

TS-M2M-0013v1.0.0

oneM2M 技術仕様書 相互接続テスト oneM2M Technical Specification Interopetability Testing

2016年3月31日制定



THE TELECOMMUNICATION TECHNOLOGY COMMITTEE



本書は、一般社団法人情報通信技術委員会が著作権を保有しています。 内容の一部又は全部を一般社団法人情報通信技術委員会の許諾を得ることなく複製、 転載、改変、転用及びネットワーク上での送信、配布を行うことを禁止します。

TS-M2M-0013v1.0.0

oneM2M 技術仕様書-相互接続テスト [oneM2M Technical Specification - Interoperability Testing]

<参考> [Remarks]

1. 英文記述の適用レベル [Application level of English description]

適用レベル [Application level]: E2

本標準の本文、付属資料および付録の文章および図に英文記述を含んでいる。

[English description is included in the text and figures of main body, annexes and appendices.]

2. 国際勧告等の関連 [Relationship with international recommendations and standards]

本標準は、oneM2M で承認された Technical Specification 0013V1.0.0 に準拠している。

[This standard is standardized based on the Technical Specification 0013V1.0.0 approved by oneM2M.]

3. 上記国際勧告等に対する追加項目等 [Departures from international recommendations]

原標準に対する変更項目 [Changes to original standard]

should be replaced by derived TTC standards.]

原標準が参照する標準のうち、TTC 標準に置き換える項目。[Standards referred to in the original standard, which are replaced by TTC standards.] 原標準が参照する標準のうち、それらに準拠した TTC 標準等が制定されている場合は自動的に 最新版 TTC 標準等に置き換え参照するものとする。 [Standards referred to in the original standard

4. 工業所有権 [IPR]

本標準に関わる「工業所有権等の実施の権利に係る確認書」の提出状況は、TTCホームページによる。 [Status of "Confirmation of IPR Licensing Condition" submitted is provided in the TTC web site.]

5. 作成専門委員会 [Working Group]

oneM2M 専門委員会 [oneM2M Working Group]



ONEM2M TECHNICAL SPECIFICATION

Document Number	TS-0013-V.1.0.0
Document Name:	Interoperability Testing
Date:	2016-February-29
Abstract:	The specification address the testing of the primitives on the oneM2M interfaces as specified in TS-0001 [1] and TS-0004 [2]. The purpose of the interoperability testing is to prove end-to-end functionality between Application Entities and Common Service Entities over the Mca and Mcc reference points

This Specification is provided for future development work within oneM2M only. The Partners accept no liability for any use of this Specification.

The present document has not been subject to any approval process by the oneM2M Partners Type 1. Published oneM2M specifications and reports for implementation should be obtained via the oneM2M Partners' Publications Offices.

About oneM2M

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

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

Copyright Notification

No part of this document may be reproduced, in an electronic retrieval system or otherwise, except as authorized by written permission.

The copyright and the foregoing restriction extend to reproduction in all media.

© 2016, oneM2M Partners Type 1 (ARIB, ATIS, CCSA, ETSI, TIA, TSDSI, TTA, TTC).

All rights reserved.

Notice of Disclaimer & Limitation of Liability

The information provided in this document is directed solely to professionals who have the appropriate degree of experience to understand and interpret its contents in accordance with generally accepted engineering or other professional standards and applicable regulations. No recommendation as to products or vendors is made or should be implied.

NO REPRESENTATION OR WARRANTY IS MADE THAT THE INFORMATION IS TECHNICALLY ACCURATE OR SUFFICIENT OR CONFORMS TO ANY STATUTE, GOVERNMENTAL RULE OR REGULATION, AND FURTHER, NO REPRESENTATION OR WARRANTY IS MADE OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS. NO oneM2M PARTNER TYPE 1 SHALL BE LIABLE, BEYOND THE AMOUNT OF ANY SUM RECEIVED IN PAYMENT BY THAT PARTNER FOR THIS DOCUMENT, WITH RESPECT TO ANY CLAIM, AND IN NO EVENT SHALL ONEM2M BE LIABLE FOR LOST PROFITS OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES. ONEM2M EXPRESSLY ADVISES ANY AND ALL USE OF OR RELIANCE UPON THIS INFORMATION PROVIDED IN THIS DOCUMENT IS AT THE RISK OF THE USER.

Contents

Conte	Contents			
1	Scope	.6		
2	References	.6		
2.1	Normative references			
2.2	Informative references			
2	Definitions on heldensisticas	7		
3	Definitions and abbreviations			
3.1	Definitions			
3.2	Abbreviations	. /		
4	Conventions	.8		
5	Testing conventions	.8		
5.1	The Test Description proforma	. 8		
5.2	Test Description naming convention			
5.3	Test Settings			
5.4	Pre-conditions			
5.4.1	Registration			
5.4.2	Security			
5.4.3	Service Subscription			
5.4.4	ID allocation			
5.4.5	Existence of resource			
5.4.6	Management Session between Management Server and Management Client			
5.5	Binding message convention	10		
6	Test Description Summary	12		
6.1	Tests list			
0.1				
7	Configuration			
7.1	Test Configuration			
7.1.1	No hop			
7.1.1.1				
7.1.1.2				
7.1.2	Single hop			
7.1.1.1				
7.1.2.2				
7.1.2.3				
7.1.2.4				
7.1.2.5				
7.1.3	Multi hops			
7.1.3.1				
7.1.3.2	/ M2M_CFG_0/	10		
8	Test Descriptions	17		
8.1	No Hop configuration testing	17		
8.1.1	CSEBase Management	17		
8.1.1.1	CSEBase Retrieve on Mca	17		
8.1.2	RemoteCSE Management			
8.1.2.1				
8.1.2.2				
8.1.2.3	I			
8.1.2.4				
8.1.3	Application Entity Registration			
8.1.3.1				
8.1.3.2				
8.1.3.3	- 1			
8.1.3.4				
8.1.4	Container Management	27		

8.1.4.1	Container Create	27
8.1.4.2	Container Retrieve	
8.1.4.3	Container Update	
8.1.4.4	Container Delete	
8.1.5	ContentInstance Management	
8.1.5.1	ContentInstance Create	
8.1.5.2	ContentInstance Retrieve	
8.1.5.3	ContentInstance Delete	
8.1.6	Discovery	
8.1.6.1	Discovery of all resources	
8.1.6.2	Discovery with label filter criteria	
8.1.6.3	Discovery with limit filter criteria	
8.1.6.4	Discovery with multiple filter criteria	
8.1.7	Subscription Management	
8.1.7.1	Subscription Create	
8.1.7.2	Subscription Retrieve	
8.1.7.3	Subscription Update	
8.1.7.4	Subscription Delete	
8.1.8	accessControlPolicy Management	
8.1.8.1	accessControlPolicy Create	
8.1.8.2	accessControlPolicy Retrieve	
8.1.8.3	accessControlPolicy Update	
8.1.8.4	accessControlPolicy Delete	
8.1.8.5	Unauthorized operation (Insufficient Access Rights)	
8.1.9	Group Management	
8.1.9.1	52	
8.1.9.2	Group Create	53
8.1.9.3	Group Update	
8.1.9.4	Group Delete	
8.1.10	Node Management	
8.1.10.1	Node Create	
8.1.10.2	Node Retrieve	
8.1.10	Node Update	
8.1.10.4	Node Delete	
8.1.11	PollingChannel Management	
8.1.11.1	PollingChannel Create	
8.1.11.2	PollingChannel Retrieve	
8.1.11.3	pollingChannel Update	
8.1.11.4	pollingChannel Delete	
8.1.11.5	Long Polling on a PollingChannel Retrieve	
8.1.12	FanoutPoint Management	
8.1.12.1	FanoutPoint Create	
8.1.12.2	FanoutPoint Retrieve	
8.1.12.3	FanoutPoint Update	
8.1.12.4	FanoutPoint Delete	
8.1.13	Notifcation Management	
8.1.13.1	Notification Create	
8.2	Non blocking configuration testing	
8.2.1	Synchronous request	
8.2.1.1	Container management	
8.2.1.1.1	Container Create	
8.2.1.1.2	Container Retrieve	
8.2.1.1.3	Container Update	
8.2.1.1.4	Container Delete	
8.2.2	Asynchronous request	
8.2.2.1	Container management	
8.2.2.1.1	Container Create	
8.2.2.1.2	Container Retrieve	
8.2.2.1.3	Container Update	
8.2.2.1.4	Container Delete	
8.3	Single hop configuration testing	
8.3.1	Retargeting	
0.0.1		

8.3.1.1	RetargetingResource Create (Generic Test Description)	
8.3.1.2	<resource> Create</resource>	
8.3.1.3	Resource Retrieve (Generic Test Description)	
8.3.1.4	<resource> retrieve</resource>	
8.3.1.5	Resource Update (Generic Test Description)	
8.3.1.6	<resource> update</resource>	
8.3.1.7	Resource Delete (Generic Test Description)	
8.3.1.8	<resource> delete</resource>	
8.3.1.9	Discovery with multiple filter criteria	
8.3.1.10	Unauthorized operation (Insufficient Access Rights)	
8.3.1.11	Notification	
8.3.2	<mgmtobj> Test Description</mgmtobj>	
8.3.2.1	<mgmtobj> Create</mgmtobj>	
8.3.10.2	<mgmtobj> Update</mgmtobj>	
8.3.10.3	<mgmtobj> Retrieve</mgmtobj>	
8.3.10.4	<mgmtobj> Delete</mgmtobj>	
History		

1 Scope

The present document specifies Interoperability Test Descriptions (TDs) for the oneM2M Primitives as specified in oneM2M TS-0001 [1], oneM2M TS-0004 [2], the bindings TS-0008 [3], TS-0009 [4] and TS-0010 [5].

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.

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

[1]	oneM2M TS-0001: "Functional Architecture" V1.6.1.
[2]	oneM2M TS-0004: "Service Layer Core protocol Specification" V1.3.0.
[3]	oneM2M TS-0008: "CoAP Protocol Binding" V1.1.0.
[4]	oneM2M TS-0009: "HTTP Protocol Binding" V1.2.0.
[5]	oneM2M TS-0010: "MQTT Protocol Binding" V1.2.0.
[6]	oneM2M TS-0015: "Testing Framework".
[7]	oneM2M TS-0011: "Common Terminology".
[8]	IETF RFC 3986: "Uniform Resource Identifier (URI): Generic Syntax".
[9]	IETF RFC 7230: "Hypertext Transfer Protocol (HTTP/1.1): Message Syntax and Routing".
[10]	oneM2M TS-0005: "Management Enablement (OMA)".
[11]	oneM2M TS-0006: "Management Enablement (BBF)".

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 reference document (including any amendments) applies.

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

[i.1] oneM2M Drafting Rules

NOTE: Available at (http://www.onem2m.org/images/files/oneM2M-Drafting-Rules.pdf)

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in oneM2M TS-0011 [7] and the following apply.

NOTE: A term defined in the present document takes precedence over the definition of the same term, if any, in oneM2M TS-0011 [7].

hosting CSE: CSE where the addressed resource is hosted

M2M service provider domain: part of the M2M System that is associated with a specific M2M Service Provider

mc: interface between the management server and the management client

NOTE: This interface can be realized by the existing device management technologies such as BBF TR-069, OMA DM, etc.

receiver CSE: any CSE that receives a request

registree: AE or CSE that registers with another CSE

registrar CSE: CSE where an Application or another CSE has registered

resource: uniquely addressable entity in oneM2M architecture

transit CSE: any receiver CSE that is not a Hosting CSE

3.2 Abbreviations

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

ACP	Access Control Policy
AE	Access Control Policy
	Application Entity
AE-ID	Application Entity Identifier
BBF	BroadBand Forum
CoAP	Constrained Application Protocol
CSE	Common Services Entity
CSE-ID	Common Service Entity Identifier
DM	Device Management
DUT	Device Under Test
FQDN	Fully Qualified Domain Name
HTTP	HyperText Transfer Protocol
IN	Infrastructure Node
IN-CSE	CSE which resides in the Infrastructure Node
JSON	JavaScript Object Notation
LWM2M	Lightweight M2M
M2M	Machine to Machine
Mca	Reference Point for M2M Communication with AE
Mcc	Reference Point for M2M Communication with CSE
MQTT	Message Queuing Telemetry Transport
OMA	Open Mobile Alliance
SP	Service Provider
SUT	System Under Test
TD	Test Description
URI	Uniform Resource Identifier
XML	eXtensible Markup Language
	-

4 Conventions

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

5 Testing conventions

5.1 The Test Description proforma

The testing methodogy used in the present document is specified in the oneM2M TS-0015: Testing framework [6].

A Test Description (TD) is a well detailed description of a process that aims to test one or more functionalities of an implementation. Applying to interoperability testing, these testing objectives address the interoperable functionalities between two or more vendor implementations.

In order to ensure the correct execution of an interoperability test, the following information should be provided by the test description:

- The proper configuration of the vendor implementations.
- The availability of additional equipment (protocol monitors, functional equipment, ...) required to achieve the correct behaviour of the vendor implementations.
- The correct initial conditions.
- The correct sequence of the test events and test results.

In order to facilitate the specification of test cases an interoperability test description should include, at a minimum, the following fields as indicated table **Error! Reference source not found.**

Identifier	A unique test description ID.
Objective	A concise summary of the test which should reflect the purpose of the test and enable readers to easily distinguish this test from any other test in the document.
References	A list of references to the base specification section(s), use case(s), requirement(s) and TP(s) which are either used in the test or define the functionality being tested.
Applicability	A list of features and capabilities which are required to be supported by the SUT in order to execute this test (e.g. if this list contains an optional feature to be supported, then the test is optional).
Configuration or Architecture	A list of all required equipment for testing and possibly also including a reference to an illustration of a test architecture or test configuration.
Pre-Test Conditions	A list of test specific pre-conditions that need to be met by the SUT including information about equipment configuration, i.e. precise description of the initial state of the SUT required to start executing the test sequence.
Test Sequence	An ordered list of equipment operation and observations. The test sequence may also contain the conformance checks as part of the observations.

Table 1: Interoperability test description

The test descriptions are provided in proforma tables. In order to ensure the correct execution of an interoperability test, the following information is provided in the test description:

- The configuration applied for the test.
- The need of additional equipment (protocol monitors, functional equipment, etc.) required to achieve the correct behaviour of the implementations.
- The initial conditions.
- The sequence of the test events and test results.

The following different types of test operator actions are considered during the test execution:

- A **stimulus** corresponds to an event that enforces a DUT to proceed with a specific protocol action, such as sending a message.
- A **configure** corresponds to an action to modify the DUT configuration.
- An **IOP check** consists of observing that one DUT 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.
- In the context of Interoperability Testing with Conformance Checks, an additional step type, **PRO checks** can be used to verify the appropriate sequence and contents of protocol messages, this is helpful for debugging purposes. **PRO Verdict** will be PASS if all the PRO checks are PASS.

5.2 Test Description naming convention

TD/ <root>/<gr>/<nn></nn></gr></root>		
<root> = root</root>	M2M	oneM2M
<gr> = group</gr>	NH	No Hop : Testing on Mca reference point
	NB	Non Blocking scenario
	SH	Single Hop: management of remote ressources
	30	on Mca + Mcc
	MH	Multi Hop
<nn> = sequential number</nn>		01 to 99

5.3 Test Settings

This clause contains some test requirements applied to the testing, some constraints, restrictions for executions or some recommendations.

In order to ease test setup and execution, the CSE and AE are requested to support the following settings:

- Security shall be disable as it is out of scope of this interoperability testing.
- Resource names are pre-provisioned, except for content instance resources that are automatically assigned by the hosting CSE.
- After each "Delete" primitive on a resource, the user shall check the resource is effectively deleted.
- Unless it is indicated in the test cases prequisites, by default, all the applications shall have the required access rights to manage resources on the CSE.

In order to address the TBDs in the oneM2M CoAP binding specification (TS-0008 [3]), basic XML and JSON mediatype numbers shall be used in the contentFormat option.

In the test descriptions specified below, the following definitions of terms used for short-hand notation apply:

Serialized Representation : refers to either an XML or a JSON representation of data in text-string format as defined in clauses 8.3 and 8.4 of TS-0004 [2].

Host Address: refers to the authority part of a target URI as defined in RFC 3986 [8] and RFC 7230 [9] which can be represented as an IP literal encapsulated within square brackets, an IPv4 address in dotted decimal form, or a registered name, and optionally extended by a port identifier.

5.4 Pre-conditions

5.4.1 Registration

The AE or CSE that originates the request has been successfully registered to its corresponding CSE. The registration of the AE includes the creation of <AE> resource under the <CSEBase> of its registrar CSE. The registration of the CSE includes the creation of <remoteCSE> resource representing itself under the <CSEBase> of its registrar CSE as well as the creation of <remoteCSE> resource representing the registrar CSE under its own <CSEBase> resource. The creation of <remoteCSE> resource representing the registrar CSE can be achieved by remotely retrieving the <CSEBase> resource of the registrar CSE.

5.4.2 Security

The Originator and the receiver have successfully established security association between each other. This may involve the exchange of key and the establishment of a security connection.

The security pre-condition also assumes that the originator has the appropriate access control privilege towards the requested resource.

5.4.3 Service Subscription

Service subscription means that the orginator is allowed to be connected with the oneM2M system by contract between the owner of the application and the service provider of the oneM2M system. This may require a corresponding information record in the <m2mServiceSubscriptionProfile> resource.

5.4.4 ID allocation

ID allocation means that the Originator has already aquired usable identity, either from its registrar CSE or the IN-CSE of the oneM2M system. The ID may be CSE relative or SP relative. The ID is then further used as the identity of the Originator to perform access control, charging, etc.

5.4.5 Existence of resource

Existence of resource means the resource been addressed and has already been created.

5.4.6 Management Session between Management Server and Management Client

Before the device management using external technologies is executed, it is required that a management session has already been established between the Management Server and Management Client. If there is no existing management session, the IN-CSE shall request the establishment of a management session between the Management Server and Management Client.

5.5 Binding message convention

In HTTP/CoAP/MQTT binding messages, the present document defines the convention for <variable>:

- <resourceType> represesents a resource name (i.e., *resourceName* attribute) of a resource instance in that resourceType. For example, <CSEBase>/<AE> can represent "CSE1base/AE1" in structured resource ID format.
- can represents a value of a oneM2M request/response parameter. For example, <Request ID> can represent "0001" value of the Request ID parameter. Parameter names are case sensitive and in long names as specified in TS-0004 [2].
- <ID> represents an AE-ID or CSE-ID in MQTT Topic names.

The value will be given at an interoperability test event.

In TS-0010 [5], all oneM2M request/response parameters are carried in the MQTT message payload since it has no message header concept. Therefore, the MQTT message payload needs to be described more than HTTP and CoAP messages to describe those parameters in clause 8. In HTTP and CoAP binding messages, payloads are described as "empty" or "<container> resource to be created" in a very abstract way.

Since the representation can be XML or JSON, payload should be abstract to support XML and JSON. The following example is an XML representation and its abstraction for creating a <container> resource.

<pre>XML payload example for MQTT binding</pre>	
<pre></pre>	
Abstracted payload example for MQTT binding	<pre> op = 1 to = CSElBase fr = /CSE1/C_AE01 rqi = 3001 ty = 3 name = cont1 rti.rt = 3 pc.cnt.lbl = SmartMeter pc.cnt.et = 20141003T112033</pre>
Abstracted payload example for MQTT binding adopting the payload convention	<pre>op = 1 to = <csebase> fr = <from> rqi = <request id=""> ty = 3 name = <name> rti.rt = 3 pc = <content></content></name></request></from></csebase></pre>

6 Test Description Summary

6.1 Tests list

Nb	Procedure/Resource	TD ID	TD Description
	CSEBase Management		AE retrieves the CSEBase resource
2	RemoteCSE		Registree CSE registers to Registrar CSE
3			Registree CSE retrieves RemoteCSE from Registrar CSE
4			Registree CSE updates RemoteCSE from Registrar CSE
5		TD_M2M_NH_05	Registree CSE deletes RemoteCSE from Registrar CSE
	Application Entity	TD_M2M_NH_06	AE registers to its registrar CSE via an AE Create Request
7			AE retrieves <ae> resource via an AE Retrieve Request</ae>
8			AE updates attribute in <ae> resource via an AE Update Request</ae>
9			AE de-registers by deleting <ae> resource via an AE Delete Request</ae>
10	Container		AE creates a container resource in registrar CSE via a container Create Request
11		TD_M2M_NH_11	AE retrieves information of a container resource via a container Retrieve Request
12		TD_M2M_NH_12	AE updates attribute in application resource via a container Update Request
13		TD_M2M_NH_13	AE deletes a specific container resource via a container Delete Request
14	ContentInstance	TD_M2M_NH_14	AE adds a contentInstance resource <contentinstance> to a</contentinstance>
			specific container in Registrar CSE via a contentInstance Create Request
15		TD_M2M_NH_15	AE retrieves information of a contentInstance resource via a container Retrieve Request
17		TD_M2M_NH_17	AE deletes contentInstance resource via a container Delete Request
18	Discovery	TD_M2M_NH_18	AE discovers resources residing in Registrar CSE
19			AE discovers accessible resources residing in Registrar CSE using the label filter criteria
20		TD_M2M_NH_20	AE discovers accessible resources residing in Registrar CSE limiting the number of matching resources to the specified value.
21		TD_M2M_NH_21	AE discovers accessible resources residing in Registrar CSE using multiple Filter Criteria
22	Subscription	TD_M2M_NH_22	AE creates a subscription to Application Entity resource via subscription Create Request
23		TD_M2M_NH_23	AE retrieves information about a subscription via subscription Retrieve Request such as expirationTime, labels, etc.
24		TD_M2M_NH_24	AE updates information about a subscription via subscription Retrieve Request
25		TD_M2M_NH_25	AE cancels subscription via an subscription Delete Request
	AccessControlPolicy		AE creates an accessControlPolicy resource
27			AE retrieves accessControlPolicy resource
28			AE updates attribute in accessControlPolicy resource
29			AE deletes accessControlPolicy resource
30			AE delete request is rejected due to accessControlPolicy
	Group		AE creates a group resource
32	4		AE retrieves group resource
33			AE updates attribute in group resource
34	Nada		
35 36	Node		AE creates a node resource AE retrieves node resource
37			AE updates attribute in node resource
38			AE deletes node resource
39	PollingChannel		AE creates a <pollingchannel> resource in registrar CSE via a</pollingchannel>
40		TD_M2M_NH_40	Create Request AE retrieves information of a pollingChannel resource via a Retrieve Request
41		TD_M2M_NH_41	AE updates attribute in pollingChannel resource via a Update Request
42		TD_M2M_NH_42	AE deletes a pollingChannel resource via a Delete Request
14	1	<u> </u>	

Nb	Procedure/Resource	TD ID	TD Description
43		TD_M2M_NH_43	AE retrieves information of a pollingChannel resource via a Retrieve
			Request
44	FanoutPoint	TD_M2M_NH_44	AE creates a <contentinstance> resource in each group member</contentinstance>
45]	TD_M2M_NH_45	AE retrieves the <container> resource from in each group member</container>
46	J	TD_M2M_NH_46	AE updates an <container> resource of each member resource</container>
47			AE deletes a <container> ofeach member</container>
48	Notification		AE receives a notification request from the HOST CSE
49	Synchronous request	TD_M2M_NB_01	AE creates a container resource using non blocking synchronous
			request in registrar CSE
50		TD_M2M_NB_02	AE retrieves a Container resource using non blocking synchronous
			request in registrar CSE
51		TD_M2M_NB_03	AE updates a Container resource using non blocking synchronous
	ļ		request in registrar CSE
52		TD_M2M_NB_04	AE deletes a Container resource using non blocking synchronous
			request
53	Asynchronous request	TD_M2M_NB_05	AE creates a container resource using non blocking asynchronous
	4		request
54		TD_M2M_NB_06	AE retrieves a Container resource using non blocking
	4	TO MOM NO OT	asynchronous request
55		TD_M2M_NB_07	AE updates a Container resource using non blocking asynchronous
50	4		request
56		TD_M2M_NB_08	AE deletes a Container resource using non blocking asynchronous
57	Deteracting	TD MOM OUL 04	
57	Retargeting	TD_M2M_SH_01	AE creates a remote <resource> resource</resource>
58			AE retrieves a remote <resource> resource</resource>
59	4		AE updates a remote <resource> resource</resource>
60	Discourse		AE delete a remote <resource> resource</resource>
61	Discovery	TD_M2M_SH_09	AE discovers accessible resources residing in the remote Hosting
62	Lingutherized operation		CSE using multiple Filter Criteria
62	Unauthorized operation	TD_M2M_SH_10	AE delete request is rejected after access rights verification using
63	Notification	TD_M2M_SH_11	retargeting. AE receives a notification request from the remote hosting CSE
63 64	<mgmtobj></mgmtobj>		· · · · · ·
64 65			AE creates a <mgmtobj> resource</mgmtobj>
66	{		AE updates a <mgmtobj> resource</mgmtobj>
66 67	4		AE retrieves a <mgmtobj> resource</mgmtobj>
67		TD_M2M_SH_08	AE deletes a <mgmtobj> resource</mgmtobj>

7 Configuration

- 7.1 Test Configuration
- 7.1.1 No hop
- 7.1.1.1 M2M_CFG_01

The AE manages resources on the registrar CSE (Hosting CSE)

oneM2M entities model



7.1.1.2 M2M_CFG_02

oneM2M entities model



7.1.2 Single hop

7.1.1.1 M2M_CFG_03

The AE manages resources on the remote CSE

oneM2M entities model



7.1.2.2 M2M_CFG_04

oneM2M entities model



7.1.2.3 M2M_CFG_05

oneM2M entities model



7.1.2.4 M2M_CFG_08

This configuration concerns group management when the AE is using a group to fan out requests to multiple members. The connection between the AE and the Group Hosting CSE, the Group Hosting CSE and the Member Hosting CSE may be a multi hop connection following the definition in 7.1.3.

This configuration is mapped to cases including:

- AE sends a request addressing <group>/fanOutPoint in the Group Hosting CSE, the Group Hosting CSE then further fans out the request to each Member Hosting CSE.
- The Member Hosting CSE sends a notification to the Group Hosting CSE pertaining to the subscription made through the Group Hosting CSE. The Group Hosting CSE then further aggregates the notification and sends it back to the AE.



7.1.2.5 M2M_CFG_09

This configuration concerns device management using external technologies.

This configuration is mapped to cases including:

• The AE sends a request addressing <mgmtObj> to IN-CSE. IN-CSE then further acts as a Management Server to send management commands to Managed Entity over the mc interface. The management command is defined in OMA DM, BBF TR069 or LWM2M.



7.1.3 Multi hops

7.1.3.1 M2M_CFG_06

oneM2M entities model



7.1.3.2 M2M_CFG_07

oneM2M entities model



8 Test Descriptions

8.1 No Hop configuration testing

8.1.1 CSEBase Management

8.1.1.1 CSEBase Retrieve on Mca

			Interoperability Test Description		
Identifier:			TD_M2M_NH_01		
Objec	tive:		AE retrieves the CSEBase resource		
Configuration:		ו:	M2M_CFG_01		
References:			TS-0001 [1], clause 10.2.3.2		
			TS-0004 [2], clause 7.3.2		
Pro-to	est cond	litions	CSEPass resource has been automatically created in CSE		
Fie-le			CSEBase resource has been automatically created in CSE Test Sequence		
Step	RP	Туре	Description		
1	NE	Stimulus	AE is requested to send a retrieve Request to CSE CSE with name {CSEBaseName}		
<u> </u>		Oumaido	 Operation (op) = 2 (Retrieve) 		
			 To (to) = Resource-ID of requested <csebase> resource, assumed CSE-relative</csebase> 		
		PRO Check	here		
		Primitive	 From (from) = AE-ID of request originator 		
			 Request Identifier (rqi) = (token-string) 		
			Sent GET request contains		
			Request method = GET		
		PRO Check	Request-Target:{CSEBaseName}		
		HTTP	Host: Host Address of registrar CSE		
			X-M2M-RI: value of rqi primitive parameter		
			• X-M2M-Origin: AE-ID		
2	Mca		Payload: empty		
			Sent GET request contains		
		PRO Check	Method: 0.01 (GET)		
		CoAP	Uri-Host: Registrar CSE host		
			Uri-Port: Registrar CSE port		
			Uri-Path: <csebase></csebase>		
			Sent a MQTT PUBLISH protocol packet to the request topic "/oneM2M/req/ <sp-relative-< td=""></sp-relative-<>		
			AE-ID>/ <registrar cse-id="">"</registrar>		
		PRO Check	Payload:		
		MQTT	• op = 2		
			• to = <csebase></csebase>		
			• fr = <ae-id></ae-id>		
			• rqi = <request id=""></request>		
		PRO Check	• Response Status Code (rsc) = 2000 (OK)		
	Мса	Primitive	Request Identifier (rqi) = same string as received in request message		
			Content (pc) = Serialized Representation of <csebase> resource</csebase>		
		PRO Check HTTP	Registrar CSE sends response containing:		
			• Status Code = 200		
			• X-M2M-RSC: 2000		
			• X-M2M-RI: value of rqi primitive parameter		
			Content-Type; application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json		
3			Content-Length = size of payload in the message body in bytes		
			Payload: Serialized Representation of <csebase> resource</csebase>		
		PRO Check	Registrar sends response containing:		
		CoAP	Response Code = 2.05		
			Payload: <csebase> resource</csebase>		
			Sent a MQTT PUBLISH protocol packet to the response topic "/oneM2M/resp/ <sp-< td=""></sp-<>		
		PRO Check MQTT	Relative-AE-ID>/ <registrar cse-id="">"</registrar>		
			Payload:		
			• to = <sp-relative-ae-id></sp-relative-ae-id>		
			• fr = <registrar cse-id=""></registrar>		

			Interoperability Test Description
			 rqi = <request id=""></request>
			 rsc = <response code(2000)="" status=""></response>
			 pc = <content(<csebase> resource representation)></content(<csebase>
4		IOP Check	AE indicates successful operation
IOP \	/erdict		
PRO	Verdict		

8.1.2 RemoteCSE Management

8.1.2.1 RemoteCSE Create

			Interoperability Test Description	
Identi	fier:		TD_M2M_NH_02	
Objec			Registree CSE registers to Registrar CSE	
	onfiguration:		M2M_CFG_02	
	ences:		TS-0001 [1], clause 10.2.2.1	
			TS-0004 [2], clause 7.3.3.2.1	
Pre-te	st cond	itions:	CSEBase resource has been created in registrar CSE with name	
			{CSEBaseName}	
			Test Sequence	
Step	RP	Туре	Description	
1		Stimulus	Registree CSE is requested to send a RemoteCSE Create request to Registrar CSE	
			• op = 1 (Create)	
			 to = {CSEBaseName} 	
		PRO Check	 fr = Registree CSE-ID 	
		Primitive	 rqi = (token-string) 	
			• ty = 16 (RemoteCSE)	
			 pc = Serialized representation of <remotecse> resource</remotecse> 	
			Sent request contains	
			Request method = POST	
		PRO Check HTTP	Request-Target:{CSEBaseName}	
			Host: IP address or the FQDN of Registrar CSE	
			• X-M2M-RI: (token-string)	
			• X-M2M-Origin: Registree CSE-ID	
			Content-Type: application/vnd.onem2m-res+xml; ty=16 or application/vnd.onem2m-	
			res+json; ty=16	
			Message-body: Serialized representation of <remotecse> resource</remotecse>	
			Sent request contains	
2	Maa		Method: 0.02 (POST)	
	Мсс		Uri-Host: IP address or the FQDN of Registrar CSE	
			• Uri-Path: {CSEBaseName}	
		PRO Check CoAP	Content-type: application/vnd.onem2m-res+xmlor application/vnd.onem2m-res+json	
		COAP	• oneM2M-TY: 16	
			oneM2M-FR: Registree CSE-ID	
			 oneM2M-RQI: (token-string) 	
			 Payload: Serialized representation of <remotecse> resource</remotecse> 	
			Sent MQTT PUBLISH message:	
			Topic: "/oneM2M/req/< Registree CSE-ID>/ <registrar cse-id="">"</registrar>	
			Payload:	
		PRO Check	• op = 1 (Create)	
		MQTT	 to = {CSEBaseName} 	
			• fr = Registree CSE-ID	
			• rqi = (token-string)	
			• ty = 16 (RemoteCSE)	
			 pc = Serialized representation of <remotecse> resource</remotecse> 	

			Interoperability Test Description
l			• rsc = 2001 (CREATED)
		PRO Check	rqi = (token-string) same as received in request message
		Primitive	 pc = Serialized representation of <remotecse> resource</remotecse>
			Registrar CSE sends response containing:
			• Status Code = 201 (Created)
		PRO Check	• X-M2M-RSC: 2001
		HTTP	 X-M2M-RI: (token-string) same as received in request message
			Content-Location: URI of the created RemoteCSE resource.
			Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Message-body: Serialized representation of <remotecse> resource</remotecse>
			Registrar sends response containing:
			• Response Code = 2.01
3	Мсс	PRO Check CoAP	• oneM2M-RSC: 2001
	NICC		 oneM2M-RQI: (token-string) same as received in request message
			 Location-Path: URI of the created RemoteCSE resource
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			 Payload: Serialized representation of <remotecse> resource</remotecse>
		PRO Check	Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
			 to = Registree CSE-ID
		MQTT	• fr = Registrar CSE-ID
			• rsc = 2001 (CREATED)
			 rqi = (token-string) same as received in request message
			pc = Serialized representation of <remotecse> resource</remotecse>
4		IOP Check	Check if possible that the <remotecse> resource has been created in registrar CSE.</remotecse>
5		IOP Check	Check if possible that the corresponding <remotecse> resource has been also created in registree CSE.</remotecse>
6		IOP Check	Registree CSE indicates successful operation.
IOP V	'erdict		
PRO \	/erdict		

8.1.2.2 remoteCSE Retrieve

			Interoperability Test Description
Identi	dentifier:		TD_M2M_NH_03
Objec	bjective:		Registree CSE retrieves RemoteCSE from Registrar CSE
Config	guratior	1 :	M2M_CFG_02
Refere	ences:		TS-0001 [1], clause 10.2.2.2
			TS-0004 [2], clause 7.3.3.2.2
Pre-te	re-test conditions:		 CSEBase resource has been created in registrar CSE with name {CSEBaseName}
			 Registree CSE has created a remoteCSE resource on registrar CSE with name {RemoteCSEName}
			Test Sequence
Step	RP	Туре	Description
1		Stimulus	Registree CSE is requested to send a RemoteCSE retrieve request to Registrar CSE
		PRO Check Primitive	 op = 2 (Retrieve) to = {CSEBaseName}/{remoteCSEName} fr = Registree CSE-ID rqi = (token-string) pc = empty
2	Мсс	PRO Check HTTP PRO Check CoAP	Sent request contains • Request method = GET • Request-Target: {CSEBaseName}/{remoteCSEName} • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: Registree CSE-ID • Message-body: empty Sent request contains • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE

© oneM2M Partners Type 1 (ARIB, ATIS, CCSA, ETSI, TIA, TSDSI, TTA, TTC) Page 19 of 112 This is a draft oneM2M document and should not be relied upon; the final version, if any, will be made available by oneM2M Partners Type 1.

			Interoperability Test Description
			Uri-Path: {CSEBaseName}/{remoteCSEName}
			oneM2M-FR: Registree CSE-ID
			• oneM2M-RQI: (token-string)
			Payload: empty
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/< Registree CSE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
		PRO Check	• op = 2 (Retrieve)
		MQTT	 to = {CSEBaseName}/{remoteCSEName}
		mari	• fr = Registree CSE-ID
			 rqi = (token-string)
			• $pc = empty$
			Registrar CSE sends response containing:
		PRO Check	• rsc = 2000 (OK)
		Primitive	 rqi = (token-string) same as received in request message
			 pc = Serialized representation of <remotecse> resource</remotecse>
		PRO Check HTTP	Registrar CSE sends response containing:
			• Status Code = 200 (OK)
			• X-M2M-RSC: 2000
			• X-M2M-RI: (token-string) same as received in request message
			Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			 Message-body: Serialized representation of <remotecse> resource</remotecse>
			Registrar sends response containing:
3			Response Code = 2.05 (OK)
5	Mcc	CC PRO Check	• oneM2M-RSC: 2000
		CoAP	 oneM2M-RQI: (token-string) same as received in request message
			 Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			 Payload: Serialized representation of <remotecse> resource</remotecse>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/ <registree cse-id="">/<registrar cse-id="">"</registrar></registree>
			Payload:
		PRO Check	• to = Registree CSE-ID
		MQTT	• fr = Registrar CSE-ID
			• rsc = 2000 (OK)
			• rqi = (token-string) same as received in request message
			pc = Serialized representation of <remotecse> resource</remotecse>
4	(IOP Check	Registree CSE indicates successful operation
-	/erdict		
PRU	Verdict		

8.1.2.3 remoteCSE Update

			Interoperability Test Description
Identi	dentifier:		TD_M2M_NH_04
Objec	tive:		Registree CSE updates RemoteCSE from Registrar CSE
Confi	guratior	1:	M2M_CFG_02
Refer	ences:		TS-0001 [1], clause 10.2.2.3
			TS-0004 [2], clause 7.3.3.2.3
Pre-te	est cond	itions:	CSEBase resource has been created in registrar CSE with name
			{CSEBaseName}
			 Registree CSE has created a remoteCSE resource on registrar CSE with name
			{RemoteCSEName}
	n	r	Test Sequence
Step	RP	Туре	Description
1		Stimulus	Registree CSE is requested to send a RemoteCSE update request to Registrar CSE
			• op = 3 (Update)
		PRO Check	 to = {CSEBaseName}/{remoteCSEName}
		Primitive	• fr = Registree CSE-ID
2	Mcc	1 minuve	 rqi = (token-string)
	NICC		 pc = Serialized representation of updated <remotecse> resource</remotecse>
		PRO Check	Sent request contains
		HTTP	Request method = PUT

			Interoperability Test Description
			Request-Target: {CSEBaseName}/{remoteCSEName}
			Host: IP address or the FQDN of Registrar CSE
			• X-M2M-RI: (token-string)
			• X-M2M-Origin: Registree CSE-ID
			Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Message-body: Serialized representation of updated <remotecse> resource</remotecse>
			Sent request contains
			Method: 0.03 (PUT)
			Uri-Host: IP address or the FQDN of Registrar CSE
		PRO Check	Uri-Path: {CSEBaseName}/{remoteCSEName}
		CoAP	oneM2M-FR: Registree CSE-ID
		COAI	• oneM2M-RQI: (token-string)
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Payload: Serialized representation of updated <remotecse> resource</remotecse>
			Sent MQTT PUBLISH message: Topic: "/oneM2M/req/< Registree CSE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
		PRO Check	• op = 3 (Update)
		MQTT	 to = {CSEBaseName}/{remoteCSEName}
		NIQTI	
			• fr = Registree CSE-ID
			• rqi = (token-string)
2			• pc = Serialized representation of updated <remotecse> resource</remotecse>
3		IOP Check	Check if possible that the <remotecse> resource has been updated in registrar CSE.</remotecse>
			Registrar CSE sends response containing:
		PRO Check	• rsc = 2004 (UPDATED)
		Primitive	• rqi = (token-string) same as received in request message
			• pc = Serialized representation of <remotecse> resource</remotecse>
			Registrar CSE sends response containing:
		PRO Check	• Status Code = 200 (OK)
		HTTP	• X-M2M-RSC: 2004
			• X-M2M-RI: (token-string) same as received in request message
			Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Message-body: Serialized representation of <remotecse> resource</remotecse>
			Registrar sends response containing:
4			• Response Code = 2.04 (UPDATED)
	Мсс	PRO Check	• oneM2M-RSC: 2004
		CoAP	oneM2M-RQI: (token-string) same as received in request message
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Payload: Serialized representation of <remotecse> resource</remotecse>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/ <registree cse-id="">/<registrar cse-id="">"</registrar></registree>
			Payload:
		PRO Check	• to = Registree CSE-ID
		MQTT	• fr = Registrar CSE-ID
			• rsc = 2004 (Updated)
			 rqi = (token-string) same as received in request message
			 pc = Serialized representation of <remotecse> resource</remotecse>
5		IOP Check	Registree CSE indicates successful operation
	/erdict		
DBU V	/erdict		

8.1.2.4 remoteCSE Delete

r	Interoperability Test Description		
Identi	fior		TD_M2M_NH_05
Objec	-		Registree CSE deletes RemoteCSE from Registrar CSE
	guratior	n [.]	M2M CFG 02
	References:		TS-0001 [1], clause 10.2.2.4
			TS-0004 [2], clause 7.3.3.2.4
Pre-te	re-test conditions:		CSEBase resource has been created in registrar CSE with name {CSEBaseName}
			 Registree CSE has created a remoteCSE resource on registrar CSE with name {RemoteCSEName}
			Test Sequence
Step	RP	Туре	Description
1		Stimulus	Registree CSE is requested to send a RemoteCSE delete request to Registrar CSE
		PRO Check Primitive	 op = 4 (Delete) to = {CSEBaseName}/{remoteCSEName} fr = Registree CSE-ID train (taken atring)
			 rqi = (token-string) pc = empty
			Sent request containsRequest method = DELETE
		PRO Check HTTP	 Request-Target: {CSEBaseName}/{remoteCSEName} Host: IP address or the FQDN of Registrar CSE
			• X-M2M-RI: (token-string)
			X-M2M-Origin: Registree CSE-ID
			Message-body: empty
0			Sent request contains
2	Mcc	cc PRO Check	Method: 0.04 (DELETE)
			Uri-Host: IP address or the FQDN of Registrar CSE
		CoAP	 Uri-Path: {CSEBaseName}/{remoteCSEName} oneM2M-FR: Registree CSE-ID
			• oneM2M-RQI: (token-string)
			Payload: empty
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/ <registree cse-id="">/<registrar cse-id="">" Payload:</registrar></registree>
		PRO Check	• $op = 4$ (Delete)
		MQTT	 to = {CSEBaseName}/{remoteCSEName}
			• fr = Registree CSE-ID
		PRO Check	• rqi = (token-string)
			• pc = empty
			Registrar CSE sends response containing: • rsc = 2002 (DELETED)
		Primitive	 rgi = (token-string) same as received in request message
			 pc = empty
			Registrar CSE sends response containing:
		PRO Check	• Status Code = 200 (OK)
		HTTP	• X-M2M-RSC: 2002
			X-M2M-RI: (token-string) same as received in request message
			Message-body: empty
			Registrar sends response containing:
3	Мсс	PRO Check	 Response Code = 2.01 (OK) oneM2M-RSC: 2002
	MOO	CoAP	 oneM2M-RQI: (token-string) same as received in request message
			Payload: empty
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/ <registree cse-id="">/<registrar cse-id="">"</registrar></registree>
			Payload:
		PRO Check	• to = Registree CSE-ID
		MQTT	• fr = Registrar CSE-ID
			• rsc = 2002
			 rqi = (token-string) same as received in request message
			• pc = empty

© oneM2M Partners Type 1 (ARIB, ATIS, CCSA, ETSI, TIA, TSDSI, TTA, TTC) Page 22 of 112 This is a draft oneM2M document and should not be relied upon; the final version, if any, will be made available by oneM2M Partners Type 1.

