the radio nodes associated with the target MEC Host or at		
Test Sequence	Step 1	A UE conne least its UE	ected to the radio nodes associated with the target MEC Host or at Elocation information available from the Location service		
		A UE conne least its UE	Description The MEC application instance to retrieve one or more UE locations by sending a request to the resource representing UE		
	1	A UE connileast its UE Type Stimulus	Description The MEC application instance to retrieve one or more UE locations in the MEC Platform. The Location service request to the resource representing UE locations in the MEC Platform. The Location Service returns a response with a message body including the location information of the UE(s) if the UE location		

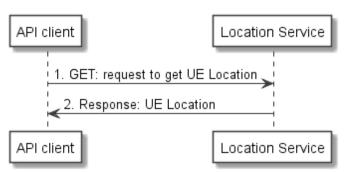


Figure 8.4.1-1: Flow of UE location lookup

		Interd	pperability Test Description	
Identifier	TD_M	EC_LOC_UE		
Test Objective	Verify that MEC application can successfully retrieve the location information of a group of UEs			
Configuration	SUT_I	MEC_SERVIC	CES_SINGLE_APP CES_MULTI_APP	
References			ookup". (clause 5.3.2)	
Applicability	IFS_M	IEC_APP_CO	NS, IFS_MEC_PLAT_SRV, IFS_MEC_PLAT_LOC	
Pre-test conditions	•	At least one MEC App h stimulus in UEs conne	orm running cation instance up and running e MEC-013 Location service registered in the MEC platform. has authN/Z rights to perform all the requests mentioned as the test sequence. cted to the radio nodes associated with the target MEC Host or at JE location information details available from the Location service	
Test Sequence	Step	Туре	Description	
	1	Stimulus	The MEC application instance to retrieve UE locations by sending a request to the resource representing UE locations in the MEC Platform.	
	2	Response	The Location Service returns a response with a message body including the location information of the UE(s) if the UE location lookup is accepted.	
	3	IOP Check	Check that the MEC application instance received UEs location information	
IOP Verdict				

8.4.2 UE Information Lookup

Interoperability Test Description					
Identifier	TD_M	EC_LOC_UE	INF_LKP_1		
Test Objective	Verify that MEC application can successfully look up UE(s) information in a particular location				
Configuration	_	SUT_MEC_SERVICES_SINGLE_APP SUT_MEC_SERVICES_MULTI_APP			
References	[i.5], "l	JE Information	n Lookup". (clause 5.3.3)		
Applicability	IFS_N	IEC_APP_CO	NS, IFS_MEC_PLAT_SRV, IFS_MEC_PLAT_LOC		
Pre-test conditions	•	MEC applic At least on MEC App h stimulus in A UE conn	orm running cation instance up and running e MEC-013 Location service registered in the MEC platform has authN/Z rights to perform all the requests mentioned as the test sequence. ected to the radio nodes associated with the target MEC Host or at information available from the Location service		
Test Sequence	Step	Туре	Description		
	1	Stimulus	The MEC application instance to lookup the UE(s) Information by sending a request to the resource representing UE information in the MEC Platform. The request includes location area information.		
	2	Response	The Location Service returns a response with a message body including the UE information of the UE according to the query parameters in the location area, if the UE information lookup is accepted		
	3	IOP Check	Check that the MEC application instance received UE information		
IOP Verdict					

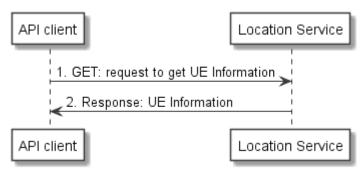


Figure 8.4.2-1: Flow of UE Information Lookup

		Intor	onershility Test Description		
Identifier	I TD M		operability Test Description		
		TD_MEC_LOC_UE_INF_LKP_2			
Test Objective	_	Verify that MEC application can successfully look up UE information of a group of UEs			
		articular location			
Configuration			CES_SINGLE_APP		
D (CES_MULTI_APP		
References			n Lookup". (clause 5.3.3)		
Applicability	IFS_N	IEC_APP_CC	NS, IFS_MEC_PLAT_SRV, IFS_MEC_PLAT_LOC		
Pre-test	•		orm running		
conditions	•	MEC applic	cation instance up and running		
	•	At least on	e MEC-013 Location service registered in the MEC platform		
	•	MEC App I	nas authN/Z rights to perform all the requests mentioned as		
			the test sequence.		
	•				
		Host or at least their UE information available from the Location service			
Test	Step	Туре	Description		
Sequence	Step		-		
	1	Stimulus	The MEC application instance to lookup the UEs Information by		
			sending a request to the resource representing the UE		
			information in the MEC Platform.		
			The request includes location area information.		
	2	Response	The Location Service returns a response with a message body		
		·	including the UE information of the group of UEq according to		
			the query parameters in the location area, if the UE information		
			lookup is accepted		
	3	IOP Check	Check that the MEC application instance received UE		
			information of the group of UEs		
		l .	1		
IOP Verdict					

