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| Input Contribution | |
| Meeting ID\* | TST 22 |
| Title:\* | TS-0018 Test Purposes for DIS |
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| Uploaded Date:\* | 2016-03-11 |
| Document(s)  Impacted\* | TS-0018 |
| Intended purpose of  document:\* | Decision  Discussion  Information  Other <specify> |
| Decision requested or recommendation:\* | <A concise statement of the decision required or the recommended action to be taken> |
| Template Version:23 February 2015 (Dot not modify) | |

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**1. Introduction**

This contribution introduces conformance test purposes for DISCOVERY CSF in terms of test cases for BO and BI test. Prior to write the test cases for DISCOVERY CSF, we analyzed and annotated the specification requirements of TS-0001 and TS-0004 especially requirements relevant for the DIS CSF.

============ Start of 1ST Part: Test Purpose Section 7.2==========================

# 7 Test Purposes (TP)

## 7.2 Test Purposes for oneM2M

### 7.2.2 Group CSE

#### 7.2.2.5 Discovery (DIS)

Editor Note: all the uppercased italic strings denotes type of primitives defined in the oneM2M specification, for example, *FILTER\_CRITERIA\_TYPE* denotes the category of filter criteria, while the uppercased normal strings, e.g. ATTRIBUTE\_VALUE denotes the user-input value.

###### 7.2.2.5.1 Inopportune Behavioral Test Cases

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| **TP Id** | | TP/oneM2M/CSE/DIS/BO/001 | |
| **Test objective** | | Check that the IUT rejects the discovery requests to theresource TARGET\_RESOURCE\_ADDRESS when AE has no privilege to perform the discovery request for the resource TARGET\_RESOURCE\_ADDRESS | |
| **Reference** | | TS-0001 10.2.6.2 & 7.2.3.14, TS-0004 7.3.3.14 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {**  the IUT **being** in the "initial state"  **and** the IUT **having** **registered** the AE  **and** the AE **not having** privileges to perform RETRIEVE operation on the resource  TARGET\_RESOURCE\_ADDRESS  **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {** the IUT **receives** a valid RETRIEVE request **from** AE **containing**  To**set to** TARGET\_RESOURCE\_ADDRESS**and**  From**set to** AE\_ID**and**  FilterUsage**set to** 1 (Discovery Criteria) **and**  **no** Content attribute **}** | | IUT 🡨 AE |
| **then {**  the IUT sends a Response message **containing**  Response Status Code **set to** 4103 (ACCESS\_DENIED)  **}** | | IUT 🡪 AE |

Editor Note: Inopportune Behavior (BO) test cases test against IUT in cases of after receipt of a syntactically correct request primitives but not expected in the actual message exchange or state.

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| **TP Id** | | TP/oneM2M/CSE/DIS/BO/002 | |
| **Test objective** | | Check that the IUT responds with an error when the AE sends requests to discover the resource TARGET\_RESOURCE\_ADDRESS which does not exist in the Hosting CSE | |
| **Reference** | | TS-0001 10.2.6.2, TS-0004 7.3.3.14 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {** the IUT **being** in the "initial state"  **and** the IUT **having registered** the AE  **and** the IUT **not having** **created** a resource TARGET\_RESOURCE\_ADDRESS  **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** a valid RETRIEVE request **from** AE **containing**  To**set to** TARGET\_RESOURCE\_ADDRESS**and**  From**set to** AE\_ID**and**  FilterUsage**set to** 1 (Discovery Criteria) **and**  **no** Content attribute  **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  Response Status Code **set to** 4004 (NOT\_FOUND)  **}** | | IUT 🡪 AE |

###### 7.2.2.5.2 Invalid Behavioral Test Case

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| --- | --- | --- | --- |
| **TP Id** | | TP/oneM2M/CSE/DIS/BI/001 | |
| **Test objective** | | Check that the IUT responds the originator with an error when the originator sends a request including an invalid format of filter criteria to discover the resource TARGET\_RESOURCE\_ADDRESS | |
| **Reference** | | TS-0001 10.2.6, TS-0004 7.3.3.6 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | | **with {** the IUT **being** in the "initial state"  **and** the IUT **having registered** the originator AE  **and** the IUT **having** a resource TARGET\_RESOURCE\_ADDRESS **allowing**  the AE to perform RETRIEVE operation  } | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** a valid RETRIEVE request **from** AE **containing**  To**set to** TARGET\_RESOURCE\_ADDRESS **and**  From**set to** AE\_ID**and**  FilterUsage **set to** 1 (Discovery Criteria) **and**  FilterCriteria **set to** FILTER\_CRITERIA\_CONDITIONS**not being** valid format **and**  **no** Content attribute  **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  Response Status Code **set to** 4102 (CONTENTS\_UNACCEPTABLE)  **}** | | IUT 🡪 AE |

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| --- | --- | --- | --- |
| **TP Id** | | TP/oneM2M/CSE/DIS/BI/002 | |
| **Test objective** | | Check that the IUT responds the originator with an error when the originator sends a request to discover the resource TARGET\_RESOURCE\_ADDRESS including two conflicted filter criteria of different type FILTER\_CRITERIA\_CONDITION\_1 and FILTER\_CRITERIA\_CONDITION*\_*2 (E.G. *createBefore < createdAfter*) | |
| **Reference** | | TS-0001 6.2.5, TS-0004 7.3.3.17 | |
| **Config Id** | | CF01 | |
| **PICS Selection** | | PICS\_CSE | |
| **Initial conditions** | **with {** the IUT **being** in the "initial state"  **and** the IUT **having registered** the originator AE  **and** the IUT **having** a resource TARGET\_RESOURCE\_ADDRESS **allowing**  the AE to perform RETRIEVE operation  } | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** a valid RETRIEVE request from AE **containing**  To**set to** TARGET\_RESOURCE\_ADDRESS**and**  From**set to** AE\_ID **and**  FilterUsage **set to** 1 (Discovery Criteria) **and**  FilterCriteria **set to** FILTER\_CRITERIA\_CONDITIONS**having** conflict conditions **and**  **no** Content attribute **}** | | IUT 🡨 AE |
| **then {**  the IUT **sends** a Response message **containing**  Response Status Code **set to** 4102 (CONTENTS\_UNACCEPTABLE) **}** | | IUT 🡪 AE |

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| TP ID | REQ Reference | FILTER\_CRITERIA\_  CONDITION\_1 | FILTER\_CRITERIA\_  CONDITION\_2 |
| TP/oneM2M/CSE/DIS/BI/002 -1 | REQ-0004-07241 | createdBefore | createdAfter |
| TP/oneM2M/CSE/DIS/BI/002 -2 | REQ-0004-07242 | lastModifiedBefore | lastModifiedAfter |
| TP/oneM2M/CSE/DIS/BI/002 -3 | REQ-0004-07243 | stateTagSmaller | stateTagBigger |
| TP/oneM2M/CSE/DIS/BI/002 -4 | REQ-0004-07244 | expireBefore | expireAfter |

============ End of 1ST Part: Test Purpose Section 7.2==========================