			Interoperability Test Description
4		IOP Check	Check if possible that the <remotecse> resource has been removed from registrar CSE.</remotecse>
5		IOP Check	Check if possible that the <remotecse> resource is also removed from registree CSE.</remotecse>
4		IOP Check	Registree CSE indicates successful operation.
IOP \	/erdict		
PRO	Verdict		

8.1.3 Application Entity Registration

8.1.3.1 AE Create

	Interoperability Test Description		Interoperability Test Description
Identi	fier:		TD_M2M_NH_06
Objec	tive:		AE registers to its registrar CSE via an AE Create Request
	guratior	:	M2M_CFG_01
	ferences:		TS-0001 [1], clause 10.2.1.1
			TS-0004 [2], clause 7.3.5.2.1
Pre-te	st cond	itions:	CSEBase resource has been created in CSE with name {CSEBaseName}
			AE does not have an AE-ID, i.e. it registers from scratch
			Test Sequence
Step	RP	Туре	Description
1		Stimulus	AE is requested to send a AE Create request to register to the Registrar CSE
			 op = 1 (Create)
			 to = {CSEBaseName}
		PRO Check	• fr = AE-ID
		Primitive	 rqi = (token-string)
			• ty = 2 (AE)
			 pc = Serialized representation of <ae> resource</ae>
			Sent request contains
			Request method = POST
			Request-Target:{CSEBaseName}
		PRO Check	Host: IP address or the FQDN of Registrar CSE
		HTTP	• X-M2M-RI: (token-string)
			• X-M2M-Origin: AE-ID
	 Content-Type: application/vnd.onem2m-res+xml; ty=2 or ap res+json; ty=2 		• Content-Type: application/vnd.onem2m-res+xml; ty=2 or application/vnd.onem2m-
			 Message-body: Serialized representation of <ae> resource</ae>
			Sent request contains
2	Мса		Method: 0.02 (POST)
	Inca		 Uri-Host: IP address or the FQDN of Registrar CSE
		DBO Check	Uri-Path: {CSEBaseName}
		PRO Check CoAP	Content-type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			• oneM2M-TY: 2
			oneM2M-FR: AE-ID
			 oneM2M-RQI: (token-string)
			 Payload: Serialized representation of <ae> resource</ae>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>
			Payload:
		PRO Check	• op = 1 (Create)
		MQTT	• to = {CSEBaseName}
			• fr = AE-ID
			• rqi = (token-string)
			• ty = 2 (AE)
2		IOD Charle	• pc = Serialized representation of <ae> resource</ae>
3		IOP Check	Check if possible that the <ae> resource is created in registrar CSE.</ae>
1		PRO Check	• rsc = 2001 (CREATED)
1		Primitive	 rqi = (token-string) same as received in request message rqi = Socialized representation of AEs resource
4	Мса	DDO Charli	• pc = Serialized representation of <ae> resource</ae>
1	wica	PRO Check	Registrar CSE sends response containing:
		HTTP	 Status Code = 201 (OK) X-M2M-RSC: 2001
L			► Λ-IVIZIVI-NOU. 2001

			Interoperability Test Description
			• X-M2M-RI: (token-string) same as received in request message
			 Content-Location: URI of the created AE resource.
			 Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			 Message-body: Serialized representation of <ae> resource</ae>
			Registrar sends response containing:
			• Response Code = 2.01
		PRO Check	• oneM2M-RSC: 2001
		CoAP	 oneM2M-RQI: (token-string) same as received in request message
			 Location-Path: URI of the created AE resource
			 Payload: Serialized representation of <ae> resource</ae>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>
			Payload:
		PRO Check	• to = AE-ID
		MQTT	• fr = Registrar CSE-ID
			• rsc = 2001 (CREATED)
			 rqi = (token-string) same as received in request message
L			pc = Serialized representation of <ae> resource</ae>
5		IOP Check	AE indicates successful operation
-	/erdict		
PRO	Verdict		

8.1.3.2 AE Retrieve

Identifier: TD_M2M_NH_07 Objective: AE retrieves <ae> resource via an AE Retrieve Request Configuration: M2M_CFG_01 References: TS-0001 [1], clause 10.2.1.2 TS-0004 [2], clause 7.3.5.2.2 Pre-test conditions: • CSEBase resource has been created in registrar CSE with name {CSEBaseName} • AE has created a <ae> resource on registrar CSE with name {AE}bgf Step RP Type Description 1 Stimulus AE is requested to send a accessControlPolicy retrieve request to Registrar CSE PRO Check • op = 2 (Retrieve) PRO Check • fr = AE-10 of request originator • request contains • Request method = GET • Request method = GET • Request method = GET • N2M2M-R1: (token-string) · X-M2M-Origin: AE-1D • Method: 0.01 (GET) • Wetsage-body: empty · Sent request contains • Method: 0.01 (GET) • Uri-Hots: IP address or the FQDN of Registrar CSE · Uri-Hots: IP address or the FQDN of Registrar CSE · Uri-Hots: IP address or the FQDN of Registrar CSE · Uri-Hots: IP address or the FQDN of Registrar CSE • OneM2M-RI: (CSEBaseName)/(AE } • oneM2M-RDI: (token-string)</ae></ae>		Interoperability Test Description			
Configuration: M2M_CFG_01 References: TS-0001 [1], clause 10.2.1.2 TS-0004 [2], clause 7.3.5.2.2 Pre-test conditions: CSEBase resource has been created in registrar CSE with name {CSEBaseName} AE has created a <ae> resource on registrar CSE with name {AE}bgf</ae> Test Sequence Step RP Type Description Stimulus AE is requested to send a accessControlPolicy retrieve request to Registrar CSE op = 2 (Retrieve) to = {CSEBaseName}/{AE} equest contains Request method = GET Request method = GET Request method = GET HTTP Host: IP address or the FQDN of Registrar CSE X-M2M-RI: (token-string) X-M2M-Origin: AE-ID Mesage-body: empty Sent request contains Method: 0.01 (GET) Uri-Host: IP address or the FQDN of Registrar CSE Uri-Path: {CSEBaseName}/{AE} } omM2M-FR: AE-ID omM2M-FR: AE-ID Mexa/LAE Mexa/LAE Mexa/LAE Mexa/LAE Mexa/LAE Mexa/LAE Mexa/LAE Mexa/LAE OneM2M-FR: AE-ID Mexa/LAE Mexa/LAE OneM2M-FR: AE-ID Mexa/LAE OneM2M-FR: AE-ID		TD_M2M_NH_07		fier:	Identif
References: TS-0001 [1], clause 10.2.1.2 TS-0004 [2], clause 7.3.5.2.2 Pre-test conditions: CSEBase resource has been created in registrar CSE with name {CSEBaseName} AE has created a <ae> resource on registrar CSE with name {AE}bgf</ae> Test Sequence Step RP Type Description 1 Stimulus AE is requested to send a accessControlPolicy retrieve request to Registrar CSE op = 2 (Retrieve) to = {CSEBaseName}/{AE} op = 2 (Retrieve) to = {CSEBaseName}/{AE} fr = AE-ID of request originator rqi = (token-string) Sent request contains Request method = GET Request method = GET Request method = GET X-M2M-Origin: AE-ID Message-body: empty Sent request contains Method: 0.01 (GET) Uri-Host: IP address or the FQDN of Registrar CSE Uri-Path: {CSEBaseName}/{AE} } oneM2M-FR: AE-ID oneM2M-FR: AE-ID oneM2M-FR: AE-ID oneM2M-FR: AE-ID 		AE retrieves <ae> resource via an AE Retrieve Request</ae>			Objec
TS-0004 [2], clause 7.3.5.2.2 TS-0004 [2], clause 7.3.5.2.2 Pre-test conditions: CSEBase resource has been created in registrar CSE with name {AE}bgf Test Sequence Step Step PRO Type Description 1 Stimulus AE is requested to send a accessControlPolicy retrieve request to Registrar CSE 0 op = 2 (Retrieve) 1 Stimulus AE is requested to send a accessControlPolicy retrieve request to Registrar CSE 0 op = 2 (Retrieve) 0 to = {CSEBaseName}/{AE} PRO Check PRO Check PRO Check Sent request contains Request-Target: (CSEBaseName)/{{AE} HTTP Sent request contains Nca PRO Check PRO Check OCHECK PRO Check Check PRO Check Sent request contains Method: 0.01 (GET) Uri-Path: {CSEBaseName}/{AE} }			on:	guratior	Config
Pre-test conditions: CSEBase resource has been created in registrar CSE with name {CSEBaseName} AE has created a <ae> resource on registrar CSE with name {AE}bgf</ae> Test Sequence Step RP Type Description 1 Stimulus AE is requested to send a accessControlPolicy retrieve request to Registrar CSE • op = 2 (Retrieve) • op = 2 (Retrieve) • op = 2 (Retrieve) • to = {CSEBaseName}/{AE} • fr = AE-ID of request originator • rqi = (token-string) Sent request contains • Request method = GET • Request-Target: {CSEBaseName}/{{AE} • HTTP Sent request contains • Request-Target: {CSEBaseName}/{{AE} • HTTP • Host: IP address or the FQDN of Registrar CSE • X-M2M-Origin: AE-ID • Message-body: empty Sent request contains • Method: 0.01 (GET) • Uri-Path: {CSEBaseName}/{AE} } • Uri-Path: {CSEBaseName}/{AE} } • oneM2M-FR: AE-ID • oneM2M-FR: AE-ID		TS-0001 [1], clause 10.2.1.2	:	ences:	Refere
CSEBaseName} • AE has created a <ae> resource on registrar CSE with name {AE}bgf Test Sequence Step RP Type Description 1 Stimulus AE is requested to send a accessControlPolicy retrieve request to Registrar CSE 1 Stimulus AE is requested to send a accessControlPolicy retrieve request to Registrar CSE PRO Check • op = 2 (Retrieve) • to = {CSEBaseName}/{AE} • rqi = (token-string) • to = {CSEBaseName}/{AE} • to = {CSEBaseName}/{AE} PRO Check PRO Check • rqi = (token-string) Sent request contains • Request method = GET • Request method = GET • Request Target: {CSEBaseName}/{{AE} • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Message-body: empty Sent request contains • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Host: IP address or the FQDN of Registrar CSE</ae>		TS-0004 [2], clause 7.3.5.2.2			
CSEBaseName} • AE has created a <ae> resource on registrar CSE with name {AE}bgf Test Sequence Step RP Type Description 1 Stimulus AE is requested to send a accessControlPolicy retrieve request to Registrar CSE 1 Stimulus AE is requested to send a accessControlPolicy retrieve request to Registrar CSE PRO Check • op = 2 (Retrieve) • to = {CSEBaseName}/{AE} • rqi = (token-string) • to = {CSEBaseName}/{AE} • to = {CSEBaseName}/{AE} PRO Check PRO Check • rqi = (token-string) Sent request contains • Request method = GET • Request method = GET • Request Target: {CSEBaseName}/{{AE} • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Message-body: empty Sent request contains • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Host: IP address or the FQDN of Registrar CSE</ae>		OOF Deep recorded have been expected in registers OOF with respect	aditiona.		Dro to
• AE has created a <ae> resource on registrar CSE with name {AE}bgf Test Sequence Step RP Type Description 1 Stimulus AE is requested to send a accessControlPolicy retrieve request to Registrar CSE 1 Stimulus AE is requested to send a accessControlPolicy retrieve request to Registrar CSE • op = 2 (Retrieve) • to = {CSEBaseName}/{AE} • fr = AE-ID of request originator • rqi = (token-string) Sent request contains • Request method = GET • Request Target: {CSEBaseName}/{{AE}} • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Message-body: empty • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/{AE} } • OneM2M-FR: AE-ID</ae>			nations:	st cond	Pre-te
Test Sequence Step RP Type Description 1 Stimulus AE is requested to send a accessControlPolicy retrieve request to Registrar CSE 1 PRO Check • op = 2 (Retrieve) • to = {CSEBaseName}/{AE} • fr = AE-ID of request originator • rqi = (token-string) • fr = AE-ID of request originator PRO Check PRO Check • Request method = GET PRO Check • Host: IP address or the FQDN of Registrar CSE V X-M2M-RI: (token-string) X-M2M-RI: (token-string) X-M2M-Origin: AE-ID • Mesage-body: empty Sent request contains • Method: 0.01 (GET) • Method: 0.01 (GET) • Uri-Path: {CSEBaseName}/{AE} } • oneM2M-FR: AE-ID	af				
Step RP Type Description 1 Stimulus AE is requested to send a accessControlPolicy retrieve request to Registrar CSE 1 PRO Check • op = 2 (Retrieve) • to = {CSEBaseName}/{AE} • to = {CSEBaseName}/{AE} • fr = AE-ID of request originator • rqi = (token-string) Sent request contains • Request method = GET • Request method = GET • Request-Target: {CSEBaseName}/{{AE}} • HTTP • Request or the FQDN of Registrar CSE • Mca PRO Check • Request contains • Request contains • Request contains • Request-Target: {CSEBaseName}/{{AE}} • HTTP • Sent request contains • Host: IP address or the FQDN of Registrar CSE • X-M2M-Origin: AE-ID • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/{AE} } • oneM2M-FR: AE-ID	gi				
1 Stimulus AE is requested to send a accessControlPolicy retrieve request to Registrar CSE 1 op = 2 (Retrieve) • op = 2 (Retrieve) • op = 2 (Retrieve) • to = {CSEBaseName}/{AE} • fr = AE-ID of request originator • rqi = (token-string) Sent request contains • Request contains • Request method = GET • Request-Target: {CSEBaseName}/{{AE}} • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/{AE} } • Op = 2 (Retrieve)			Type	RP	Sten
2 Mca • op = 2 (Retrieve) • to = {CSEBaseName}/{AE} • fr = AE-ID of request originator • rqi = (token-string) Sent request contains • Request method = GET • Request-Target: {CSEBaseName}/{{AE} • Request-Target: {CSEBaseName}/{{AE} • HTTP • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Message-body: empty Sent request contains • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/{AE} } • OneM2M-FR: AE-ID • OneM2M-FR: AE-ID	r CSF				
2 Mca PRO Check Primitive • to = {CSEBaseName}/{AE} • fr = AE-ID of request originator • rqi = (token-string) 2 Mca Sent request contains • Request method = GET • Request-Target: {CSEBaseName}/{{AE} • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Message-body: empty 2 Mca PRO Check CoAP Sent request contains • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/{AE} } • oneM2M-FR: AE-ID			Cuntatio		
2 Mca • fr = AE-ID of request originator • rqi = (token-string) • fr = AE-ID of request originator • rqi = (token-string) • Request method = GET • Request-Target: {CSEBaseName}/{{AE} • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Message-body: empty • Sent request contains • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/{AE} } • oneM2M-FR: AE-ID • OneM2M-FR: AE-ID			DDO Chaok		
2 Mca • rqi = (token-string) 2 Mca • rqi = (token-string) 2 Mca • Request contains • Request method = GET • Request-Target: {CSEBaseName}/{{AE} • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Message-body: empty 2 Mca PRO Check CoAP • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/{AE} } • oneM2M-FR: AE-ID		, , , ,			
2 Mca PRO Check HTTP Sent request contains • Request method = GET • Request-Target: {CSEBaseName}/{{AE} • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Message-body: empty 2 Mca PRO Check CoAP Sent request contains • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/{AE} } • oneM2M-FR: AE-ID			Fillinuve		
2 Mca PRO Check HTTP • Request method = GET • Request-Target: {CSEBaseName}/{{AE} • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Message-body: empty 2 Mca PRO Check CoAP Sent request contains • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/{AE} } • oneM2M-FR: AE-ID					
2 Mca PRO Check HTTP • Request-Target: {CSEBaseName}/{{AE}} 2 Mca • Host: IP address or the FQDN of Registrar CSE 2 Mca • Message-body: empty Sent request contains • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/{AE} } • oneM2M-FR: AE-ID					
2 Mca HTTP • Host: IP address or the FQDN of Registrar CSE 2 Mca ×-M2M-RI: (token-string) PRO Check CoAP Sent request contains • Wethod: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/{AE} } • oneM2M-FR: AE-ID					
2 Mca • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Message-body: empty Sent request contains • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/{AE} } • oneM2M-FR: AE-ID • oneM2M-FR: AE-ID					
2 Mca PRO Check CoAP PRO Check CoAP A A A A A A A A A A A A A A A A A A			нпр		
2 Mca PRO Check CoAP • Message-body: empty Sent request contains • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/{AE} } • oneM2M-FR: AE-ID					
2 Mca PRO Check CoAP Sent request contains • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/{AE} } • oneM2M-FR: AE-ID					
2 Mca • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/{AE} } • oneM2M-FR: AE-ID					
 PRO Check CoAP Uri-Host: IP address or the FQDN of Registrar CSE Uri-Path: {CSEBaseName}/{AE} } oneM2M-FR: AE-ID 					2
• Uri-Path: {CSEBaseName}/{AE} } • oneM2M-FR: AE-ID				Мса	_
oneM2M-FR: AE-ID			PRO Check		
			CoAP		
Payload: empty					
Sent MQTT PUBLISH message:					
Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>					
Payload					
PRO Check $on = 2$ (Retrieve)					
MQTT • to = {CSEBaseName}/{AE}			MQTT		
• fr = AE-ID		, ,,,,			
• rqi = (token-string)		 rgi = (token-string) 			

	Interoperability Test Description		
			• pc = empty
		PRO Check Primitive	Registrar CSE sends response containing: • rsc = 2000 (OK) • rqi = (token-string) same as received in request message • pc = Serialized representation of <ae> resource</ae>
		PRO Check HTTP	Registrar CSE sends response containing: • Status Code = 200 (OK) • X-M2M-RSC: 2000 • X-M2M-RI: (token-string) same as received in request message • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Message-body: Serialized representation of <ae> resource</ae>
3	Мса	PRO Check CoAP	Registrar sends response containing: • Response Code = 2.05 (OK) • oneM2M-RSC: 2000 • oneM2M-RQI: (token-string) same as received in request message • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Payload: Serialized representation of <ae> resource</ae>
		PRO Check MQTT	Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">" Payload: • to = AE-ID • fr = Registrar CSE-ID • rsc = 2000 (OK) • rqi = (token-string) same as received in request message • pc = Serialized representation of <ae> resource</ae></registrar></ae-id>
4		IOP Check	AE indicates successful operation
IOP V	/erdict		
PRO \	Verdict		

8.1.3.3 AE Update

			Interoperability Test Description
Identifier:			TD_M2M_NH_08
Objective:			AE updates attribute in <ae> resource</ae>
Config	guratior	1:	M2M_CFG_01
	ences:		TS-0001 [1], clause 10.2.1.3
			TS-0004 [2], clause 7.3.5.2.3
Pre-te	st cond	itions:	CSEBase resource has been created in registrar CSE with name
			{CSEBaseName}
			 AE has created a <ae> resource on registrar CSE with name {AE}</ae>
			Test Sequence
Step	RP	Туре	Description
1		Stimulus	AE is requested to send an AE Update Request
		PRO Check Primitive	 op = 3 (Update) to = {CSEBaseName}/{AE} fr = AE-ID rqi = (token-string) pc = Serialized representation of updated <ae> resource</ae>
2	Мса	PRO Check HTTP	Sent request contains • Request method = PUT • Request-Target: {CSEBaseName}/{AE} • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Message-body: Serialized representation of updated <ae> resource</ae>
		PRO Check CoAP	Sent request contains • Method: 0.03 (PUT) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/{AE}

© oneM2M Partners Type 1 (ARIB, ATIS, CCSA, ETSI, TIA, TSDSI, TTA, TTC) Page 25 of 112 This is a draft oneM2M document and should not be relied upon; the final version, if any, will be made available by oneM2M Partners Type 1.

			oneM2M-FR: AE-ID
			• oneM2M-RQI: (token-string)
			 Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			 Payload: Serialized representation of updated <ae> resource</ae>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>
			Payload:
		PRO Check	• op = 3 (Update)
		MQTT	 to = {CSEBaseName}/{AE}
		Modern	• $fr = AE-ID$
			• rqi = (token-string)
			 pc = Serialized representation of updated <ae> resource</ae>
3		IOP Check	Check if possible that the <ae> resource has been updated in registrar CSE.</ae>
0			Registrar CSE sends response containing:
		PRO Check	• rsc = 2004 (UPDATED)
		Primitive	 rqi = (token-string) same as received in request message
			 pc = Serialized representation of <ae> resource</ae>
			Registrar CSE sends response containing:
		PRO Check	• Status Code = 200 (OK)
			• X-M2M-RSC: 2004
		HTTP	• X-M2M-RI: (token-string) same as received in request message
			Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Message-body: Serialized representation of <ae> resource</ae>
			Registrar sends response containing:
			• Response Code = 2.04 (UPDATED)
4	Мса	PRO Check	• oneM2M-RSC: 2004
		CoAP	 oneM2M-RQI: (token-string) same as received in request message
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Payload: Serialized representation of <ae> resource</ae>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>
			Payload:
		PRO Check	• to = AE-ID
		MQTT	 fr = Registrar CSE-ID
			 rsc = 2004 (Updated)
			 rqi = (token-string) same as received in request message
			 pc = Serialized representation of <ae> resource</ae>
5		IOP Check	AE indicates successful operation
	/erdict		
PRO V	/erdict		

8.1.3.4 AE Delete

	Interoperability Test Description				
Identifier:			TD_M2M_NH_09		
Objec	tive:		AE de-registers by deleting <ae> resource via an AE Delete Request</ae>		
Config	guratio	n:	M2M_CFG_01		
Refere	ences:		TS-0001 [1], clause 10.2.1.4		
			TS-0004 [2], clause 7.3.5.2.4		
Pre-te	st cond	ditions:	 CSEBase resource has been created in registrar CSE with name {CSEBaseName} 		
			 AE has created a <ae> resource on registrar CSE with name {AE}</ae> 		
			Test Sequence		
Step	RP	Туре	Description		
1		Stimulus	AE is requested to send an AE Delete Request		
		PRO Check	 op = 4 (Delete) to = {CSEBaseName}/{AE} 		
			• fr = AE-ID		
		Primitive	• rqi = (token-string)		
2	Мса		• pc = empty		
		PRO Check	Sent request contains		
		HTTP	Request method = DELETE		

			Interoperability Test Description	
	Request-Target: {CSEBaseName}/{AE}			
			Host: IP address or the FQDN of Registrar CSE	
			• X-M2M-RI: (token-string)	
			• X-M2M-Origin: AE-ID	
			Message-body: empty	
			Sent request contains	
			Method: 0.04 (DELETE) Heideline and the EODN of Deviation COE	
		PRO Check	Uri-Host: IP address or the FQDN of Registrar CSE	
		CoAP	• Uri-Path: {CSEBaseName}/{AE]	
			• oneM2M-FR: AE-ID	
			oneM2M-RQI: (token-string)	
			Payload: empty	
			Sent MQTT PUBLISH message:	
			Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>	
			Payload:	
		PRO Check	• op = 4 (Delete)	
		MQTT	 to = {CSEBaseName}/{AE} 	
			• fr = AE-ID	
			 rqi = (token-string) 	
			• pc = empty	
		PRO Check Primitive	Registrar CSE sends response containing:	
			• rsc = 2002 (DELETED)	
			 rqi = (token-string) same as received in request message 	
			• pc = empty	
		PRO Check HTTP	Registrar CSE sends response containing:	
			• Status Code = 200 (OK)	
			• X-M2M-RSC: 2002	
	Мса		 X-M2M-RI: (token-string) same as received in request message 	
			Message-body: empty	
			Registrar sends response containing:	
		a PRO Check CoAP	• Response Code = 2.05 (OK)	
3			• oneM2M-RSC: 2002	
			 oneM2M-RQI: (token-string) same as received in request message 	
			Payload: empty	
			Sent MQTT PUBLISH message:	
			Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>	
			Payload:	
		PRO Check	• to = AE-ID	
		MQTT	• fr = Registrar CSE-ID	
		Wise I I	• $rsc = 2002$	
			 rgi = (token-string) same as received in request message 	
			 pc = empty 	
4		IOP Check	Check if possible that the <ae> resource has been removed from registrar CSE.</ae>	
4 5		IOP Check	AE indicates successful operation	
-	erdict	IOF CHECK	רב וויטונסופי אונופאוטו טופומווטוו	
	/erdict			
	reiuici			

8.1.4 Container Management

8.1.4.1 Container Create

	Interoperability Test Description			
Identi	fier:		TD_M2M_NH_10	
Objec	tive:		AE creates a container resource in registrar CSE via a container Create Request	
Config	guratior	n:	M2M_CFG_01	
Refere	ences:		TS-0001 [1], clause 10.2.4.1	
			TS-0004 [2], clause 7.3.5.2.1	
Pre-te	st cond	litions:	 AE has created an application resource <ae> on registrar CSE</ae> 	
	Test Sequence			
Step	RP	Туре	Description	
1		Stimulus	AE sends a request to create a <container></container>	

	Interoperability Test Description				
			• op = 1 (Create)		
			 to = {CSEBaseName}/URI of <ae> resource</ae> 		
		PRO Check	• fr = ÅE-ID		
		Primitive	 rqi = (token-string) 		
			• ty = 3 (Container)		
			 pc = Serialized representation of <container> resource</container> 		
			Sent request contains		
			• Request method = POST		
			 Request-Target:{CSEBaseName}/URI of <ae> resource</ae> 		
		PRO Check	Host: IP address or the FQDN of Registrar CSE		
		HTTP	• X-M2M-RI: (token-string)		
			• X-M2M-Origin: AE-ID		
			 Content-Type: application/vnd.onem2m-res+xml; ty=3 or application/vnd.onem2m- 		
			res+json; ty=3		
			Message-body: Serialized representation of <container> resource</container>		
			Sent request contains		
2	Мса		• Method: 0.02 (POST)		
			Uri-Host: IP address or the FQDN of Registrar CSE		
		PRO Check	Uri-Path: {CSEBaseName}/URI of <ae> resource</ae>		
		CoAP	Content-type: application/vnd.onem2m-res+xml or application/vnd.onem2m res+json		
			• oneM2M-TY: 3		
			oneM2M-FR: AE-ID conservations		
			oneM2M-RQI: (token-string) Devload: Serialized representation of representations:		
			Payload: Serialized representation of <container> resource Sent MQTT PUBLISH message:</container>		
			Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>		
			Payload:		
			• $op = 1$ (Create)		
		PRO Check	 to = {CSEBaseName}/URI of <ae> resource</ae> 		
		MQTT	• fr = AE-ID		
			• rqi = (token-string)		
			• ty = 3 (Container)		
			• pc = Serialized representation of <container> resource</container>		
3		IOP Check	Check if possible that the <container> resource is created in registrar CSE.</container>		
		PRO Check	• rsc = 2001 (CREATED)		
		Primitive	 rqi = (token-string) same as received in request message 		
		1 111111110	 pc = Serialized representation of <container> resource</container> 		
		PRO Check HTTP	Registrar CSE sends response containing:		
			• Status Code = 201 (Created)		
			• X-M2M-RSC: 2001		
			X-M2M-RI: (token-string) same as received in request message		
			Content-Location: URI of the created resource.		
			Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Magagaga badw Socialized representation of coertainers resources		
			Message-body: Serialized representation of <container> resource Pagietrar conds response containing:</container>		
			Registrar sends response containing:		
4			 Response Code = 2.01 oneM2M-RSC: 2001 		
7	Мса	PRO Check			
		CoAP	 oneM2M-RQI: (token-string) same as received in request message Location-Path: URI of the created resource 		
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json		
			 Payload: Serialized representation of <container> resource</container> 		
			Sent MQTT PUBLISH message:		
			Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>		
			Payload:		
		PRO Check	• to = AE-ID		
		MQTT	• fr = Registrar CSE-ID		
			• rsc = 2001 (CREATED)		
			• rqi = (token-string) same as received in request message		
			• pc = Serialized representation of <container> resource</container>		
-		IOP Check	AE indicates successful operation		
5		IOP Check			
IOP V	/erdict Verdict				

8.1.4.2 Container Retrieve

		Interoperability Test Description					
Identifier:			TD_M2M_NH_11				
Objective:			AE retrieves information of a container resource via a container Retrieve Request				
Configuration:			M2M_CFG_01				
References:			TS-0001 [1], clause 10.2.4.2				
			TS-0004 [2], clause 7.3.5.2.2				
Pro-to	st cond	litions:	AE has created an Application Entity resource <ae> on Registrar CSE</ae>				
FIC-le	SUCONU	itions.	 AE has created an Application Entity resource <ae> on Registrar CSE</ae> AE has created a container resource <container> on Registrar CSE</container> 				
			Test Sequence				
Step	RP	Туре	Description				
1		Stimulus	AE is requested to send a Retrieve Request for a <subscription></subscription>				
		PRO Check Primitive	 op = 2 (Retrieve) to = {CSEBaseName}/URI of <container> resource</container> fr = AE-ID rqi = (token-string) pc = empty 				
		PRO Check HTTP	Sent request contains • Request method = GET • Request-Target: {CSEBaseName}/URI of <container> resource • Host : IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Message-body: empty</container>				
2	Мса	PRO Check CoAP	Sent request contains • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/URI of <container> resource • oneM2M-FR: AE-ID • oneM2M-RQI: (token-string) • Payload: empty</container>				
		PRO Check MQTT	Sent MQTT PUBLISH message: Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">" Payload: • op = 2 (Retrieve) • to = {CSEBaseName}/URI of <container> resource • fr = AE-ID • rqi = (token-string) • pc = empty</container></registrar>				
	Мса	PRO Check Primitive	 rsc =2000 (OK) rqi = (token-string) same as received in request message pc = Serialized representation of <container> resource</container> 				
ß		PRO Check HTTP	Registrar CSE sends response containing: • Status Code = 200 (OK) • X-M2M-RSC: 2000 • X-M2M-RI: (token-string) same as received in request message • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Message-body: Serialized representation of <container> resource</container>				
		PRO Check CoAP	Registrar sends response containing: • Response Code = 2.05 (OK) • oneM2M-RSC: 2000(OK) • oneM2M-RQI: (token-string) same as received in request message • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Payload: Serialized representation of <container> resource</container>				
1							

	Interoperability Test Description			
IOP Verdict				
PRO Verdict				

8.1.4.3 Container Update

Interoperability Test Description Identifier: TD M2M_NH_12 Objective: AE updates attribute in application resource via a container Update Request Configuration: M2M_CFG_01 References: T5-0004 [2], clause 10.2.4.3 TS-0004 [2], clause 10.2.4.3 TS-0004 [2], clause 10.2.4.3 TS-0004 [2], clause 10.2.4.3 TS-0004 [2], clause 7.3.5.2.3 Pre-test conditions: • AE has created an Application Entity resource <ae> on Registrar CSE Step PP YPP Description AE is requested to send a subscription Update Request to update the lifetime of resource. • op = 3 (Update) 1 Stimulus AE is requested to send a subscription Update Request to update the lifetime of resource. 1 PRO Check PRO Check PRO Check PRO Check PRO Check HTTP • Request method = PUT • Request method = PUT • Request reguest co</ae>	
Objective: AE updates attribute in application resource via a container Update Request Configuration: M2M_CFG_01 References: TS-0001 [1], clause 10.2.4.3 TS-0004 [2], clause 7.3.5.2.3 Pre-test conditions: • AE has created an Application Entity resource <ae> on Registrar CSE • AE has created a container resource <container> on Registrar CSE • AE has created a container resource <container> on Registrar CSE Step RP Type Description 1 Stimulus AE is requested to send a subscription Update Request to update the lifetime of resource. 0 op = 3 (Update) • op = 3 (Update) • op = 3 (Update) • to = (CSEBaseName)/URI of <container> resource • op = 3 (Update) • to = (CSEBaseName)/URI of <container> resource • frei = (token-string) • pro Check HTTP • Request method = PUT • Request Target: (CSEBaseName)/URI of <container> resource • Host : IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-RI: (token-string) • X-M2M-RI: (token-string) • X-M2M-RI: (token-string) • X-M2M-RI: (token-string) • Uri-Pati: (CSEBaseName)/URI of <container> resource • Uni-Nati: Robication/vnd.onem2m-res+xml or application/vnd.onem2m- • Message-body: Serialized representation of updated <container> resource <</container></container></container></container></container></container></container></ae>	
Configuration: M2M_CFG_01 References: TS-0001 [1], clause 10.2.4.3 TS-0004 [2], clause 7.3.5.2.3 Pre-test conditions: • AE has created an Application Entity resource <ae> on Registrar CSE • AE has created a container resource <container> on Registrar CSE Step RP Type Description 1 Stimulus AE is requested to send a subscription Update Request to update the lifetime of resource. 1 Stimulus AE is requested to send a subscription Update Request to update the lifetime of resource. 1 Op = 3 (Update) • op = 3 (Update) • to = (CSEBaseName)/URI of <container> resource • fr = AE-ID • rigi = (token-string) • oc = Serialized representation of updated <container> resource Sent request contains • Request method = PUT • Request method = PUT • Request contains • Request contains • Request contains • Nethod: 0.03 (PUT) • Uri-Host: IP address or the FQDN of Registrar CSE • Vm2M-RCi: (token-string) • Vm2M-RCi: (token-string) • Vm2M-RC: (CoAP • Uri-Path: (CSEBaseName)/URI of <container> resource Sent MQTT PUBLISH message: Topic: "/oneM2M-RCi: (token-string) • Orneh2M-RCi: (token-string) <tr< th=""><td></td></tr<></container></container></container></container></ae>	
References: TS-0001 [1], clause 10.2.4.3 TS-0004 [2], clause 7.3.5.2.3 Pre-test conditions: AE has created an Application Entity resource <ae> on Registrar CSE • AE has created a container resource <container> on Registrar CSE</container></ae> • AE has created a container resource <container> on Registrar CSE</container> • AE has created a container resource • AE has created a subscription Update Request to update the lifetime of resource. • op = 3 (Update) • op = 3 (Update) • o = (SEBaseName)/URI of <container> resource</container> • of = (SEBaseName)/URI of <container> resource</container> • fr = AE-ID • or = (CSEBaseName)/URI of <container> resource</container> Sent request contains • Request method = PUT • Request rarget: (CSEBaseName)/URI of <container> resource</container> • NM2M-RI: (token-string) • X-M2M-RI: (token-string) • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m- • Message-body: Serialized representation of updated <container> resource</container> • OneM2M-FR: AE-ID <	
2 Mca TS-0004 [2], clause 7.3.5.2.3 Pre-test conditions: • AE has created an Application Entity resource <ae> on Registrar CSE • AE has created a container resource <container> on Registrar CSE • AE has created a container resource <container> on Registrar CSE • AE has created a container resource <container> on Registrar CSE • AE has created a container resource <container> on Registrar CSE • AE is requested to send a subscription Update Request to update the lifetime of resource. • Op = 3 (Update) • I • ICSEBaseName}/URI of <container> resource • If = AE-ID • Request rarget:(CSEBaseName)/URI of <container> resource • Request Target:(CSEBaseName)/URI of <container> resource • Hots : IP address or the FQDN of Registrar CSE • VIn-Path: (CSEBaseName)/URI of <container> resource • OneM2M-FR: AE-ID • Method: 0.03 (PUT) • Uni-Path: (CSEBaseName)/URI of <container> resource • OneM2M-FR: AE-ID • OneM2M-FR: AE-ID • OneM2M-FR: AE-ID • OneM2M-FR: AE-ID • OneM2M-FR: AE-ID • OneM2M-</container></container></container></container></container></container></container></container></container></ae>	
Pre-test conditions: AE has created an Application Entity resource <ae> on Registrar CSE</ae> AE has created a container resource <container> on Registrar CSE</container> Step RP Type Description 1 Stimulus AE is requested to send a subscription Update Request to update the lifetime of resource. 1 Stimulus AE is requested to send a subscription Update Request to update the lifetime of resource. 1 PRO Check op = 3 (Update) to = (CSEBaseName)/URI of <container> resource</container> fr = AE-ID rqi = (token-string) pc = Serialized representation of updated <container> resource</container> Sent request method = PUT Request method = PUT Request method = PUT Request method = PUT Request tortarget:(CSEBaseName)/URI of <container> resource</container> X-M2M-RI: (token-string) X-M2M-RI: (token-string) X-M2M-RI: (token-string) Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m	
AE has created a container resource <container> on Registrar CSE Step RP Type Description 1 Stimulus AE is requested to send a subscription Update Request to update the lifetime of resource. 1 PRO Check Primitive • op = 3 (Update) • to = {CSEBaseName}/URI of <container> resource • primitive • op = 3 (Update) • to = {CSEBaseName}/URI of <container> resource • fr = AE-ID • primitive • request contains • Request method = PUT • Request method = PUT • PRO Check HTTP • Request areguest contains • Request areguest contains • Request areguest contains • PRO Check HTTP • Nest iP address or the FQDN of Registrar CSE ×.M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res-tody: Serialized representation of updated <container> resource Sent request contains • Meta • PRO Check CoAP • Uri-Path: (CSEBaseName)/URI of <container> resource Sent request contains • Method: 0.03 (PUT) • Uri-Path: (CSEBaseName)/URI of <container> resource Sent request contains • Method: 0.03 (PUT) • Uri-Path: (CSEBaseName)/URI of <container> resource oneM2M-RQI: (token-string)</container></container></container></container></container></container></container>	
AE has created a container resource <container> on Registrar CSE Step RP Type Description 1 Stimulus AE is requested to send a subscription Update Request to update the lifetime of resource. 1 PRO Check Primitive • op = 3 (Update) • to = {CSEBaseName}/URI of <container> resource • primitive • op = 3 (Update) • to = {CSEBaseName}/URI of <container> resource • fr = AE-ID • primitive • request contains • Request method = PUT • Request method = PUT • PRO Check HTTP • Request areguest contains • Request areguest contains • Request areguest contains • PRO Check HTTP • Nest iP address or the FQDN of Registrar CSE ×.M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res-tody: Serialized representation of updated <container> resource Sent request contains • Meta • PRO Check CoAP • Uri-Path: (CSEBaseName)/URI of <container> resource Sent request contains • Method: 0.03 (PUT) • Uri-Path: (CSEBaseName)/URI of <container> resource Sent request contains • Method: 0.03 (PUT) • Uri-Path: (CSEBaseName)/URI of <container> resource oneM2M-RQI: (token-string)</container></container></container></container></container></container></container>	
Test Sequence Step RP Type Description 1 Stimulus AE is requested to send a subscription Update Request to update the lifetime of resource. 1 Stimulus AE is requested to send a subscription Update Request to update the lifetime of resource. 1 • op = 3 (Update) • to = (CSEBaseName)/URI of <container> resource • to = (CSEBaseName)/URI of <container> resource • fr = AE-1D • rop = Serialized representation of updated <container> resource Request method = PUT • Request method = PUT • Request method = PUT • Request method = PUT • Request method = PUT • Request method = PUT • Host : IP address or the FQDN of Registrar CSE ×.M2M-Origin: AE-1D • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-reseource • Method: 0.03 (PUT) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Host: IP address or the FQDN of container> resource • oneM2M-FR: AE-ID • OneM2M-RQI: (token-string) • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m • OneM2M-RQI: (token-string) • Onen</container></container></container>	
Step RP Type Description 1 Stimulus AE is requested to send a subscription Update Request to update the lifetime of resource. 1 • op = 3 (Update) • to = (CSEBaseName)/URI of <container> resource • op = 3 (Update) • to = (CSEBaseName)/URI of <container> resource • op = 3 (Update) • to = (CSEBaseName)/URI of <container> resource • primitive • op = 3 (Update) • op = Serialized representation of updated <container> resource Sent request contains • Request method = PUT • Request Target: (CSEBaseName)/URI of <container> resource • Host : IP address or the FQDN of Registrar CSE • V-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+xml or application/vnd.onem2m-res+xml or application/vnd.onem2m-res+to or new2M-FR: (CSEBaseName)/URI of <container> resource • Meta • Orie-Path: (CSEBaseName)/URI of container> resource • OneM2M-RR: (CSEBaseName)/URI of container> resource • oneM2M-RR: (CSEBaseName)/URI of container> resource • oneM2M-RR: (CSEBaseName)/URI of container> resource • oneM2M-RR: (CSEBaseName)/URI of container> resource • oneM2M-RQI: (token-string) • content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m - Payload: Serializ</container></container></container></container></container></container>	
1 Stimulus AE is requested to send a subscription Update Request to update the lifetime of resource. 1 op = 3 (Update) op = 3 (Update) 1 to ap = 3 (Update) to ap = 3 (Update) 1 to ap = 3 (Update) to ap = 3 (Update) 1 to ap = 3 (Update) to ap = 3 (Update) 1 to ap = 3 (Update) to ap = 3 (Update) 1 to ap = 3 (Update) to ap = 3 (Update) 1 to ap = 3 (Update) to ap = 3 (Update) 1 to ap = 3 (Update) to ap = 3 (Update) 1 to ap = 3 (Update) to ap = 3 (Update) 1 to ap = 3 (Update) to ap = 3 (Update) 1 to ap = 3 (Ipdate) to ap = 3 (Ipdate) 1 to ap = 3 (Ipdate) to ap = 3 (Ipdate) 1 to ap = 3 (Ipdate) to ap = 3 (Ipdate) 1 to ap = 3 (Ipdate) to ap = 3 (Ipdate) 2 Mca PRO Check to ap = 3 (Ipdate) 1 Request method = PUT Request method = PUT 1 Request method = PUT Request method = optication/vnd.onem2m-res+xml or application/vnd.onem2m-res+xml or application/vnd.onem2m-res+xml or applica	
2 Mca PRO Check Primitive • op = 3 (Update) • to = {CSEBaseName}/URI of <container> resource • fr = AE-ID • rqi = (token-string) • pc = Serialized representation of updated <container> resource PRO Check HTTP • Request contains • Request method = PUT • Request-Target;(CSEBaseName)/URI of <container> resource • Host : IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m- • Message-body: Serialized representation of updated <container> resource • Method: 0.03 (PUT) • Uri-Host: IP address or the FQDN of Registrar CSE • X-M2M-Crigin: AE-ID • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m- • Message-body: Serialized representation of updated <container> resource • oneM2M-FR: AE-ID • oneM2M-FR: AE-ID • oneM2M-RQI: (token-string) • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m • Payload: Serialized representation of updated <container> resource • oneM2M-RQI: (token-string) • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m • Payload: Serialized representation of updated <container> resource • oneM2M-RQI: (token-string) • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m • Payload: Serialized representation of updated <container> resource • one 3 (Update) • to = {CSEBaseName}/URI of <container> resource • fr = AE-ID</container></container></container></container></container></container></container></container></container>	the
2 Mca • to = {CSEBaseName}/URI of <container> resource • fr = AE-ID • rqi = (token-string) • pc = Serialized representation of updated <container> resource PRO Check HTTP • Request contains • Request method = PUT • Request.Target:{CSEBaseName}/URI of <container> resource • Host : IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m- • Message-body: Serialized representation of updated <container> resource 9 PRO Check COAP • Method: 0.03 (PUT) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/URI of <container> resource • oneM2M-FR: AE-ID • oneM2M-FR: AE-ID</container></container></container></container></container>	
2 Mca • to = {CSEBaseName}/URI of <container> resource • fr = AE-ID • rqi = (token-string) • pc = Serialized representation of updated <container> resource PRO Check HTTP • Request contains • Request method = PUT • Request.Target:{CSEBaseName}/URI of <container> resource • Host : IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m- • Message-body: Serialized representation of updated <container> resource 9 PRO Check COAP • Method: 0.03 (PUT) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/URI of <container> resource • oneM2M-FR: AE-ID • oneM2M-FR: AE-ID</container></container></container></container></container>	
2 Mca • fr = AE-ID • rqi = (token-string) • pc = Serialized representation of updated <container> resource Sent request contains • Request-Target:{CSEBaseName}/URI of <container> resource • Host : IP address or the FQDN of Registrar CSE • Host : IP address or the FQDN of Registrar CSE • X-M2M-Origin: AE-ID • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-resource • Method: 0.03 (PUT) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/URI of <container> resource • oneM2M-FR: AE-ID • oneM2M-FR: AE-ID • oneM2M-FRQL: (token-string) • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m • PRO Check MQTT • PRO Check MQTT • Op = 3 (Update) • to = {CSEBaseName}/URI of <container> resource • op = 3 (Update) • to = {CSEBaseName}/URI of <con< th=""><td></td></con<></container></container></container></container>	
2 Mca • rqi = (token-string) • pc = Serialized representation of updated <container> resource PRO Check HTTP • Request contains • Request rarget:{CSEBaseName}/URI of <container> resource • Host : IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m- • Message-body: Serialized representation of updated <container> resource • Message-body: Serialized representation of updated <container> resource • Message-body: Serialized representation of updated <container> resource • Method: 0.03 (PUT) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/URI of <container> resource • oneM2M-FR: AE-ID • oneM2M-FR: AE-ID • oneM2M-RQL: (token-string) • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m • Payload: Serialized representation of updated <container> resource Sent MQTT PUBLISH message: Topic: "/oneM2M/ req /< AE-ID>/<registrar cse-id="">" Payload: • op = 3 (Update) • to = {CSEBaseName}/URI of <container> resource • fr = AE-ID</container></registrar></container></container></container></container></container></container></container>	
2 Mca pc = Serialized representation of updated <container> resource</container> Sent request contains Request method = PUT Request-Target:{CSEBaseName}/URI of <container> resource</container> Host : IP address or the FQDN of Registrar CSE X-M2M-RI: (token-string) X-M2M-Origin: AE-ID Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m- Message-body: Serialized representation of updated <container> resource</container> Sent request contains Method: 0.03 (PUT) Uri-Host: IP address or the FQDN of Registrar CSE Uri-Path: {CSEBaseName}/URI of <container> resource</container> oneM2M-FR: AE-ID oneM2M-FR: AE-ID oneM2M-FR: AE-ID oneM2M-RQI: (token-string) Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2n PRO Check Op = 3 (Update) op = 3 (Update) to = {CSEBaseName}/URI of <container> resource</container> fr = AE-ID 	
2 Mca Sent request contains Request method = PUT Request-Target:{CSEBaseName}/URI of <container> resource Host : IP address or the FQDN of Registrar CSE X-M2M-RI: (token-string) X-M2M-Origin: AE-ID Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m- Message-body: Serialized representation of updated <container> resource 9 Mca PRO Check CoAP Sent request contains • Method: 0.03 (PUT) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: (CSEBaseName)/URI of <container> resource • oneM2M-FR: AE-ID • oneM2M-RQI: (token-string) • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2n • Payload: Serialized representation of updated <container> resource 8 Sent MQTT PUBLISH message: Topic: "/oneM2M/ req /< AE-ID>/<registrar cse-id="">" Payload: 9 NGT 9 9 9 0 9 9 9 0 9 0 9 0 9 0 9 0 9 0 9 0 9 0 9 0 9 0 9 0 9 0 9 0 9 0 9 0 9 0<td></td></registrar></container></container></container></container>	
2 Mca PRO Check HTTP • Request method = PUT • Request-Target:{CSEBaseName}/URI of <container> resource • Host : IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+xml or application/vnd.onem2m-resextml or application/vnd.onem2m 2 Mca PRO Check CoAP • Method: 0.03 (PUT) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/URI of <container> resource • oneM2M-FR: AE-ID • oneM2M-FR: AE-ID • oneM2M-FR: AE-ID • oneM2M-RQI: (token-string) • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m • Payload: Serialized representation of updated <container> resource 8 PRO Check MQTT • Op = 3 (Update) • to = {CSEBaseName}/URI of <container> resource • fr = AE-ID • orealized = ID • orealid • orealid • orealid</container></container></container></container>	
2 Mca PRO Check HTTP Request-Target:{CSEBaseName}/URI of <container> resource</container> Host : IP address or the FQDN of Registrar CSE X-M2M-RI: (token-string) X-M2M-Origin: AE-ID Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-resource Mca PRO Check CoAP PRO Check CoAP Sent request contains Method: 0.03 (PUT) Uri-Host: IP address or the FQDN of Registrar CSE Uri-Path: (CSEBaseName)/URI of <container> resource</container> oneM2M-RQI: (token-string) Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2n Payload: Serialized representation of updated <container> resource</container> PRO Check MQTT PUBLISH message: Topic: "/oneM2M/ req /< AE-ID>/ Payload: op = 3 (Update) to = {CSEBaseName}/URI of <container> resource</container> fr = AE-ID Topic: Teach Free AE-ID Topic: Teach Free AE-ID Topic: Teach Free AE-ID Topic: Teach Free AE-ID Topic: Teach Topic: Teach Free AE-ID Topic: Teach Free AE-ID Topic: Teach Topic: Teach Topic: Teach Topic: Teach Topic: Teach Topic: Teach Topic: Teach<!--</th--><td></td>	
2 Mca HTTP • Host : IP address or the FQDN of Registrar CSE * X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m- • Message-body: Serialized representation of updated <container> resource * Mca PRO Check CoAP • Method: 0.03 (PUT) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/URI of <container> resource • OneM2M-FR: AE-ID • OneM2M-FR: AE-ID • oneM2M-RQI: (token-string) • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2n • Payload: Serialized representation of updated <container> resource • Sent MQTT PUBLISH message: Topic: "/oneM2M/ req /< AE-ID>/<registrar cse-id="">" PRO Check MQTT • op = 3 (Update) • to = {CSEBaseName}/URI of <container> resource • op = 3 (Update) • to = {CSEBaseName}/URI of <container> resource • fr = AE-ID</container></container></registrar></container></container></container>	
2 Mca • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m- • Message-body: Serialized representation of updated <container> resource Sent request contains • Method: 0.03 (PUT) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/URI of <container> resource • oneM2M-FR: AE-ID • oneM2M-RQI: (token-string) • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2n • Payload: Serialized representation of updated <container> resource Sent MQTT PUBLISH message: Topic: "/oneM2M/ req /< AE-ID>/<registrar cse-id="">" Payload: PRO Check MQTT • op = 3 (Update) • to = {CSEBaseName}/URI of <container> resource</container></registrar></container></container></container>	
2 Mca • X-M2M-Origin: AE-ID • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res 2 Mca • Message-body: Serialized representation of updated <container> resource Sent request contains • Method: 0.03 (PUT) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/URI of <container> resource • oneM2M-FR: AE-ID • oneM2M-FR: AE-ID • oneM2M-RQI: (token-string) • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2n • PRO Check Sent MQTT PUBLISH message: Topic: "/oneM2M/ req /< AE-ID>/<registrar cse-id="">" Payload: PRO Check MQTT • op = 3 (Update) • to = {CSEBaseName}/URI of <container> resource</container></registrar></container></container>	
2 Mca • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m- 2 Mca • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m- 2 Mca • Message-body: Serialized representation of updated <container> resource Sent request contains • Method: 0.03 (PUT) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/URI of <container> resource • oneM2M-FR: AE-ID • oneM2M-RQI: (token-string) • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2n • Payload: Serialized representation of updated <container> resource Sent MQTT PUBLISH message: Topic: "/oneM2M/ req /< AE-ID>/<registrar cse-id="">" • op = 3 (Update) • to = {CSEBaseName}/URI of <container> resource • to = {CSEBaseName}/URI of <container> resource • fr = AE-ID</container></container></registrar></container></container></container>	
2 Mca • Message-body: Serialized representation of updated <container> resource 2 Mca Sent request contains • Method: 0.03 (PUT) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/URI of <container> resource • oneM2M-FR: AE-ID • oneM2M-RQI: (token-string) • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2n • Payload: Serialized representation of updated <container> resource Sent MQTT PUBLISH message: Topic: "/oneM2M/ req /< AE-ID>/<registrar cse-id="">" • op = 3 (Update) • to = {CSEBaseName}/URI of <container> resource • fr = AE-ID</container></registrar></container></container></container>	es+ison
2 Mca Sent request contains PRO Check • Method: 0.03 (PUT) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/URI of <container> resource • oneM2M-FR: AE-ID • oneM2M-RQI: (token-string) • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2n • Payload: Serialized representation of updated <container> resource Sent MQTT PUBLISH message: Topic: "/oneM2M/ req /< AE-ID>/<registrar cse-id="">" PRO Check MQTT • op = 3 (Update) • to = {CSEBaseName}/URI of <container> resource • fr = AE-ID</container></registrar></container></container>	
2 Mca • Method: 0.03 (PUT) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/URI of <container> resource • oneM2M-FR: AE-ID • oneM2M-RQI: (token-string) • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2n • Payload: Serialized representation of updated <container> resource Sent MQTT PUBLISH message: Topic: "/oneM2M/ req /< AE-ID>/<registrar cse-id="">" PRO Check MQTT • op = 3 (Update) • to = {CSEBaseName}/URI of <container> resource • fr = AE-ID</container></registrar></container></container>	
MICa • Uri-Host: IP address or the FQDN of Registrar CSE PRO Check • Uri-Path: {CSEBaseName}/URI of <container> resource • oneM2M-FR: AE-ID • oneM2M-RQI: (token-string) • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2n • Payload: Serialized representation of updated <container> resource Sent MQTT PUBLISH message: Topic: "/oneM2M/ req /< AE-ID>/<registrar cse-id="">" PRO Check MQTT • op = 3 (Update) • to = {CSEBaseName}/URI of <container> resource • fr = AE-ID</container></registrar></container></container>	
PRO Check CoAP • Uri-Path: {CSEBaseName}/URI of <container> resource • oneM2M-FR: AE-ID • oneM2M-RQI: (token-string) • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2n • Payload: Serialized representation of updated <container> resource Sent MQTT PUBLISH message: Topic: "/oneM2M/ req /< AE-ID>/<registrar cse-id="">" Payload: • op = 3 (Update) • to = {CSEBaseName}/URI of <container> resource • fr = AE-ID</container></registrar></container></container>	
CoAP • oneM2M-FR: AE-ID • oneM2M-RQI: (token-string) • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2n • Payload: Serialized representation of updated <container> resource Sent MQTT PUBLISH message: Topic: "/oneM2M/ req /< AE-ID>/<registrar cse-id="">" PRO Check MQTT • op = 3 (Update) • to = {CSEBaseName}/URI of <container> resource • fr = AE-ID</container></registrar></container>	
• oneM2M-RQI: (token-string) • OneM2M-RQI: (token-string) • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m • Payload: Serialized representation of updated <container> resource Sent MQTT PUBLISH message: Topic: "/oneM2M/ req /< AE-ID>/<registrar cse-id="">" Payload: • op = 3 (Update) • to = {CSEBaseName}/URI of <container> resource • fr = AE-ID</container></registrar></container>	
Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2n Payload: Serialized representation of updated <container> resource Sent MQTT PUBLISH message: Topic: "/oneM2M/ req /< AE-ID>/<registrar cse-id="">" Payload: op = 3 (Update) to = {CSEBaseName}/URI of <container> resource fr = AE-ID</container></registrar></container>	
Payload: Serialized representation of updated <container> resource Sent MQTT PUBLISH message: Topic: "/oneM2M/ req /< AE-ID>/<registrar cse-id="">" Payload: op = 3 (Update) to = {CSEBaseName}/URI of <container> resource fr = AE-ID</container></registrar></container>	-res+ison
PRO Check Sent MQTT PUBLISH message: Topic: "/oneM2M/ req /< AE-ID>/ <registrar cse-id="">" Payload: PRO Check • op = 3 (Update) • to = {CSEBaseName}/URI of <container> resource • fr = AE-ID</container></registrar>	
PRO Check MQTT Topic: "/oneM2M/ req /< AE-ID>/ <registrar cse-id="">" Payload: • op = 3 (Update) • to = {CSEBaseName}/URI of <container> resource • fr = AE-ID</container></registrar>	
PRO Check MQTT • op = 3 (Update) • to = {CSEBaseName}/URI of <container> resource • fr = AE-ID</container>	
PRO Check MQTT • to = {CSEBaseName}/URI of <container> resource • fr = AE-ID</container>	
• fr = AE-ID	
• rai = (token-string)	
 pc = Serialized representation of updated <container> resource</container> 	
3 IOP Check Check if possible that the < container > resource is updated in Registrar CSE.	
PRO Check • rsc = 2004 (Updated)	
Primitivo • rql = (token-string) same as received in request message	
pc = Serialized representation of <container> resource</container>	
Registrar CSE sends response containing:	
PRO Check • Code = 200 (Ok)	
+X-M2M-RSC: 2004	
• X-M2M-RI: (token-string) same as received in request message	
 Mca Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m- 	es+json
Message-body: Serialized representation of <container> resource</container>	
Registrar sends response containing:	
PRO Check • Response Code = 2.04	
• oneM2M-RSC: 2004	
oneM2M-RQI: (token-string) same as received in request message	
 Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2n 	-res+json

