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|  CHANGE REQUEST |
| Meeting ID:\* | TDE # TDE 51.1 |
| Source:\* | TF-oneM2M |
| Date:\* | 2021-10-07 |
| Reason for Change/s:\* | New TPs for Software Management release 4 |
| CR against: Release\* | Release 4 |
| CR against: WI\* | [ ]  Active <Work Item number> [ ]  MNT maintenance / < Work Item number(optional)>Is this a mirror CR? Yes [ ]  No [ ] mirror CR number: (Note to Rapporteur - use latest agreed revision)[ ]  STE Small Technical Enhancements / < Work Item number (optional)>Only ONE of the above shall be ticked |
| CR against: TS/TR\* | TS-0018 V4.3.0 |
| Clauses \* |  |
| Type of change: \* | [ ]  Editorial change[ ]  Bug Fix or Correction[ ]  Change to existing feature or functionality[x]  New feature or functionalityOnly ONE of the above shall be ticked |
| Other TS/TR(s) impacted | <TS/TR number>, <Version Number>, and <Description on which aspect should be reflected in this TS/TR> |
| Post Freeze checking:\* | This CR contains only essential changes and corrections? YES [x]  NO [ ] This CR may break backwards compatibility with the last approved version of the TS? YES [ ]  NO [x]  |
| Template Version: January 2020 (do not modify) |

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GUIDELINES for Change Requests:

Provide an informative introduction containing the problem(s) being solved, and a summary list of proposals.

Each CR should contain changes related to only one particular issue/problem.

If this is a correction, and the change applies to previous releases, a separate “mirror CR” should be posted at the same time as this CR

Mirror CR: applies only when the text, including clause numbering are exactly the same.

Companion CR: applies when the change means the same but the baselines differ in some way (e.g. clause number).

Follow the principle of completeness, where all changes related to the issue or problem within a deliverable are simultaneously proposed to be made e.g. a change impacting 5 tables should not only include a proposal to change only 3 tables. Include any changes to references, definitions, and abbreviations in the same deliverable.

Follow the drafting rules.

All pictures must be editable.

Check spelling and grammar.

Use change bars for modifications.

The change should include the current and surrounding clauses to clearly show where a change is located and to provide technical context of the proposed change. Additions of complete clauses need not show surrounding clauses as long as the proposed clause number clearly shows where the proposed new clause is located.

Multiple changes in a single CR shall be clearly separated by horizontal lines with embedded text such as, start of change 1, end of change 1, start of new clause, end of new clause.

When subsequent changes are made to the content of a CR, then the accepted version should not show changes over changes. The accepted version of the CR should only show changes relative to the baseline approved text.

## Introduction

New TPs for Software Management Release 4.

### -----------------------Start of change 1-------------------------------------------

TP/oneM2M/CSE/SM/001

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| **TP Id** | TP/oneM2M/CSE/SM/001 |
| **Test objective** | Check that the IUT rejects the creation request of <softwareCampaign> resource if target node referenced in softwareTargets attribute does not exist. |
| **Reference** | TS-0001 [1], clause 9.6.76, 10.2.28, TS-0004 [2], clause 6.6.3.5, 7.4.XX |
| **Config Id** | CF01 |
| **Parent Release** | Release 4 |
| **PICS Selection** | PICS\_CSE |
| **Initial conditions** | **with {** the IUT **being** in the "initial state" **and** the IUT **having registered** an AE **and** the IUT **not having** the resource referenced in attribute softwareTargets **and** the AE **having** the privileges to perform CREATE operation on  TARGET\_RESOURCE\_ADDRESS**}** |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {** the IUT **receives** a valid CREATE Request from AE **containing** Resource Type **set to** 61? (softwareCampaign)To **set to** TARGET\_RESOURCE\_ADDRESS **and**From **set to** AE\_ID  Content containing softwareCampaign resource representation **containing** softwareTargets attribute **set to**INVALID\_RESOURCE\_ADDRESS**}** | IUT 🡨 AE­­ |
| **then {**  the IUT **sends** a Response **containing**  Response Status Code set to 4000 (BAD\_REQUEST)**}** | AE 🡨 IUT |

TP/oneM2M/CSE/SM/002

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| **TP Id** | TP/oneM2M/CSE/SM/002 |
| **Test objective** | Check that the IUT rejects creation of <softwareCampaign> resource when the AE does not have the privilege to perform operation on the resource referenced in softwareTargets attribute |
| **Reference** | TS-0001 [1], clause 9.6.76, 10.2.28, TS-0004 [2], clause 6.6.3.5, 7.4.XX |
| **Config Id** | CF01 |
| **Parent Release** | Release 4 |
| **PICS Selection** | PICS\_CSE |
| **Initial conditions** | **with {** the IUT **being** in the "initial state" **and** the IUT **having registered** an AE **and** the AE **not having** the privileges to create [software] specialization child resource on the resource referenced in softwareTargets attribute **and** the AE **having** the privileges to perform CREATE operation on  TARGET\_RESOURCE\_ADDRESS**}** |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {** the IUT **receives** a valid CREATE Request from AE **containing**  Resource Type **set to** 61? (softwareCampaign)To **set to** TARGET \_RESOURCE\_ADDRESS **and**From **set to** AE\_ID Content containing softwareCampaign resource representation **containing** softwareTargets attribute **set to**UNACCESSIBLE\_RESOURCE\_ADDRESS**}** | IUT 🡨 AE­­ |
| **then {**  the IUT **sends** a valid Response **containing**  Response Status Code **set to** 4103 (ORIGINATOR\_HAS\_NO\_PRIVILEGE)**}** | AE 🡨 IUT |