8.4.3 UE Location Subscribe

Interoperability Test Description				
Identifier	TD_M	EC_LOC_UE	SUB_1	
Test Objective	Verify that MEC application can create a subscription to receive notifications about			
	location information changes of a specific UE or a group of UEs			
Configuration			CES_SINGLE_APP	
			CES_MULTI_APP	
References			ookup". (clause 5.3.4)	
Applicability	IFS_N	1EC_APP_CO	NS, IFS_MEC_PLAT_SRV, IFS_MEC_PLAT_LOC	
	1			
Pre-test	•		orm running	
conditions	•	MEC applic	cation instance up and running	
	•	At least on	e MEC-013 Location service registered in the MEC platform	
	•	MEC App h	nas authN/Z rights to perform all the requests mentioned as	
			the test sequence.	
	•		ected to the radio nodes associated with the target MEC Host or at	
		least its UE	Elocation available from the Location service.	
		T		
Test Sequence	Step	Туре	Description	
	1	Stimulus	The MEC application instance to subscribe to UE location notification by sending a Create request to the resource	
	1	Stimulus	notification by sending a Create request to the resource representing UE location in the MEC Platform.	
	1	Stimulus	notification by sending a Create request to the resource representing UE location in the MEC Platform. The request includes the subscription details, which includes	
	1	Stimulus	notification by sending a Create request to the resource representing UE location in the MEC Platform.	
	2	Stimulus	notification by sending a Create request to the resource representing UE location in the MEC Platform. The request includes the subscription details, which includes UE(s) identifier, e.g. UE IP address, and a callbackURL for receiving the UE location. The Location Service returns a response with a message body	
	2	Response	notification by sending a Create request to the resource representing UE location in the MEC Platform. The request includes the subscription details, which includes UE(s) identifier, e.g. UE IP address, and a callbackURL for receiving the UE location. The Location Service returns a response with a message body containing the subscriptionId	
		Response IOP Check	notification by sending a Create request to the resource representing UE location in the MEC Platform. The request includes the subscription details, which includes UE(s) identifier, e.g. UE IP address, and a callbackURL for receiving the UE location. The Location Service returns a response with a message body containing the subscriptionId Check that the MEC application instance subscribed UE location successfully.	
	2 3 4	Response	notification by sending a Create request to the resource representing UE location in the MEC Platform. The request includes the subscription details, which includes UE(s) identifier, e.g. UE IP address, and a callbackURL for receiving the UE location. The Location Service returns a response with a message body containing the subscriptionId Check that the MEC application instance subscribed UE location successfully. Update the UE location information in the location service	
	2	Response IOP Check	notification by sending a Create request to the resource representing UE location in the MEC Platform. The request includes the subscription details, which includes UE(s) identifier, e.g. UE IP address, and a callbackURL for receiving the UE location. The Location Service returns a response with a message body containing the subscriptionId Check that the MEC application instance subscribed UE location successfully. Update the UE location information in the location service Check that the Location service sends a message to the	
	2 3 4	Response IOP Check Stimulus	notification by sending a Create request to the resource representing UE location in the MEC Platform. The request includes the subscription details, which includes UE(s) identifier, e.g. UE IP address, and a callbackURL for receiving the UE location. The Location Service returns a response with a message body containing the subscriptionId Check that the MEC application instance subscribed UE location successfully. Update the UE location information in the location service Check that the Location service sends a message to the callbackURL destination, with a message body containing the	
	2 3 4	Response IOP Check Stimulus	notification by sending a Create request to the resource representing UE location in the MEC Platform. The request includes the subscription details, which includes UE(s) identifier, e.g. UE IP address, and a callbackURL for receiving the UE location. The Location Service returns a response with a message body containing the subscriptionId Check that the MEC application instance subscribed UE location successfully. Update the UE location information in the location service Check that the Location service sends a message to the	
	2 3 4	Response IOP Check Stimulus	notification by sending a Create request to the resource representing UE location in the MEC Platform. The request includes the subscription details, which includes UE(s) identifier, e.g. UE IP address, and a callbackURL for receiving the UE location. The Location Service returns a response with a message body containing the subscriptionId Check that the MEC application instance subscribed UE location successfully. Update the UE location information in the location service Check that the Location service sends a message to the callbackURL destination, with a message body containing the	

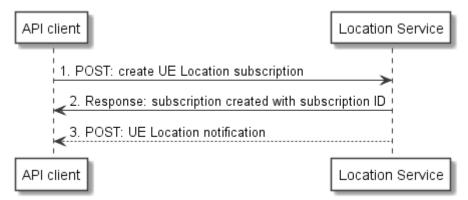


Figure 8.4.3-1: Flow of UE Location Subscribe

	Interoperability Test Description				
Identifier	TD_M	TD_MEC_LOC_UE_SUB_2			
Test Objective	Verify	Verify that MEC application can cancel a UE Location subscription			
Configuration			CES_SINGLE_APP		
_			CES_MULTI_APP		
References			ncellation". (clause 5.3.6)		
Applicability	IFS_M	IEC_APP_CO	NS, IFS_MEC_PLAT_SRV, IFS_MEC_PLAT_LOC		
	,				
Pre-test	•		orm running		
conditions	•		cation instance up and running		
	•		e MEC-013 Location service registered in the MEC platform		
	•		nas authN/Z rights to perform all the requests mentioned as		
			the test sequence.		
	•		ected to the radio nodes associated with the target MEC Host or at E Location available from the Location service		
	 MEC App has subscribed to UE location notification by creating a right resource into the Location service' and got the corresponding subscriptionId 				
		resource in	tio the Eocation service and got the corresponding subscriptionia		
Test	0	_	Don't state of		
Sequence	Step	Туре	Description		
-	1	Stimulus	The MEC application unsubscribes to UE Location notification by		
			sending a Delete request to the resource URI in the MEC		
			Platform.		
			The request contains the subscriptionId		
	2	Response	The Location Service returns a successful response if the		
			subscription cancellation is accepted		
	3	IOP Check	Check that the MEC application instance un-subscribed UE		
			location successfully.		
	4	Stimulus	Update the UE location in the location service		
	5	IOP Check	Check that the Location Service does not notify the MEC App of		
			the UE location change.		
IOP Verdict					