	Interoperability Test Description		
			 Payload : Serialized representation of <container> resource</container>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
		PRO Check	• to = AE-ID
		MQTT	 fr = Registrar CSE-ID
			• rsc = 2004 (Updated)
			 rqi = (token-string) same as received in request message
			 pc = Serialized representation of modified <container> resource</container>
5		IOP Check	AE indicates successful operation
IOP \	/erdict		
PRO [°]	Verdict		

8.1.4.4 Container Delete

	Interoperability Test Description				
Identifier:			TD M2M NH 13		
Objective:			AE deletes a specific container resource via a container Delete Request		
Configuration:			M2M CFG 01		
	ences:	•	TS-0001 [1], clause 10.2.4.4		
i terer			TS-0004 [2], clause 7.3.5.2.4		
Pre-te	st cond	itions:	AE has created an Application Entity resource <ae> on Registrar CSE</ae>		
			AE has created a container resource <container> on Registrar CSE</container>		
			Test Sequence		
Step	RP	Туре	Description		
1		Stimulus	AE is requested to send a subscription Delete Request		
			• op = 4 (Delete)		
			 to = {CSEBaseName}/URI of <container> resource</container> 		
		PRO Check	• fr = ÅE-ID		
		Primitive	• rgi = (token-string)		
			• pc = empty		
			Sent request contains		
			Request method = DELETE		
		PRO Check	Request-Target: {CSEBaseName}/URI of <container> resource</container>		
		HTTP	Host: IP address or the FQDN of Registrar CSE		
			• X-M2M-RI: (token-string)		
			• X-M2M-Origin: AE-ID		
			Message-body: Empty		
			Sent request contains		
2	N/		Method: 0.04 (DELETE)		
	Мса		Uri-Host: IP address or the FQDN of Registrar CSE		
		PRO Check	Uri-Path: {CSEBaseName}/URI of <container> resource</container>		
		CoAP	• oneM2M-FR: AE-ID		
			oneM2M-RQI: (token-string)		
			Payload: empty		
			Sent MQTT PUBLISH message:		
			Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>		
			Payload:		
		PRO Check	• op = 4 (Delete)		
		MQTT	 to = {CSEBaseName}/URI of <container> resource</container> 		
			• fr = AE-ID		
			 rqi = (token-string) 		
			• pc = empty		
3		IOP Check	Check if possible that the <container> resource is deleted in registrar CSE.</container>		
		PRO Check	• rsc = 2002 (DELETED)		
		Primitive	 rqi = (token-string) same as received in request message 		
	Mca		• pc = empty		
4		ca PRO Check HTTP	Registrar CSE sends response containing:		
			• Status Code = 200 (OK)		
1			• X-M2M-RSC: 2002		
			X-M2M-RI: (token-string) same as received in request message		

Interoperability Test Description				
			Message-body: empty	
		PRO Check CoAP	Registrar sends response containing: • Response Code = 2.02 • oneM2M-RSC: 2002(DELETED) • oneM2M-RQI: (token-string) same as received in request message • Payload: empty	
		PRO Check MQTT	Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">" Payload: • to = AE-ID • fr = Registrar CSE-ID • rsc = 2002(DELETED) • rqi = (token-string) same as received in request message</registrar>	
5		IOP Check	Check if possible that the <container> resource has been removed in registrar CSE.</container>	
6		IOP Check	AE indicates successful operation.	
IOP V	/erdict			
PRO Verdict				

8.1.5 ContentInstance Management

8.1.5.1 ContentInstance Create

			Interoperability Test Description
Identifier:			TD_M2M_NH_14
Objec	tive:		AE adds a contentInstance resource <contentinstance> to a specific container in</contentinstance>
-			Registrar CSE via a contentInstance Create Request
Configuration:			M2M_CFG_01
References:			TS-0001 [1], clause 10.2.19.2
			TS-0004 [2], clause 7.3.6.2.1
Pre-test conditions:			 AE has created an application resource <ae> on registrar CSE</ae>
			 AE has created a container resource <container> on registrar CSE</container>
			Test Sequence
Step	RP	Туре	Description
1		Stimulus	AE sends a request to create a <container></container>
		PRO Check Primitive	• op = 1 (Create)
			 to = {CSEBaseName}/URI of < container > resource
			• fr = AE-ID
			 rqi = (token-string)
			• ty = 4 (contentInstance)
			 pc = Serialized representation of <contentinstance> resource</contentinstance>
			Sent request contains
	Мса	PRO Check HTTP	Request method = POST
			 Request-Target:{CSEBaseName}/URI of < container > resource
			Host: IP address or the FQDN of Registrar CSE
			• X-M2M-RI: (token-string)
			• X-M2M-Origin: AE-ID
			Content-Type: application/vnd.onem2m-res+xml; ty=4 or application/vnd.onem2m-
2			res+json; ty=4
			Message-body: Serialized representation of <contentinstance> resource</contentinstance>
		PRO Check CoAP	Sent request contains
			Method: 0.02 (POST)
			 Uri-Host: IP address or the FQDN of Registrar CSE
			 Uri-Path: {CSEBaseName}/URI of < container > resource
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-
			res+json
			• oneM2M-TY: 4
			oneM2M-FR: AE-ID
			 oneM2M-RQI: (token-string)
			Payload: Serialized representation of <contentinstance> resource</contentinstance>
		PRO Check	Sent MQTT PUBLISH message:
		MQTT	Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>

Interoperability Test Description				
			Payload:	
			• op = 1 (Create)	
			 to = {CSEBaseName}/URI of < container > resource 	
			• fr = AE-ID	
			• rqi = (token-string)	
			• ty = 4 (contentInstance)	
			 pc = Serialized representation of <contentinstance> resource</contentinstance> 	
3		IOP Check	Check if possible that the <container> resource is created in registrar CSE.</container>	
			• rsc = 2001 (CREATED)	
		PRO Check	 rqi = (token-string) same as received in request message 	
		Primitive	 pc = Serialized representation of <contentinstance> resource</contentinstance> 	
			Registrar CSE sends response containing:	
			• Status Code = 201 (Created)	
		PRO Check	• X-M2M-RSC: 2001	
		HTTP	• X-M2M-RI: (token-string) same as received in request message	
			Content-Location: URI of the created resource.	
			• Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json	
			Message-body: Serialized representation of <contentinstance> resource</contentinstance>	
	Мса	PRO Check CoAP	Registrar sends response containing:	
			• Response Code = 2.01	
4			• oneM2M-RSC: 2001	
			 oneM2M-RQI: (token-string) same as received in request message 	
			Location-Path: URI of the created resource	
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json	
			Payload: Serialized representation of <contentinstance> resource</contentinstance>	
		PRO Check MQTT	Sent MQTT PUBLISH message:	
			Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>	
			Payload:	
			• to = AE-ID	
			• fr = Registrar CSE-ID	
			• rsc = 2001 (CREATED)	
			 rqi = (token-string) same as received in request message 	
			pc = Serialized representation of <contentinstance> resource</contentinstance>	
5		IOP Check	AE indicates successful operation	
-	/erdict			
PROV	Verdict			

8.1.5.2 ContentInstance Retrieve

Interoperability Test Description						
Identifier:			TD_M2M_NH_15			
Objective:			AE retrieves information of a contentInstance resource via a container Retrieve Request			
Configuration:			M2M_CFG_01			
References:			TS-0001 [1], clause 10.2.19.3			
			TS-0004 [2], clause 7.3.6.2.2			
Pre-test conditions:			 AE has created an Application Entity resource <ae> on Registrar CSE</ae> 			
			 AE has created a container resource <container> on Registrar CSE</container> 			
			Test Sequence			
Step	RP	Туре	Description			
1		Stimulus	AE is requested to send a Retrieve Request for a <contentinstance></contentinstance>			
		PRO Check Primitive	• op = 2 (Retrieve)			
	Мса		 to = {CSEBaseName}/URI of <contentinstance> resource</contentinstance> 			
			• fr = AE-ID			
			 rqi = (token-string) 			
2			• pc = empty			
		PRO Check HTTP	Sent request contains			
			 Request method = GET 			
			 Request-Target: {CSEBaseName}/URI of <contentinstance> resource</contentinstance> 			
			 Host: IP address or the FQDN of Registrar CSE 			
			X-M2M-RI: (token-string)			
			X-M2M-Origin: AE-ID			
			Interoperability Test Description			
-----	---------	------------------------	--			
			Message-body: empty			
			Sent request contains			
			• Method: 0.01 (GET)			
			Uri-Host: IP address or the FQDN of Registrar CSE			
		PRO Check	Uri-Path: {CSEBaseName}/URI of <contentinstance> resource</contentinstance>			
		CoAP	• oneM2M-FR: AE-ID			
			 oneM2M-RQI: (token-string) 			
			Payload: empty			
			Sent MQTT PUBLISH message:			
			Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>			
			Pavload:			
		PRO Check	• op = 2 (Retrieve)			
		MQTT	 to = {CSEBaseName}/URI of <contentinstance> resource</contentinstance> 			
			• fr = AE-ID			
			• rqi = (token-string)			
			• pc = empty			
			• rsc =2000 (OK)			
		PRO Check Primitive	 rqi = (token-string) same as received in request message 			
			 pc = Serialized representation of <contentinstance> resource</contentinstance> 			
			Registrar CSE sends response containing:			
		PRO Check HTTP	• Status Code = 200 (OK)			
			• X-M2M-RSC: 2000			
			• X-M2M-RI: (token-string) same as received in request message			
			Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json			
			Message-body: Serialized representation of <contentinstance> resource</contentinstance>			
			Registrar sends response containing:			
			• Response Code = 2.05 (OK)			
3		PRO Check	• oneM2M-RSC: 2000(OK)			
	Мса	CoAP	 oneM2M-RQI: (token-string) same as received in request message 			
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json			
			Payload: Serialized representation of <contentinstance> resource</contentinstance>			
			Sent MQTT PUBLISH message:			
			Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>			
			Payload:			
		PRO Check	• to = AE-ID			
		MQTT	• fr = Registrar CSE-ID			
			• rsc 2000(OK)			
			 rqi = (token-string) same as received in request message 			
			 pc = Serialized representation of <contentinstance> resource</contentinstance> 			
4		IOP Check	AE indicates successful operation			
-	/erdict					
PRO	Verdict					

8.1.5.3 ContentInstance Delete

			Interoperability Test Description
Identi	fier:		TD_M2M_NH_17
Objective:			AE deletes contentInstance resource via a container Delete Request
Confi	guratior	1:	M2M_CFG_01
Refer	ences:		TS-0001 [1], clause 10.2.19.5
			TS-0004 [2], clause 7.3.6.2.4
Pre-te	est cond	itions:	 AE has created an Application Entity resource <ae> on Registrar CSE</ae>
			 AE has created a container resource <container> on Registrar CSE</container>
			Test Sequence
Step	RP	Туре	Description
1		Stimulus	AE is requested to send a subscription Delete Request
		PRO Check ca Primitive	• op = 4 (Delete)
			 to = {CSEBaseName}/URI of <contentinstance> resource</contentinstance>
2	Мса		• fr = AE-ID
			• rqi = (token-string)
			• pc = empty

			Interoperability Test Description
			Sent request contains
			• Request method = DELETE
		PRO Check	Request-Target: {CSEBaseName}/URI of <contentinstance> resource</contentinstance>
		HTTP	Host: IP address or the FQDN of Registrar CSE
			-
			• X-M2M-RI: (token-string)
			• X-M2M-Origin: AE-ID
			Message-body: Empty
			Sent request contains
			Method: 0.04 (DELETE)
		PRO Check	 Uri-Host: IP address or the FQDN of Registrar CSE
		CoAP	 Uri-Path: {CSEBaseName}/URI of <contentinstance> resource</contentinstance>
		COAF	oneM2M-FR: AE-ID
			 oneM2M-RQI: (token-string)
			Payload: empty
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>
			Pavload:
		PRO Check	• $op = 4$ (Delete)
		MQTT	 to = {CSEBaseName}/URI of <contentinstance> resource</contentinstance>
		mari	• fr = AE-ID
			 rgi = (token-string)
			• $pc = empty$
3		IOP Check	Check if possible that the <contentinstance> resource is deleted in registrar CSE.</contentinstance>
5			• rsc = 2002 (DELETED)
		PRO Check Primitive	 rgi = (token-string) same as received in request message
			• pc = empty
			Registrar CSE sends response containing:
		PRO Check	• Status Code = 200 (OK)
		HTTP	• X-M2M-RSC: 2002
			X-M2M-RI: (token-string) same as received in request message
			Message-body: empty
			Registrar sends response containing:
4		PRO Check	• Response Code = 2.02
	Мса	CoAP	oneM2M-RSC: 2002(DELETED)
		00/1	 oneM2M-RQI: (token-string) same as received in request message
			Payload: empty
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>
		PRO Check	Payload:
		MQTT	• to = AE-ID
			 fr = Registrar CSE-ID
			• rsc = 2002(DELETED)
			 rgi = (token-string) same as received in request message
-			Check if possible that the <contentinstance> resource has been removed in registrar</contentinstance>
5		IOP Check	CSE.
6		IOP Check	AE indicates successful operation.
-	/erdict		
	Verdict		
-			

8.1.6 Discovery

8.1.6.1 Discovery of all resources

			Interoperability Test Description
Identi	fier:		TD_M2M_NH_18
Objec			AE discovers all accessible resources from registrar CSE
Confi	guratior	ו:	M2M_CFG_01
References:			TS-0001 [1], clause 10.2.6
			TS-0004 [2], clause 7.2.3.13
Pre-te	est cond	litions:	 CSEBase resource has been created in registrar CSE with name
			{CSEBaseName}
		_	Test Sequence
Step	RP	Туре	Description
1		Stimulus	AE is requested to send a discovery request to registrar CSE
			Sent request contains
			• op = 2 (Retrieve)
		PRO Check	• to = {CSEBaseName}
		Primitive	• fr = AE-ID
	2 Mca rqi = (token-string) fu=1 pc = empty 2 Mca PRO Check HTTP PRO check HTTP Sent request contains Request method = GET Request-Target: {CSEBaseName}?fu=1 Host: IP address or the FQDN of Registrar CSE X-M2M-RI: (token-string) X-M2M-Origin: AE-ID Metsage-body: empty Sent request contains Method: 0.01 (GET) Uri-Host: IP address or the FQDN of Registrar CSE Uri-Host: IP address or the FQDN of Registrar CSE Uri-Path: {CSEBaseName} oneM2M-FR: AE-ID oneM2M-RQI: (token-string) Uri-Query: fu=1 Payload: empty Sent MQTT PUBLISH message: Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">" PRO Check MOTT Op = 2 (Retrieve) to = {CSEBaseName} </registrar></ae-id>		
			Message-body: empty Sent request contains Method: 0.01 (GET) Uri-Host: IP address or the FQDN of Registrar CSE Check Uri-Path: {CSEBaseName}
2	Mca Mca Mca	• Method: 0.01 (GET)	
	Wida		 Uri-Host: IP address or the FQDN of Registrar CSE
		PRO Check	 Message-body: empty Sent request contains Method: 0.01 (GET) Uri-Host: IP address or the FQDN of Registrar CSE Uri-Path: {CSEBaseName} oneM2M-FR: AE-ID oneM2M-RQI: (token-string) Uri-Query: fu=1 Payload: empty
		CoAP	oneM2M-FR: AE-ID
			 oneM2M-RQI: (token-string)
			Uri-Query: fu=1
			 X-M2M-Origin: AE-ID Message-body: empty Sent request contains Method: 0.01 (GET) Uri-Host: IP address or the FQDN of Registrar CSE k Uri-Path: {CSEBaseName} oneM2M-FR: AE-ID oneM2M-RQI: (token-string) Uri-Query: fu=1 Payload: empty Sent MQTT PUBLISH message: Topic: "/oneM2M/req/<ae-id>/<registrar cse-id="">"</registrar></ae-id> Payload: op = 2 (Retrieve) to = {CSEBaseName}
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>
		PPO Chock	
		WIGETT	• fr = Registree CSE-ID
			 rqi = (token-string)
			• fu = 1
			• pc = empty
			Registrar CSE sends response containing:
		PRO Check	• rsc = 2000 (OK)
		Primitive	 rqi = (token-string) same as received in request message
			 pc = Serialized representation of data object containing addresses of all discovered
			resources
			Registrar CSE sends response containing:
			Status Code = 200 (OK)
		PRO Check	• X-M2M-RSC: 2000
3	Мса	HTTP	• X-M2M-RI: (token-string) same as received in request message
			Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Message-body: Serialized representation of data object containing addresses of all
			discovered resources
			Registrar sends response containing:
		PRO Check	• Response Code = 2.05
		CoAP	• oneM2M-RSC: 2000
			oneM2M-RQI: (token-string) same as received in request message
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json

	Interoperability Test Description		
			Payload: Serialized representation of data object containing addresses of all
			discovered resources
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>
			Payload:
			 to = Registree CSE-ID
		PRO Check	 fr = Registrar CSE-ID
		MQTT	• rsc = 2000 (OK)
			 rqi = (token-string) same as received in request message
			• pc = Serialized representation of data object containing addresses of all discovered
			resources
4		IOP Check	AE indicates successful operation
IOP \	/erdict		
PRO	Verdict		

8.1.6.2 Discovery with label filter criteria

			Interoperability Test Description	
Identi	fier		TD_M2M_NH_19	
Objec	-		AE discovers accessible resources residing in Registrar CSE using the label filter criteria	
	Configuration:		M2M CFG 01	
-	References:		TS-0001 [1], clause 10.2.6	
i toror			TS-0004 [2], clause 7.2.3.13	
Pre-te	est cond	itions:	 CSEBase resource has been created in registrar CSE with name {CSEBaseName} A <container> resource with label "key1" is created on Registrar CSE.</container> 	
			Test Sequence	
Step	RP	Туре	Description	
		Stimulus	AE is requested to send a Discovery request in order to discover the <container></container>	
1		Canada	resource using the label filter criteria	
<u> </u>			Sent request contains	
			• op = 2 (Retrieve)	
			• to = {CSEBaseName}	
		PRO Check	• $fr = AE-ID$	
	Primitive • rqi = (token-string) • fu=1			
			• lbl=key1	
			• pc = empty	
			Sent request contains	
			Request method = GET	
		DBO Chook	·	
	PRO Check • Request-Target: {CSEBaseName}?fu=1&lbl=key1 HTTP • Host: IP address or the FQDN of Registrar CSE			
		нир	• X-M2M-RI: (token-string)	
			• X-M2M-Origin: AE-ID	
	Message-body: empty Sont request contains	Sent request contains		
2			Method: 0.01 (GET)	
~	Mca		Uri-Host: IP address or the FQDN of Registrar CSE	
			• Uri-Path: {CSEBaseName}	
		PRO Check	• oneM2M-FR: AE-ID	
		CoAP	• oneM2M-RQI: (token-string)	
			• Uri-Query: fu=1	
			• Uri-Query: Ibl=key1	
			Payload: empty	
			Sent MQTT PUBLISH message:	
			Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>	
			Payload:	
			• op = 2 (Retrieve)	
		PRO Check	 to = {CSEBaseName} 	
		MQTT	• fr = Registree CSE-ID	
			 rqi = (token-string) 	
			• $fu = 1$	
			 Ibl=key1 	

Interoperability Test Description		
pc = empty		
PRO Check Primitive Registrar CSE sends response containing: • rsc = 2000 (OK) • rgi = (token-string) same as received in request message • pc = Serialized representation of data object containing the addres < Container> address	esse of the	
PRO Check Registrar CSE sends response containing: • Status Code = 200 (OK) • X-M2M-RSC: 2000 • X-M2M-RI: (token-string) same as received in request message • Content-Type: application/vnd.onem2m-res+xml or application/vn • Message-body: Serialized representation of data object containing <container> address</container>		
3 Mca PRO Check CoAP Registrar sends response containing: • Response Code = 2.05 • oneM2M-RSC: 2000 • oneM2M-RQI: (token-string) same as received in request message • Content-format: application/vnd.onem2m-res+xml or application/v • Payload: Serialized representation of data object containing the a <container> address</container>	/nd.onem2m-res+json	
PRO Check MQTT PRO Check MQTT Payload: • to = Registree CSE-ID • fr = Registrar CSE-ID • rsc = 2000 (OK) • rqi = (token-string) same as received in request message • pc = Serialized representation of data object containing the addres	ess of the	
4 IOP Check AE indicates successful operation		
IOP Verdict		
PRO Verdict		

8.1.6.3 Discovery with limit filter criteria

			Interoperability Test Description
Identi	fier:		TD M2M NH 20
Objective:			AE discovers accessible resources residing in Registrar CSE limiting the number of matching resources to the specified value.
Confi	guratior	ו:	M2M_CFG_01
References:			TS-0001 [1], clause 10.2.6 TS-0004 [2], clause 7.2.3.13
Pre-te	est cond	litions:	CSEBase resource has been created in registrar CSE with name {CSEBaseName} Test Sequence
Step	RP	Туре	Description
1		Stimulus	AE is requested to send a Discovery request in order to discover at most 2 resources in registrar CSE.
2	Mag	PRO Check Primitive	Sent request contains • op = 2 (Retrieve) • to = {CSEBaseName} • fr = AE-ID • rqi = (token-string) • fu=1 • lim=2 • pc = empty
1	Мса	PRO Check HTTP	Sent request contains • Request method = GET • Request-Target: {CSEBaseName}?fu=1&lim=2 • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Message-body: empty

			Interoperability Test Description
			Sent request contains
			Method: 0.01 (GET)
			Uri-Host: IP address or the FQDN of Registrar CSE
		PRO Check	• Uri-Path: {CSEBaseName}
		CoAP	oneM2M-FR: AE-ID
			 oneM2M-RQI: (token-string)
			Uri-Query: fu=1
			Uri-Query: lim=2
			Payload: empty
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>
			Payload:
			• op = 2 (Retrieve)
		PRO Check	• to = {CSEBaseName}
		MQTT	• fr = Registree CSE-ID
			• rqi = (token-string)
			• $fu = 1$
			• lim=2
			pc = empty Registrar CSE sends response containing:
		PRO Check	• rsc = 2000 (OK)
		Primitive	• rqi = (token-string) same as received in request message
			 pc = Serialized representation of data object containing the address of the
			<container> address</container>
			Registrar CSE sends response containing:
			• Status Code = 200 (OK)
		PRO Check	• X-M2M-RSC: 2000
		HTTP	 X-M2M-RI: (token-string) same as received in request message
			 Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			 Message-body: Serialized representation of data object containing at most 2
			addresses of discovered resources
			Registrar sends response containing:
3			• Response Code = 2.05
3	Mca		• oneM2M-RSC: 2000
		PRO Check	 oneM2M-RQI: (token-string) same as received in request message
		CoAP	Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			• Payload: Serialized representation of data object containing at most 2 addresses of
			discovered resources
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>
			Payload:
			• to = Registree CSE-ID
		PRO Check	• fr = Registrar CSE-ID
		MQTT	• rsc = 2000 (OK)
			 rqi = (token-string) same as received in request message
			 rql = (token-string) same as received in request message pc = Serialized representation of data object containing at most 2 addresses of
4		IOP Check	discovered resources AE indicates successful operation
	(ordiat	IOP Check	
	/erdict		
FRU	/erdict		

			Interoperability Test Description
Identi			TD_M2M_NH_21
Objec			AE discovers accessible resources residing in Registrar CSE using multiple Filter Criteria
	guratior	ו:	
References:			TS-0001 [1], clause 10.2.6
			TS-0004 [2], clause 7.2.3.13
Pre-test conditions:		litions:	Two <container> resources with labels "key1" and "key2" are created in Registrar CSE.</container>
Step	RP	Туре	
1		Stimulus	AE is requested to send a Discovery request in order to discover specific resources
I			located in Registrar CSE using multiple filter criteria (label, resource type and limit)
			 to = {CSEBaseName}
			• fr = AE-ID
			CSE. • A <group> resources with labels "key1" and "key2" is created in Registrar CSE. Test Sequence Type Description AE is requested to send a Discovery request in order to discover specific resources located in Registrar CSE using multiple filter criteria (label, resource type and limit) Sent request contains • op = 2 (Retrieve) • to = (CSEBaseName) • fr = AE-ID • fr = AE-ID • bl=key1 • bl=key2 • try=3 • lim=1 • pc = empty Sent request contains • Request ration = GET • Request ration = GET • Request ration = GET • KaMP-RI: (token-string) • X-M2M-RI: (token-string) • Uri-Parts: CSEBaseName) • oneM2M-RR: (token-string) • Uri-Parts: (CSEBaseName) • oneM2M-RR: (token-string) • Uri-Query: bl=key1 • Uri-Query: bl=key1 • Uri-Query: bl=key1 • Uri-Query: bl=key1 • Uri-Query: bl=key1 • Uri-Query: bl=key1 • Uri-Query: bl=key2 • Uri-Query: bl=key1 • Uri-Query: bl=key1 • Uri-Query: bl=key1 • Uri-Query: bl=key1 • Uri-Query: bl=key1 • Uri-Query: bl=key2 • Uri-Query: bl=key1 • Uri-Query: bl=key1 • Uri-Query: bl=key1 • Uri-Query: bl=key2 • Uri-Query: bl=key1 • Uri-Query: bl=key1 • Uri-Query: bl=key1 • Uri-Query: bl=key2 • Uri-Query: bl=key2 • Uri-Query: bl=key1 • Uri-Query: bl=key1 • Uri-Query: bl=key2 • Uri-Query: bl=key2 • Uri-Query: bl=key1 • Uri-Query: bl=key2 • Uri-Query: bl=key2 • Uri-Query: bl=key2 • Uri-Query: bl=key1 • Uri-Query: bl=key1 • Uri-Query: bl=key1 • Uri-Query: bl=key2 • Uri-Query: bl=key1 • Uri-Query: bl=key2 • Uri-Query: bl=key1 • Uri-Query: bl=key2 • Uri-Query: bl=key2 • Uri-Query: bl=key1 • Uri-Query: bl=key2 • Uri-Query: bl=key1 • Uri-Query: bl=key2 • Uri-Query: bl=key1 • Uri-Query: bl=key2 • Uri-Query: bl=key1 • Uri-Query: bl=key1 • Uri-Query: bl=key1 • Uri-Query: bl=key1 • Uri-Query: bl=key1 • Uri-Query: bl=key1 • Uri-Query: bl=key1</group>
		PRO Check	
		Primitive	• lbl=key1
			• lbl=key2
	• rty=3 • lim=1	• rty=3	
			• lim=1
			• pc = empty
 Request-Target: {CSEBaseName}?fu=1&key=1&key=2&rty= 			
		PRO Check	
		HTTP	
2			
2	Mca		
		CoAP	
	TS-0004 [2], clause 7.2.3.13 test conditions: • Two <container> resources with labels "key1" and "key2" are created in Registrar (CSE. • A • A • Cources with labels "key1" and "key2" is created in Registrar (CSE. • RP Type Description • Stimulus AE is requested to send a Discovery request in order to discover specific resource tope and limit • op = 2 (Retrieve) • to = (CSEBaseName) • to = 1 (CSEBaseName) • tip = AE-ID • rai = (token-string) • tu=1 • bl=key1 • bl=key1 • bl=key2 • try=3 • lim=1 • pc = empty Sent request contains • Request-arget; (CSEBaseName)?fu=1&key=1&key=2&rty=3&lim=1 • bl=key1 • bl=key2 • try=3 • lim=1 • pc = empty Sent request contains • Request-arget; (CSEBaseName)?fu=1&key=1&key=2&rty=3&lim=1 • host: IP address or the FQDN of Registrar CSE • X-M2M-Ri; (token-string) • X-M2M-Ri; (token-string) • Werbod: 0.01 (GET) • Uni-Pati; (CSEBaseName) • omeM2M-FR; AE-ID • omeM2M-FR; AE-ID • omeM2M-FR; (token-string)</container>		
		PRO Check	
			•
3	Mca	Primitive	
	ivica		
1			<container> resources</container>

8.1.6.4 Discovery with multiple filter criteria

			Interoperability Test Description
-		HTTP	Status Code = 200 (OK)
			• X-M2M-RSC: 2000
			 X-M2M-RI: (token-string) same as received in request message
			 Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Message-body: Serialized representation of data object containing the address of one
			of the <container> resources</container>
			Registrar sends response containing:
			• Response Code = 2.05
		PRO Check	• oneM2M-RSC: 2000
		CoAP	 oneM2M-RQI: (token-string) same as received in request message
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Payload: Serialized representation of data object containing the address of one of the
			<container> resources</container>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">" Payload:</registrar></ae-id>
			to = Registree CSE-ID
		PRO Check	• fr = Registrar CSE-ID
		MQTT	• $rsc = 2000 (OK)$
			 rqi = (token-string) same as received in request message
			 pc = Serialized representation of data object containing the address of one of the
			Container> resources
4		IOP Check	AE indicates successful operation
IOP V	/erdict		· · ·
PRO \	/erdict		

Subscription Management 8.1.7

Subscription Create 8.1.7.1

			Interoperability Test Description
Identi	fier:		TD M2M NH 22
Objective:			AE creates a subscription to Application Entity resource via subscription Create Request
Configuration:			M2M CFG 01
	ences:		TS-0001 [1], clause 10.2.11.2
			TS-0004 [2], clause 7.3.7.2
Pre-te	st cond	itions:	 AE has created an application resource <ae> on registrar CSE</ae>
			 AE has created a container resource <container> on registrar CSE</container>
			Test Sequence
Step	RP	Туре	Description
1		Stimulus	AE is requested to send a AE Create request to register to the Registrar CSE
2	Мса	PRO Check Primitive PRO Check HTTP	 op = 1 (Create) to = {CSEBaseName}/URI of <container> resource</container> fr = AE-ID rqi = (token-string) ty = 23 (Subscription) pc = Serialized representation of <subscription> resource</subscription> Sent request contains Request method = POST Request-Target:{CSEBaseName}/URI of <container> resource</container> Host: IP address or the FQDN of Registrar CSE X-M2M-RI: (token-string) X-M2M-Origin: AE-ID Content-Type: application/vnd.onem2m-res+xml; ty=23 or application/vnd.onem2m-res+json; ty=23 Message-body: Serialized representation of <subscription> resource</subscription>
		PRO Check CoAP	Sent request contains Method: 0.02 (POST) Uri-Host: IP address or the FQDN of Registrar CSE Uri-Path: {CSEBaseName}/URI of <container> resource</container> Content-type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json

© oneM2M Partners Type 1 (ARIB, ATIS, CCSA, ETSI, TIA, TSDSI, TTA, TTC) Page 41 of 112 This is a draft oneM2M document and should not be relied upon; the final version, if any, will be made available by oneM2M Partners Type 1.

			Interoperability Test Description
			oneM2M-TY: 23
			• oneM2M-FR: AE-ID
			• oneM2M-RQI: (token-string)
			 Payload: Serialized representation of <subscription> resource</subscription>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/reg/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
			• op = 1 (Create)
		PRO Check	 to = {CSEBaseName}/URI of <container> resource</container>
		MQTT	• fr = AE-ID
			 rqi = (token-string)
			• ty = 23 (Subscription)
3		IOP Check	• pc = Serialized representation of <subscription> resource</subscription>
3		IOP Check	Check if possible that the <subscription> resource is created in registrar CSE.</subscription>
		PRO Check	• rsc = 2001 (CREATED)
		Primitive	• rqi = (token-string) same as received in request message
			• pc = Serialized representation of <subscription> resource</subscription>
		PRO Check HTTP	Registrar CSE sends response containing:
			• Status Code = 201 (Created)
			• X-M2M-RSC: 2001
			X-M2M-RI: (token-string) same as received in request message
			Content-Location: URI of the created resource.
			Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Message-body: Serialized representation of <subscription> resource</subscription>
			Registrar sends response containing:
4			• Response Code = 2.01
4	Mca	PRO Check	• oneM2M-RSC: 2001
		CoAP	oneM2M-RQI: (token-string) same as received in request message
			Location-Path: URI of the created resource
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Payload: Serialized representation of <subscription> resource</subscription>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
		PRO Check	• to = AE-ID
		MQTT	• fr = Registrar CSE-ID
			• rsc = 2001 (CREATED)
			• rqi = (token-string) same as received in request message
5		IOP Check	• pc = Serialized representation of <subscription> resource AE indicates successful operation</subscription>
-	/erdict	IOF CHECK	רב וועועמופה העטופההועו טורבומווטוו
	Verdict		
	v or ulot		

8.1.7.2 Subscription Retrieve

			Interoperability Test Description
Identi	fier:		TD_M2M_NH_23
Objec	tive:		AE retrieves subscription resource from Registrar CSE
Confi	guratior	1:	M2M_CFG_01
Refer	ences:		TS-0001 [1], clause 10.2.11.3
			TS-0004 [2], clause 7.3.7.2
Pre-te	est cond	itions:	 AE has created an Application Entity resource <ae> on Registrar CSE</ae> AE has created a container resource <container> on Registrar CSE</container> AE has created a subscription resource <subscription> on Registrar CSE</subscription> Test Sequence
Step	RP	Туре	Description
1		Stimulus	AE is requested to send a Retrieve Request for a <subscription></subscription>
2	Мса	PRO Check Primitive	 op = 2 (Retrieve) to = {CSEBaseName}/URI of <subscription> resource</subscription> fr = AE-ID rqi = (token-string)

			Interoperability Test Description
			• pc = empty
			Sant request contains
			Sent request contains Request method = GET
			 Request Target: {CSEBaseName}/URI of <subscription> resource</subscription>
		PRO Check	Host: IP address or the FQDN of Registrar CSE
		HTTP	• X-M2M-RI: (token-string)
			• X-M2M-Origin: AE-ID
			Message-body: empty
			Sent request contains
			Method: 0.01 (GET)
			Uri-Host: IP address or the FQDN of Registrar CSE
		PRO Check	Uri-Path: {CSEBaseName}/URI of <subscription> resource</subscription>
		CoAP	• oneM2M-FR: AE-ID
			 oneM2M-RQI: (token-string)
			Payload: empty
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
		PRO Check	• op = 2 (Retrieve)
		MQTT	 to = {CSEBaseName}/URI of <subscription> resource</subscription>
			• fr = AE-ID
			 rqi = (token-string)
			• pc = empty
		PRO Check Primitive	• rsc =2000 (OK)
			 rqi = (token-string) same as received in request message
			• pc = Serialized representation of <subscription> resource</subscription>
			Registrar CSE sends response containing:
		PRO Check HTTP	• Status Code = 200 (OK)
			• X-M2M-RSC: 2000
			• X-M2M-RI: (token-string) same as received in request message
			Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Magagga badw Serialized representation of «Subaggintian» reserves
			Message-body: Serialized representation of <subscription> resource Registrar sends response containing:</subscription>
			Response Code = 2.05
3		PRO Check	• oneM2M-RSC: 2000(OK)
	Мса	CoAP	 oneM2M-RQI: (token-string) same as received in request message
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Payload: Serialized representation of <subscription> resource</subscription>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
		PRO Check	• to = AE-ID
		MQTT	• fr = Registrar CSE-ID
			• rsc 2000(OK)
			 rqi = (token-string) same as received in request message
			• pc = Serialized representation of <subscription> resource</subscription>
4		IOP Check	AE indicates successful operation
	/erdict		
PROV	Verdict		

			Interenerability Test Description
Identi	fior		Interoperability Test Description
Obiec	-		AE updates information about a subscription via subscription Update Request
	guratior		M2M_CFG_01
	ences:	1.	TS-0001 [1], clause 10.2.11.4
Nelelences.			TS-0004 [2], clause 7.3.7.2
Pre-te	est cond	litions:	AE has created an Application Entity resource <ae> on Registrar CSE</ae>
			• AE has created a container resource <container> on Registrar CSE</container>
			AE has created a subscription resource <subscription> on Registrar CSE</subscription>
			Test Sequence
Step	RP	Туре	Description
1		Stimulus	AE is requested to send a subscription Update Request to update the lifetime of the
I			resource.
			• op = 3 (Update)
		PRO Check	 to = {CSEBaseName}/URI of <subscription> resource</subscription>
		Primitive	• fr = AE-ID
		Timitive	 rqi = (token-string)
			 pc = Serialized representation of updated <subscription> resource</subscription>
			Sent request contains
			• Request method = PUT
		PRO Check	Request-Target:{CSEBaseName}/URI of <subscription> resource</subscription>
		HTTP	Host: IP address or the FQDN of Registrar CSE
			• X-M2M-RI: (token-string)
			• X-M2M-Origin: AE-ID
			Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Message-body: Serialized representation of updated <subscription> resource</subscription>
2		PRO Check CoAP	Sent request contains
2	Mca		Method: 0.03 (PUT)
			Uri-Host: IP address or the FQDN of Registrar CSE
			 Uri-Path: {CSEBaseName}/URI of <subscription> resource</subscription> oneM2M-FR: AE-ID
			• oneM2M-RQI: (token-string)
			 Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			 Payload: Serialized representation of updated <subscription> resource</subscription>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/ req /< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
		PRO Check	• op = 3 (Update)
		MQTT	 to = {CSEBaseName}/URI of <subscription> resource</subscription>
			• fr = AE-ID
			 rqi = (token-string)
			pc = Serialized representation of updated <subscription> resource</subscription>
3		IOP Check	Check if possible that the <subscription> resource is updated in Registrar CSE.</subscription>
		PRO Check	• $rsc = 2004$ (Updated)
		Primitive	• rqi = (token-string) same as received in request message
			• pc = Serialized representation of <subscription> resource</subscription>
			Registrar CSE sends response containing:
		PRO Check	• Code = 200 (Ok)
		HTTP	• X-M2M-RSC: 2004
			 X-M2M-RI: (token-string) same as received in request message Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			 Content-Type: application/vnd.onem2m-res+xmi of application/vnd.onem2m-res+json Message-body: Serialized representation of <subscription> resource</subscription>
4			Registrar sends response containing:
'	Мса		Response Code = 2.04
		PRO Check CoAP	• oneM2M-RSC: 2004
			 oneM2M-RQI: (token-string) same as received in request message
		00/11	 Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			 Payload : Serialized representation of <subscription> resource</subscription>
			Sent MQTT PUBLISH message:
		PRO Check	Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>
		MQTT	Payload:
			• to = AE-ID

8.1.7.3 Subscription Update

	Interoperability Test Description			
			 fr = Registrar CSE-ID rsc = 2004 (Updated) rqi = (token-string) same as received in request message 	
			 pc = Serialized representation of modified <subscription> resource</subscription> 	
5		IOP Check	AE indicates successful operation	
IOP V	IOP Verdict			
PRO \	Verdict			

8.1.7.4 Subscription Delete

			Interoperability Test Description
Identi	fier:		TD_M2M_NH_25
Objec	tive:		AE cancels subscription via an subscription Delete Request
Config	guratior	1:	M2M_CFG_01
	ences:		TS-0001 [1], clause 10.2.11.5
			TS-0004 [2], clause 7.3.7.2
Pre-te	st cond	itions:	 AE has created an Application Entity resource <ae> on Registrar CSE</ae>
			AE has created a container resource <container> on Registrar CSE</container>
			AE has created a subscription resource <subscription> on Registrar CSE</subscription>
			Test Sequence
Step	RP	Туре	Description
1		Stimulus	AE is requested to send a subscription Delete Request
			• op = 4 (Delete)
		PRO Check	• to = {CSEBaseName}/URI of <subscription> resource</subscription>
		Primitive	• fr = AE-ID
			• rqi = (token-string)
			• pc = empty
			Sent request contains
			• Request method = DELETE
		PRO Check HTTP	Request-Target: {CSEBaseName}/URI of <subscription> resource</subscription>
			Host: IP address or the FQDN of Registrar CSE
			• X-M2M-RI: (token-string)
	Мса		• X-M2M-Origin: AE-ID
			Message-body: Empty
2		PRO Check	Sent request contains
2			 Method: 0.04 (DELETE) Uri-Host: IP address or the FQDN of Registrar CSE
			5
		CoAP	 Uri-Path: {CSEBaseName}/URI of <subscription> resource</subscription> oneM2M-FR: AE-ID
			• oneM2M-RQI: (token-string)
			Payload: empty
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
		PRO Check	• op = 4 (Delete)
		MQTT	 to = {CSEBaseName}/URI of <subscription> resource</subscription>
			• fr = AE-ID
			 rqi = (token-string)
			• pc = empty
3		IOP Check	Check if possible that the <subscription> resource is deleted in registrar CSE.</subscription>
		PRO Check	• rsc = 2002 (DELETED)
		Primitive	 rqi = (token-string) same as received in request message
		Thinkve	• pc = empty
			Registrar CSE sends response containing:
	Мса	PRO Check HTTP	• Status Code = 200 (OK)
4			• X-M2M-RSC: 2002
			X-M2M-RI: (token-string) same as received in request message
			Message-body: empty
		PRO Check	Registrar sends response containing:
		CoAP	• Response Code = 2.02
		0071	oneM2M-RSC: 2002(DELETED)

			Interoperability Test Description
			 oneM2M-RQI: (token-string) same as received in request message
			Payload: empty
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>
		PRO Check MQTT	Payload:
			• to = AE-ID
			 fr = Registrar CSE-ID
			• rsc = 2002(DELETED)
			 rqi = (token-string) same as received in request message
5		IOP Check	Check if possible that the <subscription> resource has been removed in registrar CSE.</subscription>
6		IOP Check	AE indicates successful operation
IOP \	/erdict		
PRO	Verdict		

8.1.8 accessControlPolicy Management

8.1.8.1 accessControlPolicy Create

			Interoperability Test Description
Identi	fier		TD M2M NH 26
Objec	-		AE creates an accessControlPolicy resource
Configuration:			M2M_CFG_01
	ences:		1] 10.2.21.1
Refer			TS-0004 [2], clause 7.3.1.2
Pre-te	st cond	itions:	CSEBase resource has been created in registrar CSE with name
			{CSEBaseName}
			 AE has created a <ae> resource on registrar CSE with name {AE}</ae>
			Test Sequence
Step	RP	Туре	Description
1		Stimulus	AE is requested to send an accessControlPolicy Create Request
			• op = 1 (Create)
			• to = {CSEBaseName}/{AE}
		PRO Check	• fr = AE-ID
		Primitive	• rqi = (token-string)
			• ty = 1 (accessControlPolicy)
			 pc = Serialized representation of <accesscontrolpolicy> resource</accesscontrolpolicy>
			Sent request contains
			Request method = POST
			Request-Target:{CSEBaseName}/{AE}
		PRO Check	Host: IP address or the FQDN of Registrar CSE
		HTTP	• X-M2M-RI: (token-string)
			• X-M2M-Origin: AE-ID
			Content-Type: application/vnd.onem2m-res+xml; ty=1 or application/vnd.onem2m-
			res+json; ty=1
			Message-body: Serialized representation of <accesscontrolpolicy> resource</accesscontrolpolicy>
2			Sent request contains
-	Mca		Method: 0.02 (POST)
			Uri-Host: IP address or the FQDN of Registrar CSE
			• Uri-Path: {CSEBaseName}/{AE}
		PRO Check	Content-type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
		CoAP	• oneM2M-TY: 1
			• oneM2M-FR: AE-ID
			• oneM2M-RQI: (token-string)
			Payload: Serialized representation of <accesscontrolpolicy> resource</accesscontrolpolicy>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
1		PRO Check	• op = 1 (Create)
		MQTT	• to = {CSEBaseName}/{AE}
1			• fr = AE-ID
			• rqi = (token-string)
L			