TP/oneM2M/CSE/SM/003

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| **TP Id** | TP/oneM2M/CSE/SM/003 |
| **Test objective** | Check that the IUT rejects creation of <softwareCampaign> resource if the resource referenced in softwareTriggerCriteria attribute does not exist.  |
| **Reference** | TS-0001 [1], clause 9.6.76, 10.2.28, TS-0004 [2], clause 6.6.3.5, 7.4.XX |
| **Config Id** | CF01 |
| **Parent Release** | Release 4 |
| **PICS Selection** | PICS\_CSE |
| **Initial conditions** | **with {** the IUT **being** in the "initial state" **and** the IUT **having registered** an AE **and** the IUT **not having** the resource referenced in attribute softwareTriggerCriteria **and** the AE **having** the privileges to perform CREATE operation on  TARGET\_RESOURCE\_ADDRESS **}** |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {** the IUT **receives** a valid CREATE Request from AE **containing**  Resource Type **set to** 61? (softwareCampaign) To **set to** TARGET \_RESOURCE\_ADDRESS **and**From **set to** AE\_ID Content containing softwareCampaign resource representation **containing** softwareTriggerCriteria attribute containing  resources **set to** INVALID\_RESOURCE\_ADDRESS**}** | IUT 🡨 AE­­ |
| **then {**  the IUT **sends** a valid Response **containing**  Response Status Code **set to** 4000 (BAD\_REQUEST)**}** | AE 🡨 IUT |

TP/oneM2M/CSE/SM/004

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| **TP Id** | TP/oneM2M/CSE/SM/004 |
| **Test objective** | Check that the IUT rejects creation of <softwareCampaign> resource if the resource referenced in softwareTriggerCriteria attribute is not accessible by the AE |
| **Reference** | TS-0001 [1], clause 9.6.76, 10.2.28, TS-0004 [2], clause 6.6.3.5, 7.4.XX |
| **Config Id** | CF01 |
| **Parent Release** | Release 4 |
| **PICS Selection** | PICS\_CSE |
| **Initial conditions** | **with {** the IUT **being** in the "initial state" **and** the IUT **having registered** an AE **and** the AE **not having** the privileges to perform CREATE operation on the resource referenced in softwareTriggerCriteria attribute **and** the AE **having** the privileges to perform CREATE operation on  TARGET\_RESOURCE\_ADDRESS**}** |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {** the IUT **receives** a valid CREATE Request from AE **containing**  Resource Type **set to** 61? (softwareCampaign)To **set to** TARGET \_RESOURCE\_ADDRESS **and**From **set to** AE\_ID Content containing softwareCampaign resource representation **containing** softwareTriggerCriteria attribute containing  resources **set to** UNACCESSIBLE\_RESOURCE\_ADDRESS**}** | IUT 🡨 AE­­ |
| **then {**  the IUT **sends** a valid Response **containing**  Response Status Code **set to** 4103 (ORIGINATOR\_HAS\_NO\_PRIVILEGE)**}** | AE 🡨 IUT |

TP/oneM2M/CSE/SM/005

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| **TP Id** | TP/oneM2M/CSE/SM/005 |
| **Test objective** | Check that the IUT rejects creation of <softwareCampaign> resource if it conflicts with any existing <softwareCampaign> resource in the hosting CSE. |
| **Reference** | TS-0001 [1], clause 9.6.76, 10.2.28, TS-0004 [2], clause 6.6.3.5, 7.4.XX |
| **Config Id** | CF01 |
| **Parent Release** | Release 4 |
| **PICS Selection** | PICS\_CSE |
| **Initial conditions** | **with {** the IUT **being** in the "initial state" **and** the IUT **having registered** an AE **and** the IUT **having** a valid <softwareCampaign>resource **containing**softwareTargetsattribute **set to**SOFTWARE\_TARGETS**and**campaignEnabled **set to** TRUE **and** the AE **having** the privileges to perform CREATE operation on TARGET\_RESOURCE\_ADDRESS**}** |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {** the IUT **receives** a valid CREATE Request from AE **containing**  Resource Type **set to** 61? (softwareCampaign)To **set to** TARGET \_RESOURCE\_ADDRESS **and**From **set to** AE-ID **and** Content **containing**softwareCompaign resourcerepresentation **containing**softwareTargetsattribute **set to**SOFTWARE\_TARGETS**}** | IUT 🡨 AE­­ |
| **then {**  the IUT **sends** a valid Response **containing**  Response Status Code **set to** 4105 (CONFLICT)**}** | AE 🡨 IUT |

