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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  New feature or functionality  Only 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  NO  This CR may break backwards compatibility with the last approved version of the TS? YES  NO |
| 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** | | 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 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 **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** | | 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 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 **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** | | 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 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 **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** | | 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 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 **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** | 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 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 resource **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** | 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 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** | 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 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 **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** | | 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 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**  Resource Type **set to** 61? (softwareCampaign)  To **set to** TARGET\_RESOURCE\_ADDRESS **and**  From **set to** AE\_ID  Content containing  softwareCampaign resource **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** | | 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 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 create [software] specialization child resource on the resource referenced in softwareTargets attribute  **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** a valid UPDATE 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 **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/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** | 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 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  **}** | |
| **Expected behaviour** | **Test events** | **Direction** |
| **when {**  the IUT **receives** a valid UPDATE 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 resource **containing**  softwareTargetsattribute **set to**SOFTWARE\_TARGETS  **}** | IUT 🡨 AE­­ |
| **then {**  the IUT **sends** a valid Response **containing**  Response Status Code **set to** 4105? (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** | | 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 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**  Resource Type **set to** 61? (softwareCampaign)  To **set to** TARGET \_RESOURCE\_ADDRESS **and**  From **set to** AE\_ID  Content containing  softwareCampaign resource **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/012

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| **TP Id** | | TP/oneM2M/CSE/SM/012 | |
| **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** | | 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 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**  Resource Type **set to** 61? (softwareCampaign)  To **set to** TARGET \_RESOURCE\_ADDRESS **and**  From **set to** AE\_ID  Content containing  softwareCampaign resource **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/013

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| **TP Id** | | TP/oneM2M/CSE/SM/013 | |
| **Test objective** | | Check that the IUT sends a notification message to the AE after the specified software management operation on target node has been performed successfully | |
| **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 IUT **having registered** a Remote CSE as CSE\_NODE\_ADDRESS **and** the IUT **having** a <softwareCampaign> resource at  TARGET\_RESOURCE\_ADDRESS **containing**  campaignEnabled attribute **set to** TRUE **and**  a child resource <subscription>  **and** the IUT **having created** a [software] specializationat  CSE\_NODE\_ADDRESS **containing**  *SOFTWATE\_OPERATION* **set to** TRUE **and**  a child resource <subscription>  **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** a valid notification from the Remote CSE **containing**  To **set to** TARGET\_RESOURCE\_ADDRESS **and**  From **set to** CSE\_NODE\_ADDRESS  Content **containing**  notification message **containing**  [software] specialization representation **containing**  *SOFTWARE\_STATUS\_ATTR* **set to** SUCCESSFUL  **}** | | R-CSE 🡪 IUT |
| **then {**  the IUT **updates** the <softwareCampaign> resource **and** the IUT **sends** a valid notification to the AE  Content **containing**  notification message **containing**  valid <softwareCampaign> resource representation  **}** | | AE 🡨 IUT |

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| **TP Id** | **SOFTWATE\_OPERATION** | **SOFTWARE\_STATUS\_ATTR** |
| TP/oneM2M/CSE/SM/013/INS | install | installStatus |
| TP/oneM2M/CSE/SM/013/UNI | uninstall | installStatus |
| TP/oneM2M/CSE/SM/013/ACT | activate | activeStatus |
| TP/oneM2M/CSE/SM/013/DEACT | deactivate | activeStatus |

TP/oneM2M/CSE/SM/014

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| **TP Id** | | TP/oneM2M/CSE/SM/014 | |
| **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 IUT **having registered** a Remote CSE as CSE\_NODE\_ADDRESS  **and** the IUT **having** a <softwareCampaign> resource at  TARGET\_RESOURCE\_ADDRESS **containing**  campaignEnabled attribute **set to** TRUE **and**  a child resource <subscription>  **and** the IUT **having created** a [software] specializationat  CSE\_NODE\_ADDRESS **and** the Remote CSE **having** a [software] specializationat  SOFTWARE\_SPECIALIZATION\_ADDRESS  **and** the IUT **having** **sent** a valid CREATE <subscription> Request to the Remote CSE **containing**  To **set to** SOFTWARE\_SPECIALIZATION\_ADDRESS **and**  From **set to** TARGET\_RESOURCE\_ADDRESS  **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** a valid Response **containing**  Response Status Code **not set to** 2001  **}** | | IUT |
| **then {**  the IUT **updates** the <softwareCampaign> resource **and**  the IUT **sends** a valid notification to the AE  Content **containing**  notification message **containing**  <softwareCampaign> resource **containing**  individualSoftwareStatuses **indicating** FAILURE for the corresponding [software] specialization  **}** | | IUT 🡪 AE |