			Interoperability Test Description
			• ty = 1 (RemoteCSE)
			 pc = Serialized representation of <accesscontrolpolicy> resource</accesscontrolpolicy>
3		IOP Check	Check if possible that the <container> resource is created in registrar CSE.</container>
			• rsc = 2001 (CREATED)
		PRO Check Primitive	 rqi = (token-string) same as received in request message
		Primitive	 pc = Serialized representation of <accesscontrolpolicy> resource</accesscontrolpolicy>
			Registrar CSE sends response containing:
			 Status Code = 201 (Created)
		PRO Check	• X-M2M-RSC: 2001
		HTTP	 X-M2M-RI: (token-string) same as received in request message
			 Content-Location: URI of the created <accesscontrolpolicy> resource.</accesscontrolpolicy>
			Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			 Message-body: Serialized representation of <accesscontrolpolicy> resource</accesscontrolpolicy>
	Мса	PRO Check CoAP	Registrar sends response containing:
			Response Code = 2.01
4			• oneM2M-RSC: 2001
			 oneM2M-RQI: (token-string) same as received in request message
			 Location-Path: URI of the created <accesscontrolpolicy> resource</accesscontrolpolicy>
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			 Payload: Serialized representation of <accesscontrolpolicy> resource</accesscontrolpolicy>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
		PRO Check	• to = AE-ID
		MQTT	• fr = Registrar CSE-ID
			• rsc = 2001 (CREATED)
			• rqi = (token-string) same as received in request message
-		IOD Cheel	pc = Serialized representation of <accesscontrolpolicy> resource</accesscontrolpolicy>
5	(andiat	IOP Check	AE indicates successful operation
	/erdict		
PRU	Verdict		

8.1.8.2 accessControlPolicy Retrieve

	Interoperability Test Description					
Identi	fier:		TD M2M NH 27			
Objec			AE retrieves accessControlPolicy resource			
	guration	n.	M2M CFG 01			
	ences:		TS-0001 [1], clause 10.2.21.2			
			TS-0004 [2], clause 7.3.1.2			
Pre-test conditions:			 CSEBase resource has been created in registrar CSE with name {CSEBaseName} AE has created a <ae> resource on registrar CSE with name {AE}</ae> accessControlPolicy resource has been created in registrar CSE under <ae> resource with name {accessControlPolicyName}</ae> 			
			Test Sequence			
Step	RP	Туре	Description			
1		Stimulus	AE is requested to send a accessControlPolicy retrieve request to Registrar CSE			
		PRO Check Primitive	 op = 2 (Retrieve) to = {CSEBaseName}/{AE}/{accessControlPolicyName} fr = AE-ID rqi = (token-string) pc = empty 			
2	Мса	PRO Check HTTP	Sent request contains • Request method = GET • Request-Target: {CSEBaseName}/{{AE}/{accessControlPolicyName} • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Message-body: empty			
		PRO Check CoAP	Sent request containsMethod: 0.01 (GET)			

			Interoperability Test Description
			Uri-Host: IP address or the FQDN of Registrar CSE
			• Uri-Path: {CSEBaseName}/{AE}/{accessControlPolicyName}
			• oneM2M-FR: AE-ID
			• oneM2M-RQI: (token-string)
			Payload: empty
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
		PRO Check	• op = 2 (Retrieve)
		MQTT	 to = {CSEBaseName}/{AE}/{accessControlPolicyName}
			• fr = AE-ID
			 rqi = (token-string)
			• pc = empty
			Registrar CSE sends response containing:
		PRO Check	• rsc = 2000 (OK)
		Primitive	 rqi = (token-string) same as received in request message
			 pc = Serialized representation of <accesscontrolpolicy> resource</accesscontrolpolicy>
	Мса	PRO Check HTTP	Registrar CSE sends response containing:
			• Status Code = 200 (OK)
			• X-M2M-RSC: 2000
			 X-M2M-RI: (token-string) same as received in request message
			Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			 Message-body: Serialized representation of <accesscontrolpolicy> resource</accesscontrolpolicy>
		PRO Check	Registrar sends response containing:
3			• Response Code = 2.05 (OK)
_			• oneM2M-RSC: 2000
		CoAP	oneM2M-RQI: (token-string) same as received in request message
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Payload: Serialized representation of <accesscontrolpolicy> resource</accesscontrolpolicy>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>
		PRO Check	Payload: • to = AE-ID
		MQTT	• fr = Registrar CSE-ID
		MQTT	
			 rsc = 2000 (OK) rqi = (token-string) same as received in request message
			 pc = Serialized representation of <accesscontrolpolicy> resource</accesscontrolpolicy>
4		IOP Check	AE indicates successful operation
-	/erdict	IOT OTICOR	
	Verdict		

8.1.8.3 accessControlPolicy Update

			Interoperability Test Description
Identifier:			TD_M2M_NH_28
Objec	tive:		AE updates attribute in accessControlPolicy resource
Configuration:			M2M_CFG_01
References:			TS-0001 [1], clause 10.2.21.3 TS-0004 [2], clause 7.3.1.2
Pre-te	st conc	litions:	 CSEBase resource has been created in registrar CSE with name {CSEBaseName} AE has created a <ae> resource on registrar CSE with name {AE}</ae> accessControlPolicy resource has been created in registrar CSE under <ae> resource with name {accessControlPolicyName}</ae>
			Test Sequence
Step	RP	Туре	Description
1		Stimulus	AE is requested to send an accessControlPolicy update request to Registrar CSE
2	Мса	PRO Check Primitive	 op = 3 (Update) to = {CSEBaseName}/{AE}/{accessControlPolicyName} fr = AE-ID rqi = (token-string) pc = Serialized representation of updated <accesscontrolpolicy> resource</accesscontrolpolicy>

			Interoperability Test Description
			Sent request contains
			Request method = PUT
			 Request-Target: {CSEBaseName}/{AE}/{accessControlPolicyName}
			Host: IP address or the FQDN of Registrar CSE
		PRO Check	• X-M2M-RI: (token-string)
		HTTP	• X-M2M-Origin: AE-ID
			Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-
			res+json
			 Message-body: Serialized representation of updated <accesscontrolpolicy></accesscontrolpolicy>
			resource
			Sent request contains
			Method: 0.03 (PUT)
			Uri-Host: IP address or the FQDN of Registrar CSE
			• Uri-Path: {CSEBaseName}/{AE}/{accessControlPolicyName}
		PRO Check	• oneM2M-FR: AE-ID
		CoAP	• oneM2M-RQI: (token-string)
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-
			res+json
			 Payload: Serialized representation of updated <accesscontrolpolicy> resource</accesscontrolpolicy>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>
			Payload:
		PRO Check	• op = 3 (Update)
		MQTT	 to = {CSEBaseName}/{AE}/{accessControlPolicyName}
			• fr = AE-ID
			 rqi = (token-string)
			 pc = Serialized representation of updated <accesscontrolpolicy> resource</accesscontrolpolicy>
			Check if possible that the <accesscontrolpolicy> resource has been updated in</accesscontrolpolicy>
3		IOP Check	registrar CSE.
			Registrar CSE sends response containing:
4		PRO Check	• rsc = 2004 (UPDATED)
4		Primitive	 rqi = (token-string) same as received in request message
			 pc = Serialized representation of <accesscontrolpolicy> resource</accesscontrolpolicy>
			Registrar CSE sends response containing:
			 Status Code = 200 (OK)
		PRO Check	• X-M2M-RSC: 2004
		HTTP	 X-M2M-RI: (token-string) same as received in request message
			 Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-
			res+json
			Message-body: Serialized representation of <accesscontrolpolicy> resource</accesscontrolpolicy>
			Registrar sends response containing:
			• Response Code = 2.04 (UPDATED)
	Мса	PRO Check	• oneM2M-RSC: 2004
		CoAP	oneM2M-RQI: (token-string) same as received in request message
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-
			res+json
			Payload: Serialized representation of <accesscontrolpolicy> resource</accesscontrolpolicy>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>
			Payload:
		PRO Check	• to = AE-ID
		MQTT	• fr = Registrar CSE-ID
			• rsc = 2004 (Updated)
			• rqi = (token-string) same as received in request message
_			• pc = Serialized representation of <accesscontrolpolicy> resource</accesscontrolpolicy>
5	a nali st	IOP Check	AE indicates successful operation
IOP Ve			
PR			
Vero	JICL		

8.1.8.4 accessControlPolicy Delete

			Internet Silfer Test Description
ldent'	fior		Interoperability Test Description
Identi			TD_M2M_NH_29
Objec	guratio	n.	AE deletes accessControlPolicy resource M2M_CFG_01
	ences:		TS-0001 [1], clause 10.2.21.4
Neich	ences.		TS-0004 [2], clause 7.3.1.2
			10 0004 [2], 00000 1.0.1.2
Pre-test conditions:		ditions:	 CSEBase resource has been created in registrar CSE with name {CSEBaseName} AE has created a <ae> resource on registrar CSE with name {AE}</ae> accessControlPolicy resource has been created in registrar CSE under <ae> resource with name {accessControlPolicyName}</ae>
01.00		-	Test Sequence
Step	RP	Туре	Description
1		Stimulus	AE is requested to send an accessControlPolicy delete request to Registrar CSE
		PRO Check Primitive	 op = 4 (Delete) to = {CSEBaseName}/{AE}/{accessControlPolicyName} fr = AE-ID rqi = (token-string) pc = empty
	2 Mca Sent request contains Request method = DELETE Request-Target: {CSEBaseName}/{AE}/{accessControlender HTTP 2 Mca Request-Target: {CSEBaseName}/{AE}/{accessControlender Nessage-body: empty 2 Mca PRO Check CoAP Sent request contains Nethod: 0.04 (DELETE) Uri-Host: IP address or the FQDN of Registrar CSE Uri-Path: {CSEBaseName}/{AE}/{accessControlPolicyNetains} OneM2M-FR: AE-ID OneM2M-FR: AE-ID OneM2M-RQI: (token-string) Payload: empty Sent MQTT Sent MQTT PUBLISH message: Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">" Payload: Op = 4 (Delete) to = {CSEBaseName}/{AE}/{accessControlPolicyName} fr = AE-ID orgi = (token-string)</registrar></ae-id>	 Request method = DELETE Request-Target: {CSEBaseName}/{AE}/{accessControlPolicyName} Host: IP address or the FQDN of Registrar CSE X-M2M-RI: (token-string) X-M2M-Origin: AE-ID 	
2		PRO Check CoAP PRO Check	 Method: 0.04 (DELETE) Uri-Host: IP address or the FQDN of Registrar CSE Uri-Path: {CSEBaseName}/{AE}/{accessControlPolicyName} oneM2M-FR: AE-ID oneM2M-RQI: (token-string)
			Sent MQTT PUBLISH message: Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">" Payload: • op = 4 (Delete) • to = {CSEBaseName}/{AE}/{accessControlPolicyName} • fr = AE-ID</registrar></ae-id>
		PRO Check Primitive	Registrar CSE sends response containing: • rsc = 2002 (DELETED) • rqi = (token-string) same as received in request message • pc = empty
3	Mca PRO Check HTTP Registrar CSE sends res Status Code = 200 (C X-M2M-RSC: 2002 NMca PRO Check CoAP Registrar sends respons Response Code = 2.0 PRO Check CoAP Registrar sends respons Response Code = 2.0 PRO Check CoAP Registrar sends respons Response Code = 2.0 PRO Check CoAP Sent MQTT PUBLISH m Topic: "/oneM2M/resp/ PRO Check MQTT Sent MQTT PUBLISH m Topic: "/oneM2M/resp/ PRO Check MQTT to = AE-ID PRO Check MQTT to = AE-ID PRO Check MQTT registrar CSE-ID PRO Check MQTT to = AE-ID PRO Check MQTT to = AE-ID PRO Check MQTT rgi = (token-string) satisfies	• X-M2M-RI: (token-string) same as received in request message	
			Registrar sends response containing: • Response Code = 2.05 (OK) • oneM2M-RSC: 2002 • oneM2M-RQI: (token-string) same as received in request message • Payload: empty
			 to = AE-ID fr = Registrar CSE-ID

4 IOP Check Check if possible that the <accesscontrolpolicy> resource has been removed from re</accesscontrolpolicy>	Interoperability Test Description			
CSE.	gistrar			
5 IOP Check AE indicates successful operation				
IOP Verdict				
PRO Verdict				

Unauthorized operation (Insufficient Access Rights) 8.1.8.5

			Interoperability Test Description		
Identi	fier		TD_M2M_NH_30		
Objec	-		AE delete request is rejected due to accessControlPolicy		
	guratior):	M2M CFG 01		
References:			[2]] 7.3.1.2		
Pre-test conditions:			 CSEBase resource has been created in registrar CSE with name {CSEBaseName} AE has created a <ae> resource on registrar CSE with name {AE}</ae> accessControlPolicy resource has been created in registrar CSE under <ae> resource with name {accessControlPolicyName}, which forbids to delete container</ae> AE has created a <container> resource on registrar CSE under <ae>, with name {containerName}</ae></container> 		
Ston DD Tyme					
Step	RP	Type Stimulus	Description		
1		Sumulus	AE is requested to send a container Delete Request for resource <container></container>		
		PRO Check Primitive	 op = 4 (Delete) to = {CSEBaseName}/{AE}/{containerName} fr = AE-ID rqi = (token-string) pc = empty 		
	Mca	PRO Check HTTP	Sent request contains • Request method = DELETE • Request-Target: {CSEBaseName}/{AE}/{containerName} • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Message-body: empty		
2		PRO Check CoAP	Sent request contains • Method: 0.04 (DELETE) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/{AE}/{containerName} • oneM2M-FR: AE-ID • oneM2M-RQI: (token-string) • Payload: empty		
			PRO Check MQTT	Sent MQTT PUBLISH message: Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">" Payload: • op = 4 (Delete) • to = {CSEBaseName}/{AE}/{containerName} • fr = AE-ID • rqi = (token-string) • pc = empty</registrar></ae-id>	
		PRO Check Primitive	Registrar CSE sends response containing: • rsc = 4103 (ACCESS_DENIED) • rqi = (token-string) same as received in request message pc = empty		
3	Мса	PRO Check HTTP	Registrar CSE sends response containing: • Status Code = 403 (Forbidden) • X-M2M-RSC: 4103 • X-M2M-RI: (token-string) same as received in request message • Message-body: empty		
		PRO Check CoAP	Registrar sends response containing: • Response Code = 4.03 (Forbidden) • oneM2M-RSC: 4103 • oneM2M-RQI: (token-string) same as received in request message		

		Interoperability Test Description				
			Payload: empty			
			Sent MQTT PUBLISH message:			
			Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>			
			Payload:			
		PRO Check	• to = AE-ID			
		MQTT	• fr = Registrar CSE-ID			
			 rsc = <response access_denied="" code(4103,="" status=""></response> 			
			 rqi = (token-string) same as received in request message 			
			• pc = empty			
4		IOP Check	Check if possible that the <container> resource has not been removed in registrar CSE.</container>			
5		IOP Check	AE indicates unsuccessful operation (Delete error – no privilege)			
IOP \	/erdict					
PRO	Verdict					

8.1.9 Group Management

8.1.9.1

	Interoperability Test Description				
Identi	fior		TD_M2M_NH_32		
Objec			AE retrieves group resource		
	guratior	.	M2M CFG 01		
	ences:	•	TS-0001 [1], clause 10.2.7.3		
T.C.C.	chicc3.		TS-0004 [2], clause 7.3.12.2.2		
Pre-te	est cond	litions:	AE has created a <group> resource on Registrar CSE</group>		
			Test Sequence		
Step	RP	Туре	Description		
1		Stimulus	AE is requested to send a group Retrieve Request		
		PRO Check Primitive	 op = 2 (RETRIEVE) to = {CSEBaseName}/{group} fr = AE-ID rqi = (token-string) 		
		PRO Check HTTP	 Sent request contains Request method = GET Request-Target: {CSEBaseName}/{group} Host: IP address or the FQDN of Registrar CSE X-M2M-RI: (token-string) X-M2M-Origin: AE-ID Content-Type: application/vnd.onem2m-res+xml; or application/vnd.onem2m-res+json; 		
2	Mca	PRO Check CoAP	 Sent request contains Method: 0.01 (GET) Uri-Host: IP address or the FQDN of Registrar CSE Uri-Path: {CSEBaseName}/{group} Content-format: application/vnd.onem2m-res+xml; or application/vnd.onem2m-res+json; oneM2M-FR: AE-ID oneM2M-RQI: (token-string) 		
		PRO Check MQTT	Sent a MQTT PUBLISH message: Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">" Payload: • op = 2 (Retrieve) • to = {CSEBaseName}/{group} • fr = <ae-id> • rqi = (token-string)</ae-id></registrar></ae-id>		
3	Мса	PRO Check Primitive	 rsc = 2000 (OK) rqi = (token-string) same as received in request message pc = Serialized representation of <group> resource</group> 		
	ivica	PRO Check HTTP	Registrar CSE sends response containing: • Status Code =200 (OK)		

			Interoperability Test Description
			• X-M2M-RSC: 2000
			 X-M2M-RI: (token-string) same as received in request message
			 Message-body: Serialized representation of <group> resource</group>
			Registrar CSE sends response containing:
		PRO Check	• Response Code = 2.05
		CoAP	• oneM2M-RSC: 2000
		COAI	 oneM2M-RQI: (token-string) same as received in request message
			 Payload: Serialized representation of <group> resource</group>
			Sent a MQTT PUBLISH message:
			Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>
			Payload:
		PRO Check	• to = AE-ID
		MQTT	• fr = Registrar CSE-ID
			• rsc = 2000
			 rqi = (token-string) same as received in request message
			 pc = Serialized representation of <group> resource</group>
4		IOP Check	AE indicates successful operation
IOP \	/erdict		
PRO	Verdict		

8.1.9.2 Group Create

			Interoperability Test Description
Identifie	er:		TD_M2M_NH_31
Objective:			AE creates a group resource
Configu	uration:		M2M_CFG_01
Referen	nces:		TS-0001 [1], clause 10.2.7.2
			TS-0004 [2], clause 7.3.12.2.1
Dro tool	4 o o o o oliti		
Pre-test conditions:			void Test Sequence
Step	RP	Туре	Description
1		Stimulus	AE is requested to send a group Create Request
•		Clinialdo	• op = 1 (Create)
			• to = {CSEBaseName}
		PRO Check	• fr = AE-ID
		Primitive	• rgi = (token-string)
			• $ty = 9$ (group)
			 pc = Serialized representation of <group> resource</group>
			Sent request contains
		PRO Check	 Request method = POST Request-Target: {CSEBaseName} Host: IP address or the FQDN of Registrar CSE X-M2M-RI: (token-string) X-M2M-Origin: AE-ID
		HTTP	5
	• X-M2M-Origin: AE-ID		
			• Content-Type: application/vnd.onem2m-res+xml; ty=9 or application/vnd.onem2m-
2		 Message-body: Serialized representation of <group> resource</group> 	
2			Sent request contains
			Method: 0.02 (POST)
			 Uri-Host: IP address or the FQDN of Registrar CSE
			Uri-Path: {CSEBaseName}
		PRO Check	 Content-type: application/vnd.onem2m-res+xml or application/vnd.onem2m-
		CoAP	res+json
			• oneM2M-TY: 9
			• oneM2M-FR: AE-ID
			• oneM2M-RQI: (token-string)
			Payload: Serialized representation of <group> resource</group>
			Sent MQTT PUBLISH message:
		PRO Check	Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">" Payload:</registrar></ae-id>
		MQTT	• op = 1 (Create)
			• op = 1 (Create) • to = {CSEBaseName}
	1		

	Interoperability Test Description			
	[• fr = AE-ID	
			 rgi = (token-string) 	
			• ty = 9 (group)	
			 pc = Serialized representation of <group> resource</group> 	
3		IOP Check	Check if possible that the <group> resource is created in Registrar CSE.</group>	
			• rsc = 2001 (CREATED)	
		PRO Check Primitive	 rqi = (token-string) same as received in request message 	
		Primitive	 pc = Serialized representation of <group> resource</group> 	
			Registrar CSE sends response containing:	
			Status Code = 201 (OK)	
			• X-M2M-RSC: 2001	
		PRO Check HTTP	 X-M2M-RI: (token-string) same as received in request message 	
		пп	 Content-Location : URI of the created <group> resource</group> 	
			 Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m- 	
	Мса		res+json	
			 Message-body: Serialized representation of <group> resource</group> 	
		PRO Check CoAP	Registrar CSE sends response containing:	
4			Response Code = 2.01	
			 oneM2M-RSC: 2001 	
			 oneM2M-RQI: (token-string) same as received in request message 	
			 Location-Path: URI of the created <group> resource</group> 	
			 Payload: Serialized representation of <group> resource</group> 	
			Sent a MQTT PUBLISH message:	
			Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>	
			Payload:	
		PRO Check	• to = AE-ID	
		MQTT	• fr = Registrar CSE-ID	
			• rsc = 2001 (CREATED)	
			 rqi = (token-string) same as received in request message 	
	ļ		pc = Serialized representation of <group> resource</group>	
5		IOP Check	AE indicates successful operation	
IOP V				
PRO V	rdict			

8.1.9.3 Group Update

			Interoperability Test Description
Identi	fier:		TD_M2M_NH_33
Objective:			AE updates attribute in group resource
Configuration:			M2M_CFG_01
Refer	ences:		TS-0001 [1], clause 10.2.7.4
			TS-0004 [2], clause 7.3.12.2.3
Pre-te	est cond	itions:	AE has created a <group> resource on Registrar CSE</group>
			Test Sequence
Step	RP	Туре	Description
1		Stimulus	AE is requested to send a group Update Request
		PRO Check Primitive	 op = 3 (Update) to = {CSEBaseName}/{group} fr = AE-ID rqi = (token-string) pc = Serialized representation of <group> resource</group>
2	Мса	PRO Check HTTP PRO Check	Sent request contains • Request method = PUT • Request-Target: {CSEBaseName}/{group} • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Content-Type: application/vnd.onem2m-res+xml; or application/vnd.onem2m-res+json; • Message-body: Serialized representation of <group> resource Sent request contains</group>
		CoAP	Method: 0.03 (PUT)

	Interoperability Test Description			
			Uri-Host: IP address or the FQDN of Registrar CSE	
			Uri-Path: {CSEBaseName}/{group}	
			Content-format: application/vnd.onem2m-res+xml; or application/vnd.onem2m-	
			res+ison;	
			• oneM2M-FR: AE-ID	
			• oneM2M-RQI: (token-string)	
			Payload: Serialized representation of <group> resource</group>	
			Sent MQTT PUBLISH message	
			Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>	
			Pavload:	
		PRO Check	• op = 3 (Update)	
		MQTT	• to = {CSEBaseName}/{group}	
		WIGETT	• fr = AE-ID	
			• rgi = (token-string)	
			 pc = Serialized representation of <group> resource</group> 	
3		IOP Check	Check if possible that the <group> resource is updated in Registrar CSE</group>	
5		IOI OHECK	• rsc = 2004 (CHANGED)	
	Мса	PRO Check Primitive	 rgi = (token-string) same as received in request message 	
			 pc = Serialized representation of <group> resource</group> 	
			Registrar CSE sends response containing:	
		PRO Check HTTP	• Code = 200	
			• X-M2M-RSC: 2004	
			• X-M2M-RI: (token-string) same as received in request message	
			 Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json 	
			Message-body: Serialized representation of <group> resource</group>	
			Registrar CSE sends response containing:	
			Response Code = 2.05	
4		PRO Check	oneM2M-RSC: 2004	
		CoAP	 oneM2M-RQI: (token-string) same as received in request message 	
			 Payload: Serialized representation of <group> resource</group> 	
			Sent a MQTT PUBLISH message	
			Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>	
			Pavload:	
		PRO Check	• to = AE-ID	
		MQTT	• fr = Registrar CSE-ID	
			 rqi = (token-string) same as received in request message 	
			• $rsc = 2004$	
			 pc = Serialized representation of <group> resource</group> 	
5		IOP Check	AE indicates successful operation	
-	/erdict			
	Verdict			

8.1.9.4 Group Delete

	Interoperability Test Description				
Identi	fier:		TD_M2M_NH_34		
Objec	tive:		AE deletes group resource		
Config	guratior	1:	M2M_CFG_01		
References:			TS-0001 [1], clause 10.2.7.5		
			TS-0004 [2], clause 7.3.12.2.4		
Pre-te	st cond	itions:	 AE has created a <group> resource on Registrar CSE</group> 		
			Test Sequence		
Step	RP	Туре	Description		
1		Stimulus	AE is requested to send a group Delete Request		
2	Мса	PRO Check Primitive	 op = 4 (DELETE) to = {CSEBaseName}/{group} fr = AE-ID rqi = (token-string) 		
		PRO Check HTTP	Sent DELETE request contains • Request method = DELETE • Request-Target: {CSEBaseName}/{group}		

	Interoperability Test Description				
			Host: IP address or the FQDN of Registrar CSE		
			• Nost in address of the FQDN of Registrat CSE • X-M2M-RI: (token-string)		
			• X-M2N-Origin: AE-ID		
			Sent DELETE request contains		
			Method: 0.04 (DELETE)		
		PRO Check	Uri-Host: IP address or the FQDN of Registrar CSE		
		CoAP	• Uri-Path: {CSEBaseName}/{group}		
		CUAP	• oneM2M-FR: AE-ID		
			• oneM2M-RQI: (token-string)		
			Sent a MQTT PUBLISH message		
			Topic: "/oneM2M/reg/< AE-ID>/ <registrar cse-id="">"</registrar>		
			Pavload:		
		PRO Check	\bullet op = 4		
		MQTT	• to = {CSEBaseName}/{group}		
			• fr = AE-ID		
			• rqi = (token-string)		
		PRO Check	• rsc = 2002 (DELETED)		
		Primitive	 rqi = (token-string) same as received in request message 		
		PRO Check HTTP	Registrar CSE sends response containing:		
			• Status Code = 200		
			• X-M2M-RSC: 2002		
			X-M2M-RI: (token-string) same as received in request message		
		PRO Check CoAP	Registrar sends response containing:		
			• Response Code = 2.05		
3	Мса		• oneM2M-RSC: 2002		
			oneM2M-RQI: (token-string) same as received in request message		
			Sent a MQTT PUBLISH message		
			Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>		
		PRO Check	Payload:		
		MQTT	• to = AE-ID		
			• fr = Registrar CSE-ID		
			 rqi = (token-string) same as received in request message rsc = 2002 		
4		IOP Check	Check if possible that the <group> resource is deleted in Registrar CSE.</group>		
5		IOP Check	AE indicates successful operation.		
-	/erdict	IOI OHECK			
-	Verdict				

8.1.10 Node Management

8.1.10.1 Node Create

			Interoperability Test Description
Identifier:			TD_M2M_NH_35
Objecti	ve:		AE creates a node resource
Configu	uration:		M2M_CFG_01
Referer	nces:		TS-0001 [1], clause 10.2.14.1
			TS-0004 [2], clause 7.3.18.2.1
Pre-test	t conditi	ons:	void
			Test Sequence
Step	RP	Туре	Description
1		Stimulus	AE is requested to send a node Create Request
		PRO Check	• op = 1 (Create)
			 to = {CSEBaseName}
			• fr = AE-ID
		Primitive	• rqi = (token-string)
2	Мса		• ty = 14 (node)
	IVICa		 pc = Serialized representation of <node> resource</node>
		PRO Check	Sent request contains
		HTTP	 Request method = POST
			Request-Target: {CSEBaseName}

			Interoperability Test Description
			Host: IP address or the FQDN of Registrar CSE
			• X-M2M-RI: (token-string)
			• X-M2M-Origin: AE-ID
			• Content-Type: application/vnd.onem2m-res+xml; ty=14 or application/vnd.onem2m-
			res+json; ty=14
			Message-body: Serialized representation of <node> resource</node>
			Sent request contains
			Method: 0.02 (POST)
			 Uri-Host: IP address or the FQDN of Registrar CSE
			Uri-Path: {CSEBaseName}
		PRO Check	 Content-type: application/vnd.onem2m-res+xml or application/vnd.onem2m-
		CoAP	res+json
			• oneM2M-TY: 14
			oneM2M-FR: AE-ID
			oneM2M-RQI: (token-string)
			Payload: Serialized representation of <node> resource</node>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>
			Payload:
			• op = 1 (Create)
		PRO Check	• to = {CSEBaseName}
		MQTT	• $fr = AE-ID$
			• rqi = (token-string)
			• ty = 14 (node)
			pc = Serialized representation of <node> resource</node>
3		IOP Check	Check if possible that the <node> resource is created in Registrar CSE.</node>
		PRO Check Primitive	• rsc = 2001 (CREATED)
			 rqi = (token-string) same as received in request message
			pc = Serialized representation of <node> resource</node>
			Registrar CSE sends response containing:
			• Status Code = 201 (OK)
		PRO Check	• X-M2M-RSC: 2001
	1		
			X-M2M-RI: (token-string) same as received in request message
		HTTP	
			X-M2M-RI: (token-string) same as received in request message
			 X-M2M-RI: (token-string) same as received in request message Content-Location : URI of the created <node> resource</node>
			 X-M2M-RI: (token-string) same as received in request message Content-Location : URI of the created <node> resource</node> Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of <node> resource</node>
			 X-M2M-RI: (token-string) same as received in request message Content-Location : URI of the created <node> resource</node> Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
4	Mca		 X-M2M-RI: (token-string) same as received in request message Content-Location : URI of the created <node> resource</node> Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of <node> resource</node>
4	Мса		 X-M2M-RI: (token-string) same as received in request message Content-Location : URI of the created <node> resource</node> Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of <node> resource</node> Registrar CSE sends response containing:
4	Мса	HTTP	 X-M2M-RI: (token-string) same as received in request message Content-Location : URI of the created <node> resource</node> Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of <node> resource</node> Registrar CSE sends response containing: Response Code = 2.01
4	Мса	HTTP PRO Check	 X-M2M-RI: (token-string) same as received in request message Content-Location : URI of the created <node> resource</node> Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of <node> resource</node> Registrar CSE sends response containing: Response Code = 2.01 oneM2M-RSC: 2001
4	Мса	HTTP PRO Check	 X-M2M-RI: (token-string) same as received in request message Content-Location : URI of the created <node> resource</node> Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of <node> resource</node> Registrar CSE sends response containing: Response Code = 2.01 oneM2M-RSC: 2001 oneM2M-RQI: (token-string) same as received in request message Location-Path: URI of the created <node> resource</node>
4	Мса	HTTP PRO Check	 X-M2M-RI: (token-string) same as received in request message Content-Location : URI of the created <node> resource</node> Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of <node> resource</node> Registrar CSE sends response containing: Response Code = 2.01 oneM2M-RSC: 2001 oneM2M-RQI: (token-string) same as received in request message Location-Path: URI of the created <node> resource</node> Payload: Serialized representation of <node> resource</node>
4	Мса	HTTP PRO Check	 X-M2M-RI: (token-string) same as received in request message Content-Location : URI of the created <node> resource</node> Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of <node> resource</node> Registrar CSE sends response containing: Response Code = 2.01 oneM2M-RSC: 2001 oneM2M-RQI: (token-string) same as received in request message Location-Path: URI of the created <node> resource</node> Payload: Serialized representation of <node> resource</node> Sent a MQTT PUBLISH message:
4	Мса	HTTP PRO Check	 X-M2M-RI: (token-string) same as received in request message Content-Location : URI of the created <node> resource</node> Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of <node> resource</node> Registrar CSE sends response containing: Response Code = 2.01 oneM2M-RSC: 2001 oneM2M-RQI: (token-string) same as received in request message Location-Path: URI of the created <node> resource</node> Payload: Serialized representation of <node> resource</node> Sent a MQTT PUBLISH message: Topic: "/oneM2M/resp/<ae-id>/<registrar cse-id="">"</registrar></ae-id>
4	Мса	HTTP PRO Check CoAP	 X-M2M-RI: (token-string) same as received in request message Content-Location : URI of the created <node> resource</node> Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of <node> resource</node> Registrar CSE sends response containing: Response Code = 2.01 oneM2M-RSC: 2001 oneM2M-RQI: (token-string) same as received in request message Location-Path: URI of the created <node> resource</node> Payload: Serialized representation of <node> resource</node>
4	Mca	HTTP PRO Check CoAP PRO Check	 X-M2M-RI: (token-string) same as received in request message Content-Location : URI of the created <node> resource</node> Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of <node> resource</node> Registrar CSE sends response containing: Response Code = 2.01 oneM2M-RSC: 2001 oneM2M-RQI: (token-string) same as received in request message Location-Path: URI of the created <node> resource</node> Sent a MQTT PUBLISH message: Topic: "/oneM2M/resp/<ae-id>/<registrar cse-id="">"</registrar></ae-id> Payload: to = AE-ID
4	Mca	HTTP PRO Check CoAP	 X-M2M-RI: (token-string) same as received in request message Content-Location : URI of the created <node> resource</node> Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of <node> resource</node> Registrar CSE sends response containing: Response Code = 2.01 oneM2M-RSC: 2001 oneM2M-RQI: (token-string) same as received in request message Location-Path: URI of the created <node> resource</node> Payload: Serialized representation of <node> resource</node> Sent a MQTT PUBLISH message: Topic: "/oneM2M/resp/<ae-id>/<registrar cse-id="">"</registrar></ae-id> Payload: to = AE-ID fr = Registrar CSE-ID
4	Мса	HTTP PRO Check CoAP PRO Check	 X-M2M-RI: (token-string) same as received in request message Content-Location : URI of the created <node> resource</node> Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of <node> resource</node> Registrar CSE sends response containing: Response Code = 2.01 oneM2M-RSC: 2001 oneM2M-RQI: (token-string) same as received in request message Location-Path: URI of the created <node> resource</node> Payload: Serialized representation of <node> resource</node> Sent a MQTT PUBLISH message: Topic: "/oneM2M/resp/<ae-id>/<registrar cse-id="">"</registrar></ae-id> Payload: to = AE-ID fr = Registrar CSE-ID rsc = 2001 (CREATED)
4	Мса	HTTP PRO Check CoAP PRO Check	 X-M2M-RI: (token-string) same as received in request message Content-Location : URI of the created <node> resource</node> Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of <node> resource</node> Registrar CSE sends response containing: Response Code = 2.01 oneM2M-RSC: 2001 oneM2M-RQI: (token-string) same as received in request message Location-Path: URI of the created <node> resource</node> Payload: Serialized representation of <node> resource</node> Sent a MQTT PUBLISH message: Topic: "/oneM2M/resp/<ae-id>/<registrar cse-id="">"</registrar></ae-id> Payload: to = AE-ID fr = Registrar CSE-ID rsc = 2001 (CREATED) rqi = (token-string) same as received in request message
	Мса	HTTP PRO Check CoAP PRO Check MQTT	 X-M2M-RI: (token-string) same as received in request message Content-Location : URI of the created <node> resource</node> Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of <node> resource</node> Registrar CSE sends response containing: Response Code = 2.01 oneM2M-RSC: 2001 oneM2M-RQI: (token-string) same as received in request message Location-Path: URI of the created <node> resource</node> Payload: Serialized representation of <node> resource</node> Sent a MQTT PUBLISH message: Topic: "/oneM2M/resp/<ae-id>/<registrar cse-id="">"</registrar></ae-id> Payload: to = AE-ID fr = Registrar CSE-ID rsc = 2001 (CREATED) rqi = (token-string) same as received in request message pc = Serialized representation of <node> resource</node>
5		HTTP PRO Check CoAP PRO Check	 X-M2M-RI: (token-string) same as received in request message Content-Location : URI of the created <node> resource</node> Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of <node> resource</node> Registrar CSE sends response containing: Response Code = 2.01 oneM2M-RSC: 2001 oneM2M-RQI: (token-string) same as received in request message Location-Path: URI of the created <node> resource</node> Payload: Serialized representation of <node> resource</node> Sent a MQTT PUBLISH message: Topic: "/oneM2M/resp/<ae-id>/<registrar cse-id="">"</registrar></ae-id> Payload: to = AE-ID fr = Registrar CSE-ID rsc = 2001 (CREATED) rqi = (token-string) same as received in request message
	erdict	HTTP PRO Check CoAP PRO Check MQTT	 X-M2M-RI: (token-string) same as received in request message Content-Location : URI of the created <node> resource</node> Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of <node> resource</node> Registrar CSE sends response containing: Response Code = 2.01 oneM2M-RSC: 2001 oneM2M-RQI: (token-string) same as received in request message Location-Path: URI of the created <node> resource</node> Payload: Serialized representation of <node> resource</node> Sent a MQTT PUBLISH message: Topic: "/oneM2M/resp/<ae-id>/<registrar cse-id="">"</registrar></ae-id> Payload: to = AE-ID fr = Registrar CSE-ID rsc = 2001 (CREATED) rqi = (token-string) same as received in request message pc = Serialized representation of <node> resource</node>

8.1.10.2 Node Retrieve

Interoperability Test Description					
Identifie	r:		TD_M2M_NH_36		
Objectiv			AE retrieves node resource		
Configu			M2M_CFG_01		
References:			TS-0001 [1], clause 10.2.14.2		
			TS-0004 [2], clause 7.3.18.2.2		
			1		
Pre-test	condi	tions:	AE has created a <node> resource on Registrar CSE</node>		
			Test Sequence		
	RP	Туре	Description		
1	-	Stimulus	AE is requested to send a node Retrieve Request		
	_	PRO Check Primitive	 op = 2 (RETRIEVE) to = {CSEBaseName}/{node} fr = AE-ID rqi = (token-string) Sent request contains 		
		PRO Check HTTP	 Request method = GET Request-Target: {CSEBaseName}/{node} Host: IP address or the FQDN of Registrar CSE X-M2M-RI: (token-string) X-M2M-Origin: AE-ID Content-Type: application/vnd.onem2m-res+xml; or application/vnd.onem2m-res+json; 		
2 _M	Иса	PRO Check CoAP	 Sent request contains Method: 0.01 (GET) Uri-Host: IP address or the FQDN of Registrar CSE Uri-Path: {CSEBaseName}/{node} Content-format: application/vnd.onem2m-res+xml; or application/vnd.onem2m-res+json; oneM2M-FR: AE-ID oneM2M-RQI: (token-string) 		
		PRO Check MQTT	Sent a MQTT PUBLISH message: Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">" Payload: • op = 2 (Retrieve) • to = {CSEBaseName}/{node} • fr = <ae-id> • rqi = (token-string)</ae-id></registrar></ae-id>		
		PRO Check Primitive	 rsc = 2000 (OK) rqi = (token-string) same as received in request message pc = Serialized representation of <node> resource</node> 		
		F	PRO Check HTTP	Registrar CSE sends response containing: • Status Code =200 (OK) • X-M2M-RSC: 2000 • X-M2M-RI: (token-string) same as received in request message • Message-body: Serialized representation of <node> resource</node>	
3 N		PRO Check CoAP	Registrar CSE sends response containing: • Response Code = 2.05 • oneM2M-RSC: 2000 • oneM2M-RQI: (token-string) same as received in request message • Payload: Serialized representation of <node> resource</node>		
	-	PRO Check MQTT	Sent a MQTT PUBLISH message: Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">" Payload: • to = AE-ID • fr = Registrar CSE-ID • rsc = 2000 • rqi = (token-string) same as received in request message • pc = Serialized representation of <node> resource</node></registrar></ae-id>		
4		IOP Check	AE indicates successful operation		
IOP Ver					
PRO Ver	rdict				

8.1.10 Node Update

	Interoperability Test Description					
Identi	fior:		TD_M2M_NH_37			
Objec			AE updates attribute in node resource			
	guration	•	M2M_CFG_01			
References:			TS-0001 [1], clause 10.2.14.3			
			TS-0004 [2], clause 7.3.18.2.3			
Pre-te	st cond	itions:	AE has created a <node> resource on Registrar CSE</node>			
			Test Sequence			
Step	RP	Туре	Description			
1		Stimulus	AE is requested to send a node Update Request			
2	Мса	PRO Check PRO Check HTTP PRO Check CoAP	 op = 3 (Update) to = {CSEBaseName}/{node} fr = AE-ID rqi = (token-string) pc = Serialized representation of <node> resource</node> Sent request contains Request method = PUT Request-Target: {CSEBaseName}/{node} Host: IP address or the FQDN of Registrar CSE X-M2M-RI: (token-string) X-M2M-Origin: AE-ID Content-Type: application/vnd.onem2m-res+xml; or application/vnd.onem2m-res+json; Message-body: Serialized representation of <node> resource</node> Sent request contains Method: 0.03 (PUT) Uri-Host: IP address or the FQDN of Registrar CSE Uri-Path: {CSEBaseName}/{node} Content-format: application/vnd.onem2m-res+xml; or application/vnd.onem2m-res+json; oneM2M-FR: AE-ID oneM2M-FR: AE-ID oneM2M-RQI: (token-string) Payload: Serialized representation of <node> resource</node> Sent MQTT PUBLISH message Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>			
		PRO Check MQTT	Payload: • op = 3 (Update) • to = {CSEBaseName}/{node} • fr = AE-ID • rqi = (token-string) • pc = Serialized representation of <node> resource</node>			
3		IOP Check	Check if possible that the <node> resource is updated in Registrar CSE</node>			
		PRO Check Primitive	 rsc = 2004 (CHANGED) rqi = (token-string) same as received in request message pc = Serialized representation of <node> resource</node> 			
4	Мса	PRO Check HTTP	Registrar CSE sends response containing: • Code = 200 • X-M2M-RSC: 2004 • X-M2M-RI: (token-string) same as received in request message • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Message-body: Serialized representation of <node> resource</node>			
4		PRO Check CoAP	Registrar CSE sends response containing: • Response Code = 2.05 • oneM2M-RSC: 2004 • oneM2M-RQI: (token-string) same as received in request message • Payload: Serialized representation of <node> resource</node>			
		PRO Check MQTT	Sent a MQTT PUBLISH message Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">" Payload: • to = AE-ID</registrar></ae-id>			

	Interoperability Test Description			
			 fr = Registrar CSE-ID rqi = (token-string) same as received in request message rsc = 2004 pc = Serialized representation of <node> resource</node> 	
5		IOP Check	AE indicates successful operation	
IOP V	/erdict			
PRO	Verdict			

8.1.10.4 Node Delete

			Interoperability Test Description
Identi	fier:		TD_M2M_NH_38
Objec	tive:		AE deletes node resource
Config	guratior	า:	M2M_CFG_01
References:			TS-0001 [1], clause 10.2.14.4
			TS-0004 [2], clause 7.3.18.2.4
Pre-te	st cond	litions:	 AE has created a <node> resource on Registrar CSE</node>
		•	Test Sequence
Step	RP	Туре	Description
1		Stimulus	AE is requested to send a node Delete Request
			• $op = 4$ (DELETE)
		PRO Check	to = {CSEBaseName}/{node}
		Primitive	• fr = AE-ID
			• rqi = (token-string)
			Sent DELETE request contains
			Request method = DELETE
		PRO Check HTTP	Request-Target: {CSEBaseName}/{node}
		ппр	 Host: IP address or the FQDN of Registrar CSE
			• X-M2M-RI: (token-string)
			• X-M2M-Origin: AE-ID
•			Sent DELETE request contains
2	Мса		Method: 0.04 (DELETE)
		PRO Check	 Uri-Host: IP address or the FQDN of Registrar CSE
		CoAP	 Uri-Path: {CSEBaseName}/{node}
			oneM2M-FR: AE-ID
			oneM2M-RQI: (token-string)
			Sent a MQTT PUBLISH message
			Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>
		PRO Check	Payload:
		MQTT	• op = 4 (2057)
			• to = {CSEBaseName}/{node}
			• fr = AE-ID
		PRO Check	 rqi = (token-string) rsc = 2002 (DELETED)
		Primitive	 rgi = (token-string) same as received in request message
		THINKIVE	Registrar CSE sends response containing:
		PRO Check	Status Code = 200
		HTTP	• X-M2M-RSC: 2002
			X-M2M-RI: (token-string) same as received in request message
			Registrar sends response containing:
		PRO Check	• Response Code = 2.05
3	Maa	CoAP	• oneM2M-RSC: 2002
	Мса		 oneM2M-RQI: (token-string) same as received in request message
			Sent a MQTT PUBLISH message
			Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>
		PRO Check MQTT	Payload:
			• to = AE-ID
			• fr = Registrar CSE-ID
			 rqi = (token-string) same as received in request message
			• rsc = 2002
4		IOP Check	Check if possible that the <node> resource is deleted in Registrar CSE.</node>

	Interoperability Test Description			
5		IOP Check	AE indicates successful operation	
IOP \	/erdict			
PRO	Verdict			

PollingChannel Management 8.1.11

8.1.11.1 PollingChannel Create

	Interoperability Test Description				
Identi	fier:		TD_M2M_NH_39		
Objec	tive:		AE creates a <pollingchannel> resource in registrar CSE via a Create Request</pollingchannel>		
Confi	guratior	ו:	M2M_CFG_01		
Refer	ences:		TS-0001 [1], clause 10.2.13.2		
			TS-0004 [2], clause 7.3.21.2.1		
Due te					
Pre-te	est cond	itions:	AE has created an application resource <ae> on registrar CSE</ae>		
Step	RP	Туре	Test Sequence Description		
1	NE	Type Stimulus	AE sends a request to create a < pollingChannel >		
-		Olimaido	 op = 1 (Create) 		
			 to = {CSEBaseName}/URI of <ae> resource</ae> 		
		PRO Check	• fr = AE-ID		
		Primitive	• rqi = (token-string)		
			• $ty = 15$ (pollingChannel)		
			 pc = Serialized representation of < pollingChannel > resource 		
			Sent request contains		
			• Request method = POST		
			Request-Target:{CSEBaseName}/URI of <ae> resource</ae>		
		PRO Check	Host: IP address or the FQDN of Registrar CSE		
		HTTP	• X-M2M-RI: (token-string)		
			• X-M2M-Origin: AE-ID		
			Content-Type: application/vnd.onem2m-res+xml; ty=15 or		
			application/vnd.onem2m-res+json; ty=15		
			 Message-body: Serialized representation of < pollingChannel > resource 		
			Sent request contains		
2			Method: 0.02 (POST)		
	Мса		Uri-Host: IP address or the FQDN of Registrar CSE		
			 Uri-Path: {CSEBaseName}/URI of <ae> resource</ae> 		
		PRO Check	Content-type: application/vnd.onem2m-res+xmlor application/vnd.onem2m-res+json		
		CoAP	• oneM2M-TY: 15		
			oneM2M-FR: AE-ID		
			 oneM2M-RQI: (token-string) 		
			 Payload: Serialized representation of < pollingChannel > resource 		
			Sent MQTT PUBLISH message:		
			Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>		
			Payload:		
		PRO Check	• op = 1 (Create)		
		MQTT	 to = {CSEBaseName}/URI of <ae> resource</ae> 		
		mari	• fr = AE-ID		
			• rqi = (token-string)		
			• ty = 15 (pollingChannel)		
			pc = Serialized representation of < pollingChannel > resource		
3		IOP Check	Check if possible that the < pollingChannel > resource is created in registrar CSE.		
		PRO Check	 rsc = 2001 (CREATED) rqi = (token-string) same as received in request message 		
		Primitive	 rql = (token-string) same as received in request message pc = Serialized representation of < pollingChannel > resource 		
			Registrar CSE sends response containing:		
4			Status Code = 201 (Created)		
	Мса	PRO Check	• X-M2M-RSC: 2001		
		HTTP	• X-M2M-RSC. 2001 • X-M2M-RI: (token-string) same as received in request message		
			Content-Location: URI of the created resource.		
			 Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json 		
L	l	l	· · · · · · · · · · · · · · · · · · ·		

© oneM2M Partners Type 1 (ARIB, ATIS, CCSA, ETSI, TIA, TSDSI, TTA, TTC) Page 61 of 112 This is a draft oneM2M document and should not be relied upon; the final version, if any, will be made available by oneM2M Partners Type 1.