TP/oneM2M/CSE/SM/006

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| **TP Id** | TP/oneM2M/CSE/SM/006 |
| **Test objective** | Check that the IUT rejects UPDATE of <softwareCampaign> resource when the campaignStatus attribute is set to CANCELLING |
| **Reference** | TS-0001 [1], clause 9.6.76, 10.2.28, TS-0004 [2], clause 6.6.3.5, 7.4.XX |
| **Config Id** | CF01 |
| **Parent Release** | Release 4 |
| **PICS Selection** | PICS\_CSE |
| **Initial conditions** | **with {** the IUT **being** in the "initial state" **and** the IUT **having registered** an AE  **and** the IUT **having** a <softwareCampaign>resource at TARGET\_RESOURCE\_ADDRESS **containing** campaignStatus attribute **set to** CANCELLING **and** the AE **having** the privileges to perform UPDATE operation on  TARGET\_RESOURCE\_ADDRESS**}** |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {** the IUT **receives** a valid UPDATE Request from AE **containing** To **set to** TARGET\_RESOURCE\_ADDRESS **and**From **set to** AE\_ID Content **containing**Valid <softwareCampaign> resource representation**}** | IUT 🡨 AE­­ |
| **then {**  the IUT **sends** a valid Response **containing**  Response Status Code **set to** 4005 (OPERATION\_NOT\_ALLOWED)**}** | AE 🡨 IUT |

TP/oneM2M/CSE/SM/007

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| **TP Id** | TP/oneM2M/CSE/SM/007 |
| **Test objective** | Check that the IUT rejects UPDATE of <softwareCampaign> resource when the campaignEnabled attribute is set to TRUE and attributes mentioned in the request do not match with the attribute values of existing targeted <softwareCampaign> resource*.* |
| **Reference** | TS-0001 [1], clause 9.6.76, 10.2.28, TS-0004 [2], clause 6.6.3.5, 7.4.XX |
| **Config Id** | CF01 |
| **Parent Release** | Release 4 |
| **PICS Selection** | PICS\_CSE |
| **Initial conditions** | **with {** the IUT **being** in the "initial state" **and** the IUT **having registered** an AE  **and** the IUT **having** a <softwareCampaign>resource at TARGET\_RESOURCE\_ADDRESS **containing** campaignEnabled attribute **set to** TRUE **and** the AE **having** the privileges to perform UPDATE operation on  TARGET\_RESOURCE\_ADDRESS**}** |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {** the IUT **receives** a valid UPDATE Request from AE **containing** To **set to** TARGET\_RESOURCE\_ADDRESS **and**From **set to** AE\_ID Content **containing**<softwareCampaign> resource representation **containing** MANDATORY\_ATTR **not matching** with the existing <softwareCampaign> attribute values**}** | IUT 🡨 AE­­ |
| **then {**  the IUT **sends** a valid Response **containing**  Response Status Code **set to** 4005 (OPERATION\_NOT\_ALLOWED)**}** | AE 🡨 IUT |
| Note: MANDATORY\_ATTR can be softwareVersion, softwareName, softwareURL, softwareTargets, softwareTriggerCriteria, or softwareOperation. |

TP/oneM2M/CSE/SM/008

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| **TP Id** | TP/oneM2M/CSE/SM/008 |
| **Test objective** | Check that the IUT rejects the UPDATE request of <softwareCampaign> resource if target node referenced in softwareTargets attribute does not exist. |
| **Reference** | TS-0001 [1], clause 9.6.76, 10.2.28, TS-0004 [2], clause 6.6.3.5, 7.4.XX |
| **Config Id** | CF01 |
| **Parent Release** | Release 4 |
| **PICS Selection** | PICS\_CSE |
| **Initial conditions** | **with {** the IUT **being** in the "initial state" **and** the IUT **having registered** an AE  **and** the IUT **having** a <softwareCampaign>resource at TARGET\_RESOURCE\_ADDRESS **containing** campaignEnabled attribute **set to** TRUE **and** the AE **having** the privileges to perform UPDATE operation on  TARGET\_RESOURCE\_ADDRESS**}** |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {** the IUT **receives** a valid UPDATE Request from AE **containing** To **set to** TARGET\_RESOURCE\_ADDRESS **and**From **set to** AE\_ID  Content containing softwareCampaign resource representation **containing** softwareTargets attribute **set to** INVALID\_RESOURCE\_ADDRESS**}** | IUT 🡨 AE­­ |
| **then {**  the IUT **sends** a Response **containing**  Response Status Code set to 4000 (BAD\_REQUEST)**}** | AE 🡨 IUT |

