**3GPP TSG SA WG5 Meeting 138eS5-214495**

 electronic meeting, on-line, 23 – 31 August

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **28.535** | **CR** | **0056** | **rev** | **-** | **Current version:** | **16.4.0** |  |
|  |
| *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:***  | Update reference to ETSI ZSM group specifications |
|  |  |
| ***Source to WG:*** | Ericsson, Deutsche Telekom |
| ***Source to TSG:*** | SA5 |
|  |  |
| ***Work item code:*** | COSLA |  | ***Date:*** | 2021-08-03 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-16 |
|  | *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 canbe 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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
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| ***Reason for change:*** | ZSM references need to be updated to reflect appropriate ZSM document.  |
|  |  |
| ***Summary of change:*** | - Add reference- Update reference number in text. |
|  |  |
| ***Consequences if not approved:*** | Not suitable ZSM references.  |
|  |  |
| ***Clauses affected:*** | 2, 4.3 |
|  |  |
|  | **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 ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

**First change*.***

# 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".

[5] ETSI GS ZSM 002 (V1.1.1) (2019-08): "Zero-touch network and Service Management (ZSM); Reference Architecture".

[6] 3GPP TS 28.545: "Management and orchestration; Fault Supervision (FS)".

[7] 3GPP TS 28.552: "Management and orchestration; 5G performance measurements".

[8] 3GPP TS 28.554: "Management and orchestration; 5G end to end Key Performance Indicators (KPI)".

[9] 3GPP TS 28.532: "Management and orchestration; Generic management services".

[10] ETSI GS ZSM 009 (V1.1.1) (2021-06): "Zero-touch network and Service Management (ZSM); Closed-Loop Automation; Part 1: Enablers".

**Second change*.***

## 4.3 Communication service assurance service

Communication service assurance relies on a set of management services that together provide the CSP with the capability to assure the communication service as per agreement (for example an SLS) with a CSC (e.g. enterprise). The overall solution and information flows between management services and the closed control loop steps [5] are shown in Figure 4.3.1. A more detailed description of the types of information required in each step can be found in [10].



Figure 4.3.1: Overview of closed control loop information flows

In Figure 4.3.1 the controlled entity represents the resources used by a communication service and the assurance of this communication service is provided by the closed control loop between the different management services provided by the management system.

The input to the closed control loop is the data concerning the resources used by the communication service and corrresponding service KPIs which is monitored by the closed control loop and step "Monitor", analyzed by the closed control loop step “Analyze”, a decision on potential solution by the closed control loop step "Decide" which may be a possible action for the closed control loop step "Execute", The role of the decision support services is to provide variable degrees of automated decision making and human oversight support. The following two examples demonstrate how a closed control loop can be used:

- when a service experience degradation is detected (for example due to resource shortage or faults in the network), the resources used by a communication service may be adjusted automatically to improve the service experience

- the data associated with the communication service is monitored by the management services for data collection, this management service provides information to an assurance root cause analysis management service (example of an analytics service) and based on that information the assurance root cause analysis takes place, followed by proposing activities, mitigation or suggestions to solve the problem. The proposed activities, for example mitigation or problem-solving suggestion(s) are executed through provisioning services to bring the behaviour of the communication service within the requested boundaries of the metrics (SLS goals) that are controlled by the closed control loop.

The management services available for the closed control loop steps for "Monitor", "Analyze" and "Decide" are based on file transfer described in TS 28.550 [3], or data streaming described in TS 28.550 [3] and notifications described in TS 28.545 [6].

The information provided from the "Monitor" step to the "Analyze" step includes performance measurements (see TS 28.552 [7]), KPI’s (see TS 28.554 [8]), performance threshold monitoring events and fault supervision events (see TS 28.532 [9]).

The insights provided from the "Analyze" step to the "Decide" step includes analytics outcomes that are not specified in the present document.

The decision support services provided from the "Decide" step to the "Execute" step are not specified in the present document.

**End of change*.***