	Interoperability Test Description			
			 Message-body: Serialized representation of < pollingChannel > resource 	
			Registrar sends response containing:	
			• Response Code = 2.01	
		PRO Check	• oneM2M-RSC: 2001	
		CoAP	 oneM2M-RQI: (token-string) same as received in request message 	
		COAI	 Location-Path: URI of the created resource 	
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json	
			 Payload: Serialized representation of < pollingChannel > resource 	
			Sent MQTT PUBLISH message:	
			Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>	
			Payload:	
		PRO Check	• to = AE-ID	
		MQTT	 fr = Registrar CSE-ID 	
			• rsc = 2001 (CREATED)	
			 rqi = (token-string) same as received in request message 	
			 pc = Serialized representation of < pollingChannel > resource 	
5		IOP Check	AE indicates successful operation	
-	/erdict			
PRO	Verdict			

8.1.11.2 PollingChannel Retrieve

	Interoperability Test Description				
Identi	fier:		TD_M2M_NH_40		
Objective:			AE retrieves information of a pollingChannel resource via a Retrieve Request		
Configuration:			M2M_CFG_01		
References:			TS-0001 [1], clause 10.2.13.3		
			TS-0004 [2], clause 7.3.21.2.2		
		•.•			
Pre-te	st cond	itions:	AE has created an Application Entity resource <ae> on Registrar CSE</ae>		
			AE has created a container resource < pollingChannel > on Registrar CSE		
•		-	Test Sequence		
Step	RP	Туре	Description		
1		Stimulus	AE is requested to send a Retrieve Request for a < pollingChannel >		
	Мса	PRO Check Primitive	 op = 2 (Retrieve) to = {CSEBaseName}/URI of < pollingChannel > resource fr = AE-ID rqi = (token-string) pc = empty 		
2		PRO Check HTTP	Sent request contains • Request method = GET • Request-Target: {CSEBaseName}/URI of < pollingChannel > resource • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Message-body: empty		
		PRO Check CoAP	Sent request contains • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: {CSEBaseName}/URI of < pollingChannel > resource • oneM2M-FR: AE-ID • oneM2M-RQI: (token-string) • Payload: empty		
		PRO Check MQTT	Sent MQTT PUBLISH message: Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">" Payload: • op = 2 (Retrieve) • to = {CSEBaseName}/URI of < pollingChannel > resource • fr = AE-ID • rqi = (token-string) • pc = empty</registrar>		
3		PRO Check	• rsc =2000 (OK)		

			Interoperability Test Description
	Мса	Primitive	• rqi = (token-string) same as received in request message
			 pc = Serialized representation of < pollingChannel > resource
			Registrar CSE sends response containing:
			Status Code = 200 (OK)
		PRO Check	• X-M2M-RSC: 2000
		HTTP	 X-M2M-RI: (token-string) same as received in request message
			 Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			 Message-body: Serialized representation of < pollingChannel > resource
			Registrar sends response containing:
			• Response Code = 2.05 (OK)
		PRO Check	• oneM2M-RSC: 2000(OK)
		CoAP	 oneM2M-RQI: (token-string) same as received in request message
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			 Payload: Serialized representation of < pollingChannel > resource
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
		PRO Check	• to = AE-ID
		MQTT	• fr = Registrar CSE-ID
			• rsc 2000(OK)
			 rqi = (token-string) same as received in request message
			• pc = Serialized representation of < pollingChannel > resource
4		IOP Check	AE indicates successful operation
-	/erdict		
PRO	Verdict		

8.1.11.3 pollingChannel Update

			Interoperability Test Description
Identi	fier:		TD_M2M_NH_41
Objective:			AE updates attribute in pollingChannel resource via a Update Request
Configuration:			M2M_CFG_01
	ences:		TS-0001 [1], clause 10.2.13.4
			TS-0004 [2], clause 7.3.21.2.3
Pre-te	st cond	itions:	 AE has created an Application Entity resource <ae> on Registrar CSE</ae>
			AE has created a container resource <container> on Registrar CSE</container>
			Test Sequence
Step	RP	Туре	Description
1		Stimulus	AE is requested to send a pollingChannel Update Request to update the lifetime of the
'			resource.
			• op = 3 (Update)
		PRO Check	 to = {CSEBaseName}/URI of < pollingChannel > resource
		Primitive	• fr = AE-ID
			 rqi = (token-string)
			 pc = Serialized representation of updated < pollingChannel > resource
	Мса		Sent request contains
			 Request method = PUT
		PRO Check HTTP Ica	 Request-Target:{CSEBaseName}/URI of < pollingChannel > resource
			 Host: IP address or the FQDN of Registrar CSE
2			X-M2M-RI: (token-string)
2			• X-M2M-Origin: AE-ID
			Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			 Message-body: Serialized representation of updated < pollingChannel > resource
			Sent request contains
			• Method: 0.03 (PUT)
		PRO Check CoAP	Uri-Host: IP address or the FQDN of Registrar CSE
			 Uri-Path: {CSEBaseName}/URI of < pollingChannel > resource
			• oneM2M-FR: AE-ID
			oneM2M-RQI: (token-string)
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json

	Interoperability Test Description			
			Payload: Serialized representation of updated < pollingChannel > resource	
			Sent MQTT PUBLISH message: Topic: "/oneM2M/ req /< AE-ID>/ <registrar cse-id="">" Payload:</registrar>	
		PRO Check MQTT	 op = 3 (Update) to = {CSEBaseName}/URI of < pollingChannel > resource fr = AE-ID rqi = (token-string) 	
			pc = Serialized representation of updated < pollingChannel > resource	
3		IOP Check	Check if possible that the < pollingChannel > resource is updated in Registrar CSE.	
		PRO Check Primitive	 rsc = 2004 (Updated) rqi = (token-string) same as received in request message pc = Serialized representation of < pollingChannel > resource 	
	Mca	PRO Check HTTP	Registrar CSE sends response containing: • Code = 200 (Ok) • X-M2M-RSC: 2004 • X-M2M-RI: (token-string) same as received in request message • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Message-body: Serialized representation of < pollingChannel > resource	
4		PRO Check CoAP	Registrar sends response containing: • Response Code = 2.04 • oneM2M-RSC: 2004 • oneM2M-RQI: (token-string) same as received in request message • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Payload: Serialized representation of < pollingChannel > resource	
		PRO Check MQTT	Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">" Payload: • to = AE-ID • fr = Registrar CSE-ID • rsc = 2004 (Updated) • rqi = (token-string) same as received in request message • pc = Serialized representation of modified < pollingChannel > resource</registrar>	
5		IOP Check	AE indicates successful operation	
-	erdict			
-	/erdict			

8.1.11.4 pollingChannel Delete

	Interoperability Test Description				
Identi	fier:		TD_M2M_NH_42		
Objec	tive:		AE deletes a pollingChannel resource via a Delete Request		
Config	guration	:	M2M_CFG_01		
Refer	ences:		TS-0001 [1], clause 10.2.13.5		
			TS-0004 [2], clause 7.3.21.2.4		
Pre-te	est cond	itions:	 AE has created an Application Entity resource <ae> on Registrar CSE</ae> 		
			 AE has created a container resource <container> on Registrar CSE</container> 		
			Test Sequence		
Step	RP	Туре	Description		
1		Stimulus	AE is requested to send a subscription Delete Request		
			• $op = 4$ (Delete)		
		PRO Check	 to = {CSEBaseName}/URI of < pollingChannel > resource 		
		Primitive	• fr = AE-ID		
			 rqi = (token-string) 		
			• pc = empty		
2	Мса	a PRO Check HTTP	Sent request contains		
	IVICA		 Request method = DELETE 		
			 Request-Target: {CSEBaseName}/URI of < pollingChannel > resource 		
			 Host: IP address or the FQDN of Registrar CSE 		
			• X-M2M-RI: (token-string)		
			• X-M2M-Origin: AE-ID		

			Interoperability Test Description
			Message-body: Empty
			Sent request contains
			Method: 0.04 (DELETE)
			• Uri-Host: IP address or the FQDN of Registrar CSE
		PRO Check	• Uri-Path: {CSEBaseName}/URI of < pollingChannel > resource
		CoAP	• oneM2M-FR: AE-ID
			• oneM2M-RQI: (token-string)
			Payload: empty
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
		PRO Check	• op = 4 (Delete)
		MQTT	 to = {CSEBaseName}/URI of < pollingChannel > resource
			• fr = AE-ID
			• rqi = (token-string)
			• pc = empty
3		IOP Check	Check if possible that the < pollingChannel > resource is deleted in registrar CSE.
			• rsc = 2002 (DELETED)
		PRO Check	 rqi = (token-string) same as received in request message
		Primitive	• pc = empty
			Registrar CSE sends response containing:
		PRO Check	Status Code = 200 (OK)
		HTTP	• X-M2M-RSC: 2002
			 X-M2M-RI: (token-string) same as received in request message
			Message-body: empty
		PRO Check CoAP	Registrar sends response containing:
4			• Response Code = 2.02
-	Mca		oneM2M-RSC: 2002(DELETED)
			 oneM2M-RQI: (token-string) same as received in request message
			Payload: empty
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>
		PRO Check	Payload:
		MQTT	• to = AE-ID
		in set i	• fr = Registrar CSE-ID
			• rsc = 2002(DELETED)
			• rqi = (token-string) same as received in request message
5		IOP Check	Check if possible that the < pollingChannel > resource has been removed in registrar CSE.
6		IOP Check	AE indicates successful operation
	'erdict		
PRO \	/erdict		

8.1.11.5 Long Polling on a PollingChannel Retrieve

	Interoperability Test Description				
Identi	fier:		TD_M2M_NH_43		
Objec	tive:		AE retrieves information of a pollingChannel resource via a Retrieve Request		
Confi	guratior	1:	M2M_CFG_01		
References:			TS-0001 [1], clause 10.2.13.7		
			TS-0004 [2], clause 7.3.22.2.2		
Pre-test conditions:		itions:	 A pollingChannel resource < pollingChannel > has been created in application <ae> on the Registrar CSE</ae> 		
			• A subscription to a <container> resource has been created using the <pollingchannel> as a notificationURI in the subscription.</pollingchannel></container>		
			• A single <contentinstance> resource is created in the subscribed to resource.</contentinstance>		
			Test Sequence		
Step	RP	Туре	Description		
1		Stimulus	AE is requested to send a pollingChannelURI Retrieve Request for <pollingchanneluri></pollingchanneluri>		

Interoperability Test Description					
	Sent RETRIEVE request contains				
	Мса	PRO Check Primitive	To: <csebase>/<ae>/<pollingchannel>/pollingChannelURI Fr: AE-ID</pollingchannel></ae></csebase>		
		PRO Check HTTP	Sent GET request contains • Request URI <csebase>/<ae>/<pollingchannel>/pollingChannelURI • Host: Registar CSE • Payload: empty</pollingchannel></ae></csebase>		
2		PRO Check CoAP PRO Check	Sent GET request contains • Method: 0.01 (GET) • Uri-Host: Registrar CSE host • Uri-Port: Registrar CSE port • Uri-Path: <csebase> • Uri-Path: <ae> • Uri-Path: < pollingChannel > • URI-Path: pollingChannelURI</ae></csebase>		
		MQTT			
	Мса	PRO Check Primitive	Sent RETRIEVE response contains To: AE-ID Fr: CSE-ID Response Statuse Code : OK Cn: pending Notification request 		
3		PRO Check HTTP	Registrar CSE sends response containing: • Code = 200 • Payload: Response PRO Check Primitive with Content set with Notification request		
		PRO Check CoAP	Registrar sends response containing: • Response Code = 2.05 • Payload: Response PRO Check Primitive with Content set with Notification request		
		PRO Check MQTT			
4		IOP Check	AE indicates successful operation		
5			Repeat steps 1-2. There is no pending request. When the Request Expiration Timestamp expires Registrar sends response indicating "REQUEST_TIMEOUT"		
6	Мса	PRO Check Primitive PRO Check HTTP	Sent RETRIEVE response contains • To: AE-ID • Fr: CSE-ID • Response Statuse Code : REQUEST_TIMEOUT Registrar CSE sends response containing: • Code = 408		
		PRO Check CoAP	Registrar sends response containing: • Response Code = 4.04 • oneM2M-RSC = 4008		
		PRO Check MQTT			
IOP V	/erdict				
	Verdict				

8.1.12 FanoutPoint Management

8.1.12.1 FanoutPoint Create

	Interoperability Test Description		
Identifier:	TD_M2M_NH_44		
Objective:	AE creates a <contentinstance> resource in each group member</contentinstance>		
Configuration:	M2M_CFG_01		
References:	TS-0001 [1], clause 10.2.7.6		
	TS-0004 [2], clause 7.3.14.3.1		
Pre-test conditions:	 A group is created containing 2 members of type <container></container> 		
	Test Sequence		
Step RP Type	Description		

© oneM2M Partners Type 1 (ARIB, ATIS, CCSA, ETSI, TIA, TSDSI, TTA, TTC) Page 66 of 112 This is a draft oneM2M document and should not be relied upon; the final version, if any, will be made available by oneM2M Partners Type 1.

	1		Interoperability Test Description
1		Stimulus	AE is requested to send a Create Request to create <contentinstance> in each group member</contentinstance>
	Check Mca	PRO Check Primitive	 op = 1 (Create) to = {CSEBaseName}/{group}/fanOutPoint fr = AE-ID rqi = (token-string) ty = 4 (contentInstance) pc = Serialized representation of <contentinstance> resource</contentinstance>
		PRO Check HTTP	Sent request contains • Request method = POST • Request-Target: {CSEBaseName}/{group}/fanOutPoint • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Content-Type: application/vnd.onem2m-res+xml; ty=4 or application/vnd.onem2m- res+json; ty=4 • Message-body: Serialized representation of < contentInstance > resource
2		PRO Check CoAP	Sent request contains Method: 0.02 (POST) Uri-Host: IP address or the FQDN of Registrar CSE Uri-Path: {CSEBaseName}/{group}/fanoutPoint Content-type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json oneM2M-TY: 4 oneM2M-FR: AE-ID oneM2M-RQI: (token-string) Payload: Serialized representation of <contentinstance> resource</contentinstance>
		PRO Check MQTT	Sent MQTT PUBLISH message: Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">" Payload: • op = 1 (Create) • to = {CSEBaseName}/{group}/fanOutPoint • fr = AE-ID • rqi = (token-string) • ty = 4 (contentInstance) • pc = Serialized representation of <contentinstance> resource</contentinstance></registrar></ae-id>
4		IOP Check	Check if possible that the <contentinstance> resource is created in each member hosting CSE</contentinstance>
	Check Mca	PRO Check Primitive	• rsc = 2001 (CREATED) • rqi = (token-string) same as received in request message • pc = aggregated response
		PRO Check HTTP	Registrar CSE sends response containing: • Status Code = 201 (OK) • X-M2M-RSC: 2001 • X-M2M-RI: (token-string) same as received in request message • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Message-body: aggregated response
7		PRO Check CoAP	Registrar CSE sends response containing: • Response Code = 2.01 • oneM2M-RSC: 2001 • oneM2M-RQI: (token-string) same as received in request message • Payload: aggregated response
		PRO Check MQTT	Sent a MQTT PUBLISH message: Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">" Payload: • to = AE-ID • fr = Registrar CSE-ID • rsc = 2001 (CREATED) • rqi = (token-string) same as received in request message • pc = aggregated response</registrar></ae-id>
8	(analist	IOP Check	AE indicates successful operation
	/erdict Verdict	verify that the a	aggregrate response includes responses from each member of the group
rπU	verdict		

	<i></i>		Interoperability Test Description
Identi	-		TD_M2M_NH_45
Objec			AE retrieves the <container> resource from in each group member</container>
Configuration:			M2M_CFG_01
Refer	ences:		TS-0001 [1], clause 10.2.7.8
			TS-0004 [2], clause 7.3.14.3.2
Pre-te	est cond	itions:	 A group is created containing 2 members of type <container></container>
			Test Sequence
Step	RP	Туре	Description
1		Stimulus	AE is requested to send a Retrieve Request to the fanoutPoint of <group> resource</group>
			• op = 2 (Retrieve)
		PRO Check	 to = {CSEBaseName}/{group}/fanOutPoint
		Primitive	• fr = AE-ID
			 rqi = (token-string)
			Sent request contains
			Request method = GET
		PRO Check	Request-Target: {CSEBaseName}/{group}/fanOutPoint
		HTTP	Host: IP address or the FQDN of Registrar CSE
			• X-M2M-RI: (token-string)
			• X-M2M-Origin: AE-ID
			Sent request contains
2	Check		
2	Mca	DDO Chask	Method: 0.01 (GET)
		PRO Check	Uri-Host: IP address or the FQDN of Registrar CSE Lis Dath (OSE Data Name) ((actual) (casual) (casual)
		CoAP	Uri-Path: {CSEBaseName}/{group}/fanoutPoint
			• oneM2M-FR: AE-ID
			oneM2M-RQI: (token-string)
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>
		PPO Chock	Payload:
		PRO Check MQTT	• op = 2 (Retrieve)
			 to = {CSEBaseName}/{group}/fanOutPoint
			• fr = AE-ID
			• rqi = (token-string)
4		IOP Check	
		PRO Check Primitive	• rsc = 2000 (OK)
			 rqi = (token-string) same as received in request message
			 pc = aggregated response
		PRO Check HTTP	Registrar CSE sends response containing:
			 Status Code = 200 (OK)
			• X-M2M-RSC: 2000
			 X-M2M-RI: (token-string) same as received in request message
			Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Message-body: aggregated response
			Registrar CSE sends response containing:
_	Check		• Response Code = 2.05
7	Mca	PRO Check	• oneM2M-RSC: 2000
		CoAP	 oneM2M-RQI: (token-string) same as received in request message
			Payload: aggregated response
		PRO Check MQTT	Sent a MQTT PUBLISH message:
			Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>
			Pavload:
			• to = AE-ID
			• fr = Registrar CSE-ID
			• rsc = 2000 (OK)
			 rqi = (token-string) same as received in request message
			 pc = aggregated response
8		IOP Check	AE indicates successful operation
IODI	/ordiat	Vorify that the	agregated response includes responses from each member of the group
IOP \	Verdict	veniy that the a	aggregrate response includes responses from each member of the group

8.1.12.2 FanoutPoint Retrieve

Idonti	fior.		Interoperability Test Description		
Identi	-		TD_M2M_NH_46		
Objec Confi			AE updates an <container> resource of each member resource M2M_CFG_01</container>		
Configuration: References:			TS-0001 [1], clause 10.2.7.9		
			TS-0004 [2], clause 10.2.7.9 TS-0004 [2], clause 7.3.14.3.3		
			10-0004 [2], Glause 1.0. 14.0.0		
Pre-te	est cond	itions:	A group is created containing 2 members of type <container></container>		
			Test Sequence		
Step	RP	Туре	Description		
1		Stimulus	AE is requested to send a Update Request to the fanoutPoint of <group> resource to lifetime of the resource.</group>		
		PRO Check Primitive	 op = 3 (Update) to = {CSEBaseName}/{group}/fanOutPoint fr = AE-ID rqi = (token-string) pc = Serialized representation of <container> resource</container> 		
2	Check Mca	PRO Check HTTP	Sent request contains • Request method = PUT • Request-Target: {CSEBaseName}/{group}/fanOutPoint • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Content-Type: application/vnd.onem2m-res+xml; or application/vnd.onem2m-res+json; • Message-body: Serialized representation of < container > resource		
		PRO Check CoAP	 Sent request contains Method: 0.03 (PUT) Uri-Host: IP address or the FQDN of Registrar CSE Uri-Path: {CSEBaseName}/{group}/fanoutPoint Content-format: application/vnd.onem2m-res+xml; or application/vnd.onem2m-res+json; oneM2M-FR: AE-ID oneM2M-RQI: (token-string) Payload: Serialized representation of <container> resource</container> 		
		PRO Check MQTT	Sent MQTT PUBLISH message: Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">" Payload: • op = 3 (Update) • to = {CSEBaseName}/{group}/fanOutPoint • fr = AE-ID • rqi = (token-string) • pc = Serialized representation of <container> resource</container></registrar></ae-id>		
3		IOP Check	Check if possible that both of the <container> resources have been updated in registrar CSE.</container>		
	Check Mca	PRO Check Primitive	 rsc = 2004 (CHANGED) rqi = (token-string) same as received in request message pc = aggregated response 		
4		PRO Check HTTP	Registrar CSE sends response containing: • Status Code = 200 (OK) • X-M2M-RSC: 2004 • X-M2M-RI: (token-string) same as received in request message • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Message-body: aggregated response		
		PRO Check CoAP	Registrar CSE sends response containing: • Response Code = 2.04 • oneM2M-RSC: 2004 • oneM2M-RQI: (token-string) same as received in request message • Payload: aggregated response		
		PRO Check MQTT	Sent a MQTT PUBLISH message: Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">" Payload: • to = AE-ID • fr = Registrar CSE-ID</registrar></ae-id>		

8.1.12.3 FanoutPoint Update
	Interoperability Test Description			
			• rsc = 2004 (CHANGED)	
			 rqi = (token-string) same as received in request message 	
			 pc = aggregated response 	
5		IOP Check	AE indicates successful operation	
IOP V	/erdict	Verify that the a	ggregrate response includes responses from each member of the group	
PRO	/erdict			

8.1.12.4 FanoutPoint Delete

	Interoperability Test Description						
Identifie	er:		TD_M2M_NH_47				
Objecti	ve:		AE deletes a <container> ofeach member</container>				
Configu	uration:		M2M_CFG_01				
Referen	nces:		TS-0001 [1], clause 10.2.7.10				
			TS-0004 [2], clause 7.3.14.3.4				
			1				
Pre-test	Pre-test conditions:		A group is created containing 2 members of type <container></container>				
			Test Sequence				
Step	RP	Туре	Description				
1		Stimulus	AE is requested to send a Delete 'oldest' Request to the fanoutPoint of <group> resource</group>				
			• op = 4 (Delete)				
		PRO Check	 to = {CSEBaseName}/{group}/fanOutPoint 				
		Primitive	• fr = AE-ID				
		1 mmuve	• rqi = (token-string)				
			Sent request contains				
			Request method = DELETE				
		PRO Check	Request-Target: {CSEBaseName}/{group}/fanOutPoint				
		HTTP	Host: IP address or the FQDN of Registrar CSE				
			• X-M2M-RI: (token-string)				
			• X-M2M-Origin: AE-ID				
	<u>.</u>		Sent request contains				
2	Check		Method: 0.04 (DELETE)				
	Мса	PRO Check	Uri-Host: IP address or the FQDN of Registrar CSE				
		CoAP	 Uri-Path: {CSEBaseName}/{group}/fanoutPoint 				
			• oneM2M-FR: AE-ID				
			oneM2M-RQI: (token-string)				
			Sent MQTT PUBLISH message:				
			Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>				
		PRO Check	Payload:				
		MQTT	• $op = 4$ (Delete)				
		Modell	<pre>• to = {CSEBaseName}/{group}/fanOutPoint</pre>				
			• fr = AE-ID				
<u> </u>			• rqi = (token-string)				
		PRO Check	• rsc = 2002 (DELETED)				
		Primitive	 rqi = (token-string) same as received in request message 				
			• pc = aggregated response				
			Registrar CSE sends response containing:				
		PRO Check	 Status Code = 200 (OK) X-M2M-RSC: 2002 				
		HTTP	 X-M2M-RSC. 2002 X-M2M-RI: (token-string) same as received in request message 				
			Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-				
	Check		res+json				
3	Mca		Message-body: aggregated response				
			Registrar CSE sends response containing:				
			• Response Code = 2.02				
		PRO Check CoAP	• oneM2M-RSC: 2002				
			oneM2M-RQI: (token-string) same as received in request message				
			Payload: aggregated response				
		PRO Check	Sent a MQTT PUBLISH message:				
		MQTT	Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>				
			Payload:				

	Interoperability Test Description		
			• to = AE-ID
			• fr = Registrar CSE-ID
			• rsc = 2002 (DELETED)
			 rqi = (token-string) same as received in request message
			 pc = aggregated response
4		Verify	Check if possible that the <i>oldest</i> <contentinstance> resource has been removed in registrar CSE.</contentinstance>
5		Verify	AE indicates successful operation
IOP Ver	dict	Verify that the	aggregrate response includes responses from each member of the group
PRO Ve	rdict		

8.1.13 Notifcation Management

8.1.13.1 Notification Create

			Interoperability Test Description
Identi	fier:		TD M2M NH 48
Objec	-		AE receives a notification request from the HOST CSE
Configuration:		:	M2M_CFG_01
	References:		TS-0001 [1], clause 10.2.12
			TS-0004 [2], clause 7.4.1
Pre-te	st cond	itions:	AE1 has created an application resource <ae> on registrar CSE</ae>
			AE1 has created a container resource <container> on registrar CSE</container>
			AE1 has created a <subscription> as a child resource of a <container></container></subscription>
			 AE2 has created an application resource <ae> on registrar CSE</ae>
			 AE2 has permisions to CREATE a Content Instance in the container created by
			AE1
			Test Sequence
Step	RP	Туре	Description
		Stimulus	AE2 is requested to send a Create request to create <contentinstance> in the</contentinstance>
1			<container> created by AE1. This triggers or causes the HOST CSE to send a notification</container>
			to AE1.
			• op = 5 (Notify)
			 to = notificationURI of subscription resource
		PRO Check	• from = Registrar CSE-ID
		Primitive	
	 rqi = (token-string) pc = Serialized representation of Notification data of 	 pc = Serialized representation of Notification data object 	
			Sent request contains
			• Request method = POST
			equest method = POST equest-Target: notificationURI of subscription resource
		PRO Check	Host: IP address or FQDN of notificationURI
	HTTP	HTTP	• X-M2M-RI: (token-string)
			• X-M2M-Origin: {CSEBaseName}
			Content-Type: application/vnd.onem2m-ntfy+xml;
			or application/vnd.onem2m-ntfy+json;
	Check		 Message-body: Serialized Representation of Notification data object
2	Mca		Sent request contains
	IVICa		Method: 0.02 (POST)
			Uri-Host: notificationURI host
			Uri-Port: notificationURI port
		PRO Check	Uri-Path: AE1 AE-ID
		CoAP	 oneM2M-FR: Registrar CSE-ID
			oneM2M-RQI: (token-string)
			 Content-Format: application/vnd.onem2m-ntfy+xml; or application/vnd.onem2m-
			ntfy+json;
			Payload: Serialized Representation of Notification data object
			Sent MQTT PUBLISH message:
		DDO Chash	Topic: "/oneM2M/req/ <registrar cse-id="">/<ae-id>"</ae-id></registrar>
		PRO Check MQTT	Payload:
			• $op = 5$ (Notify)
			 to = notificationURI of subscription resource

			Interoperability Test Description
			• fr = Registrar CSE-ID
			 rqi = (token-string)
			• pc = empty
4		IOP Check	Check if the notification representation
		PRO Check Primitive	Sent response contains • rsc = 2000 (OK) • rqi = (token-string) same as received in request message
	Check Mca	PRO Check HTTP	Sent response contains: • Status Code = 200 (OK) • X-M2M-RSC: 2000 • X-M2M-RI: (token-string) same as received in request message
7		PRO Check CoAP	Sent response contains: • Response Code = 2.01 • oneM2M-RSC: 2000(OK) • oneM2M-RQI: (token-string) same as received in request message
		PRO Check MQTT	Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/ <registrar cse-id="">/<ae-id>" Payload: • to = Registrar CSE-ID • fr = AE1 AE-ID • rsc = 2000(OK) • rqi = (token-string) same as received in request message</ae-id></registrar>
8		IOP Check	AE1 indicates notification received
IOP \	/erdict		
PRO	Verdict		

8.2 Non blocking configuration testing

8.2.1 Synchronous request

8.2.1.1 Container management

8.2.1.1.1 Container Create

			Interoperability Test Description
Identi	fier:		TD_M2M_NB_01
Objective:			AE creates a <container> resource using non blocking synchronous request in registrar CSE.</container>
Configuration:			M2M_CFG_01
References:			TS-0001 [1], clause 10.2.4.1 TS-0004 [2], clause 7.3.6.2.1
Pre-te	st cond	itions:	
			Test Sequence
Step	RP	Туре	Description
1		Stimulus	AE is requested to send a non blocking synchronous request to create a <container> resource in registrar CSE</container>
2	Мса	PRO Check Primitive	Sent request contains • op = 1 (Create) • to = {CSEBaseName} • fr= AE-ID • rqi = (token-string) • rt = 1 (non blocking synchronous) • ty = 3 (container) • pc = Serialized Representationof the <container> resource</container>
		PRO Check HTTP	Sent request contains • Request method = POST • Reques-Target: {CSEBaseName}?rt=1 • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string)

	_		Interoperability Test Description
			• X-M2M-Origin: AE-ID
			• Content Type = application/vnd.onem2m-res+xml; ty=3 or application/vnd.onem2m-
			res+json; ty=3
			Message-Body: Serialized Representation of <container> resource</container>
			Sent request contains • Method: 0.02 (POST)
			Wethod: 0.02 (POST) Uri-Host: IP address or the FQDN of Registrar CSE
			• Uri-Path: {CSEBaseName}
		PRO Check	• Uri-Query: rt=1
		CoAP	• oneM2M-FR: AE-ID
		00/ 11	• oneM2M-RQI: (token-string)
			• Content Type = application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			oneM2M-TY: 3
			Payload: Serialized Representation of <container> resource</container>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
			• op = 1 (Create)
		PRO Check MQTT	 to = {CSEBaseName} fr= AE-ID
			• rqi = (token-string)
			• rt = 1 (non blocking synchronous)
			• $ty = 3$ (container)
			 pc = Serialized Representation the <container> resource</container>
			Registrar CSE creates an internal <request> resource and sends acknowledgement</request>
		PRO Check	response containing:
		Primitive	• rsc = 1000 (Accepted)
			• rqi = token-string) same as received in request message
			• pc = Reference to the created <request> resource</request>
			Registrar CSE creates an internal <request> resource and sends acknowledgement response containing:</request>
		PRO Check HTTP	Status Code = 202
			• X-M2M-RSC: 1000
			 X-M2M-RI= token-string) same as received in request message
			Message-Body: Reference to the created <request> resource</request>
			Registrar CSE creates an internal <request> resource and sends acknowledgement</request>
3	Mca		response containing:
		PRO Check	Response Code = None
		CoAP	• oneM2M-RSC=1000
			 oneM2M-RQI = token-string) same as received in request message Devload Deference to the granted "Deguate received"
			Payload: Reference to the created <request> resource Sent MQTT PUBLISH message:</request>
			Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
		PRO Check	• to = AE-ID
		MQTT	• fr = Registrar CSE-ID
			 rqi = (token-string) same as received in request message
			• rsc = 1000 (Accepted)
4			• pc = Reference to the created <request> resource</request>
4 5		IOP Check Stimulus	AE indicates successful operation
5	}	Sumulus	AE is requested to wait then send a retrieve request to <request> reference Sent Retrieve request contains</request>
			• $op = 2$ (Retrieve)
		PRO Check	• to = <request> reference</request>
		Primitive	• fr = AE-ID
			• rqi = (token-string)
			• pc = empty
6	Мса		Sent GET request contains
			• Request method = GET
		PRO Check	Request URI: <request> reference</request>
		HTTP	Host: IP address or the FQDN of Registrar CSE MOM Bli (taken atting)
			 X-M2M-RI: (token-string) X-M2M-Origin: AE-ID
			A-M2NI-Origin. AE-ID Message-Body: empty
	L	1	· messaye-bouy. Empty

			Interoperability Test Description
			Sent GET request contains
			Method: 0.01 (GET)
			Uri-Host: IP address or the FQDN of Registrar CSE
		PRO Check	• Uri-Path: <request> reference</request>
		CoAP	• oneM2M-FR: AE-ID
			• oneM2M-RQI: (token-string)
			Payload: empty
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>
			Pavload:
		PRO Check	\bullet op = 2
		MQTT	• to = <request> reference</request>
		WGTT	• fr = AE-ID
			• rgi = (token-string)
			• $pc = empty$
\vdash			• rsc = 2000 (OK)
		PRO Check	 rgi = (token-string) same as received in request message
		Primitive	 pc = <request> resource with the parameter "requestStatus" set to 1 (COMPLETED)</request>
		1 11111110	and the "operationResult" parameter containing the <container> resource.</container>
			Registrar CSE sends response to AE containing:
		PRO Check	• Status Code = 200
			• X-M2M-RSC: 2000
			• X-M2M-RI= (token-string) same as received in request message
		HTTP	Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+ison
			Message-Body: <request> resource with the parameter "requestStatus" set to 1</request>
			(COMPLETED) and the "operationResult" parameter containing the <container></container>
			resource.
			Registrar CSE sends response to AE containing:
			Response Code= 2.05
7	Mca		• oneM2M-RSC: 2000
		PRO Check	 oneM2M-RQI: (token-string) same as received in request message
		CoAP	 Content-format; application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			 Payload: <request> resource with the parameter "requestStatus" set to 1</request>
			(COMPLETED) and the "operationResult" parameter containing the <container></container>
			resource.
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
		PRO Check	• to = AE-ID
		MQTT	• fr = Registrar CSE-ID
			 rqi = (token-string) same as received in request message rsc = 2000 (OK)
			 rsc = 2000 (OK) pc = <request> resource with the parameter "requestStatus" set to 1 (COMPLETED)</request>
			and the "operationResult" parameter containing the <container> resource.</container>
8		IOP Check	AE indicates successful operation
-	erdict		
	/erdict		
		1	

8.2.1.1.2 **Container Retrieve**

			Interoperability Test Description
Identi	fier:		TD_M2M_NB_02
Objec	tive:		AE retrieves a <container> resource using non blocking synchronous request from registrar CSE.</container>
Configuration:		า:	M2M_CFG_01
Refere	ences:		TS-0001 [1], clause 10.2.4.1
			TS-0004 [2], clause 7.3.6.2.1
Pre-test conditions:		litions:	 AE has created a <container> resource in registrar CSE.</container>
			Test Sequence
Step RP Type		Туре	Description
1		Stimulus	AE is requested to send a non blocking synchronous request to retrieve the <container> resource from registrar CSE.</container>

			Interoperability Test Description
			Sent request contains
			• op = 2 (Retrieve)
		PRO Check	• to = {CSEBaseName}/URI of <container> resource</container>
		Primitive	• fr= AE-ID
			• rqi = (token-string)
			• rt = 1 (non blocking synchronous)
			• pc = empty Sent request contains
			• Request method = POST
		PRO Check	Reques-Target: {CSEBaseName}/URI of <container> resource ?rt=1</container>
		HTTP	Host: IP address or the FQDN of Registrar CSE
			• X-M2M-RI: (token-string)
			• X-M2M-Origin: AE-ID
			Message-Body: empty
2	Maa		Sent request contains
2	Мса		Method: 0.01 (GET)
		PRO Check	 Uri-Host: IP address or the FQDN of Registrar CSE Uri-Path: {CSEBaseName}/URI of <container> resource</container>
		CoAP	• Uri-Query: rt=1
		00/1	• oneM2M-FR: AE-ID
			• oneM2M-RQI: (token-string)
			Payload: empty
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
		PRO Check	• op = 2 (Retrieve)
		MQTT	 to = {CSEBaseName}/URI of <container> resource</container> fr= AE-ID
			• rqi = (token-string)
			• rt = 1 (non blocking synchronous)
			• pc = empty
		PRO Check Primitive	Registrar CSE creates an internal <request> resource and sends acknowledgement</request>
			response containing:
			• rsc = 1000 (Accepted)
			• rqi = token-string) same as received in request message
			• pc = Reference to the created <request> resource Registrar CSE creates an internal <request> resource and sends acknowledgement</request></request>
			response containing:
		PRO Check	• Status Code = 202
		HTTP	• X-M2M-RSC: 1000
			 X-M2M-RI= token-string) same as received in request message
			Message-Body: Reference to the created <request> resource</request>
~			Registrar CSE creates an internal <request> resource and sends acknowledgement</request>
3	Мса		response containing:
		PRO Check CoAP	Response Code = None oneM2M-RSC=1000
			 oneM2M-R3C=1000 oneM2M-RQI = (token-string) same as received in request message
			Payload: Reference to the created <request> resource</request>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
		PRO Check	• to = AE-ID
		MQTT	• fr = Registrar CSE-ID
			 rqi = token-string) same as received in request message rsc = 1000 (Accepted)
			 rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request>
4		IOP Check	AE indicates successful operation
5		Stimulus	AE is requested to send a retrieve request to <request> reference</request>
			Sent Retrieve request contains
			• op = 2 (Retrieve)
6	Мса	PRO Check	• to = <request> reference</request>
5		Primitive	• fr = AE-ID
			• rqi = (token-string)
			• pc = empty

Interoperability Test Description Interoperability Test Description Interoperability Test Description PRO Check Sent GET request contains HTTP Request method = GET • Request URI: <request> reference • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Message-Body: empty Sent GET request contains • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: <request> reference • oneM2M-FR: AE-ID • oneM2M-FR: AE-ID • oneM2M-RQI: (token-string)</request></request>	
PRO Check • Request method = GET HTTP • Request URI: <request> reference • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Message-Body: empty Sent GET request contains • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: <request> reference • oneM2M-FR: AE-ID</request></request>	
PRO Check HTTP • Request URI: <request> reference • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Message-Body: empty PRO Check COAP • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: <request> reference • oneM2M-FR: AE-ID</request></request>	
HTTP • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Message-Body: empty • Message-Body: empty Sent GET request contains • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: <request> reference • oneM2M-FR: AE-ID • Method: 0.01</request>	
• X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Message-Body: empty Sent GET request contains • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: <request> reference • oneM2M-FR: AE-ID</request>	
• X-M2M-Origin: AE-ID • Message-Body: empty Sent GET request contains • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: <request> reference • oneM2M-FR: AE-ID</request>	
PRO Check CoAP Sent GET request contains • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: <request> reference • oneM2M-FR: AE-ID</request>	
 Method: 0.01 (GET) Uri-Host: IP address or the FQDN of Registrar CSE Uri-Path: <request> reference</request> oneM2M-FR: AE-ID 	
 PRO Check CoAP Uri-Host: IP address or the FQDN of Registrar CSE Uri-Path: <request> reference</request> oneM2M-FR: AE-ID 	
COAP Uri-Path: <request> reference oneM2M-FR: AE-ID</request>	
oneM2M-FR: AE-ID	
• oneM2M-ROI: (taken-string)	
Payload: empty	
Sent MQTT PUBLISH message:	
Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>	
Payload:	
PRO Check • op = 2	
MQTT • to = <request> reference</request>	
• fr = AE-ID	
• rqi = (token-string)	
• pc = empty	
• rsc = 2000 (OK)	
PRO Check • rqi = (token-string) same as received in request message	
Primitive • pc = <request> resource with the parameter "requestStatus" set to 1</request>	
and the "operationResult" parameter containing the <container> resources</container>	urce.
Registrar CSE sends response to AE containing:	
• Status Code = 200	
PRO Check • X-M2M-RSC: 2000	
+TTP • X-M2M-RI= (token-string) same as received in request message	
Content-Type; application/vnd.onem2m-res+xml or application/vnd.on	
Message-Body: <request> resource with the parameter "requestStatu (COMPLETED) and the "enception Devid" percentage and initial the</request>	
(COMPLETED) and the "operationResult" parameter containing the <0	Container>
Registrar CSE sends response to AE containing:	
7 Mca • Response Code= 2.05 • oneM2M-RSC: 2000	
PRO Check • oneM2M-RQI: (token-string) same as received in request message	
CoAP • Content-format; application/vnd.onem2m-res+xml or application/vnd.o	nem2m_ree_icon
Payload: <request> resource with the parameter "requestStatus" set</request>	•
(COMPLETED) and the "operationResult" parameter containing the <	
resource.	
Sent MQTT PUBLISH message:	
Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>	
Payload:	
• to = AE-ID	
PRO Check MQTT • fr = Registrar CSE-ID	
• rqi = (token-string) same as received in request message	
• rsc = 2000 (OK)	
 pc = <request> resource with the parameter "requestStatus" set to 1</request> 	
and the "operationResult" parameter containing the <container></container>	resource.
8 IOP Check AE indicates successful operation	

	<i></i>			
Identi			ID_M2M_NB_03	
Objec	tive:			
Configuration:				
	ences:	••		
			TS-0004 [2], clause 7.3.6.2.1	
Pre-te	est cond	litions:		
Step	RP	Туре		
		Stimulus		
1			resource.	
			Sent request contains	
			• op = 3 (Update)	
		PRO Check	 to = {CSEBaseName}/URI of <container> resource</container> 	
		Primitive	• fr= AE-ID	
		1 minuve	• rqi = (token-string)	
			AE has created a <container> resource in registrar CSE. Test Sequence Description AE is requested to send a non blocking synchronous request to update the <container> resource. Sent request contains op - 3 (Update) to = (CSEBaseName)/URI of <container> resource fr = AE-ID rqi = (token-string) et t = 1 (non blocking synchronous) ep = 5 Sentilzed Representation of the updated <container> resource Sent request contains e Reques-Target: (CSEBaseName)/URI of <container> resource Sent request contains e Reques-Target: (CSEBaseName)/URI of <container> resource?rt=1 e Host: IP address or the FQDN of Registrar CSE ×.M2M-Origin: AE-ID •Content Type = application/vnd.onem2m-res+xml; or application/vnd.onem2m-res+json; •Message-Body: Serialized Representation of updated <container> resource Sent request contains •Method: 0.03 (UPDATE) •Uri-Path; (CSEBaseName)/URI of <container> resource Sent request contains •Method: 0.03 (UPDATE) •Uri-Path; (CSEBaseName)/URI of <container> resource Sent request contains •Method: 0.03 (UPDATE) •Uri-Path; (CSEBaseName)/URI of <container> resource Sent request contains •Method: 0.03 (UPDATE) •Uri-Path; (CSEBaseName)/URI of <container> resource Sent request contains •Method: 0.03 (UPDATE) •Uri-Path; (CSEBaseName)/URI of <container> resource Sent request contains •Method: 0.03 (UPDATE) • oneM2M-RQ: (token-string) •Content Type = application/vnd.onem2m-res+xml; or application/vnd.onem2m-res+sison; •Payload: Serialized Representation of updated <container> resource Sent MCMT PUELISH message: Topic: 'foneM2M/req: <ae-id (token-string)="" <container="" of="" •co="(CSEBaseName)/URI" •onem2m-rq:=""> resource Sent Mark PR: AE-ID •op = 3 (Update) •to = (CSEBaseName)/URI of <container> resource</container></ae-id></container></container></container></container></container></container></container></container></container></container></container></container></container>	
		PRO Check	=	
		HTTP		
	 Content Type = application/vnd.onem2m-res+xml; or application/ res+json; 			
0			 X-M2M-RI: (token-string) X-M2M-Origin: AE-ID Content Type = application/vnd.onem2m-res+xml; or application/vnd.onem2m-res+json; Message-Body: Serialized Representation of updated <container> resource</container> Sent request contains Method: 0.03 (UPDATE) Uri-Host: IP address or the FQDN of Registrar CSE Uri-Path: {CSEBaseName}/URI of <container> resource</container> 	
	Мса			
2	Ivica			
		PRO Check		
		CoAP		
		00/11		
			Sent MQTT PUBLISH message:	
			TS-0004 [2], clause 7.3.6.2.1 • AE has created a <container> resource in registrar CSE. Test Sequence • Description AE is requested to send a non blocking synchronous request to update the <container> resource. • op = 3 (Update) • to = (CSEBaseName)/URI of <container> resource • tra AE-ID • request contains • op = 5 diptate) • request contains • op = 5 diptated Representation of the updated <container> resource • If a (I ono blocking synchronous) • pc = Serialized Representation of the updated <container> resource?rt=1 • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI; (token-string) • X-M2M-Origin: AE-ID • Content Type = application/vnd.onem2m-res+xml; or application/vnd.onem2m-res+json; • Message-Body: Serialized Representation of updated <container> resource Sent request contains • Method: 0.03 (UPDATE) • Uri-Path; (CSEBaseName)/URI of <container> resource • Uri-Query: rt=1</container></container></container></container></container></container></container></container></container></container></container>	
		PRO Check		
		MQTT		
		PRO Check		
		Primitive		
3	Мса	PRO Check		
		HTTP	• X-M2M-RSC: 1000	
			• X-M2M-RI= token-string) same as received in request message	
		PRO Check		
		CoAP	• Response Code = None	
	1	1	• oneM2M-RSC=1000	

8.2.1.1.3 Container Update

			Interoperability Test Description
			 oneM2M-RQI = token-string) same as received in request message
			Payload: Reference to the created <request> resource</request>
			Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
		PRO Check	• to = AE-ID
		MQTT	• fr = Registrar CSE-ID
			• rqi = token-string) same as received in request message
			• rsc = 1000 (Accepted)
			• pc = Reference to the created <request> resource</request>
4		IOP Check	AE indicates successful operation
5		Stimulus	AE is requested to wait then send a retrieve request to <request> reference</request>
			Sent Retrieve request contains
			• op = 2 (Retrieve)
		PRO Check	• to = <request> reference</request>
		Primitive	• $fr = AE-ID$
			 rqi = (token-string) pc = empty
			Sent GET request contains
			• Request method = GET
		PRO Check	Request URI: <request> reference</request>
		HTTP	Host: IP address or the FQDN of Registrar CSE
			• X-M2M-RI: (token-string)
			• X-M2M-Origin: AE-ID
			Message-Body: empty
6	Мса	PRO Check CoAP	Sent GET request contains
Ŭ	ivica		• Method: 0.01 (GET)
			Uri-Host: IP address or the FQDN of Registrar CSE
			Uri-Path: <request> reference</request>
			• oneM2M-FR: AE-ID
			• oneM2M-RQI: (token-string)
			Payload: empty Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
		PRO Check	• OD = 2
		MQTT	• to = <request> reference</request>
			• fr = AE-ID
			• rqi = (token-string)
ļ			• pc = empty
			• rsc = 2000 (OK)
		PRO Check Primitive	• rqi = (token-string) same as received in request message
		FIIIIIIVe	 pc = <request> resource with the parameter "requestStatus" set to 1 (COMPLETED) and the "operationResult" parameter containing the <container> resource.</container></request>
			Registrar CSE sends response to AE containing:
			Status Code = 200
			• X-M2M-RSC: 2000
		PRO Check	• X-M2M-RI= (token-string) same as received in request message
		HTTP	Content-Type; application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			• Message-Body: <request> resource with the parameter "requestStatus" set to 1</request>
			(COMPLETED) and the "operationResult" parameter containing the <container></container>
7	Мса		resource.
			Registrar CSE sends response to AE containing:
			Response Code= 2.05
		PRO Check	oneM2M-RSC: 2000 a pre-M2M POL: (taken string) some as reasilized in regulate management
		CoAP	 oneM2M-RQI: (token-string) same as received in request message Content-format; application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
		00/1	 Content-format, application/vnd.onem2n-res+xmi or application/vnd.onem2n-res+json Payload: <request> resource with the parameter "requestStatus" set to 1</request>
			(COMPLETED) and the "operationResult" parameter containing the <container></container>
			resource.
			Sent MQTT PUBLISH message:
		PRO Check	Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>
		MQTT	Payload:
1	1	1	• to = $AE-ID$