TP/oneM2M/CSE/SM/009

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| **TP Id** | TP/oneM2M/CSE/SM/009 |
| **Test objective** | Check that the IUT rejects UPDATE of <softwareCampaign> resource when the AE does not have the privilege to perform operation on the resource referenced in softwareTargets attribute. |
| **Reference** | TS-0001 [1], clause 9.6.76, 10.2.28, TS-0004 [2], clause 6.6.3.5, 7.4.XX |
| **Config Id** | CF01 |
| **Parent Release** | Release 4 |
| **PICS Selection** | PICS\_CSE |
| **Initial conditions** | **with {** the IUT **being** in the "initial state" **and** the IUT **having registered** an AE **and** the CSE **having** a <node> resource at NODE\_RESOURCE\_ADDRESS **and** the IUT **having** a <softwareCampaign>resource at TARGET\_RESOURCE\_ADDRESS  **and** the AE **having** the privileges to perform UPDATE operation on  TARGET\_RESOURCE\_ADDRESS **and** the AE **not** **having** the privileges to perform CREATE operation on NODE\_RESOURCE\_ADDRESS**}** |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {** the IUT **receives** a valid UPDATE Request from AE **containing** To **set to** TARGET \_RESOURCE\_ADDRESS **and**From **set to** AE\_ID Content **containing** softwareCampaign resource representation **containing** softwareTargets attribute **set to** NODE\_RESOURCE\_ADDRESS**}** | IUT 🡨 AE­­ |
| **then {**  the IUT **sends** a valid Response **containing**  Response Status Code **set to** 41XX (ORIGINATOR\_HAS\_NO\_PRIVILEGE)**}** | AE 🡨 IUT |

TP/oneM2M/CSE/SM/010

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| **TP Id** | TP/oneM2M/CSE/SM/010 |
| **Test objective** | Check that the IUT rejects UPDATE of <softwareCampaign> resource if it conflicts with any existing <softwareCampaign> resource in the hosting CSE. |
| **Reference** | TS-0001 [1], clause 9.6.76, 10.2.28, TS-0004 [2], clause 6.6.3.5, 7.4.XX |
| **Config Id** | CF01 |
| **Parent Release** | Release 4 |
| **PICS Selection** | PICS\_CSE |
| **Initial conditions** | **with {** the IUT **being** in the "initial state" **and** the IUT **having registered** an AE **and** the IUT **having** a <softwareCampaign>resource at SOFTWARE\_RESOURCE\_ADDRESS **containing**softwareTargetsattribute **set to**SOFTWARE\_TARGETS**and**campaignEnabled **set to** TRUE **and** the IUT **having** a <softwareCampaign>resource at TARGET\_RESOURCE\_ADDRESS **and** the AE **having** the privileges to perform UPDATE operation on  TARGET\_RESOURCE\_ADDRESS **and** the IUT **having** the privileges to perform CREATE operation on SOFTWARE\_TARGETS**}** |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {** the IUT **receives** a valid UPDATE Request from AE **containing** To **set to** TARGET \_RESOURCE\_ADDRESS **and**From **set to** AE-ID **and** Content **containing**softwareCompaign resourcerepresentation **containing**softwareTargetsattribute **set to**SOFTWARE\_TARGETS**}** | IUT 🡨 AE­­ |
| **then {**  the IUT **sends** a valid Response **containing**  Response Status Code **set to** 41XX (SOFTWARE\_CAMPAIGN\_CONFLICT)**}** | AE 🡨 IUT |

TP/oneM2M/CSE/SM/011

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| **TP Id** | TP/oneM2M/CSE/SM/011 |
| **Test objective** | Check that the IUT rejects UPDATE of <softwareCampaign> resource if the resource referenced in softwareTriggerCriteria attribute does not exist.  |
| **Reference** | TS-0001 [1], clause 9.6.76, 10.2.28, TS-0004 [2], clause 6.6.3.5, 7.4.XX |
| **Config Id** | CF01 |
| **Parent Release** | Release 4 |
| **PICS Selection** | PICS\_CSE |
| **Initial conditions** | **with {** the IUT **being** in the "initial state" **and** the IUT **having registered** an AE  **and** the IUT **having** a <softwareCampaign>resource at TARGET\_RESOURCE\_ADDRESS **containing**  campaignEnabled attribute **set to** FALSE **and** the AE **having** the privileges to perform UPDATE operation on  TARGET\_RESOURCE\_ADDRESS**}** |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {** the IUT **receives** a valid UPDATE Request from AE **containing**  To **set to** TARGET \_RESOURCE\_ADDRESS **and**From **set to** AE\_ID Content containing softwareCampaign resource representation **containing** softwareTriggerCriteria attribute **containing**  subjectResourceID **set to** INVALID\_RESOURCE\_ADDRESS**}** | IUT 🡨 AE­­ |
| **then {**  the IUT **sends** a valid Response **containing**  Response Status Code **set to** 4000 (BAD\_REQUEST)**}** | AE 🡨 IUT |

TP/oneM2M/CSE/SM/012

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| **TP Id** | TP/oneM2M/CSE/SM/012 |
| **Test objective** | Check that the IUT rejects UPDATE of <softwareCampaign> resource if the resource referenced in softwareTriggerCriteria attribute is not accessible by the AE.  |
| **Reference** | TS-0001 [1], clause 9.6.76, 10.2.28, TS-0004 [2], clause 6.6.3.5, 7.4.XX |
| **Config Id** | CF01 |
| **Parent Release** | Release 4 |
| **PICS Selection** | PICS\_CSE |
| **Initial conditions** | **with {** the IUT **being** in the "initial state" **and** the IUT **having registered** an AE **and** the IUT **having** a <softwareCampaign>resource at TARGET\_RESOURCE\_ADDRESS **containing** campaignEnabled attribute **set to** FALSE **and** the IUT **having** subject resource at SUBJECT\_RESOURCE\_ADDRESS **and** the AE **having** the privileges to perform UPDATE operation on  TARGET\_RESOURCE\_ADDRESS **and** the AE **not** **having** the privileges to perform CREATE operation on SUBJECT\_RESOURCE\_ADDRESS**}** |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {** the IUT **receives** a valid UPDATE Request from AE **containing** To **set to** TARGET \_RESOURCE\_ADDRESS **and**From **set to** AE\_ID Content **containing** softwareCampaign resource representation **containing** softwareTriggerCriteria attribute **containing**  subjectResourceId **set to** SUBJECT\_RESOURCE\_ADDRESS**}** | IUT 🡨 AE­­ |
| **then {**  the IUT **sends** a valid Response **containing**  Response Status Code **set to** 4103 (ORIGINATOR\_HAS\_NO\_PRIVILEGE)**}** | AE 🡨 IUT |