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 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 IUT **having registered** a Remote CSE as CSE\_NODE\_ADDRESS  **and** the IUT **having** a <softwareCampaign> resource at  TARGET\_RESOURCE\_ADDRESS **containing**  campaignEnabled attribute **set to** TRUE **and**  a child resource <subscription>  **and** the IUT **having** **sent** a valid [software] specialization CREATE Request to the Remote CSE **containing**  To **set to** CSE\_NODE\_ADDRESS **and**  From **set to** TARGET\_RESOURCE\_ADDRESS  **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** a valid Response **containing**  Response Status Code **not set to** 2001  **}** | | R-CSE 🡪 IUT |
| **then {**  the IUT **updates** the <softwareCampaign> resource **and**  the IUT **sends** a valid notification to the AE  Content **containing**  notification message **containing**  <softwareCampaign> resource **containing**  individualSoftwareStatuses **indicating** FAILURE for the corresponding [software] specialization  **}** | | IUT 🡪 AE |

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 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 IUT **having registered** a Remote CSE as CSE\_NODE\_ADDRESS  **and** the IUT **having** a <softwareCampaign> resource at  TARGET\_RESOURCE\_ADDRESS **containing**  campaignEnabled attribute **set to** TRUE **and**  a child resource <subscription>  **and** the IUT **having created** a [software] specializationat  CSE\_NODE\_ADDRESS  **and** the IUT **having** **sent** a valid [software] specialization UPDATE Request to the Remote CSE **containing**  To **set to** SOFTWARE\_SPECIALIZATION\_ADDRESS **and**  From **set to** TARGET\_RESOURCE\_ADDRESS  **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT receives a valid Response **containing**  Response Status Code not **set to** 2004  **}** | | R-CSE 🡪 IUT |
| **then {**  the IUT **updates** the <softwareCampaign> resource **and**  the IUT **sends** a valid notification to the AE  Content **containing**  notification message **containing**  <softwareCampaign> resource **containing**  individualSoftwareStatuses **indicating** FAILURE for the corresponding [software] specialization  **}** | | IUT 🡪 AE |

TP/oneM2M/CSE/SM/017

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| **TP Id** | | TP/oneM2M/CSE/SM/017 | |
| **Test objective** | | Check that the IUT cancels the software operations and sets the individualSoftwareStatuses attribute of <softwareCampaign> resource to FAILURE when the UPDATE request modifies the campaignEnabled attribute of the <softwareCampaign> resource to FALSE | |
| **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 IUT **having registered** a Remote CSE as CSE\_NODE\_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**  a child resource <subscription>  **and** the IUT **having created** a [software] specializationat  CSE\_NODE\_ADDRESS  **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT **receives** a valid UPDATE 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> **containing**  campaignEnabled **set to** FALSE  **}** | | AE 🡪 IUT |
| **then {**  the IUT **updates** the <softwareCampaign> resource  **and** the IUT **cancels** all the ongoing software operations  **and** the IUT **sends** a valid notification to the AE  Content **containing**  notification message **containing**  <softwareCampaign> resource **containing**  campaignStatus attribute **set to** CANCELLED  individualSoftwareStatuses **indicating** FAILURE for the corresponding [software] specialization  **}** | | IUT 🡪 AE |

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| **TP Id** | **SOFTWATE\_OPERATION** |
| TP/oneM2M/CSE/SM/017/INS | install |
| TP/oneM2M/CSE/SM/017/UNI | uninstall |
| TP/oneM2M/CSE/SM/017/ACT | active |
| TP/oneM2M/CSE/SM/017/DEACT | deactivate |

TP/oneM2M/CSE/SM/018

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| **TP Id** | | TP/oneM2M/CSE/SM/018 | |
| **Test objective** | | Check that the IUT sets the campaignStatus attribute to the right value when the IUT is not able to cancel all the ongoing software operations upon modification of campaignEnabled attribute of the <softwareCampaign> resource to FALSE | |
| **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 IUT **having registered** a Remote CSE as CSE\_NODE\_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**  a child resource <subscription>  **and** the IUT **having created** a [software] specializationat  CSE\_NODE\_ADDRESS  **and** the IUT **having received** a valid UPDATE 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> **containing**  campaignEnabled **set to** FALSE  **}** | | |
| **Expected behaviour** | **Test events** | | **Direction** |
| **when {**  the IUT is not able to cancelall the ongoing software operations  **}** | | AE 🡪 IUT |
| **then {**  the IUT **updates** the <softwareCampaign> resource  **and** the IUT **sends** a valid notification to the AE  Content **containing**  notification message **containing**  <softwareCampaign> resource **containing**  campaignStatus attribute **set to** STATUS\_NOT\_CANCELLABLE  **}** | | IUT 🡪 AE |