	Interoperability Test Description				
			• fr = Registrar CSE-ID		
			 rqi = (token-string) same as received in request message 		
			• rsc = 2000 (OK)		
			• pc = <request> resource with the parameter "requestStatus" set to 1 (COMPLETED)</request>		
			and the "operationResult" parameter containing the <container> resource.</container>		
8		IOP Check	AE indicates successful operation		
IOP \	/erdict				
PRO '	Verdict				

8.2.1.1.4 Container Delete

			Interoperability Test Description
Identi	fier		TD_M2M_NB_04
Objec			AE deletes a Container resource using non blocking synchronous request.
	guratior	n [.]	M2M_CFG_01
	ences:	•	TS-0001 [1], clause 10.2.4.1
			TS-0004 [2], clause 7.3.6.2.1
Pre-te	st cond	litions:	AE has created <container> resource on registrar CSE.</container>
			Test Sequence
Step	RP	Туре	Description
		Stimulus	AE is requested to send a non blocking synchronous request to delete the <container></container>
1			resource.
			Sent request contains
			• op = 4 (Delete)
			• to = {CSEBaseName}/URI of <container> resource</container>
		PRO Check	• fr= AE-ID
		Primitive	• rqi = (token-string)
			• rt = 1 (non blocking synchronous)
			• pc = empty
			Sent request contains
			Request method = DELETE
		PRO Check HTTP	Reques-Target: {CSEBaseName}/URI of <container> resource ?rt=1</container>
			Host: IP address or the FQDN of Registrar CSE
			• X-M2M-RI: (token-string)
			• X-M2M-Origin: AE-ID
			Message-Body: empty
			Sent request contains
2	Мса		Method: 0.04 (DELETE)
			Uri-Host: IP address or the FQDN of Registrar CSE
		PRO Check	Uri-Path: {CSEBaseName}/URI of <container> resource</container>
		CoAP	• Uri-Query: rt=1
			• oneM2M-FR: AE-ID
			oneM2M-RQI: (token-string)
			Payload: empty
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
		BBO Check	• $op = 4$ (Delete)
		PRO Check MQTT	 to = {CSEBaseName}/URI of <container> resource</container>
		WIGTT	• fr= AE-ID
			• rqi = (token-string)
			 rt = 1 (non blocking synchronous)
			• pc = empty
			Registrar CSE creates an internal <request> resource and sends acknowledgement</request>
		PRO Check	response containing:
		Primitive	• rsc = 1000 (Accepted)
_			• rqi = token-string) same as received in request message
3	Mca		• pc = Reference to the created <request> resource</request>
		PRO Check	Registrar CSE creates an internal <request> resource and sends acknowledgement</request>
		HTTP	response containing:
			• Status Code = 202
			• X-M2M-RSC: 1000

			Interoperability Test Description
			X-M2M-RI= token-string) same as received in request message
			Message-Body: Reference to the created <request> resource</request>
			Registrar CSE creates an internal <request> resource and sends acknowledgement response containing:</request>
		PRO Check CoAP	Response Code = None
			• oneM2M-RSC=1000
			 oneM2M-RQI = (token-string) same as received in request message Payload: Reference to the created <request> resource</request>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">" Payload:</registrar>
		PRO Check	• to = AE-ID
		MQTT	• fr = Registrar CSE-ID
		in de l'	 rqi = token-string) same as received in request message
			• rsc = 1000 (Accepted)
			• pc = Reference to the created <request> resource</request>
4		IOP Check	AE indicates successful operation
5		Stimulus	AE is requested to send a retrieve request to <request> reference</request>
			Sent Retrieve request contains
			• op = 2 (Retrieve)
		PRO Check Primitive	 to = <request> reference</request> fr = AE-ID
		1 mmuve	 If = AE-ID rgi = (token-string)
			• $PC = empty$
			Sent GET request contains
			• Request method = GET
		PRO Check	Request URI: <request> reference</request>
		HTTP	 Host: IP address or the FQDN of Registrar CSE
			• X-M2M-RI: (token-string)
			• X-M2M-Origin: AE-ID
			Message-Body: empty
6	Мса		Sent GET request contains
			 Method: 0.01 (GET) Uri-Host: IP address or the FQDN of Registrar CSE
		PRO Check	Uri-Path: <request> reference</request>
		CoAP	• oneM2M-FR: AE-ID
			• oneM2M-RQI: (token-string)
			Payload: empty
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
		PRO Check	• op = 2
		MQTT	 to = <request> reference</request> fr = AE-ID
			• If = AE-ID • rqi = (token-string)
			• $pc = empty$
			• rsc = 2000 (OK)
		PRO Check	 rqi = (token-string) same as received in request message
		Primitive	• pc = <request> resource with the parameter "requestStatus" set to 1 (COMPLETED)</request>
			Registrar CSE sends response to AE containing:
			• Status Code = 200
		PRO Check	• X-M2M-RSC: 2000
		HTTP	• X-M2M-RI= (token-string) same as received in request message
			 Content-Type; application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-Body: <request> resource with the parameter "requestStatus" set to 1</request>
7	Mca		• Message-Body: <request> resource with the parameter "requestStatus" set to 1 (COMPLETED)</request>
			Registrar CSE sends response to AE containing:
			Response Code= 2.05
			• oneM2M-RSC: 2000
		PRO Check CoAP	• oneM2M-RQI: (token-string) same as received in request message
		CUAP	Content-format; application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			• Payload: <request> resource with the parameter "requestStatus" set to 1</request>
			(COMPLETED)
		PRO Check	Sent MQTT PUBLISH message:

	Interoperability Test Description				
		MQTT	Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>		
			Payload:		
			• to = AE-ID		
			• fr = Registrar CSE-ID		
			 rqi = (token-string) same as received in request message 		
			• rsc = 2000 (OK)		
			• pc = <request> resource with the parameter "requestStatus" set to 1 (COMPLETED)</request>		
8		IOP Check	AE indicates successful operation		
IOP \	/erdict				
PRO '	Verdict				

8.2.2 Asynchronous request

8.2.2.1 Container management

8.2.2.1.1 Container Create

			Interoperability Test Description
Identi	fier:		TD_M2M_NB_05
Objec			AE creates a <container> resource using non blocking asynchronous request</container>
	guration	:	M2M_CFG_01
References:			TS-0001 [1], clause 10.2.4.1
			TS-0004 [2], clause 7.3.6.2.1
Pre-te	st cond	itions:	AE is reachable on the URI: "AE-Notification-URI"
			Test Sequence
Step	RP	Туре	Description
		Stimulus	AE is requested to send a non blocking asynchronous request to create the <container></container>
1			resource in registrar CSE.
			Sent request contains
			• op = 1 (Create)
			• to = {CSEBaseName}
			• fr= AE-ID
		PRO Check	• rqi = (token-string)
		Primitive	• rt = 2 (non blocking asynchronous)
			• ty = 3 (container)
			• nu= AE-Notification-URI
			oneM2M-RQI: Request-ID
			 pc = Serialized Representation the <container> resource</container>
			Sent request contains
			• Request method = POST
			Reques-Target: {CSEBaseName}?rt=2
			Host: IP address or the FQDN of Registrar CSE
		PRO Check	• X-M2M-RI: (token-string)
		HTTP	• X-M2M-Origin: AE-ID
2	Мса		• X-M2M-RTU: AE-Notification-URI
			Content Type = application/vnd.onem2m-res+xml; ty=3 or application/vnd.onem2m-
			res+json; ty=3
			Message-Body: Serialized Representation of <container> resource</container>
			Sent request contains
			Method: 0.02 (POST)
			Uri-Host: IP address or the FQDN of Registrar CSE
			• Uri-Path: {CSEBaseName}
			• Uri-Query: rt=1
		PRO Check	• oneM2M-FR: AE-ID
		CoAP	• oneM2M-RQI: (token-string)
			oneM2M-RTURI: AE-Notification-URI
			 Content Type = application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			• oneM2M-TY: 3
			Payload: Serialized Representation of <container> resource</container>
		PRO Check	Sent MQTT PUBLISH message:
		1110 011000	

			Interoperability Test Description
		MQTT	Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
			• op = 1 (Create)
			to = {CSEBaseName}
			• fr = AE-ID
			• rqi = (token-string)
			 rt = 2 (non blocking asynchronous)
			• ty = 3 (container)
			• nu= AE-Notification-URI
			• pc = Serialized Representation f the <container> resource</container>
			Registrar CSE creates an internal <request> resource and sends acknowledgement</request>
		PRO Check	response containing:
		Primitive	 rsc = 1000 (Accepted) rqi = token-string) same as received in request message
			 pc = Reference to the created <request> resource</request>
			Registrar CSE creates an internal <request> resource and sends acknowledgement</request>
			response containing:
		PRO Check	• Status Code = 202
		HTTP	• X-M2M-RSC: 1000
			• X-M2M-RI= token-string) same as received in request message
			Message-Body: Reference to the created <request> resource</request>
			Registrar CSE creates an internal <request> resource and sends acknowledgement</request>
3	Maa		response containing:
	Мса	PRO Check	Response Code = None
		CoAP	• oneM2M-RSC = 1000
			 oneM2M-RQI = token-string) same as received in request message
			 Payload: Reference to the created <request> resource</request>
		PRO Check MQTT	Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
			• to = AE-ID
			• fr = Registrar CSE-ID
			6
			• rqi = (token-string) same as received in request message
			 rqi = (token-string) same as received in request message rsc = 1000 (Accepted)
4			 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request>
4		IOP Check	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation
4		IOP Check IOP Check	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE
			 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE Sent request contains
			 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE
		IOP Check	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify)
		IOP Check PRO Check	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI fr = registrar CSE-ID
		IOP Check PRO Check	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI
		IOP Check PRO Check	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI fr = registrar CSE-ID rqi = (token-string)
		IOP Check PRO Check	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI fr = registrar CSE-ID rqi = (token-string) pc = Serialized representation of notification data object
		IOP Check PRO Check	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI fr = registrar CSE-ID rqi = (token-string) pc = Serialized representation of notification data object Sent request contains
		IOP Check PRO Check Primitive	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI fr = registrar CSE-ID rqi = (token-string) pc = Serialized representation of notification data object Sent request method = POST
		IOP Check PRO Check Primitive PRO Check	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI fr = registrar CSE-ID rqi = (token-string) pc = Serialized representation of notification data object Sent request method = POST Request URI: AE-Notification-URI
		IOP Check PRO Check Primitive PRO Check	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI fr = registrar CSE-ID rqi = (token-string) pc = Serialized representation of notification data object Sent request contains Request method = POST Request URI: AE-Notification-URI Host: IP address or the FQDN of Registrar AE
5		IOP Check PRO Check Primitive PRO Check	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI fr = registrar CSE-ID rqi = (token-string) pc = Serialized representation of notification data object Sent request uRI: AE-Notification-URI Host: IP address or the FQDN of Registrar AE X-M2M-RI: (token-string) X-M2M-Origin: Registrar CSE-ID Message-Body: Serialized representation of notification data object
	Мса	IOP Check PRO Check Primitive PRO Check	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI fr = registrar CSE-ID rqi = (token-string) pc = Serialized representation of notification data object Sent request until AE-Notification-URI Request method = POST Request URI: AE-Notification-URI Host: IP address or the FQDN of Registrar AE X-M2M-RI: (token-string) X-M2M-Origin: Registrar CSE-ID Message-Body: Serialized representation of notification data object
5	Мса	IOP Check PRO Check Primitive PRO Check	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI fr = registrar CSE-ID rqi = (token-string) pc = Serialized representation of notification data object Sent request contains Request method = POST Request URI: AE-Notification-URI Host: IP address or the FQDN of Registrar AE X-M2M-RI: (token-string) X-M2M-Origin: Registrar CSE-ID Message-Body: Serialized representation of notification data object
5	Мса	IOP Check PRO Check Primitive PRO Check HTTP	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI fr = registrar CSE-ID rqi = (token-string) pc = Serialized representation of notification data object Sent request contains Request method = POST Request uRI: AE-Notification-URI Host: IP address or the FQDN of Registrar AE X-M2M-Origin: Registrar CSE-ID Message-Body: Serialized representation of notification data object Sent request contains K-M2M-Origin: Registrar CSE-ID Message-Body: Serialized representation of notification data object
5	Мса	IOP Check PRO Check Primitive PRO Check HTTP	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI fr = registrar CSE-ID rqi = (token-string) pc = Serialized representation of notification data object Sent request contains Request method = POST Request uRI: AE-Notification-URI Host: IP address or the FQDN of Registrar AE X-M2M-Origin: Registrar CSE-ID Message-Body: Serialized representation of notification data object Sent request contains Request contains Request uRI: AE-Notification-URI Host: IP address or the FQDN of Registrar AE X-M2M-Origin: Registrar CSE-ID Message-Body: Serialized representation of notification data object
5	Мса	IOP Check PRO Check Primitive PRO Check HTTP	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI fr = registrar CSE-ID rqi = (token-string) pc = Serialized representation of notification data object Sent request contains Request method = POST Request URI: AE-Notification-URI Host: IP address or the FQDN of Registrar AE X-M2M-RI: (token-string) X-M2M-Origin: Registrar CSE-ID Message-Body: Serialized representation of notification data object Sent request contains Method: 0.02 (POST) Uri-Host: IP address or the FQDN of Registrar AE Uri-Path: AE-Notification-URI oneM2M-RQI: (token-string)
5	Мса	IOP Check PRO Check Primitive PRO Check HTTP	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI fr = registrar CSE-ID rqi = (token-string) pc = Serialized representation of notification data object Sent request contains Request method = POST Request uRI: AE-Notification-URI Host: IP address or the FQDN of Registrar AE X-M2M-RI: (token-string) X-M2M-Origin: Registrar CSE-ID Message-Body: Serialized representation of notification data object Sent request contains Method: 0.02 (POST) Uri-Host: IP address or the FQDN of Registrar AE Uri-Path: AE-Notification-URI oneM2M-RQI: (token-string) oneM2M-RRI: (token-string)
5	Мса	IOP Check PRO Check Primitive PRO Check HTTP	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI fr = registrar CSE-ID rqi = (token-string) pc = Serialized representation of notification data object Sent request contains Request method = POST Request method = POST Request uRI: AE-Notification-URI Host: IP address or the FQDN of Registrar AE X-M2M-RI: (token-string) X-M2M-Origin: Registrar CSE-ID Message-Body: Serialized representation of notification data object Sent request contains Method: 0.02 (POST) Uri-Host: IP address or the FQDN of Registrar AE Uri-Path: AE-Notification-URI oneM2M-RQI: (token-string) oneM2M-RQI: (token-string) oneM2M-FR: Registrar CSE-ID Payload: Serialized representation of notification data object
5	Мса	IOP Check PRO Check Primitive PRO Check HTTP	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI fr = registrar CSE-ID rqi = (token-string) pc = Serialized representation of notification data object Sent request contains Request method = POST Request uRI: AE-Notification-URI Host: IP address or the FQDN of Registrar AE X-M2M-RI; (token-string) X-M2M-Origin: Registrar CSE-ID Message-Body: Serialized representation of notification data object Sent request contains Method: 0.02 (POST) Uri-Host: IP address or the FQDN of Registrar AE X-M2M-Origin: Registrar CSE-ID Message-Body: Serialized representation of notification data object Sent request contains Method: 0.02 (POST) Uri-Host: IP address or the FQDN of Registrar AE Uri-Path: AE-Notification-URI oneM2M-RQI: (token-string) oneM2M-RRI: Registrar CSE-ID Payload: Serialized representation of notification data object
5	Мса	IOP Check PRO Check Primitive PRO Check HTTP	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI fr = registrar CSE-ID rqi = (token-string) pc = Serialized representation of notification data object Sent request contains Request method = POST Request method = POST Request URI: AE-Notification-URI Host: IP address or the FQDN of Registrar AE X-M2M-RI: (token-string) X-M2M-Origin: Registrar CSE-ID Method: 0.02 (POST) Uri-Host: IP address or the FQDN of Registrar AE Uri-Path: AE-Notification-URI oneM2M-RQI: (token-string) oneM2M-RRI: (token-string) oneM2M-FR: Registrar CSE-ID Payload: Serialized representation of notification data object
5	Мса	IOP Check PRO Check Primitive PRO Check HTTP	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI fr = registrar CSE-ID rqi = (token-string) pc = Serialized representation of notification data object Sent request contains Request uRI: AE-Notification-URI Host: IP address or the FQDN of Registrar AE X-M2M-RI: (token-string) X-M2M-Origin: Registrar CSE-ID Method: 0.02 (POST) Uri-Host: IP address or the FQDN of Registrar AE Uri-Path: AE-Notification-URI oneM2M-RQI: (token-string)
5	Мса	IOP Check PRO Check Primitive PRO Check HTTP PRO Check CoAP	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI fr = registrar CSE-ID rqi = (token-string) pc = Serialized representation of notification data object Sent request contains Request method = POST Request use to AE X-M2M-RI: (token-string) X-M2M-Origin: Registrar CSE-ID Method: 0.02 (POST) Uri-Host: IP address or the FQDN of Registrar AE Vri-Host: IP address or the FQDN of Registrar AE Uri-Path: AE-Notification-URI oneM2M-RQI: (token-string) oneM2M-FR: Registrar CSE-ID oneM2M-FR: Registrar CSE-ID Payload: Serialized representation of notification data object
5	Мса	IOP Check PRO Check Primitive PRO Check HTTP PRO Check CoAP	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI ff = registrar CSE-ID rqi = (token-string) pc = Serialized representation of notification data object Sent request URI: AE-Notification-URI Host: IP address or the FQDN of Registrar AE X-M2M-Origin: Registrar CSE-ID Method: 0.02 (POST) Uri-Path: AE-Notification-URI oneM2M-RQI: (token-string) oneM2M-RR: Registrar CSE-ID Payload: Serialized representation of notification data object
5	Мса	IOP Check PRO Check Primitive PRO Check HTTP PRO Check CoAP	 rqi = (token-string) same as received in request message rsc = 1000 (Accepted) pc = Reference to the created <request> resource</request> AE indicates successful operation Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI fr = registrar CSE-ID rqi = (token-string) pc = Serialized representation of notification data object Sent request contains Request method = POST Request use to AE X-M2M-RI: (token-string) X-M2M-Origin: Registrar CSE-ID Method: 0.02 (POST) Uri-Host: IP address or the FQDN of Registrar AE Vri-Host: IP address or the FQDN of Registrar AE Uri-Path: AE-Notification-URI oneM2M-RQI: (token-string) oneM2M-FR: Registrar CSE-ID oneM2M-FR: Registrar CSE-ID Payload: Serialized representation of notification data object

	Interoperability Test Description				
			• pc = empty		
		PRO Check Primitive	AE sends notify response to Registrar CSE containing:		
			• rsc = 2000 (OK)		
		1 111111110	 rqi = (token-string) same as received in request message 		
			AE sends notify response to Registrar CSE containing:		
		PRO Check	• Code = 200		
		HTTP	• X-M2M-RSC: 2000		
			 X-M2M-RI= (token-string) same as received in request message 		
			Message-Body = empty		
_		PRO Check CoAP	AE sends notify response to Registrar CSE containing:		
7	Мса		Response Code= 2.05		
			 oneM2M-RQI = (token-string) same as received in request message 		
			Payload = empty		
			Sent MQTT PUBLISH message:		
			Topic: "/oneM2M/resp/ <registrar cse-id="">/<ae-id>"</ae-id></registrar>		
		PRO Check	Payload:		
		MQTT	• to = AE-ID		
			• fr = Registrar CSE-ID		
			 rqi = (token-string) same as received in request message 		
			• rsc = 2000 (OK)		
8		IOP Check	Registrar CSE indicates successful operation		
_	/erdict				
PROV	Verdict				

8.2.2.1.2 Container Retrieve

			Interoperability Test Description
Identi	fier:		TD_M2M_NB_06
Objec	tive:		AE retrieves a <container> resource using non blocking asynchronous request</container>
Configuration:			M2M_CFG_01
Refer	ences:		TS-0001 [1], clause 10.2.4.1
			TS-0004 [2], clause 7.3.6.2.1
Pre-test conditions:			 AE has created a <container> resource on registrar CSE.</container>
			AE is reachable on the URI: "AE-Notification-URI"
	-		Test Sequence
Step	RP	Туре	Description
1		Stimulus	AE is requested to send a non blocking asynchronous request to retrieve the <container> resource from registrar CSE</container>
			Sent request contains
			• op = 2 (Retrieve)
			 to = {CSEBaseName}/URI of <container> resource</container>
		PRO Check Primitive	• fr = AE-ID
			 rqi = (token-string)
			 rt = 2 (non blocking asynchronous)
			 nu = AE-Notification-URI
			• pc = empty
			Sent request contains
			 Request method = POST
		PRO Check	 Reques-Target: {CSEBaseName}/URI of <container> resource ?rt=2</container>
2		HTTP	Host: IP address or the FQDN of Registrar CSE
2	Мса		• X-M2M-RI: (token-string)
			• X-M2M-Origin: AE-ID
			X-M2M-RTU: AE-Notification-URI
			Message-Body: empty
			Sent request contains
			Method: 0.01 (GET)
			Uri-Host: IP address or the FQDN of Registrar CSE
		PRO Check	Uri-Path: {CSEBaseName}/URI of <container> resource</container>
		CoAP	• Uri-Query: rt=2
			• oneM2M-FR: AE-ID
			oneM2M-RQI: (token-string)
			oneM2M-RTURI: AE-Notification-URI

© oneM2M Partners Type 1 (ARIB, ATIS, CCSA, ETSI, TIA, TSDSI, TTA, TTC) Page 83 of 112 This is a draft oneM2M document and should not be relied upon; the final version, if any, will be made available by oneM2M Partners Type 1.

	-		Interoperability Test Description
1			Payload: empty
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
			• op = 2 (Retrieve)
		PRO Check	• to = {CSEBaseName}/URI of <container> resource</container>
		MQTT	• fr = AE-ID
			• rqi = (token-string)
			 rt = 2 (non blocking synchronous)
			• nu = AE-Notification-URI
			• pc = empty
			Registrar CSE creates an internal <request> resource and sends acknowledgement</request>
		PRO Check	response containing:
		Primitive	• rsc = 1000 (Accepted)
			• rqi = token-string) same as received in request message
			pc = Reference to the created <request> resource</request>
			Registrar CSE creates an internal <request> resource and sends acknowledgement</request>
		PRO Check	response containing:
		HTTP	Status Code = 202
			• X-M2M-RSC: 1000
			X-M2M-RI= token-string) same as received in request message
			Message-Body: Reference to the created <request> resource</request>
			Registrar CSE creates an internal <request> resource and sends acknowledgement</request>
	Мса		response containing:
	moa	PRO Check	Response Code = None
		CoAP	• oneM2M-RSC = 1000
			 oneM2M-RQI = token-string) same as received in request message
			Payload: Reference to the created <request> resource</request>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
		PRO Check	• to = AE-ID
		MQTT	• fr = Registrar CSE-ID
			 rqi = (token-string) same as received in request message
			• rsc = 1000 (Accepted)
			 pc = Reference to the created <request> resource</request>
			
4		IOP Check	AE indicates successful operation
4 5		IOP Check IOP Check	Registrar CSE sends notify request to AE
			Registrar CSE sends notify request to AE Sent request contains
		IOP Check	Registrar CSE sends notify request to AE Sent request contains • op = 5 (Notify)
		IOP Check PRO Check	Registrar CSE sends notify request to AE Sent request contains • op = 5 (Notify) • to = AE-Notification-URI
		IOP Check	Registrar CSE sends notify request to AE Sent request contains • op = 5 (Notify) • to = AE-Notification-URI • fr = registrar CSE-ID
		IOP Check PRO Check	Registrar CSE sends notify request to AE Sent request contains • op = 5 (Notify) • to = AE-Notification-URI • fr = registrar CSE-ID • rqi = (token-string) • rqi = (token-string)
		IOP Check PRO Check	Registrar CSE sends notify request to AE Sent request contains • op = 5 (Notify) • to = AE-Notification-URI • fr = registrar CSE-ID • rqi = (token-string) • pc = Serialized representation of notification data object
		IOP Check PRO Check	Registrar CSE sends notify request to AE Sent request contains • op = 5 (Notify) • to = AE-Notification-URI • fr = registrar CSE-ID • rqi = (token-string) • pc = Serialized representation of notification data object Sent request contains
		IOP Check PRO Check Primitive	Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) • to = AE-Notification-URI • fr = registrar CSE-ID • rqi = (token-string) • pc = Serialized representation of notification data object Sent request contains • Request method = POST
		IOP Check PRO Check Primitive PRO Check	Registrar CSE sends notify request to AE Sent request contains • op = 5 (Notify) • to = AE-Notification-URI • fr = registrar CSE-ID • rqi = (token-string) • pc = Serialized representation of notification data object Sent request contains • Request method = POST • Request URI: AE-Notification-URI
		IOP Check PRO Check Primitive	Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) • to = AE-Notification-URI • fr = registrar CSE-ID • rqi = (token-string) • pc = Serialized representation of notification data object Sent request contains • Request method = POST • Request URI: AE-Notification-URI • Host: IP address or the FQDN of Registrar AE
		IOP Check PRO Check Primitive PRO Check	Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) • to = AE-Notification-URI • fr = registrar CSE-ID • rqi = (token-string) • pc = Serialized representation of notification data object Sent request contains • Request method = POST • Request URI: AE-Notification-URI • Host: IP address or the FQDN of Registrar AE • X-M2M-RI: (token-string)
		IOP Check PRO Check Primitive PRO Check	Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) • to = AE-Notification-URI • fr = registrar CSE-ID • rqi = (token-string) • pc = Serialized representation of notification data object Sent request contains • Request method = POST • Request URI: AE-Notification-URI • Host: IP address or the FQDN of Registrar AE • X-M2M-RI: (token-string) • X-M2M-Origin: Registrar CSE-ID
		IOP Check PRO Check Primitive PRO Check	Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) • to = AE-Notification-URI • fr = registrar CSE-ID • rqi = (token-string) • pc = Serialized representation of notification data object Sent request contains • Request method = POST • Request URI: AE-Notification-URI • Host: IP address or the FQDN of Registrar AE • X-M2M-RI: (token-string) • X-M2M-Origin: Registrar CSE-ID • Message-Body: Serialized representation of notification of notification data object
5	Мса	IOP Check PRO Check Primitive PRO Check	Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) • to = AE-Notification-URI • fr = registrar CSE-ID • rqi = (token-string) • pc = Serialized representation of notification data object Sent request contains • Request method = POST • Request URI: AE-Notification-URI • Host: IP address or the FQDN of Registrar AE • X-M2M-RI: (token-string) • X-M2M-Origin: Registrar CSE-ID • Message-Body: Serialized representation of notification data object
5	Мса	IOP Check PRO Check Primitive PRO Check	Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) • to = AE-Notification-URI • fr = registrar CSE-ID • rqi = (token-string) • pc = Serialized representation of notification data object Sent request contains • Request method = POST • Request URI: AE-Notification-URI • Host: IP address or the FQDN of Registrar AE • X-M2M-RI: (token-string) • X-M2M-Origin: Registrar CSE-ID • Message-Body: Serialized representation of notification data object Sent request contains
5	Мса	IOP Check PRO Check Primitive PRO Check HTTP	Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) • to = AE-Notification-URI • fr = registrar CSE-ID • rqi = (token-string) • pc = Serialized representation of notification data object Sent request contains • Request method = POST • Request method = POST • Request URI: AE-Notification-URI • Host: IP address or the FQDN of Registrar AE • X-M2M-RI: (token-string) • X-M2M-Origin: Registrar CSE-ID • Message-Body: Serialized representation of notification data object Sent request contains • Method: 0.02 (POST) • Uri-Host: IP address or the FQDN of Registrar AE
5	Мса	IOP Check PRO Check Primitive PRO Check	Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI fr = registrar CSE-ID rqi = (token-string) pc = Serialized representation of notification data object Sent request contains Request method = POST Request URI: AE-Notification-URI Host: IP address or the FQDN of Registrar AE X-M2M-RI: (token-string) X-M2M-Origin: Registrar CSE-ID Message-Body: Serialized representation of notification data object Sent request contains Method: 0.02 (POST) Uri-Host: IP address or the FQDN of Registrar AE Uri-Path: AE-Notification-URI
5	Мса	IOP Check PRO Check Primitive PRO Check HTTP	Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI fr = registrar CSE-ID rqi = (token-string) pc = Serialized representation of notification data object Sent request contains Request method = POST Request method = POST Request URI: AE-Notification-URI Host: IP address or the FQDN of Registrar AE X-M2M-RI: (token-string) X-M2M-Origin: Registrar CSE-ID Message-Body: Serialized representation of notification data object Sent request contains Method: 0.02 (POST) Uri-Host: IP address or the FQDN of Registrar AE Uri-Path: AE-Notification-URI oneM2M-RQI: (token-string)
5	Мса	IOP Check PRO Check Primitive PRO Check HTTP	Registrar CSE sends notify request to AE Sent request contains op = 5 (Notify) to = AE-Notification-URI fr = registrar CSE-ID rqi = (token-string) pc = Serialized representation of notification data object Sent request contains Request method = POST Request URI: AE-Notification-URI Host: IP address or the FQDN of Registrar AE X-M2M-RI: (token-string) X-M2M-Origin: Registrar CSE-ID Message-Body: Serialized representation of notification data object Sent request contains Method: 0.02 (POST) Uri-Host: IP address or the FQDN of Registrar AE Uri-Path: AE-Notification-URI oneM2M-RQI: (token-string) oneM2M-RQI: (token-string) oneM2M-FR: Registrar CSE-ID
5	Мса	IOP Check PRO Check Primitive PRO Check HTTP	Registrar CSE sends notify request to AE Sent request contains • op = 5 (Notify) • to = AE-Notification-URI • fr = registrar CSE-ID • rqi = (token-string) • pc = Serialized representation of notification data object Sent request contains • Request method = POST • Request method = POST • Request URI: AE-Notification-URI • Host: IP address or the FQDN of Registrar AE • X-M2M-RI: (token-string) • X-M2M-Origin: Registrar CSE-ID • Message-Body: Serialized representation of notification data object Sent request contains • Method: 0.02 (POST) • Uri-Host: IP address or the FQDN of Registrar AE • Uri-Path: AE-Notification-URI • oneM2M-RQI: (token-string) • oneM2M-RQI: (token-string) • oneM2M-FR: Registrar CSE-ID • Payload: Serialized representation of notification data object
5	Мса	IOP Check PRO Check Primitive PRO Check HTTP	Registrar CSE sends notify request to AE Sent request contains • op = 5 (Notify) • to = AE-Notification-URI • fr = registrar CSE-ID • rqi = (token-string) • pc = Serialized representation of notification data object Sent request contains • Request method = POST • Request method = POST • Request URI: AE-Notification-URI • Host: IP address or the FQDN of Registrar AE • X-M2M-RI: (token-string) • X-M2M-Origin: Registrar CSE-ID • Message-Body: Serialized representation of notification data object Sent request contains • Method: 0.02 (POST) • Uri-Host: IP address or the FQDN of Registrar AE • Uri-Path: AE-Notification-URI • oneM2M-RQI: (token-string) • oneM2M-RQI: (token-string) • oneM2M-FR: Registrar CSE-ID • Payload: Serialized representation of notification data object
5	Мса	IOP Check PRO Check Primitive PRO Check HTTP PRO Check CoAP	Registrar CSE sends notify request to AE Sent request contains • op = 5 (Notify) • to = AE-Notification-URI • fr = registrar CSE-ID • rqi = (token-string) • pc = Serialized representation of notification data object Sent request contains • Request method = POST • Request method = POST • Request URI: AE-Notification-URI • Host: IP address or the FQDN of Registrar AE • X-M2M-RI: (token-string) • X-M2M-RI: (token-string) • X-M2M-RI: (token-string) • X-M2M-Origin: Registrar CSE-ID • Message-Body: Serialized representation of notification data object Sent request contains • Method: 0.02 (POST) • Uri-Host: IP address or the FQDN of Registrar AE • Uri-Path: AE-Notification-URI • oneM2M-RQI: (token-string) • oneM2M-FR: Registrar CSE-ID • Payload: Serialized representation of notification data object Sent MQTT PUBLISH message: Topic: "/oneM2M/req/< Registrar CSE-ID >/ <ae-id>"</ae-id>
5	Мса	IOP Check PRO Check Primitive PRO Check HTTP PRO Check CoAP	Registrar CSE sends notify request to AE Sent request contains • op = 5 (Notify) • to = AE-Notification-URI • fr = registrar CSE-ID • rqi = (token-string) • pc = Serialized representation of notification data object Sent request contains • Request method = POST • Request method = POST • Request URI: AE-Notification-URI • Host: IP address or the FQDN of Registrar AE • X-M2M-RI: (token-string) • X-M2M-Origin: Registrar CSE-ID • Message-Body: Serialized representation of notification data object Sent request contains • Method: 0.02 (POST) • Uri-Host: IP address or the FQDN of Registrar AE • Uri-Path: AE-Notification-URI • oneM2M-RQI: (token-string) • oneM2M-RQI: (token-string) • oneM2M-RQI: (token-string) • oneM2M-RQI: (token-string) • oneM2M-FR: Registrar CSE-ID • Payload: Serialized representation of notification data object
5	Мса	IOP Check PRO Check Primitive PRO Check HTTP PRO Check CoAP	Registrar CSE sends notify request to AE Sent request contains • op = 5 (Notify) • to = AE-Notification-URI • fr = registrar CSE-ID • rqi = (token-string) • pc = Serialized representation of notification data object Sent request contains • Request method = POST • Request uRI: AE-Notification-URI • Host: IP address or the FQDN of Registrar AE • X-M2M-RI: (token-string) • X-M2M-Origin: Registrar CSE-ID • Message-Body: Serialized representation of notification data object Sent request contains • Method: 0.02 (POST) • Uri-Host: IP address or the FQDN of Registrar AE • Uri-Path: AE-Notification-URI • oneM2M-RQI: (token-string) • oneM2M-RQI: (token-string)
5	Мса	IOP Check PRO Check Primitive PRO Check HTTP PRO Check CoAP	Registrar CSE sends notify request to AE Sent request contains • op = 5 (Notify) • to = AE-Notification-URI • fr = registrar CSE-ID • rqi = (token-string) • pc = Serialized representation of notification data object Sent request contains • Request method = POST • Request method = POST • Request URI: AE-Notification-URI • Host: IP address or the FQDN of Registrar AE • X-M2M-RI: (token-string) • X-M2M-Origin: Registrar CSE-ID • Message-Body: Serialized representation of notification data object Sent request contains • Method: 0.02 (POST) • Uri-Host: IP address or the FQDN of Registrar AE • Uri-Path: AE-Notification-URI • oneM2M-RQI: (token-string) • oneM2M-RQI: (token-string) • oneM2M-RQI: (token-string) • oneM2M-RQI: (token-string) • oneM2M-FR: Registrar CSE-ID • Payload: Serialized representation of notification data object

	Interoperability Test Description				
			• rqi = (token-string)		
			• pc=empty		
		PRO Check Primitive	AE sends notify response to Registrar CSE containing:		
			• rsc = 2000 (OK)		
			 rqi = (token-string) same as received in request message 		
			AE sends notify response to Registrar CSE containing:		
		PRO Check	• Code = 200		
		HTTP	• X-M2M-RSC: 2000		
			 X-M2M-RI= (token-string) same as received in request message 		
			Message-Body = empty		
_		PRO Check CoAP	AE sends notify response to Registrar CSE containing:		
7	Mca		Response Code= 2.05		
	mod		 oneM2M-RQI = (token-string) same as received in request message 		
			Payload = empty		
		PRO Check	Sent MQTT PUBLISH message:		
			Topic: "/oneM2M/resp/ <registrar cse-id="">/<ae-id>"</ae-id></registrar>		
			Payload:		
		MQTT	• to = AE-ID		
			• fr = Registrar CSE-ID		
			• rqi = (token-string) same as received in request message		
			• rsc = 2000 (OK)		
8	(P	IOP Check	Registrar CSE indicates successful operation		
-	/erdict				
PROV	Verdict				

8.2.2.1.3 Container Update

	Interoperability Test Description					
Identi	fier:		TD_M2M_NB_07			
Objective:			AE updates a <container> resource using non blocking asynchronous request</container>			
Configuration:			M2M_CFG_01			
	ences:		TS-0001 [1], clause 10.2.4.1			
			TS-0004 [2], clause 7.3.6.2.1			
Pre-test conditions:			 AE has created a Container resource <container> on registrar CSE</container> 			
			AE is reachable on the URI: "AE-Notification-URI"			
			Test Sequence			
Step	RP	Туре	Description			
1		Stimulus	AE is requested to send a non blocking asynchronous request to update the <container></container>			
'			resource in registrar CSE.			
			Sent request contains			
			• op = 3 (Update)			
			 to = {CSEBaseName}/URI of <container> resource</container> 			
		PRO Check Primitive	• fr = AE-ID			
			 rqi = (token-string) 			
			 rt = 2 (non blocking asynchronous) 			
			 nu = AE-Notification-URI 			
			 pc = Serialized Representation of the updated <container> resource</container> 			
			Sent request contains			
			 Request method = UPDATE 			
			 Reques-Target: {CSEBaseName}/URI of <container> resource?rt=2</container> 			
2	Мса	PRO Check	 Host: IP address or the FQDN of Registrar CSE 			
	Ivica	HTTP	X-M2M-RI: (token-string)			
		1111F	• X-M2M-Origin: AE-ID			
			X-M2M-RTU: AE-Notification-URI			
			 Content Type = application/vnd.onem2m-res+xml; or application/vnd.onem2m- 			
			res+json;			
			 Message-Body: Serialized Representation of updated <container> resource</container> 			
			Sent request contains			
		BBO Chock	Method: 0.03 (UPDATE)			
		PRO Check CoAP	 Uri-Host: IP address or the FQDN of Registrar CSE 			
		COAP	 Uri-Path: {CSEBaseName}/URI of <container> resource</container> 			
			• Uri-Query: rt=2			

			Interoperability Test Description
			oneM2M-FR: AE-ID
			 oneM2M-RQI: (token-string)
			• oneM2M-RTURI = AE-Notification-URI
			• Content Type = application/vnd.onem2m-res+xml; or application/vnd.onem2m-
			res+json;
			Payload: Serialized Representation of updated <container> resource</container>
			Sent MQTT PUBLISH message: Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
			• op = 3 (Update)
		PRO Check	 to = {CSEBaseName}/URI of <container> resource</container>
		MQTT	• $fr = AE-ID$
			• rqi = (token-string)
			• rt = 2 (non blocking asynchronous)
			nu= AE-Notification-URI
			 pc = Serialized Representation of updated <container> resource</container>
			Registrar CSE creates an internal <request> resource and sends acknowledgement</request>
		PRO Check	response containing:
		Primitive	• rsc = 1000 (Accepted)
			• rqi = token-string) same as received in request message
			 pc = Reference to the created <request> resource</request> Registrar CSE creates an internal <request> resource and sends acknowledgement</request>
			response containing:
		PRO Check	Status Code = 202
		HTTP	• X-M2M-RSC: 1000
			• X-M2M-RI= token-string) same as received in request message
			Message-Body: Reference to the created <request> resource</request>
			Registrar CSE creates an internal <request> resource and sends acknowledgement</request>
3	Мса	PRO Check CoAP	response containing:
	IVICa		Response Code = None
			• oneM2M-RSC = 1000
			 oneM2M-RQI = token-string) same as received in request message
			Payload: Reference to the created <request> resource</request>
		PRO Check	Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">" Payload:</registrar>
			• to = AE-ID
		MQTT	• fr = Registrar CSE-ID
		mari	 rqi = (token-string) same as received in request message
			• rsc = 1000 (Accepted)
			• pc = Reference to the created <request> resource</request>
4		IOP Check	AE indicates successful operation
5		IOP Check	Registrar CSE sends notify request to AE
			Sent request contains
			• $op = 5$ (Notify)
		PRO Check	• to = AE-Notification-URI
		Primitive	• fr = registrar CSE-ID
			• rqi = (token-string)
			• pc = Serialized representation of notification data object
			Sent request contains Request method = POST
		PRO Check	Request Include = POST Request URI: AE-Notification-URI
		HTTP	Host: IP address or the FQDN of Registrar AE
6			• X-M2M-RI: (token-string)
Ĩ	Мса		• X-M2M-Origin: Registrar CSE-ID
			Message-Body: Serialized representation of notification data object
			Sent request contains
			Method: 0.02 (POST)
			Uri-Host: IP address or the FQDN of Registrar AE
		PRO Check CoAP	Uri-Path: AE-Notification-URI
		UUAF	oneM2M-RQI: (token-string)
			oneM2M-FR: Registrar CSE-ID
		PRO Check	Payload: Serialized representation of notification data object Sent MQTT PUBLISH message:

	Interoperability Test Description		
		MQTT	Topic: "/oneM2M/reg/< Registrar CSE-ID >/ <ae-id>"</ae-id>
			Payload:
			• $op = 5$ (Notify)
			• to = AE-Notification-URI
			• fr = Registrar CSE-ID
			• rqi = (token-string)
			• pc = empty
			AE sends notify response to Registrar CSE containing:
		PRO Check	• rsc = 2000 (OK)
		Primitive	 rqi = (token-string) same as received in request message
			AE sends notify response to Registrar CSE containing:
		PRO Check	• Code = 200
		HTTP	• X-M2M-RSC: 2000
			 X-M2M-RI = (token-string) same as received in request message
			 Message-Body = empty
		PRO Check CoAP	AE sends notify response to Registrar CSE containing:
7	Мса		Response Code = 2.05
	IVICa		 oneM2M-RQI = (token-string) same as received in request message
			Payload = empty
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/ <registrar cse-id="">/<ae-id>"</ae-id></registrar>
		PRO Check	Payload:
		MQTT	• to = AE-ID
		IVIQTI	• fr = Registrar CSE-ID
			 rqi = (token-string) same as received in request message
			• rsc = 2000 (OK)
8		IOP Check	Registrar CSE indicates successful operation
-	/erdict		
PRO \	/erdict		

8.2.2.1.4 Container Delete

			Interoperability Test Description
Identi	fier:		TD M2M NB 08
Objective:			AE deletes a Container resource using non blocking asynchronous request
Config	guratior	1:	M2M_CFG_01
	ences:		TS-0001 [1], clause 10.2.4.1
			TS-0004 [2], clause 7.3.6.2.1
Pre-te	st cond	itions:	 AE has created a <container> resource on registrar CSE</container>
			AE is reachable on the URI: "AE-Notification-URI"
			Test Sequence
Step	RP	Туре	Description
1		Stimulus	AE is requested to send a non blocking asynchronous request to delete the <container> resource in registrar CSE.</container>
		PRO Check Primitive	Sent request contains • op = 4 (Delete) • to = {CSEBaseName}/URI of <container> resource • fr = AE-ID • rqi = (token-string) • rt = 2 (non blocking asynchronous) • nu = AE-Notification-URI • pc = empty</container>
2	Мса	PRO Check HTTP	Sent request contains • Request method = DELETE • Reques-Target: {CSEBaseName}/URI of <container> resource ?rt=2 • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • X-M2M-RTU = AE-Notification-URI • Message-Body: empty</container>
		PRO Check CoAP	Sent request contains • Method: 0.04 (DELETE)

© oneM2M Partners Type 1 (ARIB, ATIS, CCSA, ETSI, TIA, TSDSI, TTA, TTC) Page 87 of 112 This is a draft oneM2M document and should not be relied upon; the final version, if any, will be made available by oneM2M Partners Type 1.