Figure 8.4.3-2: Flow of Location Subscribe Cancellation

8.4.4 UE Information Subscribe

		Interd	operability Test Description		
Identifier		EC_LOC_INF			
Test Objective			lication can create a subscription to receive notifications of UE		
		•	for the list of UEs in a particular location		
Configuration			CES_SINGLE_APP		
		SUT_MEC_SERVICES_MULTI_APP			
References		[i.5], "UE Information Subscribe". (clause 5.3.5)			
Applicability	IFS_M	IEC_APP_CO	NS, IFS_MEC_PLAT_SRV, IFS_MEC_PLAT_LOC		
	1				
Pre-test	•		<u>.</u>		
conditions	•	MEC applic	cation instance up and running		
	•		e MEC-013 Location service registered in the MEC platform		
	•		nas authN/Z rights to perform all the requests mentioned as		
			the test sequence.		
	•		ected to the radio nodes associated with the target MEC Host or at		
		least its UE	information available from the Location service.		
_	1	ı			
Test Sequence	Step	Туре	Description		
	1	Stimulus	The MEC application instance to subscribe to UE information		
			notification by sending a Create request to the resource		
			representing UE information in the MEC Platform.		
			The request contains all subscription details, which includes		
			location area information and a callbackURL for receiving the UE		
			information.		
	2	Response	The Location Service returns a response with a message body		
			containing the subscriptionId		
	3	IOP Check	Check that the MEC application instance subscribed UE		
			information successfully.		
	4	Stimulus	Update the UE Information in the location service		
	5	IOP Check	Check that the Location service sends a message to the		
			callbackURL destination, with a message body containing the		
			UE Location notification, which includes the UE information for		
			each UE in the location area.		
	6		Repeat steps 4 and 5 several times		
	0		Repeat steps 4 and 5 several times		

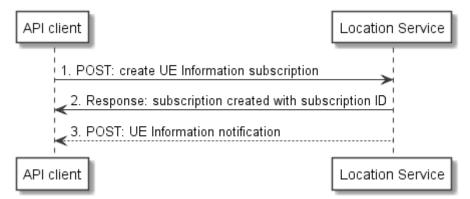


Figure 8.4.4-1: Flow of UE Information Subscribe

			operability Test Description
Identifier		EC_LOC_INF	
Test Objective			lication can cancel a UE Information subscription
Configuration			CES_SINGLE_APP
			CES_MULTI_APP
References			ncellation". (clause 5.3.6)
Applicability	IFS_N	1EC_APP_CO	NS, IFS_MEC_PLAT_SRV, IFS_MEC_PLAT_LOC
	,		
Pre-test	•	MEC Platfo	•
conditions	•	MEC applic	cation instance up and running
	•	At least one	e MEC-013 Location service registered in the MEC platform
	•	MEC App h in the test s	nas authN/Z rights to perform all the requests mentioned as stimulus sequence.
	•	A UE conn	ected to the radio nodes associated with the target MEC Host or at
		least its UE	Information available from the Location service
	•	MEC App h	nas subscribed to UE information notification by creating a right
		resource in	to the Location service' and got the corresponding subscriptionId.
Test Sequence	Step	Туре	Description
	Step 1	Type Stimulus	Description The MEC application unsubscribes to UE Location notification by sending a Delete request to the resource URI in the MEC Platform.
			The MEC application unsubscribes to UE Location notification by sending a Delete request to the resource URI in the MEC
			The MEC application unsubscribes to UE Location notification by sending a Delete request to the resource URI in the MEC Platform.
	1	Stimulus	The MEC application unsubscribes to UE Location notification by sending a Delete request to the resource URI in the MEC Platform. The request contains the subscriptionId The Location Service returns a successful response if the subscription cancellation is accepted Check that the MEC application instance un-subscribed UE information successfully.
	2 3	Stimulus Response IOP Check Stimulus	The MEC application unsubscribes to UE Location notification by sending a Delete request to the resource URI in the MEC Platform. The request contains the subscriptionId The Location Service returns a successful response if the subscription cancellation is accepted Check that the MEC application instance un-subscribed UE
	2	Stimulus Response IOP Check	The MEC application unsubscribes to UE Location notification by sending a Delete request to the resource URI in the MEC Platform. The request contains the subscriptionId The Location Service returns a successful response if the subscription cancellation is accepted Check that the MEC application instance un-subscribed UE information successfully.

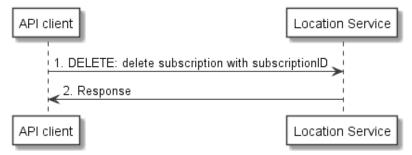


Figure 8.4.4-2: Flow of Location Subscribe Cancellation

8.4.5 Radio Node Location Lookup

		Interd	operability Test Description
Identifier	TD_M	EC_LOC_RNI	
Test Objective			lication can make a location enquiry about the radio nodes with the MEC host
Configuration			CES_SINGLE_APP CES_MULTI_APP
References	[i.5], "l	Radio Node I	Location Lookup". (clause 5.3.7)
Applicability	IFS_N	IEC_APP_CO	NS, IFS_MEC_PLAT_SRV, IFS_MEC_PLAT_LOC
Pre-test conditions		MEC applic At least one MEC App h stimulus in A UE conne	orm running cation instance up and running e MEC-013 Location service registered in the MEC platform has authN/Z rights to perform all the requests mentioned as the test sequence ected to the radio nodes associated with the target MEC Host or at dio Node Location Information available from the Location service.
Sequence	Step	Туре	Description
	2	Stimulus Response IOP Check	The MEC application instance to enquiry about the radio node by sending a request to the resource representing radio node information in the MEC Platform. The Location Service returns a response to the MEC Application instance with message body including the list of radio nodes. Check that the MEC application instance received the list of
			radio nodes currently associated with the MEC host and the location of each radio node
IOP Verdict			