TP/oneM2M/CSE/SM/013

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| **TP Id** | TP/oneM2M/CSE/SM/013 |
| **Test objective** | Check that the IUT sends the create request for [software] specialization resource on targeted CSE when IUT successfully creates a <softwareCampaign> resource with campaignEnabled attribute set to TRUE |
| **Reference** | TS-0001 [1], clause 9.6.76, 10.2.28 |
| **Config Id** | CF02 |
| **Parent Release** | Release 4 |
| **PICS Selection** | PICS\_CSE |
| **Initial conditions** | **with {** the IUT **being** in the "initial state" **and** the IUT **having registered** an AE  **and** the CSE **having** a <node> resource at NODE\_RESOURCE\_ADDRESS **and** the IUT **having** privileges to perform CREATE operation on NODE\_RESOURCE\_ADDRESS**}** |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {**the IUT **receives** a valid CREATE request from AE **containing**  To **set to** TARGET\_RESOURCE\_ADDRESS **and** From **set to** AE\_ID **and** Content **containing**<softwareCampaign> resource representation **containing**campaignEnabled attribute **set to** TRUE softwareTargets attribute **set to** NODE\_RESOURCE\_ADDRESS**}** | AE 🡪 IUT |
| **then {**the IUT **sends** a valid response to AE **containing**Response status code **set to** 2001 (CREATED) **and** the IUT **sends** a valid CREATE request to CSE **containing**  To **set to** NODE\_RESOURCE\_ADDRESS **and** From **set to** CSE\_ID **and** Content **containing**[software] specialization resource representation**}** | AE 🡨 IUT IUT 🡪 CSE |

TP/oneM2M/CSE/SM/014

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| **TP Id** | TP/oneM2M/CSE/SM/014 |
| **Test objective** | Check that the IUT sends a CREATE request for <subscription> resource to the [software] specialization resource when the IUT has successfully creates the [software] specialization resource |
| **Reference** | TS-0001 [1], clause 9.6.76, 10.2.28 |
| **Config Id** | CF02 |
| **Parent Release** | Release 4 |
| **PICS Selection** | PICS\_CSE |
| **Initial conditions** | **with {** the IUT **being** in the "initial state" **and** the IUT **having registered** an AE  **and** the CSE **having** a <node> resource at NODE\_RESOURCE\_ADDRESS **and** the IUT **having** a <softwareCampaign> resource at TARGET\_RESOURCE\_ADDRESS **containing**campaignEnabled attribute **set to** TRUE  **and** the IUT **sends** a valid CREATE request to CSE **containing**  To **set to** NODE\_RESOURCE\_ADDRESS **and** From **set to** CSE\_ID **and** Content **containing**[software] specialization resource representation**}** |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {** the IUT **receives** a valid Response **containing**  Response Status Code **set to** 2001(CREATED)**}** | IUT 🡨 CSE  |
| **then {** **and** the IUT **sends** a valid CREATE request to CSE **containing**  To **set to** SOFTWARE\_SPECIALIZATION\_ADDRESS **and** From **set to** CSE\_ID **and** Content **containing**<subscription> resource representation**}** |  IUT 🡪 CSE |

TP/oneM2M/CSE/SM/015

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| **TP Id** | TP/oneM2M/CSE/SM/015 |
| **Test objective** | Check that the IUT sets the individualSoftwareStatuses attribute of <softwareCampaign> resource to FAILURE when it is not able to subscribe to the [software] specialization |
| **Reference** | TS-0001 [1], clause 9.6.76, 10.2.28 |
| **Config Id** | CF02 |
| **Parent Release** | Release 4 |
| **PICS Selection** | PICS\_CSE |
| **Initial conditions** | **with {** the IUT **being** in the "initial state" **and** the IUT **having registered** an AE  **and** the CSE **having** a <node> resource at NODE\_RESOURCE\_ADDRESS **and** the IUT **having** a <softwareCampaign> resource at TARGET\_RESOURCE\_ADDRESS **containing**campaignEnabled attribute **set to** TRUE  **and** the CSE **having** a [software] specializationat SOFTWARE\_SPECIALIZATION\_ADDRESS **and** the IUT **having** **sent** a valid CREATE request to CSE **containing**  To **set to** SOFTWARE\_SPECIALIZATION\_ADDRESS **and** From **set to** CSE\_ID **and**Content **containing**<subscription> resource representation**}** |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {** the IUT **receives** a valid Response **containing**  Response Status Code **set to** 4000(BAD\_REQUEST)**}** | CSE 🡪 IUT |
| **then {** the IUT **updates** the <softwareCampaign> resource  individualSoftwareStatuses **set to** FAILURE for the corresponding [software] specialization**}** | IUT  |