	Interoperability Test Description				
			Uri-Host: IP address or the FQDN of Registrar CSE		
			Uri-Path: {CSEBaseName}/URI of <container> resource</container>		
			• Uri-Query: rt=2		
			oneM2M-FR: AE-ID		
			oneM2M-RQI: (token-string)		
			 oneM2M-RTURI = AE-Notification-URI 		
			Payload: empty		
			Sent MQTT PUBLISH message:		
			Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>		
			Payload: • op = 4 (Delete)		
		PRO Check	• to = {CSEBaseName}/URI of <container> resource</container>		
		MQTT	• fr = AE-ID		
		in set i	• rqi = (token-string)		
			• rt = 2 (non blocking asynchronous)		
			• nu = AE-Notification-URI		
			• pc = empty		
			Registrar CSE creates an internal <request> resource and sends acknowledgement</request>		
		PRO Check	response containing:		
		Primitive	• rsc = 1000 (Accepted)		
			• rqi = token-string) same as received in request message		
		ļ	• pc = Reference to the created <request> resource</request>		
			Registrar CSE creates an internal <request> resource and sends acknowledgement</request>		
		PRO Check	response containing:Status Code = 202		
		HTTP	• Status Code = 202 • X-M2M-RSC: 1000		
			 X-M2M-RI= token-string) same as received in request message 		
			Message-Body: Reference to the created <request> resource</request>		
			Registrar CSE creates an internal <request> resource and sends acknowledgement</request>		
3	Мса	PRO Check CoAP	response containing:		
			Response Code = None		
			• oneM2M-RSC = 1000		
			 oneM2M-RQI = token-string) same as received in request message 		
			Payload: Reference to the created <request> resource</request>		
			Sent MQTT PUBLISH message:		
		PRO Check MQTT	Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>		
			Payload: • to = AE-ID		
			• fr = Registrar CSE-ID		
			 rqi = (token-string) same as received in request message 		
			 rsc = 1000 (Accepted) 		
			• pc = Reference to the created <request> resource</request>		
4		IOP Check	AE indicates successful operation		
5		IOP Check	Registrar CSE sends notify request to AE		
			Sent request contains		
			• op = 5 (Notify)		
		PRO Check	• to = AE-Notification-URI		
		Primitive	• fr = registrar CSE-ID		
			 rqi = (token-string) nq = Socialized representation of patification data object 		
			• pc = Serialized representation of notification data object Sent request contains		
			Request method = POST		
		PRO Check	Request URI: AE-Notification-URI		
		HTTP	Host: IP address or the FQDN of Registrar AE		
6	Мса		• X-M2M-RI: (token-string)		
			• X-M2M-Origin: Registrar CSE-ID		
			Message-Body: Serialized representation of notification data object		
			Sent request contains		
			Method: 0.02 (POST)		
		PRO Check	Uri-Host: IP address or the FQDN of Registrar AE		
		CoAP	Uri-Path: AE-Notification-URI		
		COAP	oneM2M-RQI: (token-string)		
			oneM2M-FR: Registrar CSE-ID Deviced Serielized representation of patification data shipst		
1			 Payload: Serialized representation of notification data object 		

	Interoperability Test Description			
			Sent MQTT PUBLISH message:	
			Topic: "/oneM2M/req/< Registrar CSE-ID >/ <ae-id>"</ae-id>	
			Pavload:	
		PRO Check	• op = 5 (Notify)	
		MQTT	• to = AE-Notification-URI	
		Mogri	• fr = Registrar CSE-ID	
			• rqi = (token-string)	
			• pc = empty	
			AE sends notify response to Registrar CSE containing:	
		PRO Check	• $rsc = 2000 (OK)$	
		Primitive	 rqi = (token-string) same as received in request message 	
			AE sends notify response to Registrar CSE containing:	
		PRO Check	• Code = 200	
		HTTP	• X-M2M-RSC: 2000	
			• X-M2M-RI = (token-string) same as received in request message	
			• Message-Body = empty	
		PRO Check CoAP	AE sends notify response to Registrar CSE containing:	
7	Мса		• Response Code = 2.05	
	Ivica		 oneM2M-RQI = (token-string) same as received in request message 	
			• Payload = empty	
			Sent MQTT PUBLISH message:	
			Topic: "/oneM2M/resp/ <registrar cse-id="">/<ae-id>"</ae-id></registrar>	
		PRO Check	Payload:	
		MQTT	• to = AE-ID	
			• fr = Registrar CSE-ID	
			 rqi = (token-string) same as received in request message 	
			• rsc = 2000 (OK)	
8		IOP Check	Registrar CSE indicates successful operation	
-	/erdict			
PRO \	/erdict			

8.3 Single hop configuration testing

8.3.1 Retargeting

8.3.1.1 RetargetingResource Create (Generic Test Description)

	Interoperability Test Description				
Identifier:			TD_M2M_SH_01		
Objec	tive:		AE creates a remote <resource> resource</resource>		
Confi	guratior	n:	M2M_CFG_03		
Refer	ences:				
Pre-te	st cond	itions	 Parents resources need to be created on the hosting CSE 		
			Test Sequence		
Step	RP	Туре	Description		
1		Stimulus	AE is requested to send a Create Request to create <resource> on the Hosting CSE.</resource>		
		PRO Check Primitive	 op = 1 (Create) to = URI of the parent resource fr = AE-ID rqi = (token-string) ty = <resource> type number</resource> pc = Serialized representation of <resource> resource</resource> 		
2	Мса	PRO Check HTTP	Sent request contains • Request method = POST • Request-Target: URI of the parent resource • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Content-Type: application/vnd.onem2m-res+xml; ty= <resource> type number or</resource>		

			Interoperability Test Description
			application/vnd.onem2m-res+json; ty= <resource> type number • Message-body: Serialized representation of <resource> resource</resource></resource>
		PRO Check CoAP	Sent request contains • Method: 0.02 (POST) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: URI of the parent resource • Content-type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • oneM2M-TY: <resource> type number • oneM2M-FR: AE-ID • oneM2M-RQI: (token-string) • Payload: Serialized representation of <resource> resource</resource></resource>
		PRO Check MQTT	Sent MQTT PUBLISH message: Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">" Payload: • op = 1 (Create) • to = URI of the parent resource • fr = AE-ID • rqi = (token-string) • ty = <resource> type number • pc = Serialized representation of <resource> resource</resource></resource></registrar>
3		IOP Check	Check if possible that the request is forwarded by the registrar CSE to the Hosting CSE.
	Мсс	PRO Check Primitive	 op = 1 (Create) to = URI of the parent resource fr = AE-ID rqi = (token-string) ty = m2m:resourceType pc = Serialized representation of <resource> resource</resource>
		PRO Check HTTP	Sent request contains • Request method = POST • Request-Target: URI of the parent resource • Host: IP address or the FQDN of Hosting CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Content-Type: application/vnd.onem2m-res+xml; ty= <resource> type number or application/vnd.onem2m-res+json; ty=<resource> type number • Moscano-body: Sorialized representation of <poscurce> type number</poscurce></resource></resource>
4		PRO Check CoAP	 Message-body: Serialized representation of <resource> resource</resource> Sent request contains Method: 0.02 (POST) Uri-Host: IP address or the FQDN of Hosting CSE Uri-Path: URI of the parent resource Content-type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json oneM2M-TY: <resource> type number</resource> oneM2M-FR: AE-ID oneM2M-RQI: (token-string) Payload: Serialized representation of <resource> resource</resource>
		PRO Check MQTT	Sent MQTT PUBLISH message: Topic: "/oneM2M/req/< Registrar CSE-ID>/< Hosting CSE-ID>" Payload: • op = 1 (Create) • to = URI of the parent resource • fr = AE-ID • rqi = (token-string) • ty = <resource> type number</resource>
5		IOP Check	 pc = Serialized representation of <resource> resource</resource> Check if possible that the <resource> resource is created in the Hosting CSE.</resource>
6		PRO Check Primitive	 rsc = 2001 (CREATED) rqi = (token-string) same as received in request message pc = Serialized representation of <resource> resource</resource>
	Мсс	PRO Check HTTP	Hosting CSE sends response to Registrar CSE containing: • Status Code = 201 (Created) • X-M2M-RSC: 2001

			Interoperability Test Description
			• X-M2M-RI: (token-string) same as received in request message
			Content-Location: URI of the created resource.
			• Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Message-body: Serialized representation of <resource> resource</resource>
			Hosting CSE sends response to Registrar CSE containing:
			Response Code = 2.01
			• neM2M-RSC: 2001
		PRO Check	
		CoAP	oneM2M-RQI: (token-string) same as received in request message
			Location-Path: URI of the created resource
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Payload: Serialized representation of < resource > resource
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/< RegistrarCSE -ID>/ <hosting cse-id="">"</hosting>
			Payload:
		PRO Check	• to = AE-ID
		MQTT	• fr = Hosting CSE-ID
			• rsc = 2001 (CREATED)
			 rqi = (token-string) same as received in request message
			 pc = Serialized representation of < resource > resource
7		IOP Check	Check if possible that the response is forwarded by the registrar CSE to the AE.
		PRO Check Primitive	• rsc = 2001 (CREATED)
			 rqi = (token-string) same as received in request message
			 pc = Serialized representation of <resource> resource</resource>
		PRO Check HTTP	Registrar CSE sends response to AE containing:
			Status Code = 201 (Created)
			• X-M2M-RSC: 2001
			• X-M2M-RI: (token-string) same as received in request message
			Content-Location: URI of the created resource.
	1		Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Message-body: Serialized representation of <resource> resource</resource>
			Registrar CSE sends response to AE containing:
	1		Response Code = 2.01
8			• oneM2M-RSC: 2001
Ŭ	Мса	PRO Check	 oneM2M-RQI: (token-string) same as received in request message
		CoAP	Location-Path: URI of the created resource
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Payload: Serialized representation of < resource > resource
			Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>
			Pavload:
			• to = AE-ID
		PRO Check	
		MQTT	• fr = Registrar CSE-ID
			• rsc = 2001 (CREATED)
			• rqi = (token-string) same as received in request message
			• pc = Serialized representation of < resource > resource
9		IOP Check	AE indicates successful operation
	/erdict		
LKO	Verdict		

8.3.1.2 <Resource> Create

<resource></resource>	Identifier	Refs	IOP Verdict	PRO Verdict
<container></container>	TD_M2M_SH_01#01	TS-0001 [1], clause 10.2.4.1 TS-0004 [2], clause 7.3.5.2.1		
<contentinstance></contentinstance>	TD_M2M_SH_01#02	TS-0001 [1], clause 10.2.19.2 TS-0004 [2], clause 7.3.7.2		

<subscription></subscription>	TD_M2M_SH_01#03	TS-0001 [1],
		clause
		10.2.11.2
		TS-0004 [2],
		clause 7.3.7.2
	TD_M2M_SH_01#04	
<accesscontrolpolicy></accesscontrolpolicy>	1D_W2W_3H_01#04	TS-0001 [1], clause
		10.2.21.1
		TS-0004 [2],
		clause 7.3.1.2
<group></group>	TD_M2M_SH_01#05	TS-0001 [1],
		clause 10.2.7.2
		TS-0004 [2],
		clause
		7.3.12.2.1
<pollingchannel></pollingchannel>	TD_M2M_SH_01#06	TS-0001 [1],
		clause
		10.2.13.2
		TS-0004 [2].
		clause
		7.3.21.2.1
<fanoutpoint></fanoutpoint>	TD_M2M_SH_01#07	TS-0001 [1],
		clause 10.2.7.6
		TS-0004 [2],
		clause
		7.3.14.3.1
<node></node>	TD_M2M_SH_01#08	TS-0001 [1],
		clause
		10.2.14.1
		TS-0004 [2].
		clause
		7.3.18.2.1
		1.3.10.2.1

8.3.1.3 Resource Retrieve (Generic Test Description)

			Interoperability Test Description	
Identifier:			TD_M2M_SH_02	
Objective:			AE retrieves a remote <resource> resource</resource>	
Config	guratior	1:	M2M_CFG_03	
Refere	ences:			
Pre-te	st cond	itions:	 Parents resources need to be created on the hosting CSE 	
			 Resource <resource> has been created in Hosting CSE</resource> 	
			Test Sequence	
Step	RP	Туре	Description	
1		Stimulus	AE is requested to send a Retrieve Request to retrieve <resource> on the remote Hosting CSE.</resource>	
	Мса	PRO Check Primitive	 op = 2 (Retrieve) to = URI of the <resource> resource U</resource> fr = AE-ID rqi = (token-string) 	
2		PRO Check HTTP	Sent request contains • Request method = GET • Request-Target: URI of the <resource> resource • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Message-body: empty</resource>	
		PRO Check CoAP	Sent request contains • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: URI of the <resource> resource • oneM2M-FR: AE-ID • oneM2M-RQI: (token-string)</resource>	

	Interoperability Test Description			
			Payload: empty	
			Sent MQTT PUBLISH message:	
			Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>	
			Payload:	
		PRO Check MQTT	 op = 2 (Retrieve) to = URI of the <resource> resource</resource> 	
		IVIQTI	• fr = AE-ID	
			• rgi = (token-string)	
			• $pc = empty$	
3		IOP Check	Check if possible that the request is forwarded by the registrar CSE to the Hosting CSE.	
			• op = 2 (Retrieve)	
		PRO Check	 to URI of the <resource> resource</resource> 	
		Primitive	• fr = AE-ID	
			• rqi = (token-string)	
			Sent request contains	
		PPO Chook	Request method = GET Request Target: LIRL of the < Resource> resource	
		PRO Check HTTP	 Request-Target: URI of the <resource> resource</resource> Host: IP address or the FQDN of Hosting CSE 	
			• X-M2M-RI: (token-string)	
			• X-M2M-Origin: AE-ID	
			Message-body: empty	
			Sent request contains	
4			Method: 0.01 (GET)	
-	Mcc	PRO Check CoAP	Uri-Host: IP address or the FQDN of Hosting CSE	
			Uri-Path: URI of the <resource> resource</resource>	
			• oneM2M-FR: AE-ID	
			• oneM2M-RQI: (token-string)	
			Payload: empty Sent MQTT PUBLISH message:	
		PRO Check MQTT	Topic: "/oneM2M/req/< Registrar CSE-ID>/ <hosting cse-id="">"</hosting>	
			Payload:	
			• op = 2 (Retrieve)	
			 to = URI of the <resource> resource</resource> 	
			• fr = AE-ID	
			• rqi = (token-string)	
			• pc = empty	
5		PRO Check Primitive	 rsc = 2000 (OK) rqi = (token-string) same as received in request message 	
			 rq = (token-string) same as received in request message pc = Serialized representation of <resource> resource</resource> 	
	ĺ		Hosting CSE sends response containing:	
			• Status Code = 200 (OK)	
		PRO Check	• X-M2M-RSC: 2000	
		HTTP	• X-M2M-RI: (token-string) same as received in request message	
			Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json	
			Message-body: Serialized representation of <resource> resource</resource>	
			Hosting CSE sends response containing:	
		PRO Check	 Response Code = 2.05 (OK) oneM2M-RSC: 2000(OK) 	
	Mcc	CoAP	 oneM2M-RQI: (token-string) same as received in request message 	
		00/11	 Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json 	
			Payload: Serialized representation of <resource> resource</resource>	
			Sent MQTT PUBLISH message:	
			Topic: "/oneM2M/resp/< Registrar CSE-ID>/ <hosting cse-id="">"</hosting>	
			Payload:	
		PRO Check	• to = AE-ID	
		MQTT	• fr = Hosting CSE-ID	
			• rsc 2000(OK)	
			 rqi = (token-string) same as received in request message nc = Serialized representation of 	
6		IOP Check	 pc = Serialized representation of <resource> resource</resource> Check if possible that the response is forwarded by the registrar CSE to the AE. 	
0	l		To not in possible that the response is forwarded by the registral COL to the AE.	

			Interoperability Test Description
		PRO Check Primitive	 rsc = 2000 (OK) rqi = (token-string) same as received in request message pc = Serialized representation of <resource> resource</resource>
		PRO Check HTTP	Registrar CSE forwards response containing: • Status Code = 200 (OK) • X-M2M-RSC: 2000 • X-M2M-RI: (token-string) same as received in request message • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Message-body: Serialized representation of <resource> resource</resource>
7	Mca	PRO Check CoAP	Registrar forwards response containing: • Response Code = 2.05 (OK) • oneM2M-RSC: 2000(OK) • oneM2M-RQI: (token-string) same as received in request message • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Payload: Serialized representation of <resource> resource</resource>
		PRO Check MQTT	Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/< AE-ID>/ <hosting cse-id="">" Payload: • to = AE-ID • fr = Registrar CSE-ID • rsc 2000(OK) • rqi = (token-string) same as received in request message • pc = Serialized representation of <resource> resource</resource></hosting>
8		IOP Check	AE indicates successful operation
-	/erdict		
PRO \	Verdict		

8.3.1.4 <Resource> retrieve

<resource></resource>	Identifier	Refs	IOP Verdict	PRO Verdict
<container></container>	TD_M2M_SH_02#01	TS-0001 [1],		
		clause 10.2.4.2		
		TS-0004 [2],		
		clause		
		7.3.5.2.2		
<contentinstance></contentinstance>	TD_M2M_SH_02#02	TS-0001 [1],		
		clause		
		10.2.19.3		
		TS-0004 [2],		
		clause		
		7.3.6.2.2		
<subscription></subscription>	TD_M2M_SH_02#03	TS-0001 [1],		
		clause		
		10.2.11.3		
		TS-0004 [2],		
		clause 7.3.7.2		
<accesscontrolpolicy></accesscontrolpolicy>	TD_M2M_SH_02#04	TS-0001 [1],		
		clause		
		10.2.21.2		
		TS-0004 [2],		
		clause 7.3.1.2		
<group></group>	TD_M2M_SH_02#05	TS-0001 [1],		
		clause 10.2.7.3		
		TS-0004 [2],		
		clause		
		7.3.12.2.2		
<pollingchannel></pollingchannel>	TD_M2M_SH_02#06	TS-0001 [1],		
		clause		
		10.2.13.3		
		TS-0004 [2],		
		clause		
		7.3.21.2.2		

<fanoutpoint></fanoutpoint>	TD_M2M_SH_02#07	TS-0001 [1],
		clause 10.2.7.8
		TS-0004 [2],
		clause
		7.3.14.3.2
<node></node>	TD_M2M_SH_02#08	TS-0001 [1],
		clause
		10.2.14.2
		TS-0004 [2],
		clause
		7.3.18.2.2
<remotecse></remotecse>	TD_M2M_SH_02#09	TS-0001 [1],
		clause 10.2.2.3
		TS-0004 [2],
		clause
		7.3.3.2.3
<ae></ae>	TD_M2M_SH_02#10	TS-0001 [1],
		clause 10.2.1.2
		TS-0004 [2],
		clause
		7.3.5.2.2
<csebase></csebase>	TD_M2M_SH_02#11	TS-0001 [1],
		clause 10.2.3.2
		TS-0004 [2],
		clause 7.3.2

8.3.1.5 Resource Update (Generic Test Description)

			Interoperability Test Description			
Identi	fier:		TD_M2M_SH_03			
Objective:			AE updates a remote <resource> resource</resource>			
Configuration:			M2M_CFG_03			
Refer	ences:					
Pre-te	st cond	itions:	 Parents resources need to be created on the hosting CSE 			
			 Resource <resource> has been created in Hosting CSE</resource> 			
			Test Sequence			
Step	RP	Туре	Description			
1		Stimulus	AE is requested to send an Update Request to update the <resource> on the Hosting CSE.</resource>			
2	Мса	PRO Check Primitive PRO Check HTTP	 op = 3 (Update) to = URI of the resource <resource></resource> fr = AE-ID rqi = (token-string) pc = Serialized representation of <resource> resource</resource> Sent request contains Request method = PUT Request-Target: URI of the <resource> resource</resource> Host: IP address or the FQDN of Registrar CSE X-M2M-RI: (token-string) X-M2M-Origin: AE-ID Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of updated <resource> resource</resource> 			
		PRO Check CoAP	Sent request contains • Method: 0.03 (PUT) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: URI of the <resource> resource • oneM2M-FR: AE-ID • oneM2M-RQI: (token-string) • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Payload: Serialized representation of updated <resource> resource</resource></resource>			

			Interoperability Test Description
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/ req /< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
		PRO Check	• op = 3 (Update)
		MQTT	 to = URI of the <resource> resource</resource>
			• fr = AE-ID
			 rqi = (token-string)
			 pc = Serialized representation of updated <resource> resource</resource>
3		IOP Check	Check if possible that the request is forwarded by the registrar CSE to the Hosting CSE.
			• op = 3 (Update)
		PRO Check	 to = URI of the resource <resource></resource>
		Primitive	• fr = AE-ID
		FIIIIIIVE	 rqi = (token-string)
			 pc = Serialized representation of <resource> resource</resource>
			Sent request contains
			 Request method = PUT
		PRO Check	 Request-Target: URI of the <resource> resource</resource>
		HTTP	 Host: IP address or the FQDN of Hosting CSE
		11115	• X-M2M-RI: (token-string)
			• X-M2M-Origin: AE-ID
			 Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			 Message-body: Serialized representation of updated <resource> resource</resource>
			Sent request contains
4	Мсс		• Method: 0.03 (PUT)
			 Uri-Host: IP address or the FQDN of Hosting CSE
		PRO Check	 Uri-Path: URI of the <resource> resource</resource>
		CoAP	oneM2M-FR: AE-ID
			 oneM2M-RQI: (token-string)
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Payload: Serialized representation of updated <resource> resource</resource>
		PRO Check MQTT	Sent MQTT PUBLISH message:
			Topic: "/oneM2M/ req /< Registrar CSE-ID>/ <hosting cse-id="">"</hosting>
			Payload:
			• op = 3 (Update)
			• to = URI of the <resource> resource</resource>
			• fr = AE-ID
			• rqi = (token-string)
5		IOP Check	 pc = Serialized representation of updated <resource> resource</resource> Check if possible that the <resource> resource is updated in the Hosting CSE.</resource>
5		IOF CHECK	rsc = 2004 (CHANGED)
		PRO Check Primitive	 rqi = (token-string) same as received in request message
			 pc = Serialized representation of <resource> resource</resource>
			Hosting CSE sends response containing:
			 Code = 200 (Ok)
		PRO Check	• X-M2M-RSC: 2004
		HTTP	• X-M2M-RI: (token-string) same as received in request message
			 Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+ison
			Message-body: Serialized representation of <resource> resource</resource>
			Hosting sends response containing:
			• Response Code = 2.04
6	Mee	PRO Check	• oneM2M-RSC: 2004
	Мсс	CoAP	 oneM2M-RQI: (token-string) same as received in request message
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Payload: Serialized representation of <resource> resource</resource>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/< Registrar CSE-ID>/ <hosting cse-id="">"</hosting>
			Payload:
		PRO Check	• to = AE-ID
		MQTT	• fr = Hosting CSE-ID
			• rsc = 2004 (Updated)
			 rqi = (token-string) same as received in request message
			 pc = Serialized representation of modified <resource> resource</resource>
7		IOP Check	Check if possible that the response is forwarded by the registrar CSE to the AE.
8		PRO Check	• rsc = 2004 (CHANGED)

			Interoperability Test Description
	Mca	Primitive	 rqi = (token-string) same as received in request message
			 pc = Serialized representation of <resource> resource</resource>
			Registrar CSE forwards response containing:
		PRO Check	• Code = 200 (Ok)
		HTTP	• X-M2M-RSC: 2004
			 X-M2M-RI: (token-string) same as received in request message
			Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Message-body: Serialized representation of <resource> resource</resource>
			Registrar forwards response containing:
			• Response Code = 2.04
		PRO Check	• oneM2M-RSC: 2004
		CoAP	 oneM2M-RQI: (token-string) same as received in request message
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Payload: Serialized representation of <resource> resource</resource>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
		PRO Check	• to = AE-ID
		MQTT	• fr = Registrar CSE-ID
			 rsc = 2004 (Updated)
			 rqi = (token-string) same as received in request message
			pc = Serialized representation of modified <resource> resource</resource>
9		IOP Check	AE indicates successful operation
-	erdict		
PRO \	/erdict		

8.3.1.6 <Resource> update

<resource></resource>	Identifier	Refs	IOP Verdict	PRO Verdict
<container></container>	TD_M2M_SH_03#01	TS-0001 [1], clause 10.2.4.3		
		TS-0004 [2], clause 7.3.5.2.3		
<subscription></subscription>	TD_M2M_SH_03#02	TS-0001 [1], clause 10.2.11.4		
-		TS-0004 [2], clause 7.3.7.2		
<accesscontrolpolicy></accesscontrolpolicy>	TD_M2M_SH_03#03	TS-0001 [1], clause 10.2.21.3		
		TS-0004 [2], clause 7.3.1.2		
<group></group>	TD_M2M_SH_03#04	TS-0001 [1], clause 10.2.7.4		
- .		TS-0004 [2], clause 7.3.12.2.3		
<pollingchannel></pollingchannel>	TD M2M SH 03#05	TS-0001 [1], clause 10.2.13.4		
1 0		TS-0004 [2], clause 7.3.21.2.3		
<fanoutpoint></fanoutpoint>	TD_M2M_SH_03#06	TS-0001 [1], clause 10.2.7.9		
		TS-0004 [2], clause 7.3.14.3.3		
<node></node>	TD_M2M_SH_03#07	TS-0001 [1], clause 10.2.14.3		
		TS-0004 [2], clause 7.3.18.2.3		
<remotecse></remotecse>	TD_M2M_SH_03#08	TS-0001 [1], clause 10.2.2.3		
		TS-0004 [2], clause 7.3.3.2.3		
<ae></ae>	TD_M2M_SH_03#09	TS-0001 [1], clause 10.2.1.3		
		TS-0004 [2], clause 7.3.5.2.3		

8.3.1.7 Resource Delete (Generic Test Description)

	Interoperability Test Description					
Identifier:			TD_M2M_SH_04			
Objec			AE delete a remote <resource> resource</resource>			
Config	guratior	า:	M2M_CFG_03			
Refere	ences:					
Pre-te	st cond	litions:	 Parents resources need to be created on the hosting CSE 			
			 Resource <resource> has been created in Hosting CSE</resource> 			
	Test Sequence					
Step	RP	Туре	Description			
1		Stimulus	AE is requested to send a Delete Request to delete <resource> on the Hosting CSE.</resource>			

© oneM2M Partners Type 1 (ARIB, ATIS, CCSA, ETSI, TIA, TSDSI, TTA, TTC) Page 97 of 112 This is a draft oneM2M document and should not be relied upon; the final version, if any, will be made available by oneM2M Partners Type 1.

			Interoperability Test Description
			• op = 4 (Delete)
		PRO Check	• to = URI of the resource <resource></resource>
		Primitive	• fr = AE-ID
			• rqi = (token-string)
			Sent request contains
			Request method = DELETE
		PRO Check	Request-Target: URI of the resource <resource></resource>
		HTTP	Host: IP address or the FQDN of Registrar CSE
			• X-M2M-RI: (token-string)
			X-M2M-Origin: AE-ID Message-body: Empty
			Sent request contains
2			Method: 0.04 (DELETE)
-	Мса	PRO Check	Uri-Host: IP address or the FQDN of Registrar CSE
		CoAP	Uri-Path: URI of the resource <resource></resource>
		00/11	• oneM2M-FR: AE-ID
			oneM2M-RQI: (token-string)
			Payload: empty Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
		PRO Check	• op = 4 (Delete)
		MQTT	• to = URI of the resource <resource></resource>
			• fr = AE-ID
			 rqi = (token-string) pc = empty
3		IOP Check	Check if possible that the request is forwarded by the registrar CSE to the Hosting CSE.
			• op = 4 (Delete)
		PRO Check Primitive	• to = URI of the resource <resource></resource>
			• fr = AE-ID
			• rqi = (token-string)
		PRO Check	Sent request contains Request method = DELETE
			Request Trighting = DELETE Request-Target: URI of the resource <resource></resource>
		HTTP	Host: IP address or the FQDN of Hosting CSE
			• X-M2M-RI: (token-string)
			• X-M2M-Origin: AE-ID
			Message-body: Empty
		PRO Check CoAP	Sent request contains
4	Мсс		Method: 0.04 (DELETE) Uri-Host: IP address or the FQDN of Hosting CSE
	IVICC		Uri-Path: URI of the resource <resource></resource>
			• oneM2M-FR: AE-ID
			oneM2M-RQI: (token-string)
			Payload: empty
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/< Registrar CSE-ID>/ <hosting cse-id="">" Payload:</hosting>
		PRO Check	• op = 4 (Delete)
		MQTT	• to = URI of the resource <resource></resource>
			• fr = AE-ID
			• rqi = (token-string)
-			• pc = empty
5		IOP Check PRO Check	Check if possible that the <resource> resource is deleted in the Hosting CSE. • rsc = 2002 (DELETED)</resource>
		Primitive	 Isc = 2002 (DELETED) rqi = (token-string) same as received in request message
			Hosting CSE sends response containing:
		PRO Check	• Status Code = 200 (OK)
6	Мсс	HTTP	• X-M2M-RSC: 2002
			X-M2M-RI: (token-string) same as received in request message
		PRO Check	Message-body: empty Hosting sends response containing:
		CoAP	Response Code = 2.02
L	I	00/11	

			Interoperability Test Description
			oneM2M-RSC: 2002(DELETED)
			 oneM2M-RQI: (token-string) same as received in request message
			Payload: empty
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/< Registrar CSE-ID>/ <hosting cse-id="">"</hosting>
		PRO Check MQTT	Payload:
			• to = AE-ID
			• fr = Registrar CSE-ID
			• rsc = 2002(DELETED)
			 rqi = (token-string) same as received in request message
7		IOP Check	Check if possible that the response is forwarded by the registrar CSE to the AE.
		PRO Check	• rsc = 2002 (DELETED)
		Primitive	 rqi = (token-string) same as received in request message
		PRO Check HTTP	Registrar CSE forwards response containing:
			Status Code = 200 (OK)
			• X-M2M-RSC: 2002
			 X-M2M-RI: (token-string) same as received in request message
			Message-body: empty
			Registrar forwards response containing:
		PRO Check	Response Code = 2.02
8	Мса	CoAP	 oneM2M-RSC: 2002(DELETED)
	mea	COAP	 oneM2M-RQI: (token-string) same as received in request message
			Payload: empty
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>
		PRO Check	Payload:
		MQTT	• to = AE-ID
		WISCI I	• fr = Registrar CSE-ID
			• rsc = 2002(DELETED)
			 rqi = (token-string) same as received in request message
9		IOP Check	AE indicates successful operation
-	/erdict		
PRO \	/erdict		

8.3.1.8 <Resource> delete

<resource></resource>	Identifier	Refs	IOP Verdict	PRO Verdict
<container></container>	TD_M2M_SH_04#01	TS-0001 [1], clause 10.2.4.4 TS-0004 [2], clause 7.3.5.2.4		
<contentinstance></contentinstance>	TD_M2M_SH_04#02	TS-0001 [1], clause 10.2.19.5 TS-0004 [2], clause 7.3.6.2.4		
<subscription></subscription>	TD_M2M_SH_05#03	TS-0001 [1], clause 10.2.11.5 TS-0004 [2], clause 7.3.7.2		
<accesscontrolpolicy></accesscontrolpolicy>	TD_M2M_SH_05#04	TS-0001 [1], clause 10.2.21.4 TS-0004 [2], clause 7.3.1.2		
<group></group>	TD_M2M_SH_05#05	TS-0001 [1], clause 10.2.7.5 TS-0004 [2], clause 7.3.12.2.4		
<pollingchannel></pollingchannel>	TD_M2M_SH_05#06	TS-0001 [1], clause 10.2.13.5 TS-0004 [2], clause 7.3.21.2.4		
<fanoutpoint></fanoutpoint>	TD_M2M_SH_05#07	TS-0001 [1], clause 10.2.7.10 TS-0004 [2], clause 7.3.14.3.4		
<node></node>	TD_M2M_SH_05#08	TS-0001 [1], clause 10.2.14.4 TS-0004 [2], clause 7.3.18.2.4		

			Interoperability Test Description			
Identi			TD_M2M_SH_09			
Objec	tive:		AE discovers accessible resources residing in the remote Hosting CSE using multiple			
Configuration:			Filter Criteria			
Configuration: References:			M2M_CFG_03			
References:			TS-0001 [1], clause 10.2.6 TS-0004 [2], clause 7.2.3.13			
Pre-test conditions:			 Two <container> resources with labels "key1" and "key2" are created in Hosting CSE.</container> A <group> resources with labels "key1" and "key2" is created in Hosting CSE.</group> 			
			Test Sequence			
Step	RP	Туре	Description			
1		Stimulus	AE is requested to send a discovery request to discover specific resources located in hosting CSE using multiple filter critiria (label, resource type and limit)			
		PRO Check Primitive	Sent request contains • op = 2 (Retrieve) • to = URI of hosting CSEBase • fr = AE-ID • rqi = (token-string) • fu=1 • Ibl=key1 • Ibl=key2 • rty=3 • lim=1 • pc = empty			
		PRO Check HTTP	Sent request contains • Request method = GET • Request-Target: {URI of hosting CSEBase}?fu=1&key=1&key=2&rty=3&lim=1 • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Message-body: empty			
2	Мса	PRO Check CoAP	Sent request contains • Method: 0.01 (GET) • Uri-Host: IP address or the FQDN of Registrar CSE • Uri-Path: URI of hosting CSEBase • oneM2M-FR: AE-ID • oneM2M-RQI: (token-string) • Uri-Query: fu=1 • Uri-Query: lbl=key1 • Uri-Query: lbl=key2 • Uri-Query: rty=3 • Uri-Query: lim=1 • Payload: empty			
		PRO Check MQTT	Sent MQTT PUBLISH message: Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">" Payload: • op = 2 (Retrieve) • to = URI of hosting CSEBase • fr = AE-ID • rqi = (token-string) • fu = 1 • lbl=key1 • lbl=key2 • rty=3 • lim=1 • pc = empty</registrar></ae-id>			
3		IOP Check	- Check if possible that the request is forwarded by the registrar CSE to the Hosting CSE.			
4	Мсс	PRO Check Primitive	Forwarded request contains • op = 2 (Retrieve) • to = hosting CSEBase			

8.3.1.9 Discovery with multiple filter criteria

			Interoperability Test Description
			• fr = AE-ID
			• rqi = (token-string)
			• fu=1
			• lbl=key1
			• lbl=key2
			• rty=3
			• lim=1
			• pc = empty
			Sent request contains
			 Request method = GET
		PRO Check	 Request-Target: {URI of hosting CSEBase }?fu=1&key=1&key=2&rty=3&lim=1
		HTTP	Host: IP address or the FQDN of Hosting CSE
			• X-M2M-RI: (token-string)
			• X-M2M-Origin: AE-ID
			Message-body: empty
			Sent request contains
			Method: 0.01 (GET)
			Uri-Host: IP address or the FQDN of Hosting CSE
			Uri-Path: URI of hosting CSEBase
			oneM2M-FR: AE-ID
		CoAP	oneM2M-RQI: (token-string)
		00/11	• Uri-Query: fu=1
			• Uri-Query: Ibl=key1
			• Uri-Query: Ibl=key2
			• Uri-Query: rty=3
			Uri-Query: lim=1
			Payload: empty
			Sent MQTT PUBLISH message:
		MQTT	Topic: "/oneM2M/req/ <registrar cse-id="">/<hosting cse-id="">"</hosting></registrar>
			Payload:
			• op = 2 (Retrieve)
			• to = URI of hosting CSEBase
			• fr = AE-ID
			• rqi = (token-string)
			• fu = 1
			• lbl=key1
			• lbl=key2
			• rty=3
			• lim=1
5		IOP Check	 pc = empty Check if possible that the response is sent by the hosting CSE to the registrar CSE.
5		IOI ONECK	Hosting CSE sends response containing:
			• $rsc = 2000 (OK)$
		PRO Check Primitive	 rgi = (token-string) same as received in request message
			 pc = Serialized representation of data object containing the address of one of the
			Container> resources
			Hosting CSE sends response containing:
			• Status Code = 200 (OK)
		PRO Check	• X-M2M-RSC: 2000
		HTTP	• X-M2M-RI: (token-string) same as received in request message
	Мсс		Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			Message-body: Serialized representation of data object containing the address of one
6			of the <container> resources</container>
			Hosting CSE sends response containing:
			• Response Code = 2.05
		PRO Check	• oneM2M-RSC: 2000
		CoAP	 oneM2M-RQI: (token-string) same as received in request message
			Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
			• Payload: Serialized representation of data object containing the address of one of the
			<container> resources</container>
			Sent MQTT PUBLISH message:
		MQTT	Topic: "/oneM2M/resp/ <registrar cse-id="">/<hosting cse-id="">"</hosting></registrar>
1			Payload:
	İ		• to = Registrar CSE-ID

6 Mca • fr = Hostring CSE-ID • rsc = 2000 (OK) • rci = (token-string) same as received in request message • pc = Serialized representation of data object containing the address of one of the <containers resources<="" td=""> 7 IOP Check • Check if possible that the response is forwarded from the registrar CSE to AE Registrar CSE sends response containing: • rsc = 2000 (OK) • rqi = (token-string) same as received in request message • pc = Serialized representation of data object containing the address of one of the <containers resources<="" td=""> 7 PRO Check Primitive • Status Code = 200 (OK) • X-M2M-RSC: 2000 • X-M2M-RSC: 2000 • Content-Type: application/vnd.onem2m-res+ysion • Message-body: Serialized representation of data object containing the address of one of the <containers resources<="" td=""> 8 PRO Check CoAP Registrar Sets response containing: • Status Code = 2.00 (OK) • X-M2M-RSC: 2000 • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Message-body: Serialized representation of data object containing the address of one of the <containers resources<="" td=""> 8 Registrar sends response containing: • Response Code = 2.05 • oneM2M-RQL: (token-string) same as received in request message • Content-Format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Payload: Serialized representation of data object containing the address of one of the <containers resources<="" td=""> 9 PRO Check MQTT • to = Registrar CSE-ID • rsc = 2000 (OK) • rgi = (token-string) same as received in request message • pc = Serialized representation of data object containing the address of one of the <containers resources<="" td=""></containers></containers></containers></containers></containers></containers>	Interoperability Test Description				
6 Mca PRO Check HTTP PRO Check PRO Check PRO Check PRO Check PRO Check Primitive PRO Check PRO Check Primitive ISC = 2000 (OK) ISC = Serialized representation of data object containing the address of one of the -Container> resources Registrar CSE sends response containing: Status Code = 200 (OK) Status Code = 2.05 Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Mesage-body: Serialized representation of data object containing the address of one of the -Container> resources Registrar sends response containing: Response Code = 2.05 OneM2M-RSC: 2000 OneM2					
6 Mca • rqi = (token-string) same as received in request message • pc = Serialized representation of data object containing the address of one of the -Container> resources 7 IOP Check • Check if possible that the response is forwarded from the registrar CSE to AE Registrar CSE sends response containing: • rsc = 2000 (OK) 9 PRO Check Primitive • Check if possible that the response containing: • rsc = 2000 (OK) 9 pc = Serialized representation of data object containing the address of one of the -Container> resources 6 Mca Registrar CSE sends response containing: • Status Code = 200 (OK) • X-M2M-RSC: 2000 10 • X-M2M-RSC: 2000 • X-M2M-RSC: 2000 10 • X-M2M-RSC: 2000 • X-M2M-RSC: 2000 11 • Status Code = 2.00 (OK) • X-M2M-RSC: 2000 11 • X-M2M-RSC: 2000 • Message-body: Serialized representation of data object containing the address of one of the <container> resources 12 • Registrar sends response containing: • Response Code = 2.05 • oneM2M-RSC: 2000 10 • oneM2M-RSC: 2000 • oneM2M-RSC: 2000 10 • oneM2M-RSC: 2000 • oneM2M-RSC: 2000 10 • oneM2M-RSC: 2000 • oneM2M-RSC: 2000 10 • oneM2M-RSC: 2000</container>					
6 Mca PRO Check Container> resources • pc = Serialized representation of data object containing the address of one of the <container> resources 6 Mca PRO Check Primitive • Check if possible that the response containing: • rsc = 2000 (OK) • rqi = (token-string) same as received in request message • c = Serialized representation of data object containing the address of one of the <container> resources 7 Mca PRO Check HTTP • Registrar CSE sends response containing: • Status Code = 200 (OK) • X-M2M-RSC: 2000 • X-M2M-RSC: 2000 • X-M2M-RSC: 2000 • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Message-body: Serialized representation of data object containing the address of one of the <container> resources 7 Mca PRO Check CoAP • Response Code = 2.05 • oneM2M-RSC: 2000 • oneM2M-RSC:</container></container></container>					
6 Mca					
7 IOP Check Check if possible that the response is forwarded from the registrar CSE to AE Registrar CSE sends response containing: • rsc = 2000 (OK) • rgi = (token-string) same as received in request message • pc = Serialized representation of data object containing the address of one of the <container> resources 8 PRO Check HTTP • Status Code = 200 (OK) • X-M2M-RSC: 2000 • X-M2M-RSC: 2000 • X-M2M-RSC: 2000 • X-M2M-RSC: 2000 • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Message-body: Serialized representation of data object containing the address of one of the <container> resources 8 PRO Check CoAP • Registrar sends response containing: • Status Code = 2.05 • oneM2M-RSC: 2000 • oneM2M-RQI: (token-string) same as received in request message • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Payload: Serialized representation of data object containing the address of one of the <container> resources 9RO Check CoAP • Registrar sends response containing: • Response Code = 2.05 • oneM2M-RQI: (token-string) same as received in request message • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Payload: Serialized representation of data object containing the address of one of the <container> resources 9RO Check MQTT • Registrar CSE-ID • fr = Registrar CSE-ID • fr = Registrar CSE-ID • rsc = 2000 (OK) • rqi = (token-string) same as received in request message • pc = Serialized representation of data object containing the address of one of the <container> resources</container></container></container></container></container>					
6 Mca Registrar CSE sends response containing:	7				
6 Mca PRO Check Primitive • rsc = 2000 (OK) 6 Mca PRO Check HTTP • rsc = Serialized representation of data object containing the address of one of the -Container> resources 6 Mca PRO Check HTTP Registrar CSE sends response containing: • Status Code = 200 (OK) × -M2M-RSC: 2000 • X-M2M-RSC: 2000 • X-M2M-RSC: 2000 • Mca PRO Check CoAP • X-M2M-RSC: 2000 • Registrar sends response containing: • Status Code = 2.05 • Ontent-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Mca PRO Check CoAP PRO Check MOR • Response Code = 2.05 • oneM2M-RSC: 2000 • oneM2M-RSC: 2000 • container> resources • Container> resources Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id<="" td=""> • to = Registrae CSE-ID • to = Registrae CSE-ID • to = Registrae CSE-ID • trailized representation of data object containing the address of one of the <container> resources • container> resources • co = ci</container></registrar></ae-id>	1		IOF CHECK		
6 Mca PRO Check Primitive • rqi = (token-string) same as received in request message • pc = Serialized representation of data object containing the address of one of the 6 Mca PRO Check HTTP Registrar CSE sends response containing: Status Code = 200 (OK) X-M2M-RSC: 2000 6 Mca PRO Check HTTP X-M2M-RSC: 2000 7 X-M2M-RSC: 2000 X-M2M-RSC: 2000 8 X-M2M-RSC: 2000 X-M2M-RSC: 2000 9 Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json 0 Message-body: Serialized representation of data object containing the address of one of the <container> resources Registrar sends response containing: Response Code = 2.05 0 oneM2M-RSC: 2000 0 oneM2M-RSC: 2000 0 negistrar sends response containing: 9 Payload: (token-string) same as received in request message 0 container> resources Sent MQTT PUBLISH message: to = Registra</container>					
6 Mca PRO Check HTTP • pc = Serialized representation of data object containing the address of one of the <container> resources 6 Mca PRO Check HTTP Registrar CSE sends response containing: • Status Code = 200 (OK) 6 Mca PRO Check CoAP ×.M2M-RSC: 2000 7 ×.M2M-RSC: 2000 ×.M2M-RSC: 2000 8 Registrar sends response containing: • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Message-body: Serialized representation of data object containing the address of one of the <container> resources 7 Registrar sends response containing: • Response Code = 2.05 9 oneM2M-RSC: 2000 9 oneM2M-RSC: 2000 9 oneM2M-RQL: (token-string) same as received in request message 9 content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json 9 content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json 9 content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json 10 resecurces</container></container>			PRO Check		
6 Mca Registrar CSE sends response containing: Status Code = 200 (OK) 6 Mca PRO Check HTTP Registrar CSE sends response containing: Status Code = 200 (OK) 6 Mca PRO Check CoAP Registrar Set sends response containing: Status Code = 200 (OK) 7 Nessage-body: Serialized representation of data object containing the address of one of the <container> resources 8 Registrar sends response containing: Registrar sends response containing: Response Code = 2.05 9 oneM2M-RSC: 2000 9 oneM2M-RSC: 2000 9 oneM2M-RQI: (token-string) same as received in request message 9 content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json 9 PRO Check CoAP Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/<ae-id>/<registrar cse-id="">" 9 PRO Check MQTT Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/<ae-id>/<registrar cse-id="">" 9 ragistrar CSE-ID if r = Registrar CSE-ID 9 registrar CSE-ID if r = Registrar CSE-ID 9 registrar CSE-ID escalar cycle of presentation of data object containing the address of one of the <container> resources</container></registrar></ae-id></registrar></ae-id></container>			Primitive		
6 Mca Registrar CSE sends response containing: Status Code = 200 (OK) X-M2M-RSC: 2000 X-M2M-RSC: 2000 X-M2M-RSC: 2000 X-M2M-RSC: 2000 X-M2M-RSC: 2000 X-M2M-RI: (token-string) same as received in request message Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of data object containing the address of one of the <container> resources 7 PRO Check CoAP Registrar sends response containing: · Response Code = 2.05 oneM2M-RSC: 2000 oneM2M-RQI: (token-string) same as received in request message · Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Payload: Serialized representation of data object containing the address of one of the <container> resources PRO Check MQTT Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/<ae-id>/<registrar cse-id="">" Payload: to = Registree CSE-ID if r = Registrar CSE-ID is c = 2000 (OK) iqi = (token-string) same as received in request message pc = Serialized representation of data object containing the address of one of the -Container> resources</registrar></ae-id></container></container>					
6 Mca PRO Check HTTP Status Code = 200 (OK) X-M2M-RSC: 2000 X-M2M-RSC: 2000 X-M2M-RI: (token-string) same as received in request message Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of data object containing the address of one of the <container> resources</container> Registrar sends response containing: Response Code = 2.05 oneM2M-RSC: 2000 oneM2M-RQI: (token-string) same as received in request message Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Payload: Serialized representation of data object containing the address of one of the <container> resources</container> PRO Check CoAP Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">" Payload: • to = Registree CSE-ID fr = Registrar CSE-ID fr = Registrar CSE-ID is c = 2000 (OK) eq = (token-string) same as received in request message pc = Serialized representation of data object containing the address of one of the <container> resources</container> </registrar></ae-id>					
6 Mca PRO Check HTTP • X-M2M-RSC: 2000 • X-M2M-RI: (token-string) same as received in request message • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Message-body: Serialized representation of data object containing the address of one of the <container> resources 6 Mca PRO Check CoAP Registrar sends response containing: • Response Code = 2.05 • oneM2M-RSC: 2000 • oneM2M-RQI: (token-string) same as received in request message • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Payload: Serialized representation of data object containing the address of one of the <container> resources 8 Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/<ae-id>/<registrar cse-id="">" Payload: • to = Registrar CSE-ID • fr = Registrar CSE-ID • to = Registrar CSE-ID • fr = Registrar CSE-ID • fr = Registrar CSE-ID • fr = Registrar CSE-ID • to = Registrar CSE-ID • fr = Registrar CSE-ID • to = Registrar CSE-ID • fr = Registrar CSE-ID • to = Registrar CSE-ID • fr = Registrar CSE-ID • to = Serialized representation of data object containing the address of one of the <container> resources</container></registrar></ae-id></container></container>					
6 Mca HTTP • X-M2M-RI: (token-string) same as received in request message 6 Mca PRO Check CoAP • Registrar sends response containing: • Response Code = 2.05 • oneM2M-RQI: (token-string) same as received in request message • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Message-body: Serialized representation of data object containing the address of one of the <container> resources Registrar sends response containing: • Response Code = 2.05 • oneM2M-RQI: (token-string) same as received in request message • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Payload: Serialized representation of data object containing the address of one of the <container> resources PRO Check MQTT Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/<ae-id>/<registrar cse-id="">" Payload: • to = Registree CSE-ID • fr = Registrar CSE-ID • rsc = 2000 (OK) • rgi = (token-string) same as received in request message • pc = Serialized representation of data object containing the address of one of the <container> resources</container></registrar></ae-id></container></container>			DDO Chael		
6 Mca Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of data object containing the address of one of the <container> resources</container> 6 Mca PRO Check CoAP Registrar sends response containing: Response Code = 2.05 oneM2M-RSC: 2000 oneM2M-RQL! (token-string) same as received in request message Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Payload: Serialized representation of data object containing the address of one of the 					
6 Mca • Message-body: Serialized representation of data object containing the address of one of the <container> resources 6 Mca PRO Check CoAP Registrar sends response containing: • Response Code = 2.05 • oneM2M-RQI: (token-string) same as received in request message • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Payload: Serialized representation of data object containing the address of one of the <container> resources</container> PRO Check MQTT • Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/<ae-id>/<registrar cse-id="">" Payload:</registrar></ae-id></container>			HIP		
6 Mca Registrar sends response containing: 6 Mca Registrar sends response containing: 9 Registrar sends response containing: 9 Registrar sends response containing: 9 Response Code = 2.05 9 oneM2M-RSC: 2000 9 oneM2M-RQI: (token-string) same as received in request message 9 Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json 9 Payload: Serialized representation of data object containing the address of one of the Container> resources Sent MQTT Sent MQTT PUBLISH message: 10 Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">" 10 registrar CSE-ID 10 rc = Registrar CSE-ID 10 rc = 2000 (OK) 10 rc = 2000 (OK) 11 rqi = (token-string) same as received in request message 11 pc = Serialized representation of data object containing the address of one of the Container> resources</registrar></ae-id>		Мса			
6 Mca Registrar sends response containing: Response Code = 2.05 oneM2M-RSC: 2000 oneM2M-RQI: (token-string) same as received in request message Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Payload: Serialized representation of data object containing the address of one of the Container> resources PRO Check MQTT PRO Check MQTT PRO Check MQTT Pro Energian Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/<ae-id>/<registrar cse-id="">" Payload: to = Registree CSE-ID fr = Registrar CSE-ID fr = Registrar CSE-ID rsc = 2000 (OK) rqi = (token-string) same as received in request message pc = Serialized representation of data object containing the address of one of the </registrar></ae-id>					
6 Mca PRO Check CoAP • Response Code = 2.05 • oneM2M-RSC: 2000 • oneM2M-RQI: (token-string) same as received in request message • Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Payload: Serialized representation of data object containing the address of one of the <container> resources Berno Check MQTT Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/<ae-id>/<registrar cse-id="">" Payload: • to = Registree CSE-ID • fr = Registrar CSE-ID • fr = Registrar CSE-ID • rsc = 2000 (OK) • rqi = (token-string) same as received in request message • pc = Serialized representation of data object containing the address of one of the <container> resources</container></registrar></ae-id></container>					
6 MCa PRO Check CoAP • oneM2M-RSC: 2000 • oneM2M-RQI: (token-string) same as received in request message • oneM2M-RQI: (token-string) same as received in request message • OneM2M-RQI: (token-string) same as received in request message • OneM2M-RQI: (token-string) same as received in request message • Payload: Serialized representation of data object containing the address of one of the <container> resources Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/<ae-id>/<registrar cse-id="">" Payload: • to = Registree CSE-ID • fr = Registrar CSE-ID • fr = Registrar CSE-ID • rqi = (token-string) same as received in request message • pc = Serialized representation of data object containing the address of one of the <container> resources</container></registrar></ae-id></container>			PRO Check		
PRO Check CoAP • oneM2M-RQI: (token-string) same as received in request message • OneM2M-RQI: (token-string) same as received in request message • OneM2M-RQI: (token-string) same as received in request message • Ontent-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Payload: Serialized representation of data object containing the address of one of the <container> resources Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/<ae-id>/<registrar cse-id="">" Payload: • to = Registree CSE-ID • fr = Registrar CSE-ID • rsc = 2000 (OK) • rqi = (token-string) same as received in request message • pc = Serialized representation of data object containing the address of one of the <container> resources</container></registrar></ae-id></container>	6				
Content-format: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Payload: Serialized representation of data object containing the address of one of the PRO Check MQTT Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">" Payload: </registrar></ae-id>					
PRO Check Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">" Payload: PRO Check to = Registree CSE-ID MQTT fr = Registree CSE-ID • fr = Registrer CSE-ID • rqi = (token-string) same as received in request message • pc = Serialized representation of data object containing the address of one of the <container> resources</container></registrar></ae-id>					
<td< td=""><td></td><td></td></td<>					
PRO Check MQTT MQTT Negload: • to = Registree CSE-ID • fr = Registrar CSE-ID • fr = Registrar CSE-ID • rsc = 2000 (OK) • rqi = (token-string) same as received in request message • pc = Serialized representation of data object containing the address of one of the <container> resources</container>					
PRO Check MQTT PRO Check MQTT Payload: • to = Registree CSE-ID • fr = Registrar CSE-ID • fr = Registrar CSE-ID • rsc = 2000 (OK) • rqi = (token-string) same as received in request message • pc = Serialized representation of data object containing the address of one of the - Container> resources					
PRO Check MQTT PRO Check MQTT Provide the set of the se					
PRO Check MQTT • to = Registree CSE-ID • fr = Registrar CSE-ID • rsc = 2000 (OK) • rqi = (token-string) same as received in request message • pc = Serialized representation of data object containing the address of one of the <container> resources</container>					
 PRO Check MQTT fr = Registrar CSE-ID rsc = 2000 (OK) rqi = (token-string) same as received in request message pc = Serialized representation of data object containing the address of one of the <container> resources</container> 				,	
 ImQTT rsc = 2000 (OK) rqi = (token-string) same as received in request message pc = Serialized representation of data object containing the address of one of the <container> resources</container> 				•	
 rqi = (token-string) same as received in request message pc = Serialized representation of data object containing the address of one of the <container> resources</container> 					
pc = Serialized representation of data object containing the address of one of the <container> resources</container>					
<container> resources</container>					
I I I I I I I I I I I I I I I I I I I	7		IOP Check	AE indicates successful operation	