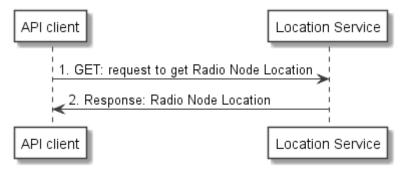


Figure 8.4.5-1: Radio Node Location Lookup

8.4.6 UE Tracking Subscribe

		Interd	operability Test Description		
Identifier	TD_M	EC_LOC_TR/			
Test Objective	Verify	that MEC app	olication can create a subscription to receive notifications of UE		
•	inform	ation updates	for a specified UE.		
Configuration			CES_SINGLE_APP		
			CES_MULTI_APP		
References		[i.5], "UE Tracking Subscribe". (clause 5.3.8)			
Applicability	IFS_N	IEC_APP_CO	NS, IFS_MEC_PLAT_SRV, IFS_MEC_PLAT_LOC		
Pre-test	•	MEC Platfo	orm running		
conditions	•		cation instance up and running		
	•		e MEC-013 Location service registered in the MEC platform		
	•		nas authN/Z rights to perform all the requests mentioned as		
			the test sequence.		
	•		ected to the radio nodes associated with the target MEC Host or at		
		least its UE	information available from the Location service.		
-	<u> </u>	I			
Test Sequence	Step	Туре	Description		
•	1	Stimulus	The MEC application instance to subscribe to UE Tracking		
			notification by sending a Create request to the resource		
			representing UE information in the MEC Platform.		
			The request contains all subscription details, which includes the		
			UE identifier, e.g. UE IP address, and a callbackURL for		
			UE identifier, e.g. UE IP address, and a callbackURL for receiving the UE location.		
	2	Response	UE identifier, e.g. UE IP address, and a callbackURL for receiving the UE location. The Location Service returns a response with a message body		
	_		UE identifier, e.g. UE IP address, and a callbackURL for receiving the UE location. The Location Service returns a response with a message body containing the subscriptionId		
	2	Response IOP Check	UE identifier, e.g. UE IP address, and a callbackURL for receiving the UE location. The Location Service returns a response with a message body containing the subscriptionId Check that the MEC application instance subscribed UE tracking		
	3	IOP Check	UE identifier, e.g. UE IP address, and a callbackURL for receiving the UE location. The Location Service returns a response with a message body containing the subscriptionId Check that the MEC application instance subscribed UE tracking successfully.		
	_		UE identifier, e.g. UE IP address, and a callbackURL for receiving the UE location. The Location Service returns a response with a message body containing the subscriptionId Check that the MEC application instance subscribed UE tracking successfully. Update the UE Information of the specified in the location		
	3	IOP Check Stimulus	UE identifier, e.g. UE IP address, and a callbackURL for receiving the UE location. The Location Service returns a response with a message body containing the subscriptionId Check that the MEC application instance subscribed UE tracking successfully. Update the UE Information of the specified in the location service (e.g the UE handing over between cells).		
	3	IOP Check	UE identifier, e.g. UE IP address, and a callbackURL for receiving the UE location. The Location Service returns a response with a message body containing the subscriptionId Check that the MEC application instance subscribed UE tracking successfully. Update the UE Information of the specified in the location service (e.g the UE handing over between cells). Check that the Location service sends a message to the		
	3	IOP Check Stimulus	UE identifier, e.g. UE IP address, and a callbackURL for receiving the UE location. The Location Service returns a response with a message body containing the subscriptionId Check that the MEC application instance subscribed UE tracking successfully. Update the UE Information of the specified in the location service (e.g the UE handing over between cells). Check that the Location service sends a message to the callbackURL destination, with a message body containing the		
	3	IOP Check Stimulus	UE identifier, e.g. UE IP address, and a callbackURL for receiving the UE location. The Location Service returns a response with a message body containing the subscriptionId Check that the MEC application instance subscribed UE tracking successfully. Update the UE Information of the specified in the location service (e.g the UE handing over between cells). Check that the Location service sends a message to the		
	3	IOP Check Stimulus	UE identifier, e.g. UE IP address, and a callbackURL for receiving the UE location. The Location Service returns a response with a message body containing the subscriptionId Check that the MEC application instance subscribed UE tracking successfully. Update the UE Information of the specified in the location service (e.g the UE handing over between cells). Check that the Location service sends a message to the callbackURL destination, with a message body containing the		
	3	IOP Check Stimulus	UE identifier, e.g. UE IP address, and a callbackURL for receiving the UE location. The Location Service returns a response with a message body containing the subscriptionId Check that the MEC application instance subscribed UE tracking successfully. Update the UE Information of the specified in the location service (e.g the UE handing over between cells). Check that the Location service sends a message to the callbackURL destination, with a message body containing the UE Location notification.		