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| **TP Id** | **SOFTWATE\_OPERATION** |
| TP/oneM2M/CSE/SM/018/INS | install |
| TP/oneM2M/CSE/SM/018/UNI | uninstall |
| TP/oneM2M/CSE/SM/018/ACT | active |
| TP/oneM2M/CSE/SM/018/DEACT | deactivate |

TP/oneM2M/CSE/SM/019

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| **TP Id** | | TP/oneM2M/CSE/SM/019 | |
| **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 IUT **having registered** a Remote CSE as CSE\_NODE\_ADDRESS  **and** the IUT **having** a <softwareCampaign> resource at  TARGET\_RESOURCE\_ADDRESS **containing**  campaignEnabled attribute **set to** TRUE  **and** a child resource <subscription>  **and** the IUT **having created** a [software] specializationat  CSE\_NODE\_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 notification from the [software]  specialization **containing**  To set to TARGET\_RESOURCE\_ADDRESS **and**  From set to CSE\_NODE\_ADDRESS  Content **containing**  notification message **indicating** deletion of [software] specialization and its child <subscription> resource  **}** | | IUT |
| **then {**  the IUT **updates** the <softwareCampaign> resource **and**  the IUT **sends** a valid notification to the AE  Content **containing**  notification message **containing**  <softwareCampaign> resource **containing**  individualSoftwareStatuses **indicating** FAILURE for the corresponding [software] specialization  **and** aggregatedSoftwareStatus **set to** FAILURE  **}** | | IUT 🡪 AE |

TP/oneM2M/CSE/SM/020

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| **TP Id** | | TP/oneM2M/CSE/SM/020 | |
| **Test objective** | | Check that the IUT sets the aggregatedSoftwareStatus attribute of <softwareCampaign> resource to FAILURE and sends a notification to AE 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 IUT **having registered** REMOTE\_CSE\_1 and REMOTE\_CSE\_2  **and** the IUT **having** a <softwareCampaign> resource at  TARGET\_RESOURCE\_ADDRESS **containing**  campaignEnabled attribute **set to** TRUE **and**  a child resource <subscription>  **and** the IUT **having created** a [software] specializationat  REMOTE\_CSE \_1 **containing**  install attribute **set to** TRUE **and**  a child resource <subscription>  **and** the IUT **having created** a [software] specializationat  REMOTE\_CSE \_2 **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\_NODE\_ADDRESS **and**  From **set to** REMOTE\_CSE\_1 **and**  Content **containing**  notification message **containing**  [software] 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** REMOTE\_CSE\_2 **and**  Content **containing**  notification message **containing**  [software] resource representation **containing**  installStatus attribute **set to** FAILURE  **}** | | R-CSE-2 🡪 IUT |
| **then {**  the IUT **updates** <softwareCampaign> resource  **and** the IUT **sends** a valid NOTIFY Response **containing**  Content **containing**  notification message **containing**  <softwareCampaign> resource representation **containing**  aggregatedSoftwareStatusattribute **set to** FAILURE campaignStatus attribute **set to** FINISHED  **}** | | IUT 🡪 AE |

TP/oneM2M/CSE/SM/021

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| **TP Id** | | TP/oneM2M/CSE/SM/021 | |
| **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** | | 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 IUT **having** a <softwareCampaign> resource at  TARGET\_RESOURCE\_ADDRESS **containing**  campaignEnabled attribute **set to** TRUE **and**  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**  Resource Type **set to** 61? (softwareCampaign)  To **set to** TARGET \_RESOURCE\_ADDRESS **and**  From **set to** AE-ID **and**  Content **containing**  softwareCompaign resource **containing**  campaignEnabled **set to** TRUE and  camapaignStatus attribute **set to** *CAMPAIGN\_STATUS*  **}** | | 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/0021/CANCEL | CANCELLING |
| TP/oneM2M/CSE/SM/0021/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.?