**3GPP TSG-SA5 Meeting #134e *S5-206210***

**e-meeting 16th - 25th November 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **28.535** | **CR** | **draftCR** | **rev** | **-** | **Current version:** | **16.1.0** |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **x** | Core Network | **x** |

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| ***Title:*** | Management types for control loop | | | | | | | | | |
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| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eCOSLA | | | | |  | ***Date:*** | | | 2020-11-02 |
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| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) Rel-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
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| ***Reason for change:*** | | There are different types of MnSs supporting control loops, e.g. intent driven MnS, policy driven MnS, classical MnSs etc. Abstraction degrees and interface definitions are different accordingly. Management services for control loops are different for different management types. | | | | | | | | |
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| ***Summary of change:*** | | Introduced the general concept of policy driven and intent driven management types for control loops. | | | | | | | | |
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| ***Consequences if not approved:*** | | It is not possible to support control loops with different management types. | | | | | | | | |
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| ***Clauses affected:*** | | 4.2.x(new) | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **x** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **x** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
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| ***Other comments:*** | | This is input to the Rel-17 28.535 DraftCR | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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| **1st of changes** |

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 22.261: "Service requirements for the 5G system".

[3] 3GPP TS 28.550: "Management and orchestration; Performance assurance".

[4] 3GPP TS 28.531: "Management and orchestration; Provisioning".

[x1] 3GPP TS 28.312: "Management and orchestration; Intent driven management services for mobile networks".

[x2] 3GPP TS 28.555: "Policy management for 5G mobile networks; Stage 1".

[x3] 3GPP TS 28.556: "Policy management for 5G mobile networks; Stage 2 and stage 3".

[x4] 3GPP TS 28.552: "Management and orchestration; 5G performance measurements".

[x5] 3GPP TS 28.554: "Management and orchestration; 5G end to end Key Performance Indicators (KPI)".

[x6] 3GPP TS 28.532: "Management and orchestration; Generic management services".

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| **2nd of changes** |

## 4.2.x Management types for control loop

There are different types of MnSs supporting closed control loops or open control loops, e.g. intent driven MnS (see TS 28.312 [x1]), policy driven MnS (see TS 28.555 [x2], TS 28.556 [x3]) and classical MnSs such as performance measurements (see TS 28.552 [x4]), KPI’s (see TS 28.554 [x5]), generic management services (see TS 28.532 [x6]) etc. From the MnS consumer perspective, the inputs and expected results for MnS producers of intent driven and/or policy driven are different. Different abstraction levels and interfaces for control loops apply for intent driven MnS and policy driven MnS:

- Policy driven management type: The MnS consumer specifies the policies for control loops. The MnS producer automatically proceed the control loop based on policies specified by the MnS consumer.

- Intent driven management type: The MnS consumer specifies the intent as the objective of the control loop. The MnS producer translates the intent to detailed behavior and corresponding condition for different steps of the control loop.

Multiple types of MnSs may be deployed to support control loop automation, e.g. intent driven MnS may be deployed in addition to policy driven MnS and/or classical MnSs for control loops. In this case, a MnS producer may provide multiple interfaces of intent driven, policy driven and classicial management services. The MnS consumer may select one or multiple interfaces concerning factors such as agreements between the MnS consumer and MnS producer, scenarios, requirements, complexity and autonomous network levels etc.

Interfaces and Interactions between the MnS consumer and MnS producer of intent driven and/or policy driven for control loops are defined in the form of intent and/or policy, e.g. assurance goal can be specified as intent and/or policy, assurance goal status can be specified as intent and/or policy fulfillment status. For open control loop, interfaces and the related management services based on intent and/or policy may be defined for one or more steps, e.g. for analyze and decide.

NOTE 1: For the concept of intent and the related MnSs, see TS 28.312 [x1] and the progresses. For the concept of policy and the related MnSs, see TS 28.555 [x2], TS 28.556 [x3] and the progresses.

NOTE 2: NRM aspects of control loops are impacted for intent driven MnS and policy driven MnS management types, details are FFS, e.g., the intent or policy definitions for assurance goal and assurance goal status; class definition and descriptions for monitor, analyze, decide, execute steps of control loops when managed by intent driven or policy driven MnSs.

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| **End of changes** |