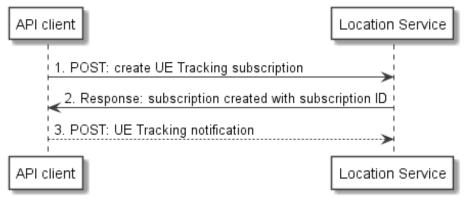


Figure 8.4.6-1: Flow of UE Tracking Subscribe

8.4.7 UE Distance Lookup

		Interd	pperability Test Description
Identifier	TD_M	EC_LOC_DIS	
Test Objective	Verify	that MEC app	lication can obtain the current distance between 2 UEs
Configuration			CES_SINGLE_APP
	SUT_I		CES_MULTI_APP
 References 	•		istance Lookup". (clause 5.3.9)
Applicability	IFS_N	IEC_APP_CO	NS, IFS_MEC_PLAT_SRV, IFS_MEC_PLAT_LOC
Pre-test conditions	•	MEC Platfo	orm running
	•	MEC applic	cation instance up and running
	•	At least one	e MEC-013 Location service registered in the MEC platform
	•	MEC App h	has authN/Z rights to perform all the requests mentioned as
		stimulus in	the test sequence.
	•	2 LIEs conr	nected to the radio nodes associated with the target MEC Host or
1	•	2 013 0011	lected to the radio hodes associated with the target MEC host of
			ir UE information available from the Location service
			, i
Test Sequence	Step		, i
Test Sequence		at least the	ir UE information available from the Location service
	Step	at least the	ir UE information available from the Location service Description
	Step	at least the	Description The MEC application instance to lookup the UE distance by
	Step	at least the	Description The MEC application instance to lookup the UE distance by sending a request to the resource representing UE distance to
	Step	at least the	Description The MEC application instance to lookup the UE distance by sending a request to the resource representing UE distance to the MEC Platform.
	Step 1	at least the Type Stimulus	Description The MEC application instance to lookup the UE distance by sending a request to the resource representing UE distance to the MEC Platform. The request includes the two UE identities, e.g. UE IP address.
	Step 1	at least the Type Stimulus	Description The MEC application instance to lookup the UE distance by sending a request to the resource representing UE distance to the MEC Platform. The request includes the two UE identities, e.g. UE IP address. The Location Service returns a response with a message body including the distance information if the UE location lookup is accepted.
	Step 1	Type Stimulus Response	Description The MEC application instance to lookup the UE distance by sending a request to the resource representing UE distance to the MEC Platform. The request includes the two UE identities, e.g. UE IP address. The Location Service returns a response with a message body including the distance information if the UE location lookup is

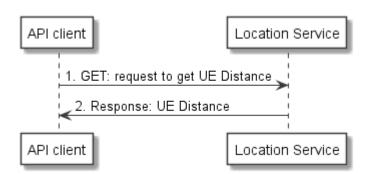


Figure 8.4.7-1: Flow of UE Distance Lookup

		Interd	operability Test Description
Identifier	TD_M	EC_LOC_DIS	
Test Objective	geogra	aphical locatio	
Configuration	_	_	CES_SINGLE_APP
			CES_MULTI_APP
References			ookup". (clause 5.3.9)
Applicability	IFS_M	IEC_APP_CO	NS, IFS_MEC_PLAT_SRV, IFS_MEC_PLAT_LOC
	T		
Pre-test	•		<u> </u>
conditions	•		cation instance up and running
	•		e MEC-013 Location service registered in the MEC platform
	•		nas authN/Z rights to perform all the requests mentioned as
			the test sequence.
	•		ected to the radio nodes associated with the target MEC Host or at
			mation available from the Location service
	•		mation available from the Location service cal location information available in the Location service.
_	•		
Test Sequence	Step		
	Step 1	Geographio	cal location information available in the Location service.
	-	Geographic Type	cal location information available in the Location service. Description
	-	Geographic Type	Description The MEC application instance to lookup the UE distance by sending a request to the resource representing UE distance to
	-	Geographic Type	Description The MEC application instance to lookup the UE distance by sending a request to the resource representing UE distance to the MEC Platform.
	-	Geographic Type	Description The MEC application instance to lookup the UE distance by sending a request to the resource representing UE distance to the MEC Platform. The request includes the UE identifier (e.g. UE IP address) and
	1	Type Stimulus	Description The MEC application instance to lookup the UE distance by sending a request to the resource representing UE distance to the MEC Platform. The request includes the UE identifier (e.g. UE IP address) and the coordinates of the location to measure from.
	1	Type Stimulus	Description The MEC application instance to lookup the UE distance by sending a request to the resource representing UE distance to the MEC Platform. The request includes the UE identifier (e.g. UE IP address) and the coordinates of the location to measure from. The Location Service returns a response with a message body
	1	Type Stimulus	Description The MEC application instance to lookup the UE distance by sending a request to the resource representing UE distance to the MEC Platform. The request includes the UE identifier (e.g. UE IP address) and the coordinates of the location to measure from. The Location Service returns a response with a message body including the distance information if the UE location lookup is accepted. Check that the MEC application instance received the correct
	2	Type Stimulus Response	Description The MEC application instance to lookup the UE distance by sending a request to the resource representing UE distance to the MEC Platform. The request includes the UE identifier (e.g. UE IP address) and the coordinates of the location to measure from. The Location Service returns a response with a message body including the distance information if the UE location lookup is accepted.