TP/oneM2M/CSE/SM/016

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| **TP Id** | TP/oneM2M/CSE/SM/016 |
| **Test objective** | Check that the IUT sets the individualSoftwareStatuses attribute of <softwareCampaign> resource to FAILURE when it is not able to create the [software] specialization. |
| **Reference** | TS-0001 [1], clause 9.6.76, 10.2.28 |
| **Config Id** | CF02 |
| **Parent Release** | Release 4 |
| **PICS Selection** | PICS\_CSE |
| **Initial conditions** | **with {** the IUT **being** in the "initial state" **and** the IUT **having registered** an AE  **and** the CSE **having** a <node> resource at NODE\_RESOURCE\_ADDRESS **and** the IUT **having** a <softwareCampaign> resource at TARGET\_RESOURCE\_ADDRESS **containing**campaignEnabled attribute **set to** TRUE **and** the IUT **having** **sent** a valid CREATE request to CSE **containing** To **set to** NODE\_RESOURCE\_ADDRESS **and** From **set to** CSE\_ID Content **containing**[software] specialization resource representation**}** |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {** the IUT **receives** a valid Response **containing**  Response Status Code **set to** 4000(BAD\_REQUEST)**}** | CSE 🡪 IUT |
| **then {** the IUT **updates** the <softwareCampaign> resource individualSoftwareStatuses **set to** FAILURE for the corresponding [software] specialization**}** | IUT |

TP/oneM2M/CSE/SM/017

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| **TP Id** | TP/oneM2M/CSE/SM/017 |
| **Test objective** | Check that the IUT sets the individualSoftwareStatuses attribute of <softwareCampaign> resource to FAILURE when it is not able to update the corresponding [software] specialization |
| **Reference** | TS-0001 [1], clause 9.6.76, 10.2.28 |
| **Config Id** | CF02 |
| **Parent Release** | Release 4 |
| **PICS Selection** | PICS\_CSE |
| **Initial conditions** | **with {** the IUT **being** in the "initial state" **and** the IUT **having registered** an AE  **and** the CSE **having** a <node> resource at NODE\_RESOURCE\_ADDRESS **and** the IUT **having** a <softwareCampaign> resource at TARGET\_RESOURCE\_ADDRESS **containing**campaignEnabled attribute **set to** TRUE  **and** the CSE **having** a [software] specializationat NODE\_RESOURCE\_ADDRESS **and** the IUT **having** **sent** a valid UPDATE request to CSE **containing**  To **set to** SOFTWARE\_SPECIALIZATION\_ADDRESS **and**From **set to** CSE\_ID Content **containing**[software] specialization resource representation**}** |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {** the IUT receives a valid Response **containing**  Response Status Code **set to** 4000(BAD\_REQUEST)**}** | CSE 🡪 IUT |
| **then {** the IUT **updates** the <softwareCampaign> resource individualSoftwareStatuses **set to** FAILURE for the corresponding [software] specialization**}** | IUT |

TP/oneM2M/CSE/SM/018

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| **TP Id** | TP/oneM2M/CSE/SM/018 |
| **Test objective** | Check that the IUT rejects the UPDATE <softwareCampaign> request to set the campaignEnabled attribute of <softwareCampaign> resource to FALSE when its local policy is not to cancel the ongoing software management operations |
| **Reference** | TS-0001 [1], clause 9.6.76, 10.2.28 |
| **Config Id** | CF02 |
| **Parent Release** | Release 4 |
| **PICS Selection** | PICS\_CSE |
| **Initial conditions** | **with {** the IUT **being** in the "initial state" **and** the IUT **having** registered an AE  **and** the CSE **having** a <node> resource at NODE\_RESOURCE\_ADDRESS **and** the IUT **having** a <softwareCampaign> resource at TARGET\_RESOURCE\_ADDRESS **containing**campaignEnabled attribute **set to** TRUE **and**campaignStatus attribute **set to** INITIATED **and**softwareOperation **set to** 1(INSTALL) **and** the IUT **having** the local policy to not cancel the ongoing software management operations **and** the CSE **having** a [software] specializationat SOFTWARE\_SPECIALIZATION\_ADDRESS **containing** install **set to** TRUE**}** |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {** the IUT **receives** a valid UPDATE Request from AE **containing**  To **set to** TARGET \_RESOURCE\_ADDRESS **and**From **set to** AE\_ID Content **containing** <softwareCampaign> resource representation **containing**  campaignEnabled **set to** FALSE **}** | AE 🡪 IUT |
| **then {** the IUT **sends** a valid Response **containing**  Response Status Code **set to** 4XXX**}** | IUT 🡪 AE |