8.3.1.10 Unauthorized operation (Insufficient Access Rights)

	Interoperability Test Description					
Identif	fier:		TD_M2M_SH_10			
Objec	tive:		AE delete request is rejected after access rights verification using retargeting.			
Config	guratior	1:	M2M_CFG_03			
Refere	ences:		TS-0004 [2], clause 7.3.1.2			
Pre-test conditions:			 An <accesscontrolpolicy> resource with name {ACPName} has been created in remote hosting CSE, not allowing delete operation.</accesscontrolpolicy> AE has created an <ae> resource on registrar CSE with name {AEName}</ae> AE has created a <container> sub-resource in the <ae> resource with name {containerName} and having as accessControlPolicy-ID the ID of the remote <accesscontrolpolicy>.</accesscontrolpolicy></ae></container> 			
			Test Sequence			
Step	RP	Туре	Description			
1		Stimulus	AE is requested to send a Request to delete the <container> resource from the registrar CSE.</container>			
2	Мса	PRO Check Primitive PRO Check HTTP	 op = 4 (Delete) to = URI of addressed resource fr = AE-ID rqi = (token-string) pc = empty Sent request contains Request method = DELETE Request-Target: URI of addressed resource 			
			Host: IP address or the FQDN of Registrar CSE			

			Interoperability Test Description
			X-M2M-RI: (token-string)
			• X-M2M-Origin: AE-ID
			Message-body: empty
			Sent request contains
			Method: 0.04 (DELETE)
			Uri-Host: IP address or the FQDN of Registrar CSE
		PRO Check	Uri-Path: URI of addressed resource
		CoAP	oneM2M-FR: AE-ID
			oneM2M-RQI: (token-string)
			Payload: empty
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>
			Payload:
		PRO Check	• op = 4 (Delete)
		MQTT	 to = URI of addressed resource
			• fr = AE-ID
			 rqi = (token-string)
			• pc = empty
3		IOP Check	Check if possible that a request is sent by the registrar CSE to the Hosting CSE to retrive
5		IOF CHECK	the corresponding remote <accesscontrolpolicy> resource.</accesscontrolpolicy>
			Sent request contains
			• op = 2 (Retrieve)
		PRO Check	• to = URI of addressed resource
		Primitive	• fr = Registrar CSE-ID
			• rqi = (token-string)
			• pc = empty
		PRO Check HTTP	Sent request contains
			• Request method = GET
			Request-Target: URI of addressed resource
			Host: IP address or the FQDN of Hosting CSE
			• X-M2M-RI: (token-string)
			• X-M2M-Origin: Registrar CSE-ID
			Message-body: empty
4	Мсс		Sent request contains
			Method: 0.01 (GET)
		PRO Check	Uri-Host: IP address or the FQDN of Hosting CSE
		CoAP	Uri-Path: URI of addressed resource
			 oneM2M-FR: Registrar CSE-ID oneM2M-RQI: (token-string)
			Payload: empty Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/ <registrar cse-id="">/<hosting cse-id="">"</hosting></registrar>
			Payload:
		PRO Check	• op = 2 (Retrieve)
		MQTT	• to = URI of addressed resource
		Widelin	• fr = Registrar CSE-ID
			• rqi = (token-string)
			• pc = empty
5		IOP Check	Check if possible that the response is sent by the hosting CSE to the registrar CSE.
			Hosting CSE sends response containing:
		PRO Check	• rsc = 2000 (OK)
		Primitive	 rqi = (token-string) same as received in request message
			 pc = Serialized representation of <accesscontrolpolicy> resource</accesscontrolpolicy>
			Hosting CSE sends response containing:
		PRO Chack	• Status Code = 200 (OK)
6		PRO Check	• X-M2M-RSC: 2000
	Мсс	PRO Check HTTP	 X-M2M-RSC: 2000 X-M2M-RI: (token-string) same as received in request message
	Мсс		 X-M2M-RSC: 2000 X-M2M-RI: (token-string) same as received in request message Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
	Мсс		 X-M2M-RSC: 2000 X-M2M-RI: (token-string) same as received in request message Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of <accesscontrolpolicy> resource</accesscontrolpolicy>
	Мсс		 X-M2M-RSC: 2000 X-M2M-RSC: 2000 X-M2M-RI: (token-string) same as received in request message Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of <accesscontrolpolicy> resource</accesscontrolpolicy> Hosting CSE sends response containing:
	Мсс	HTTP	 X-M2M-RSC: 2000 X-M2M-RSC: 2000 X-M2M-RI: (token-string) same as received in request message Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of <accesscontrolpolicy> resource</accesscontrolpolicy> Hosting CSE sends response containing: Response Code = 2.05
	Мсс	HTTP PRO Check	 X-M2M-RSC: 2000 X-M2M-RSC: 2000 X-M2M-RI: (token-string) same as received in request message Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of <accesscontrolpolicy> resource</accesscontrolpolicy> Hosting CSE sends response containing: Response Code = 2.05 oneM2M-RSC: 2000
	Мсс	HTTP	 X-M2M-RSC: 2000 X-M2M-RSC: 2000 X-M2M-RI: (token-string) same as received in request message Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Message-body: Serialized representation of <accesscontrolpolicy> resource</accesscontrolpolicy> Hosting CSE sends response containing: Response Code = 2.05

	Interoperability Test Description					
			Payload: Serialized representation of <accesscontrolpolicy> resource</accesscontrolpolicy>			
7		MQTT IOP Check	Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/ <registrar cse-id="">/<hosting cse-id="">" Payload: • to = Registrar CSE-ID • fr = Hosting CSE-ID • rsc = 2000 (OK) • rqi = (token-string) same as received in request message • pc = Serialized representation of <accesscontrolpolicy> resource</accesscontrolpolicy></hosting></registrar>			
7		IOP Check	Check if possible that an access denied error response is sent by registrar CSE to AE			
		PRO Check Primitive	Registrar CSE sends response containing: • rsc = 4103 (ACCESS_DENIED) • rqi = (token-string) same as received in request message • pc = empty			
		PRO Check HTTP	Registrar CSE sends response containing: • Status Code = 403 (Forbidden) • X-M2M-RSC: 4103 • X-M2M-RI: (token-string) same as received in request message • Message-body: empty			
8	Мса	PRO Check CoAP	Registrar sends response containing: • Response Code = 4.03 (Forbidden) • oneM2M-RSC: 4103 • oneM2M-RQI: (token-string) same as received in request message • Payload: empty			
		PRO Check MQTT	Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">" Payload: • to = AE-ID • fr = Registrar CSE-ID • rsc = <response access_denied="" code(4103,="" status=""> • rqi = (token-string) same as received in request message • pc = empty</response></registrar></ae-id>			
9		IOP Check	Check if possible that the <container> resource has not been deleted.</container>			
10		IOP Check	AE indicates unsuccessful operation (Delete error – no privilege)			

8.3.1.11 Notification

	Interoperability Test Description						
Identi	fier:		TD_M2M_SH_11				
Objec	tive:		AE receives a notification request from the remote hosting CSE				
Config	guratior):	M2M_CFG_03				
Refere	ences:		TS-0001 [1], clause 10.2.12				
			TS-0004 [2], clause 7.4.1				
Pre-te	st cond	itions:	 A <container> resource has been created on hosting CSE</container> 				
			 AE has created an <ae> resource on registrar CSE</ae> 				
			 AE has created a <subscription> resource for the <container> resource on the</container></subscription> 				
			remote hosting CSE.				
			Test Sequence				
Step	RP	Туре	Description				
1		Stimulus	A <contentinstance> sub-resource is created on the the <container> resource. This</container></contentinstance>				
· ·			triggers or causes the hostting CSE to send a notification to AE.				
		PRO Check Primitive	• $op = 5$ (Notify)				
			• to = URI of AE resource				
			 from = Hosting CSE-ID 				
			• rqi = (token-string)				
			 pc = Serialized representation of Notification data object 				
2	Mca		Sent request contains				
		PRO Check	 Request method = POST 				
		HTTP	Request-Target: URI of AE resource				
			Host: IP address or FQDN registrar CSE				
			X-M2M-RI: (token-string)				
			X-M2M-Origin: Hosting CSE-ID				

			Interoperability Test Description
			• Content-Type: application/vnd.onem2m-ntfy+xml; or application/vnd.onem2m-ntfy+json;
			Message-body: Serialized Representation of Notification data object
			Sent request contains
			Method: 0.02 (POST) Uri-Host: IP address or FQDN of registrar CSE
			Uri-Path: URI of AE resource
		PRO Check	oneM2M-FR: Hosting CSE-ID
		CoAP	• oneM2M-RQI: (token-string)
			Content-Format: application/vnd.onem2m-ntfy+xml; or application/vnd.onem2m-
			ntfy+json;
			 Payload: Serialized Representation of Notification data object
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/ <hosting cse-id="">/<registrar-id>"</registrar-id></hosting>
			Payload:
		PRO Check	 op = 5 (Notify) to = URI of AE resource
		MQTT	• fr = Hosting CSE-ID
			• rqi = (token-string)
			• $pc = empty$
3		IOP Check	Check if possible that the Notify request is forwarded by the registrar CSE to the AE-ID.
			• op = 5 (Notify)
		PRO Check	• to = AE
		Primitive	• from = Hosting CSE-ID
			• rqi = (token-string)
			pc = Serialized representation of Notification data object
			Sent request contains
			 Request method = POST Request-Target: AE
		PRO Check	Host: IP address or FQDN registrar CSE
		HTTP	• X-M2M-RI: (token-string)
			• X-M2M-Origin: Hosting CSE-ID
			• Content-Type: application/vnd.onem2m-ntfy+xml; or application/vnd.onem2m-ntfy+json;
			Message-body: Serialized Representation of Notification data object
			Sent request contains
4	Мсс		Method: 0.02 (POST)
			Uri-Host: IP address or FQDN of registrar CSE
		PRO Check	Uri-Path: AE
		CoAP	 oneM2M-FR: Hosting CSE-ID oneM2M-RQI: (token-string)
			Content-Format: application/vnd.onem2m-ntfy+xml; or application/vnd.onem2m-
			ntfy+json;
			Payload: Serialized Representation of Notification data object
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/ <registrar cse-id="">/<ae-id>"</ae-id></registrar>
			Payload:
		PRO Check	• op = 5 (Notify)
		MQTT	• to = AE • fr = Hosting CSE-ID
			• rgi = (token-string)
			• $pc = empty$
5		IOP Check	Check if possible that the response is sent by the AE to the registrar CSE.
			AE sends response containing:
		PRO Check	• rsc = 2000 (OK)
		Primitive	 rqi = (token-string) same as received in request message
			• pc = empty
			AE sends response containing:
6	Мсс	PRO Check HTTP	 Status Code = 200 (OK) X-M2M-RSC: 2000
U	NICC		 X-M2M-RSC: 2000 X-M2M-RI: (token-string) same as received in request message
			Message-body: empty
			AE sends response containing:
		PRO Check	• Response Code = 2.05
[
		CoAP	 oneM2M-RSC: 2000 oneM2M-RQI: (token-string) same as received in request message

	Interoperability Test Description					
			Payload: empty			
		MQTT	Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/ <registrarcse-id>/<ae-id>" Payload: • to = Registrar CSE-ID • fr = Hosting CSE-ID • rsc = 2000 (OK) • rqi = (token-string) same as received in request message • pc = empty</ae-id></registrarcse-id>			
7		IOP Check	- Check if possible that the response is forwarded by registrar CSE to Hosting CSE			
		PRO Check Primitive	Registrar CSE sends response containing: • rsc = 2000 (OK) • rqi = (token-string) same as received in request message • pc = empty			
		PRO Check HTTP	Registrar CSE sends response containing: • Status Code = 200 (OK) • X-M2M-RSC: 2000 • X-M2M-RI: (token-string) same as received in request message • Message-body: empty			
6	Мса	PRO Check CoAP	Registrar CSE sends response containing: • Response Code = 2.05 • oneM2M-RSC: 2000 • oneM2M-RQI: (token-string) same as received in request message • Payload: empty			
		PRO Check MQTT	Sent MQTT PUBLISH message: Topic: "/oneM2M/resp/ <hosting cse-id="">/<registrar cse-id="">" Payload: • to = Registrar CSE-ID • fr = Hosting CSE-ID • rsc = 2000 (OK) • rqi = (token-string) same as received in request message • pc = empty</registrar></hosting>			
		IOP Check	Check if possible that the <container> resource has not been deleted.</container>			
7		IOP Check	AE indicates unsuccessful operation (Delete error - no privilege).			

8.3.2 <mgmtObj> Test Description

8.3.2.1 <mgmtObj> Create

			Interoperability Test Description
Identifier:			TD_M2M_SH_05
Objec	tive:		AE creates a <mgmtobj> resource</mgmtobj>
Config	guratior	1:	M2M_CFG_03
Refere	ences:		TS-0001 [1], clause 10.2.8.2
Pre-te	st cond	itions:	Management Session between Management Server and Management Client
	1	(Test Sequence
Step	RP	Туре	Description
1		Stimulus	AE is requested to send an <mgmtobj> Create Request to create an <mgmtobj> on IN- CSE.</mgmtobj></mgmtobj>
		PRO Check Primitive	 op: 1 (CREATE) fr: AE-ID to: {CSEBaseName}/{node} rqi = (token-string) ty = 13 (mgmtObj) pc: Serialized representation of the <mgmtobj> resource</mgmtobj>
2	Мса	PRO Check HTTP	Sent request contains • Request method = POST • Request-Target: {CSEBaseName}/{node} • Host: IP address or FQDN of the IN-CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Content-Type: application/vnd.onem2m-res+xml; ty=13 or application/vnd.onem2m- res+json; ty=13

			Interoperability Test Description
			Message-body: Serialized representation of the <mgmtobj> resource</mgmtobj>
			Sent request contains
			Method: 0.02 (POST)
			Uri-Host: IP address or the FQDN of Registrar CSE
		DDO Chask	 Uri-Path: {CSEBaseName}/{node}
		PRO Check	• Content-type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json
		CoAP	• oneM2M-TY: 13
			oneM2M-FR: AE-ID
			• oneM2M-RQI: (token-string)
			 Payload: Serialized representation of <mgmtobj> resource</mgmtobj>
			Sent MQTT PUBLISH message:
			Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">"</registrar>
			Payload:
			• $op = 1$ (Create)
		PRO Check	 to = {CSEBaseName}/{node}
		MQTT	• $fr = AE-ID$
			• rqi = (token-string)
			• $ty = 13 \text{ (mgmtObj)}$
			 pc = Serialized representation of <ae> resource</ae>
3		IOP Check	Check if possible that the <mgmtobj> resource is created in IN-CSE</mgmtobj>
5		PRO Check	N/A
		Primitive	
		PRO Check	Requests to create the corresponding MO using Add DM command.
		OMA DM	The mapping of <mgmtobj> and MO can be referenced from clause 5.3 of TS-0005 [10].</mgmtobj>
			Requests to create the corresponding information model using AddObject RPC.
4	mc	PRO Check	The mapping of <mgmtobj> and information model or RPC can be referenced from</mgmtobj>
		BBF TR069	clause 7 of TS-0006 [11].
			Requests to create the corresponding Objects using Create LWM2M Create operations.
		PRO Check OMA LWM2M	The mapping of <mgmtobj> and Object can be referenced from clause 6.3 of TS-0005</mgmtobj>
			[10].
			Check if possible that the corresponding MO for OMA DM, information model for BBF
5		IOP Check	TR069 or Object for OMA LWM2M is created on the Managed Entity.
	-	PRO Check	N/A
		Primitive	
		PRO Check	Response with status code (200) OK. Details can be found in clause 5.4 TS-0005 [10].
		OMA DM	
6	mc	PRO Check	Successful response of the RPC. Details can be found in clause 8.1 TS-0006 [11].
		BBF TR069	· · · · · · · · · · · · · · · · · · ·
		PRO Check	Response with status code 2.01 Created. Details can be found in clause 6.4 TS-0005
		OMA LWM2M	[10].
			• rsc = 2001 (CREATED)
		PRO Check	 rqi = (token-string) same as received in request message
		Primitive	 pc = Serialized representation of <mgmtobj> resource</mgmtobj>
			IN-CSE sends response containing:
			• Status Code = 201 (OK)
		PRO Check	• X-M2M-RSC: 2001
		HTTP	• X-M2M-R3C. 2001 • X-M2M-RI: (token-string) same as received in request message
			• Content-Location: URI of the created <mgmtobj> resource</mgmtobj>
			Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json Massage body: Socialized representation of cmgmtObic resource
			Message-body: Serialized representation of <mgmtobj> resource</mgmtobj>
			IN-CSE sends response containing:
7	Мса		• Response Code = 2.01
		PRO Check	oneM2M-RSC: 2001
		CoAP	oneM2M-RQI: (token-string) same as received in request message
			 Location-Path: URI of the created <mgmtobj> resource</mgmtobj>
			Payload: Serialized representation of <mgmtobj> resource</mgmtobj>
			IN-CSE MQTT PUBLISH message:
			IN-CSE MQTT PUBLISH message:
		PRO Check	IN-CSE MQTT PUBLISH message: Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">"</registrar>
		PRO Check MQTT	IN-CSE MQTT PUBLISH message: Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">" Payload: • to = AE-ID</registrar>
			IN-CSE MQTT PUBLISH message: Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">" Payload: • to = AE-ID • fr = Registrar CSE-ID</registrar>
			IN-CSE MQTT PUBLISH message: Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">" Payload: • to = AE-ID • fr = Registrar CSE-ID • rsc = 2001 (CREATED)</registrar>
			IN-CSE MQTT PUBLISH message: Topic: "/oneM2M/resp/< AE-ID>/ <registrar cse-id="">" Payload: • to = AE-ID • fr = Registrar CSE-ID</registrar>

	Interoperability Test Description				
8		IOP Check	AE indicates successful operation		
IOP \	/erdict				
PRO	Verdict				

8.3.10.2 <mgmtObj> Update

			Interoperability Test Description
Identi	fier:		TD_M2M_SH_06
Objec			AE updates a <mgmtobj> resource</mgmtobj>
	guration	ו:	M2M_CFG_03
	ences:		TS-0001 [1], clause 10.2.8.4
			· •
Pre-te	st cond	litions:	Management Session between Management Server and Management Client
		_	Test Sequence
Step	RP	Туре	Description
1		Stimulus	AE is requested to send an <mgmtobj> Update Request to update an <mgmtobj> on IN- CSE.</mgmtobj></mgmtobj>
		PRO Check Primitive	 op: 3 (UPDATE) fr: AE-ID to: {CSEBaseName}/{node}/{mgmtObj} rqi = (token-string) pc: Serialized representation of the <mgmtobj> resource</mgmtobj>
		PRO Check HTTP	Sent request contains • Request method = PUT • Request-Target: {CSEBaseName}/{node}/{mgmtObj} • Host: IP address or FQDN of the IN-CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Content-Type: application/vnd.onem2m-res+xml; or application/vnd.onem2m-res+json; • Message-body: Serialized representation of the <mgmtobj> resource</mgmtobj>
2	Мса	PRO Check CoAP	 Sent request contains Method: 0.03 (PUT) Uri-Host: IP address or the FQDN of Registrar CSE Uri-Path: {CSEBaseName}/{node}/{mgmtObj} Content-format: application/vnd.onem2m-res+xml; or application/vnd.onem2m-res+json; oneM2M-FR: AE-ID oneM2M-RQI: (token-string) Payload: Serialized representation of <mgmtobj> resource</mgmtobj>
		PRO Check MQTT	Sent MQTT PUBLISH message Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">" Payload: • op = 3 (Update) • to = {CSEBaseName}/{node}/{mgmtObj} • fr = AE-ID • rqi = (token-string) • pc = Serialized representation of <mgmtobj> resource</mgmtobj></registrar></ae-id>
3		IOP Check	Check if possible that the <mgmtobj> resource is updated in IN-CSE</mgmtobj>
		PRO Check Primitive	N/A
		PRO Check OMA DM	Requests to update the corresponding MO using Replace DM command. The mapping of <mgmtobj> and MO can be referenced from clause 5.3 of TS-0005 [10].</mgmtobj>
4	mc	PRO Check BBF TR069	Requests to Update the corresponding information model using SetParameterValues RPC.The mapping of <mgmtobj> and information model or RPC can be referenced from clause 7 of TS-0006 [11].</mgmtobj>
		PRO Check OMA LWM2M	Requests to Update the corresponding Objects using LWM2M Write operations. The mapping of <mgmtobj> and Object can be referenced from clause 6.3 of TS-0005 [10].</mgmtobj>
5		IOP Check	Check if possible that the corresponding MO for OMA DM, information model for BBF TR069 or Object for OMA LWM2M is Updated on the Managed Entity.
6	mc	PRO Check Primitive	N/A

	Interoperability Test Description		
		PRO Check OMA DM	Response with status code (200) OK. Details can be found in clause 5.4 TS-0005 [10].
		PRO Check BBF TR069	Successful response of the RPC. Details can be found in clause 8.1 TS-0006 [11].
		PRO Check OMA LWM2M	Response with status code 2.04 Changed. Details can be found in clause 6.4 TS-0005 [10].
	Мса	PRO Check Primitive	 rsc = 2004 (CHANGED) rqi = (token-string) same as received in request message pc = Serialized representation of <mgmtobj> resource</mgmtobj>
		PRO Check HTTP	IN-CSE sends response containing: • Code = 200 • X-M2M-RSC: 2004 • X-M2M-RI: (token-string) same as received in request message • Content-Type: application/vnd.onem2m-res+xml or application/vnd.onem2m-res+json • Message-body: Serialized representation of <mgmtobj> resource</mgmtobj>
7		PRO Check CoAP	IN-CSE sends response containing: • Response Code = 2.05 • oneM2M-RSC: 2004 • oneM2M-RQI: (token-string) same as received in request message • Payload: Serialized representation of <mgmtobj> resource</mgmtobj>
		PRO Check MQTT	IN-CSE sends a MQTT PUBLISH message Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">" Payload: • to = AE-ID • fr = Registrar CSE-ID • rqi = (token-string) same as received in request message • rsc = 2004 • pc = Serialized representation of <mgmtobj> resource</mgmtobj></registrar></ae-id>
8		IOP Check	AE indicates successful operation
IOP V	erdict		· · · ·
PRO \	/erdict		

8.3.10.3 <mgmtObj> Retrieve

	Interoperability Test Description				
Identifier:			TD M2M SH 07		
Objective:			AE retrieves a <mgmtobj> resource</mgmtobj>		
	guration	•	M2M CFG 03		
	ences:	•	TS-0001 [1], clause 10.2.8.3		
T CICI C					
Pre-te	st cond	itions:	Management Session between Management Server and Management Client		
			Test Sequence		
Step	RP	Туре	Description		
1		Stimulus	AE is requested to send an <mgmtobj> Retrieve Request to retrieve an <mgmtobj> on IN-CSE.</mgmtobj></mgmtobj>		
	Мса	PRO Check Primitive	 op = 2 (RETRIEVE) to = {CSEBaseName}/{node}/{mgmtObj} fr = AE-ID rqi = (token-string) 		
2		PRO Check HTTP	Sent request contains • Request method = GET • Request-Target: {CSEBaseName}/{node}/{mgmtObj} • Host: IP address or the FQDN of Registrar CSE • X-M2M-RI: (token-string) • X-M2M-Origin: AE-ID • Content-Type: application/vnd.onem2m-res+xml; or application/vnd.onem2m-res+json;		
		PRO Check CoAP	 Sent request contains Method: 0.01 (GET) Uri-Host: IP address or the FQDN of Registrar CSE Uri-Path: {CSEBaseName}/{node}/{mgmtObj} Content-format: application/vnd.onem2m-res+xml; or application/vnd.onem2m-res+json; 		

	Interoperability Test Description			
	oneM2M-FR: AE-ID			
			• oneM2M-RQI: (token-string)	
		PRO Check	Sent a MQTT PUBLISH message: Topic: "/oneM2M/req/ <ae-id>/<registrar cse-id="">" Payload:</registrar></ae-id>	
		MQTT	 op = 2 (Retrieve) to = {CSEBaseName}/{node}/{mgmtObj} fr = <ae-id></ae-id> rqi = (token-string) 	
3		IOP Check	Check if possible that the <mgmtobj> resource is retrieved in IN-CSE</mgmtobj>	
		PRO Check Primitive	N/A	
4	mc	PRO Check OMA DM	Requests to retrieve the corresponding MO using Get DM command.	
		PRO Check BBF TR069	Requests to retrieve the corresponding information model using GetParametersValue RPC.	
		PRO Check OMA LWM2M	Requests to retrieve the corresponding Objects using Retrieve LWM2M Read operation.	
5		IOP Check		
		PRO Check Primitive	N/A	
6	mc	PRO Check OMA DM	Response with status code (200) OK with the information of the MO. Details can be found in clause 5.4 TS-0005 [10].	
0		PRO Check BBF TR069 PRO Check	Successful response of the RPC with the information about the management related information. Details can be found in clause 8.1 TS-0006 [11]. Response with status code 2.05 Content with the information of the Object. Details can be	
		OMA LWM2M	found in clause 6.4 TS-0005 [10].	
		PRO Check Primitive	• rsc = 2000 (OK)	
			 rqi = (token-string) same as received in request message pc = Serialized representation of <mgmtobj> resource</mgmtobj> 	
			IN-CSE sends response containing:	
	Мса	PRO Check HTTP	Status Code =200 (OK)	
			• X-M2M-RSC: 2000	
			• X-M2M-RI: (token-string) same as received in request message	
			Message-body: Serialized representation of <mgmtobj> resource</mgmtobj>	
		PRO Check CoAP	IN-CSE sends response containing:	
_			• Response Code = 2.05	
7			• oneM2M-RSC: 2000	
			oneM2M-RQI: (token-string) same as received in request message	
			Payload: Serialized representation of <mgmtobj> resource IN-CSE sends a MQTT PUBLISH message:</mgmtobj>	
		PRO Check MQTT	Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">"</registrar></ae-id>	
			Payload:	
			• to = AE-ID	
			• fr = Registrar CSE-ID	
			• rsc = 2000	
			 rqi = (token-string) same as received in request message 	
			 pc = Serialized representation of <mgmtobj> resource</mgmtobj> 	
8		IOP Check	AE indicates successful operation	
IOP V	/erdict			
PRO \	/erdict			

8.3.10.4 <mgmtObj> Delete

Interoperability Test Description			
Identifier:	TD_M2M_SH_08		
Objective:	AE deletes a <mgmtobj> resource</mgmtobj>		
Configuration:	M2M_CFG_03		
References:	TS-0001 [1], clause 10.2.8.5		
Pre-test conditions:	 Management Session between Management Server and Management Client 		
Test Sequence			
Step RP Type	Description		

© oneM2M Partners Type 1 (ARIB, ATIS, CCSA, ETSI, TIA, TSDSI, TTA, TTC)Page 110 of 112 This is a draft oneM2M document and should not be relied upon; the final version, if any, will be made available by oneM2M Partners Type 1.

1 Stimulus AE is requested to send an <mgmtobj> Delete Request to delete an <mgmtobj> on IN- CSE. 2 Nos PRO Check Primitive • op = 4 (DELETE) • of (CSE BaseName)/(node)/(mgmtOb)) • fr = AE-10 • request method = DELETE • Requests method = DELETE • Requests method = DELETE • Requests method = DELETE • Requests method = DELETE • Request method = DELETE • Requests method = DELETE • Requests method = DELETE • Request method = Request (CSE BaseName)/(node)/(mgmtOb)) • In-Parit: (CSE BaseName)/(node)/(mgmtOb) • oneM2M-RR: RE-ID • oneM2M-RR: (Requests to EDECETE) • OneAdM-RR: RE-ID • oneAdM-RR: (Requests to CSE-ID>' Payload: • OneAdM-RR: RE-ID • oneAdM-RR: (Requests to delete the corresponding MO using Delete DM command. • OMA DM 3 IOP Check PRO Check PRO Check BEF TR036 Requests to delete the corresponding MO using Delete DM command. • OMA DM 4 IOP Check PRO Check BEF TR036 Requests to delete the corresponding MO using Delete DM command. • OMA DM 5 IOP Check PRO Check BEF TR036 Requests to delete the corresponding MO using Delete DM command. • MA PRO Check BEF TR036 6 mm PRO Check PRO Check PRO Check Regeo robject for OMA LIWM2M is deleted on the Managad Entity. • PRO Check PRO Check Regeo robject for OMA LIWM2M is deleted on the Managad Entity. • Regeo robject for OMA LIWM2M is deleted on the Managad Entity. • Regeo robject for OMA LIWM2M is deleted on the Managad Entity.</mgmtobj></mgmtobj>		0		Interoperability Test Description
4 PRO Check Primitive • op = 4 (DELETE) • to = (CSEBaseName)/(node)/(mgmtOb); • tr = AE-ID • req = (token string) 2 Mca Sent DELETE request contains • Request method = DELETE • Request method = DELETE • Request method = DELETE • NAMMAR: (token-string) • AMMAR: (token-string) • AMMAR: (token-string) • AMMAR: (token-string) • AMMAR: (token-string) • AMMAR: (token-string) • AMMAR: (token-string) • oneM2M-RQI: (token-string) • to = (CSEBaseName)/(node)/(mgmtOb); • tr = AE-ID • tr = Registra CSE • PRO Check • N/A 4 mc PRO Check • Requests to delete the corresponding MO using Delete DM command. • OMA LUM/AM PRO Check • N/A PRO Check	1		Stimulus	
2 Mca • Request method = DELETE • Request rarget; (SCEBaseName)/(hode)/(mgmtOb); • · · · · · · · · · · · · ·	2	Мса		 op = 4 (DELETE) to = {CSEBaseName}/{node}/{mgmtObj} fr = AE-ID
2 Mca • Method: 0.04 (DELETE) PRO Check • Uni-Host: (CSEBaseName)/(node)/(mgmtOb)) • oneM2M-FR: AE-10 • oneM2M-FR: AE-10 • oneM2M-RCI: (token-string) Sent a MGT TPUELISH message Topic: "oneM2M/req: (AE-1D>/Registrar CSE-1D>" * OP C Check • or (CSEBaseName)/(node)/(mgmtOb)) • or = 4 * OP C Check • or = (CSEBaseName)/(node)/(mgmtOb)) • tr = AE-1D * or = (CSEBaseName)/(node)/(mgmtOb) • tr = AE-1D • or = (CSEBaseName)/(node)/(mgmtOb)) * or = (CSEBaseName)/(node)/(mgmtOb) • tr = AE-1D • or = (CSEBaseName)/(node)/(mgmtOb) * or = (CSEBaseName)/(node)/(mgmtOb) • tr = AE-1D • or = (CSEBaseName)/(node)/(mgmtOb) * or = (CSEBaseName)/(node)/(mgmtOb) • tr = AE-1D • or = (CSEBaseName)/(node)/(mgmtOb) * or = (CSEBaseName)/(node)/(mgmtOb) • tr = AE-1D • or = (CSEBaseName)/(node)/(mgmtOb) * or = (Cokenck PRO Check Requests to delete the corresponding MO using Delete DM command. * PRO Check Requests to delete the corresponding Objects using LWM2M Delete operation. * OMA DM * PRO Check PRO Check * PRO Check PRO Check N/A * PRO Check PRO Check N/A				 Request method = DELETE Request-Target: {CSEBaseName}/{node}/{mgmtObj} Host: IP address or the FQDN of Registrar CSE X-M2M-RI: (token-string)
4 PRO Check MQTT Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">" Payload: • op = 4 • to = (CSEBaseName)/(node)/(mgmtOb); • fr = AE-ID • roj = (token-string) 3 IOP Check PRO Check Check if possible that the <mgmtob)> resource is deleted in IN-CSE 9 PRO Check MAD NA 9 PRO Check BBF TR069 Requests to delete the corresponding MO using Delete DM command. OMA DM 5 IOP Check BBF TR069 Requests to delete the corresponding Objects using LWM2M Delete operation. 5 IOP Check PRO Check OMA DM Requests to delete the corresponding MO for OMA DM, information model for BBF TR069 or Object for OMA LWM2M is deleted on the Managed Entity. 6 mc PRO Check PRO Check Primitive Response with status code (200) OK. Details can be found in clause 5.4 TS-0005 [10]. OMA DM 6 mc PRO Check PRO Check BBF TR069 Response with status code 2.02 Deleted. Details can be found in clause 6.4 TS-0005 [10]. OMA UM/2M 7 Mca PRO Check CAP Response containing: NC-SE sends respons</mgmtob)></registrar>				 Method: 0.04 (DELETE) Uri-Host: IP address or the FQDN of Registrar CSE Uri-Path: {CSEBaseName}/{node}/{mgmtObj} oneM2M-FR: AE-ID
3 IOP Check Check if possible that the <mgmtobj> resource is deleted in IN-CSE 4 PRO Check PRO Check N/A 9 PRO Check OMA DM Requests to delete the corresponding MO using Delete DM command. 4 mc PRO Check OMA DM Requests to delete the corresponding information model using DeleteObject RPC. 8 BF TRO69 PRO Check OMA DM Requests to delete the corresponding Objects using LWM2M Delete operation. 5 IOP Check OMA DM Check if possible that the corresponding MO for OMA DM, information model for BBF TRO69 6 IOP Check Primitive PRO Check NA Response with status code (200) OK. Details can be found in clause 5.4 TS-0005 [10]. 6 mc PRO Check BBF TRO69 Response with status code 2.02 Deleted. Details can be found in clause 6.4 TS-0005 [10]. 6 mc PRO Check BBF TRO69 Response with status code 2.02 Deleted. Details can be found in clause 6.4 TS-0005 [10]. 7 Mca PRO Check Code • rsc = 2002 (DELETED) • risc = 2002 (DELETED) 9 PRO Check Code • rsc = 2002 (DELETED) • rimitive • rsc = 2002 9 PRO Check CodP • rsc = 2002 (DELETED) • rimitive •</mgmtobj>				Topic: "/oneM2M/req/< AE-ID>/ <registrar cse-id="">" Payload: • op = 4 • to = {CSEBaseName}/{node}/{mgmtObj} • fr = AE-ID</registrar>
Primitive Primitive 4 PRO Check OMA DM Requests to delete the corresponding MO using Delete DM command. OMA DM 7 Mc PRO Check OMA LWM2M Requests to delete the corresponding information model using DeleteObject RPC. BBF TR069 PRO Check OMA LWM2M 5 IOP Check OMA LWM2M Requests to delete the corresponding MO for OMA DM, information model for BBF TR069 or Object for OMA LWM2M is deleted on the Managed Entity. 6 PRO Check OMA DM Response with status code (200) OK. Details can be found in clause 5.4 TS-0005 [10]. 7 Mc PRO Check OMA LWM2M Response with status code 2.02 Deleted. Details can be found in clause 6.4 TS-0005 [10]. 7 Mca PRO Check OMA LWM2M rsc = 2002 (DELETED) • rig = (token-string) same as received in request message 7 Mca PRO Check CoAP • rsc = 2002 (DELETED) • rig = (token-string) same as received in request message 7 Mca PRO Check CoAP • Response containing: • Status Code = 2.05 • oneM2M-RSC: 2002 • S-M2M-RSC: 2002 • S-M2M-RSC: 2002 • S-M2M-RSC: 2002 • S-M2M-RSC: 2002 • OneM2M-RSC: 2002 • S-M2M-RSC: 2002 • OneM2M-RSC: 2002 • OneM2M-RSC: 2002 • OneM2M-RSC: 2002 • S-M2M-RSC: 2002 • OneM2M-RSC: 2002 • OneM2M-R	3			Check if possible that the <mgmtobj> resource is deleted in IN-CSE</mgmtobj>
4 mc OMA DM PRO Check BF TR069 Requests to delete the corresponding information model using DeleteObject RPC. 5 BP TR069 Requests to delete the corresponding Objects using LWM2M Delete operation. OMA LWM2M 5 IOP Check PRO Check Check if possible that the corresponding MO for OMA DM, information model for BBF TR069 or Object for OMA LWM2M is deleted on the Managed Entity. 6 mc PRO Check PRO Check N/A 7 Mc PRO Check PRO Check DMA DM Response with status code (200) OK. Details can be found in clause 5.4 TS-0005 [10]. OMA DM 7 Mca PRO Check OMA LWM2M Successful response of the RPC. Details can be found in clause 6.4 TS-0005 [10]. OMA LWM2M 7 Mca PRO Check OMA LWM2M rsc = 2002 (DELETED) • rgi = (token-string) same as received in request message 7 Mca PRO Check CoAP • rsc = 2002 (DELETED) • rgi = (token-string) same as received in request message 7 Mca PRO Check MTP • rsc = 2002 (DELETED) • rgi = (token-string) same as received in request message 7 Mca PRO Check MCT • rsc = 2002 (DELETED) • rgi = (token-string) same as received in request message 7 Mca PRO Check MCT • rsc = 2002 <			Primitive	
BBF TR069 Requests to delete the corresponding Objects using LWM2M Delete operation. 5 IOP Check OMA LWM2M Check if possible that the corresponding MO for OMA DM, information model for BBF TR069 or Object for OMA LWM2M is deleted on the Managed Entity. 6 mc PRO Check OMA DM N/A 7 mc PRO Check OMA DM Response with status code (200) OK. Details can be found in clause 5.4 TS-0005 [10]. 7 Mca PRO Check OMA LWM2M Response with status code 2.02 Deleted. Details can be found in clause 6.4 TS-0005 [10]. 7 Mca PRO Check OMA LWM2M • rsc = 2002 (DELETED) • rigi = (token-string) same as received in request message 7 Mca PRO Check HTTP • rsc = 2002 (DELETED) • status Code = 2.00 • X-M2M-RSC: 2002 • X-M2M-RRI: (token-string) same as received in request message 7 Mca PRO Check HTTP • Response containing: • Status Code = 2.05 • oneM2M-RSC: 2002 • x-M2M-RSC: 2002 • oneM2M-RSC: 2002 • on	4	mc		Requests to delete the corresponding MO using Delete DM command.
OMA LWM2M Check if possible that the corresponding MO for OMA DM, information model for BBF TR069 or Object for OMA LWM2M is deleted on the Managed Entity. 6 IOP Check Primitive PRO Check Primitive Response with status code (200) OK. Details can be found in clause 5.4 TS-0005 [10]. 6 mc PRO Check OMA DM Response with status code (200) OK. Details can be found in clause 5.4 TS-0005 [10]. 6 mc PRO Check BBF TR069 Successful response of the RPC. Details can be found in clause 6.4 TS-0005 [10]. 7 Mca PRO Check OMA LWM2M esponse with status code 2.02 Deleted. Details can be found in clause 6.4 TS-0005 [10]. 7 Mca PRO Check OMA LWM2M esponse containing: esponse containing: esponse containing: esponse code = 2.02 esponse Code = 2.02 esponse Code = 2.05 eoneM2M-RD: (token-string) same as received in request message IN-CSE sends response containing: esponse Code = 2.05 eoneM2M-RD: (token-string) same as received in request message IN-CSE sends a MQTT PUBLISH message ropic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">" Payload: esc = 2002</registrar></ae-id>				Requests to delete the corresponding information model using DeleteObject RPC.
5 IOP Check TR069 or Object for OMA LWM2M is deleted on the Managed Entity. 6 mc PRO Check OMA DM N/A 7 mc PRO Check OMA DM Response with status code (200) OK. Details can be found in clause 5.4 TS-0005 [10]. 7 Mca PRO Check OMA LWM2M Successful response of the RPC. Details can be found in clause 8.1 TS-0006 [11]. 8 PRO Check OMA LWM2M Response with status code 2.02 Deleted. Details can be found in clause 6.4 TS-0005 [10] 9 PRO Check OMA LWM2M • rsc = 2002 (DELETED) • raji = (token-string) same as received in request message 7 Mca PRO Check CoAP • raji = (token-string) same as received in request message 7 Mca PRO Check MTTP • raji = (token-string) same as received in request message 7 Mca PRO Check MQTT • Response Code = 2.05 • oneM2M-RSC: 2002 • N-CSE sends response containing: • Response Code = 2.05 • oneM2M-RSC: 2002 • oneM2M-RSC: 2002 • N-CSE sends a MQTT PUBLISH message • Roje: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">" Payload: • to = AE-ID • to = AE-ID • fr = Registrar CSE-ID • raji = (token-string) same as received in request message • raji = (token-string) same as received in request messag</registrar></ae-id>				
6 mc Primitive PRO Check OMA DM Response with status code (200) OK. Details can be found in clause 5.4 TS-0005 [10]. 7 Mca PRO Check BBF TR069 PRO Check OMA LWM2M Successful response of the RPC. Details can be found in clause 8.1 TS-0006 [11]. 8 PRO Check OMA LWM2M Response with status code 2.02 Deleted. Details can be found in clause 6.4 TS-0005 [10] 9 PRO Check OMA LWM2M Response with status code 2.02 Deleted. Details can be found in clause 6.4 TS-0005 [10] 9 PRO Check Primitive rsc = 2002 (DELETED) • rgi = (token-string) same as received in request message 9 PRO Check HTTP IN-CSE sends response containing: • Status Code = 200 • X-M2M-RSC: 2002 • X-M2M-RSC: 2002 • OneM2M-RSC: 2002	5		IOP Check	
7 Mca PRO Check BBF TR069 Successful response of the RPC. Details can be found in clause 8.1 TS-0006 [11]. 7 Mca PRO Check Primitive Response with status code 2.02 Deleted. Details can be found in clause 6.4 TS-0005 [10] 7 Mca PRO Check HTTP • rsc = 2002 (DELETED) • rqi = (token-string) same as received in request message 7 Mca PRO Check HTTP • N-CSE sends response containing: • Status Code = 200 • X-M2M-RSC: 2002 • X-M2M-RSC: 2002 • X-M2M-RSC: 2002 • oneM2M-RQI: (token-string) same as received in request message 7 Mca PRO Check HTTP IN-CSE sends response containing: • Status Code = 2.05 • oneM2M-RQI: (token-string) same as received in request message 7 Mca PRO Check MQTT IN-CSE sends a MQTT PUBLISH message Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">" Payload: • to = AE-ID • fr = Registrar CSE-ID • rqi = (token-string) same as received in request message • rsc = 2002</registrar></ae-id>	6	mc	Primitive PRO Check	
7 Mca PRO Check Primitive • rsc = 2002 (DELETED) • rqi = (token-string) same as received in request message 7 Mca PRO Check HTTP IN-CSE sends response containing: • Status Code = 200 • X-M2M-RSC: 2002 • X-M2M-RSC: 2002 • X-M2M-RI: (token-string) same as received in request message 7 Mca PRO Check CoAP IN-CSE sends response containing: • Response Code = 2.05 • oneM2M-RSC: 2002 • oneM2M-RQI: (token-string) same as received in request message PRO Check MQTT • Response Code = 2.05 • oneM2M-RQI: (token-string) same as received in request message IN-CSE sends a MQTT PUBLISH message Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">" Payload: • to = AE-ID • fr = Registrar CSE-ID • rqi = (token-string) same as received in request message • rsc = 2002</registrar></ae-id>	Ū		BBF TR069 PRO Check	
7 Mca IN-CSE sends response containing: Status Code = 200 X-M2M-RSC: 2002 X-M2M-RSC: 2002 X-M2M-RI: (token-string) same as received in request message 7 Mca PRO Check CoAP IN-CSE sends response containing: Response Code = 2.05 oneM2M-RSC: 2002 oneM2M-RQI: (token-string) same as received in request message PRO Check MQTT IN-CSE sends a MQTT PUBLISH message Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">" Payload: to = AE-ID if r = Registrar CSE-ID rqi = (token-string) same as received in request message if request message</registrar></ae-id>		Mca		
7 Mca IN-CSE sends response containing: • Response Code = 2.05 • oneM2M-RSC: 2002 • oneM2M-RQI: (token-string) same as received in request message • oneM2M-RQI: (token-string) same as received in request message Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">" Payload: • to = AE-ID • fr = Registrar CSE-ID • rqi = (token-string) same as received in request message • rsc = 2002</registrar></ae-id>	7		PRO Check	IN-CSE sends response containing: • Status Code = 200 • X-M2M-RSC: 2002
PRO Check MQTT Fr = Registrar CSE-ID • fr = Registrar CSE-ID • rqi = (token-string) same as received in request message • rsc = 2002				IN-CSE sends response containing: • Response Code = 2.05 • oneM2M-RSC: 2002
				IN-CSE sends a MQTT PUBLISH message Topic: "/oneM2M/resp/ <ae-id>/<registrar cse-id="">" Payload: • to = AE-ID • fr = Registrar CSE-ID • rqi = (token-string) same as received in request message</registrar></ae-id>
	8		IOP Check	rsc = 2002 AE indicates successful operation

Interoperability Test Description		
IOP Verdict		
PRO Verdict		

History

Publication history			
V1.0.0	29- Feb-2016	Updated Release 1 - Publication	