8.4.8 UE Distance Subscribe

		Inter	roperability Test Description
Identifier	TD_M	EC_LOC_DIS	
Test Objective	Verify	that MEC app	lication can create a subscription to receive notifications about
-		ce changes be	
Configuration			CES_SINGLE_APP
			CES_MULTI_APP
References			Subscribe". (clause 5.3.10)
Applicability	IFS_N	IEC_APP_CO	NS, IFS_MEC_PLAT_SRV, IFS_MEC_PLAT_LOC
Pre-test	•		orm running
conditions	•	MEC applic	cation instance up and running
	•	At least one	e MEC-013 Location service registered in the MEC platform
	•		has authN/Z rights to perform all the requests mentioned as stimulus
		in the test s	
	•		nected to the radio nodes associated with the target MEC Host or at
		least their l	UE information available from the Location service.
	ı	Г	
Test Sequence	Step	Type	Description
Sequence	1	Stimulus	The MEC application instance to subscribe to UE distance
	'	Stillialas	notification by sending a Create request to the resource
			representing UE Distance subscription in the MEC Platform.
			representing of bistance subscription in the MEO Fiducini.
			The request contains the subscription details, which includes :
			UE(s) identities (e.g. UE IP address)
			the required accuracy
			the minimum interval between notifications.
			a callbackURL for receiving the UE distance.
	2	Response	The Location Service returns a response with resource URI
			containing the subscriptionId.
	3	IOP Check	Check that the MEC application instance subscribed UE distance
			successfully.
	4	Stimulus	Update the UE location information of one or both UEs in the
			location service
	5	IOP Check	Check that the Location service sends a message to the
			callbackURL destination, with a message body containing the UE
			Location notification, which includes distance information.
	6	IOP Check	Check that the MEC application instance received the correct
			distance value between the 2 UEs.
	7		Repeat steps 4 to 6 several times
			<u>,</u>
IOP Verdict			

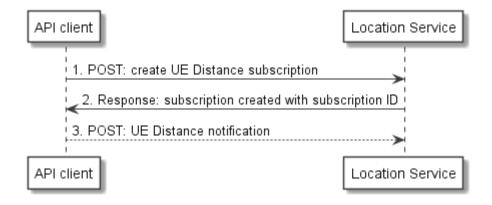


Figure 8.4.8-1: Flow of UE Distance Subscribe

			roperability Test Description
Identifier		EC_LOC_DIS	
Test Objective			lication can create a subscription to receive notifications about
			etween a UE and a geographical location
Configuration			CES_SINGLE_APP
			CES_MULTI_APP
References			Subscribe". (clause 5.3.10)
Applicability	IFS_M	1EC_APP_CO	NS, IFS_MEC_PLAT_SRV, IFS_MEC_PLAT_LOC
	1		
Pre-test	•		orm running
conditions	•		cation instance up and running
	•		e MEC-013 Location service registered in the MEC platform
	•		nas authN/Z rights to perform all the requests mentioned as stimulus
		in the test s	
	•		ected to the radio nodes associated with the target MEC Host or at
			mation available from the Location service
	•	Geographic	cal location information available in the Location service.
	T	T	
Test Sequence	Step	Type	Description
Sequence	1	Stimulus	The MEC application instance to subscribe to UE distance
	'	Otimulas	notification by sending a Create request to the resource
			representing UE Distance subscription in the MEC Platform.
			Toproconting of Biotance automption in the MES Flattonii.
			The request contains the subscription details, which includes :
			UE identifier (e.g. UE IP address)
			the coordinates of the location to measure from.
			the required accuracy
			the minimum interval between notifications.
			a callbackURL for receiving the UE distance.
	2	Response	The Location Service returns a response with resource URI
			containing the subscriptionId.
	3	IOP Check	Check that the MEC application instance subscribed UE distance
			successfully.
	4	Stimulus	Update the UE location information of the UE in the location
			service
	5	IOP Check	Check that the Location service sends a message to the
			callbackURL destination, with a message body containing the UE
			Location notification, which includes distance information.
	6	IOP Check	Check that the MEC application instance received the correct
			distance value between the UE and the geographical location
			provided.
	7		Repeat steps 4 to 6 several times
IOP Verdict			

		Inton	anarchility Test Description
Identifier	I TD M	EC_LOC_DIS	operability Test Description
10.011111101			
Test Objective			lication can cancel a UE distance subscription
Configuration			ES_SINGLE_APP
Deference			CES_MULTI_APP
References			ncellation". (clause 5.3.6)
Applicability	IFS_N	IEC_APP_CO	NS, IFS_MEC_PLAT_SRV, IFS_MEC_PLAT_LOC
Pre-test	•	MEC Platfo	orm running
conditions	•	MEC applic	cation instance up and running
	•	At least one	e MEC-013 Location service registered in the MEC platform
	•	MEC App h	has authN/Z rights to perform all the requests mentioned as
		stimulus in	the test sequence.
	•	2 UEs conr	nected to the radio nodes associated with the target MEC Host or
		at least the	ir UE information available from the Location service
	•	MEC App h	nas subscribed to UE distance notification by creating a right
			to the Location service' and got the corresponding subscriptionId.
			0 1 0 1
Test Sequence	Step	Туре	Description
Sequence	1	Stimulus	The MEC application unsubscribes to UE distance notification by
		Otimulas	sending a Delete request to the resource URI in the MEC
			Platform.
	1		
		Deenene	The request contains the subscriptionId.
	2	Response	The request contains the subscriptionId. The Location Service returns a successful response if the
		-	The request contains the subscriptionId. The Location Service returns a successful response if the subscription cancellation is accepted
	2	Response IOP Check	The request contains the subscriptionId. The Location Service returns a successful response if the subscription cancellation is accepted Check that the MEC application instance un-subscribed UE
	3	IOP Check	The request contains the subscriptionId. The Location Service returns a successful response if the subscription cancellation is accepted Check that the MEC application instance un-subscribed UE distance successfully.
		-	The request contains the subscriptionId. The Location Service returns a successful response if the subscription cancellation is accepted Check that the MEC application instance un-subscribed UE distance successfully. Update the UE location information of one or both UEs in the
	3	IOP Check Stimulus	The request contains the subscriptionId. The Location Service returns a successful response if the subscription cancellation is accepted Check that the MEC application instance un-subscribed UE distance successfully. Update the UE location information of one or both UEs in the location service
	3	IOP Check	The request contains the subscriptionId. The Location Service returns a successful response if the subscription cancellation is accepted Check that the MEC application instance un-subscribed UE distance successfully. Update the UE location information of one or both UEs in the
IOP Verdict	3	IOP Check Stimulus	The request contains the subscriptionId. The Location Service returns a successful response if the subscription cancellation is accepted Check that the MEC application instance un-subscribed UE distance successfully. Update the UE location information of one or both UEs in the location service Check that the Location Service does not notify the MEC App of