TP/oneM2M/CSE/SM/019

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| **TP Id** | TP/oneM2M/CSE/SM/019 |
| **Test objective** | Check that the IUT tries to cancel the ongoing software management operation upon receiving an UPDATE <softwareCampaign> request with campaignEnabled attribute set to FALSE when local policy of the IUT is to try to cancel the ongoing software management operations |
| **Reference** | TS-0001 [1], clause 9.6.76, 10.2.28 |
| **Config Id** | CF02 |
| **Parent Release** | Release 4 |
| **PICS Selection** | PICS\_CSE |
| **Initial conditions** | **with {** the IUT **being** in the "initial state" **and** the IUT **having** registered an AE  **and** the CSE **having** a <node> resource at NODE\_RESOURCE\_ADDRESS **and** the IUT **having** a <softwareCampaign> resource at TARGET\_RESOURCE\_ADDRESS **containing**campaignEnabled attribute **set to** TRUE **and**campaignStatus attribute **set to** INITIATED **and**softwareOperation **set to** 1(INSTALL) **and** the CSE **having** a [software] specializationat SOFTWARE\_SPECIALIZATION\_ADDRESS **containing** install **set to** TRUE**}** |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {** the IUT **receives** a valid UPDATE Request from AE **containing**  To **set to** TARGET \_RESOURCE\_ADDRESS **and**From **set to** AE\_ID Content **containing** <softwareCampaign> resource representation **containing**  campaignEnabled **set to** FALSE **}** | AE 🡪 IUT |
| **then {** the IUT sends a valid UPDATE response to AE **containing** Response Status Code **set to** 2004 (UPDATED) **and** Content **containing**<softwareCampaign> resource representation **containing**campaignStatus attribute **set to** CANCELLING **and** the IUT **sends** a valid UPDATE Request to CSE **containing**  To **set to** SOFTWARE\_SPECIALIZATION\_ADDRESS **and**From **set to** CSE\_ID Content **containing** [software] specialization resource representation **containing**  install **set to** FALSE **}** | IUT 🡪 AEIUT🡪 CSE |

TP/oneM2M/CSE/SM/020

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| **TP Id** | TP/oneM2M/CSE/SM/020 |
| **Test objective** | Check that the IUT updates campaignStatus attribute of <softwareCampaign> resource based on the response to the update of targeted [software] specialization resource |
| **Reference** | TS-0001 [1], clause 9.6.76, 10.2.28 |
| **Config Id** | CF02 |
| **Parent Release** | Release 4 |
| **PICS Selection** | PICS\_CSE |
| **Initial conditions** | **with {** the IUT **being** in the "initial state" **and** the IUT **having** registered an AE  **and** the CSE **having** a <node> resource at NODE\_RESOURCE\_ADDRESS **and** the IUT **having** a <softwareCampaign> resource at TARGET\_RESOURCE\_ADDRESS **containing**campaignEnabled attribute **set to** TRUE **and**campaignStatus attribute **set to** INITIATED **and**SOFTWATE\_OPERATION **set to** TRUE **and** the CSE **having** a [software] specializationat SOFTWARE\_SPECIALIZATION\_ADDRESS **containing** install **set to** TRUE **and** the IUT **having** updated the <softwareCampaign> resource   **containing**  campaignEnabled **set to** FALSE  **and** the IUT **having sent** a valid UPDATE Request to CSE **containing**  To **set to** SOFTWARE\_SPECIALIZATION\_ADDRESS **and**From **set to** CSE\_ID Content **containing** [software] specialization resource representation **containing**  install **set to** FALSE **}** |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {** the IUT **receives** a valid UPDATE Response from CSE **containing** Response Status Code **set to** *RESPONSE\_FROM\_CSE***}** | CSE 🡪 IUT |
| **then {** the IUT **updates** the <softwareCampaign> resource campaignStatus attribute **set to** *CAMPAIGN\_STATUS***}** | IUT 🡪 AE |

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| **TP Id** | **RESPONSE\_FROM\_CSE** | **CAMPAIGN\_STATUS** |
| TP/oneM2M/CSE/SM/020/UPD | 2004 | CANCELLED |
| TP/oneM2M/CSE/SM/020/NO\_UPD | 4XXX | STATUS\_NOT\_CANCELLABLE |

TP/oneM2M/CSE/SM/021

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| **TP Id** | TP/oneM2M/CSE/SM/021 |
| **Test objective** | Check that the IUT sets the individualSoftwareStatuses attribute of <softwareCampaign> resource to FAILURE upon the deletion of [software] specialization and its child <*subscription*> resource when the expiration time of [software] specialization is exceeded before the completion of software operation |
| **Reference** | TS-0001 [1], clause 9.6.76, 10.2.28 |
| **Config Id** | CF02 |
| **Parent Release** | Release 4 |
| **PICS Selection** | PICS\_CSE |
| **Initial conditions** | **with {** the IUT **being** in the "initial state" **and** the IUT **having** registered an AE  **and** the CSE **having** a <node> resource at NODE\_RESOURCE\_ADDRESS  **and** the IUT **having** a <softwareCampaign> resource at TARGET\_RESOURCE\_ADDRESS **containing**campaignEnabled attribute **set to** TRUE **and** the CSE **having** a [software] specializationat NODE\_RESOURCE\_ADDRESS **containing** a child resource <subscription>  **and** the expiration time has exceeded for the [software] specialization **}** |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {** the IUT **receives** a valid NOTIFY response **containing** To **set to** TARGET\_RESOURCE\_ADDRESS **and** From **set to** CSE  Content **containing** notification **indicating** deletion of [software] specialization and its child <subscription> resource**}** | CSE 🡪 IUT |
| **then {** the IUT **updates** the <softwareCampaign> resource individualSoftwareStatuses **set to** FAILURE for the corresponding [software] specialization **and** aggregatedSoftwareStatus **set to** FAILURE**}** | IUT |