8.4.9 UE Area Subscribe

			operability Test Description
Identifier		EC_LOC_ARI	
Test Objective		• • •	lication can create a subscription to receive notifications about UE
0		ng a geograph	
Configuration			CES_SINGLE_APP CES_MULTI_APP
References			cribe". (clause 5.3.11)
Applicability			NS, IFS_MEC_PLAT_SRV, IFS_MEC_PLAT_LOC
, , , , , ,			
Pre-test	•	MEC Platfo	orm running
conditions	•	MEC applic	cation instance up and running
	•	At least one	e MEC-013 Location service registered in the MEC platform
	•		has authN/Z rights to perform all the requests mentioned as stimulus
		in the test s	
	•		ected to the radio nodes associated with the target MEC Host or at
			JE information available from the Location service
	•	a UE not pi	resent in the specific area of the test.
Test			
Sequence	Step	Туре	Description
	1	Stimulus	The MEC application instance to subscribe to UE area notification
			by sending a Create request to the resource representing UE area
			subscription in the MEC Platform.
			The request contains the subscription details, which includes:
			UE(s) identities (e.g. UE IP address) Area definition
			Area definition the required accuracy
			the required accuracy the minimum interval between notifications.
			Indication that notifications should be generated on only
			entering area or both entering and leaving.
			a callbackURL for receiving the UE distance.
	2	Response	The Location Service returns a response with resource URI
			containing the subscriptionId.
	3	IOP Check	Check that the MEC application instance subscribed UE area
		Ctimeralian	successfully.
	4	Stimulus	Update the UE location information of the UE in the location
	5	IOP Check	service, to reflect it is entering in the Area Check that the Location service sends a message to the
		IOI CHECK	callbackURL destination, with a message body containing the UE
			Area notification, which includes distance information.
			7 Touristation, Which includes distance information.
	6	IOP Check	Check that the MEC application instance received the correct
			distance value between the 2 UEs.
	7	Stimulus	Update the UE location information of the UE but keeping it in the
			specified area
	8	IOP Check	Check that the Location Service does not notify the MEC App of
			any UE Area change.
IOD Variable (
IOP Verdict			

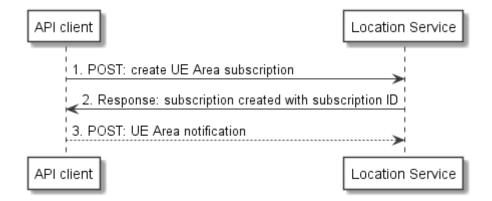


Figure 8.4.9-1: Flow of UE Area Subscribe

		Inter	operability Test Description
Identifier		EC_LOC_ARI	
Test Objective	-		lication can create a subscription to receive notifications about UE
		g a geographic	
Configuration			ES_SINGLE_APP
			CES_MULTI_APP
References			cribe". (clause 5.3.11)
Applicability	IFS_N	IEC_APP_CO	NS, IFS_MEC_PLAT_SRV, IFS_MEC_PLAT_LOC
Due toot	ı	MEO DI 11	
Pre-test conditions	•	MEC Platfo	
conditions	•	• •	cation instance up and running
	•		e MEC-013 Location service registered in the MEC platform
	•		has authN/Z rights to perform all the requests mentioned as stimulus
		in the test s	
	•		ected to the radio nodes associated with the target MEC Host or at JE information available from the Location service
			ent in the specific area of the test.
	•	a or prese	פונ ווו נוום פףפטווט מופמ טו נוום נפפנ.
Test	I		
Sequence	Step	Туре	Description
•	1	Stimulus	The MEC application instance to subscribe to UE area notification
			by sending a Create request to the resource representing UE area
			subscription in the MEC Platform.
			The request contains the subscription details, which includes :
			UE(s) identities (e.g. UE IP address)
			Area definition
			the required accuracy
			 the minimum interval between notifications.
			Indication that notifications should be generated on only
			leaving area or both entering and leaving.
			a callbackURL for receiving the UE distance.
	2	Doononoo	The Location Comice returns a reanance with recourse LIDI
	-	Response	The Location Service returns a response with resource URI containing the subscriptionId.
	3	IOP Check	Check that the MEC application instance subscribed UE area
	3	IOF CHECK	successfully.
	4	Stimulus	Update the UE location information of the UE in the location
	'	Juliana	service, to reflect it is leaving in the Area.
	5	IOP Check	Check that the Location service sends a message to the
			callbackURL destination, with a message body containing the UE
			Area notification, which includes distance information.
	6	IOP Check	Check that the MEC application instance received the correct
			distance value between the 2 UEs.
	7	Stimulus	Update the UE location information of the UE but keeping it out of
			the specified area
	8	IOP Check	Check that the Location Service does not notify the MEC App of
			any UE Area change.
IOP Verdict			