TP/oneM2M/CSE/SM/022

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| **TP Id** | TP/oneM2M/CSE/SM/022 |
| **Test objective** | Check that the IUT sets the aggregatedSoftwareStatus attribute of <softwareCampaign> resource to FAILURE when the IUT receives the FAILURE notification from any one of the [software] specialization |
| **Reference** | TS-0001 [1], clause 9.6.76, 10.2.28  |
| **Config Id** | CF02 |
| **Parent Release** | Release 4 |
| **PICS Selection** | PICS\_CSE |
| **Initial conditions** | **with {** the IUT **being** in the "initial state" **and** the IUT **having registered** an AE  **and** the CSE\_1 **having** a <node> resource atNODE\_RESOURCE\_ADDRESS **and** the CSE\_2 **having** a <node> resource at NODE\_RESOURCE\_ADDRESS\_2 **and** the IUT **having** a <softwareCampaign> resource at TARGET\_RESOURCE\_ADDRESS **containing**campaignEnabled attribute **set to** TRUE **and** the CSE\_1 **having** a [software] specializationat SOFTWARE\_SPECIALIZATION\_ADDRESS **containing**install attribute **set to** TRUE **and**a child resource <subscription> **and** the CSE\_2 **having** a [software] specializationat SOFTWARE\_SPECIALIZATION\_ADDRESS **containing**install attribute **set to** TRUE **and**a child resource <subscription>  **and** the IUT **having received** a valid NOTIFY Response **containing** To **set to** TARGET\_RESOURCE\_ADDRESS **and** From **set to** CSE\_1 **and**  Content **containing**  [software] specialization resource representation **containing** installStatus attribute **set to** SUCCESSFUL**}** |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {** the IUT **receives** a valid NOTIFY Response **containing** To **set to** TARGET\_RESOURCE\_ADDRESS **and** From **set to** CSE\_2 **and**  Content **containing** [software] specialization resource representation **containing** installStatus attribute **set to** FAILURE**}** | CSE\_2 🡪 IUT |
| **then {** the IUT **updates** the <softwareCampaign> resource individualSoftwareStatus\_1 attribute **set to** SUCCESSFUL individualSoftwareStatus\_2 attribute **set to** FAILURE  aggregatedSoftwareStatusattribute **set to** FAILURE campaignStatus attribute **set to** FINISHED**}** | IUT |

TP/oneM2M/CSE/SM/023

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| **TP Id** | TP/oneM2M/CSE/SM/023 |
| **Test objective** | Check that the IUT rejects the deletion request when campaignStatus attribute of the <softwareCampaign> resource is set to *CAMPAIGN\_STATUS* |
| **Reference** | TS-0001 [1], clause 9.6.76, 10.2.28, TS-0004 [2], clause 6.6.3.5, 7.4.XX |
| **Config Id** | CF01 |
| **Parent Release** | Release 4 |
| **PICS Selection** | PICS\_CSE |
| **Initial conditions** | **with {** the IUT **being** in the "initial state" **and** the IUT **having registered** an AE  **and** the IUT **having** a <softwareCampaign> resource at TARGET\_RESOURCE\_ADDRESS **containing** camapaignStatus attribute **set to** *CAMPAIGN\_STATUS* **and** the AE **having** the privileges to perform DELETE operation on  TARGET\_RESOURCE\_ADDRESS**}** |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {** the IUT **receives** a valid DELETE Request from AE **containing** To **set to** TARGET \_RESOURCE\_ADDRESS **and**From **set to** AE\_ID**}** | AE 🡪 IUT |
| **then {** the IUT **sends** a valid Response **containing**  Response Status Code **set to** 4005 (OPERATION\_NOT\_ALLOWED)**}** | IUT 🡪 AE |

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| **TP Id** | ***CAMPAIGN\_STATUS*** |
| TP/oneM2M/CSE/SM/0023/CANCEL | CANCELLING |
| TP/oneM2M/CSE/SM/0023/INITIATE | INITIATED |

### -----------------------End of change 1---------------------------------------------

CHECK LIST

* Does this Change Request include an informative introduction containing the problem(s) being solved, and a summary list of proposals.?
* Does this CR contain changes related to only one particular issue/problem?
* Have any mirror CRs been posted?
* Does this Change Request make **all** the changes necessary to address the issue or problem? E.g. A change impacting 5 tables should not include a proposal to change only 3 tables?Does this Change Request follow the drafting rules?
* Are all pictures editable?
* Have you checked the spelling and grammar?
* Have you used change bars for all modifications?
* Does the change include the current and surrounding clauses to clearly show where a change is located and to provide technical context of the proposed change? (Additions of complete clauses need not show surrounding clauses as long as the proposed clause number clearly shows where the new clause is proposed to be located.)
* Are multiple changes in this CR clearly separated by horizontal lines with embedded text such as, start of change 1, end of change 1, start of new clause, end of new clause.?