		Inter	operability Test Description			
Identifier	TD_M	EC_LOC_ARI	EA_SUB_3			
Test Objective	Verify	that MEC app	lication can cancel a UE Area subscription			
Configuration	SUT_I	MEC_SERVIC	CES_SINGLE_APP			
_	SUT_	MEC_SERVIC	CES_MULTI_APP			
References	[i.5], "S	[i.5], "Subscribe Cancellation". (clause 5.3.6)				
Applicability	IFS_N	IEC_APP_CO	NS, IFS_MEC_PLAT_SRV, IFS_MEC_PLAT_LOC			
	_					
Pre-test	•	MEC Platfo	orm running			
conditions	•	MEC applic	cation instance up and running			
	•	At least on	e MEC-013 Location service registered in the MEC platform			
	•	MEC App h	nas authN/Z rights to perform all the requests mentioned as stimulus sequence.			
	•	A UE conn	ected to the radio nodes associated with the target MEC Host or at			
			Location available from the Location service			
	•	MEC App h	has subscribed to UE area notification by creating a right resource			
			cation service' and got the corresponding subscriptionId			
	•	Subscription	on set to notify on entering a specified area.			
			on set to notify on entering a specified area. resent in the specific area of the test.			
Test Sequence	Step					
	Step 1	a UE not p	Description The MEC application unsubscribes to UE area notification by sending a Delete request to the resource URI in the MEC Platform.			
	1	Type Stimulus	Description The MEC application unsubscribes to UE area notification by sending a Delete request to the resource URI in the MEC Platform. The request contains the subscriptionId.			
		a UE not p	Description The MEC application unsubscribes to UE area notification by sending a Delete request to the resource URI in the MEC Platform. The request contains the subscriptionId. The Location Service returns a successful response if the			
	2	Type Stimulus Response	Description The MEC application unsubscribes to UE area notification by sending a Delete request to the resource URI in the MEC Platform. The request contains the subscriptionId. The Location Service returns a successful response if the subscription cancellation is accepted			
	1	Type Stimulus	Description The MEC application unsubscribes to UE area notification by sending a Delete request to the resource URI in the MEC Platform. The request contains the subscriptionId. The Location Service returns a successful response if the subscription cancellation is accepted Check that the MEC application instance un-subscribed UE area			
	2 3	Type Stimulus Response IOP Check	Description The MEC application unsubscribes to UE area notification by sending a Delete request to the resource URI in the MEC Platform. The request contains the subscriptionId. The Location Service returns a successful response if the subscription cancellation is accepted Check that the MEC application instance un-subscribed UE area successfully.			
	2	Type Stimulus Response	Description The MEC application unsubscribes to UE area notification by sending a Delete request to the resource URI in the MEC Platform. The request contains the subscriptionId. The Location Service returns a successful response if the subscription cancellation is accepted Check that the MEC application instance un-subscribed UE area successfully. Update the UE location in the location service to reflect the UE is			
	2 3 4	Type Stimulus Response IOP Check Stimulus	Description The MEC application unsubscribes to UE area notification by sending a Delete request to the resource URI in the MEC Platform. The request contains the subscriptionId. The Location Service returns a successful response if the subscription cancellation is accepted Check that the MEC application instance un-subscribed UE area successfully. Update the UE location in the location service to reflect the UE is entering the area			
	2 3	Type Stimulus Response IOP Check	Description The MEC application unsubscribes to UE area notification by sending a Delete request to the resource URI in the MEC Platform. The request contains the subscriptionId. The Location Service returns a successful response if the subscription cancellation is accepted Check that the MEC application instance un-subscribed UE area successfully. Update the UE location in the location service to reflect the UE is			

Annex A: Interoperability Feature Statement

A.1 Entities

Table A.1-1: Entities

Item	Which entity do you support?	Status	Support
1	MEC App	Available	Optional
2	MEC Platform	Available	Optional
3	NFV Platform (NFVI + VIM)	Available	Optional
4	MANO	Available	Optional

A.2 MEC App

Table A.2-1: MEC App Features

Item	Feature	ID	Status	Support
1	App Descriptor	IFS_MEC_APP_APPD	Available	Mandatory
2	MEC Service API consumer	IFS_MEC_APP_CONS	Available	Optional
3	MEC Service API producer	IFS_MEC_APP_PROD	Available	Optional
4	Packaged as VNF	IFS_MEC_APP_VNF	Available	Optional
5	Able to discover services through Service Enablement API over Mp1	IFS_MEC_APP_DISCOVER	Available	Optional
6	Able to request traffic rules support	IFS MEC APP TRAFFIC	Available	Optional
7	Able to request DNS rules support	IFS_MEC_APP_DNS	Available	Optional
8	Support of MEC-013 Location API	IFS_MEC_APP_LOC	Available	Optional

A.3 MEC Platform

Table A.3-1: MEC Platform Features

Item	Feature	ID	Status	Support
1	Implements Service Enablement API	IFS_MEC_PLAT_SRV	Available	Optional
2	Implements Traffic Rules feature of Application Enablement API	IFS_MEC_PLAT_TRAFFIC	Available	Optional
3	Implements DNS Rules feature of Application Enablement API	IFS_MEC_PLAT_DNS	Available	Optional
4	Implement MEC-013 Location service	IFS_MEC_PLAT_LOC	Available	Optional

A.4 NFV Platform

None.

A.5 MANO

None.

Annex B:

FUT Specific Information Pro-Forma

In this Annex each Vendor can list any specific implementation-dependent details, which may be necessary to correctly implement the test procedures.

B.1 MEC App

	Description	Value
App descriptor		
NSD or VNFD		

B.2 MEC Platform

	Description	Value
Platform Service Enablement API endpoint		

B.3 NFV Platform

	Description	Value
Virtualization technologies	E.g. (KVM, VMWare, Docker, LXD,)	
Image format		
VIM API exposed	E.g. Openstack APIs	

B.4 MANO

None.

Annex: Bibliography

•

Change History

	Document history		
0.1	23.03.2020	Template draft	
1.0	01.06.2020	Final version	

End of Document