**3GPP TSG-SA5 Meeting #138e *S5-214477rev2***

**e-meeting 23th - 31th August 2021**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
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|  | **28.535** | **CR** | **0055** | **rev** | **2** | **Current version:** | **17.2.1** |  |
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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:***  | Add use case of advance testing and monitoring assisted SLS assurance |
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| ***Source to WG:*** | AsiaInfo |
| ***Source to TSG:*** | S5 |
|  |  |
| ***Work item code:*** | eCOSLA |  | ***Date:*** | 2021-08-13 |
|  |  |  |  |  |
| ***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 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-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:*** | The goal of this use case is to ensure SLS through advance testing and monitoring using test terminals. Through real-time monitoring the key performance data related to SLS goals, the MnS producer can analyse network fault and performance degradation in time. |
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| ***Summary of change:*** | Added the use case of advance testing and monitoring assisted SLS assurance to ensure SLS. |
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| ***Consequences if not approved:*** | An important scenario is missing for eCOSLA. |
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| ***Clauses affected:*** | 6.1.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 CR's revision history:*** |  |

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| **1st of changes** |

### 6.1.X Advance testing and monitoring assisted SLS assurance

The goal of this use case is to ensure SLS by 3GPP management system using test terminals for testing and monitoring. Through real-time monitoring the key performance data related to SLS goals, the MnS producer can analyse network fault and performance degradation in time.

3GPP management system is capable to configure and deploy the test terminals according to the SLS requirements. Test terminals can be deployed at each test point in the network system to perform test tasks and collect performance data. 3GPP management system is aware of the requirements of SLA to be tested, translates E2E SLS goal and configures the threshold(s) of SLA requirements for the test terminals (such as the latency threshold, the throughput threshold, and the jitter threshold). The test terminals continuously monitor the network according to the configured threshold(s) of SLA requirements. When a certain threshold is crossed, an SLS performance alarm is reported. The threshold can be set, modified, deleted, and inquired according to different service status to achieve the effectiveness of monitoring.

MnS producer collects reports from test terminals to analyse the network issue and determine the network issue categories. 3GPP management system is capable to reconfigure and redeploy the test terminals to perform root cause analysis and find the cause for SLS breach, and propose activities, mitigation or suggestions to solve the problem. 3GPP management system can set the test terminal for simulation test. The new task can be verified in the network through the simulation test before MnS producer executes the new task to avoid the potential risks in advance.

In conclusion, the management control loop consists of the steps Monitoring, Analysis, Decision and Execution. When the MnS producer receives SLS goals, "Execution" configures the threshold(s) of SLA requirements for the test terminals. "Monitoring" collects performance alarm reports provided from test terminals. "Analysis" performs root cause analysis and finds the cause for SLS breach. "Decision" decides the potential solutions which are executed through provisioned services by "Execution". "Execution" may also perform reconfiguration of the test terminal threshold to monitor the network.

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| **2nd of Change** |

## 6.2 Requirements

**REQ-CSA-CON-01** The 3GPP management system shall have the capability to take actions for a set of communication services serving certain group of UEs based on the target SLS.

**REQ-CSA-CON-02** The 3GPP management system shall have the capability to collect service experience information.

**REQ-CSA-CON-03** The 3GPP management system shall have the capability to analyse the performance information related to the set of communication services serving certain group of UEs.

**REQ-CSA-CON-04** The 3GPP management system shall have the capability to modify the configuration parameters related to the set of communication services serving certain group of UEs.

**REQ-CSA-CON-05** The 3GPP management system shall have the capability to collect NSI related data from one or more 5GC NF(s).

NOTE 1: An example for NSI related data may be QoE data.

**REQ-CSA-CON-06** The 3GPP management system shall have the capability to derive which communication service is associated to the QoE data from the collected NSI related QoE data.

**REQ-CSA-CON-07** The 3GPP management system shall have the capability to ascertain SLS breach.

**REQ-CSA-CON-08** The 3GPP management system shall have the capability to perform the root cause analysis (e.g., identifying the underlying reason) for an SLS breach.

**REQ-CSA-CON-09** The 3GPP management system shall have the capability to take corrective actions to ensure the target goal.

**REQ-CSA-CON-10** The 3GPP management system shall have the capability to translate network slice requirements to cross domain network slicesubnet SLS goal and single domain network slicesubnet SLS goal.

**REQ-CSA-CON-11** The 3GPP management system shall have the capability to collect single domain SLS analysis as input to cross domain SLS analysis.

**REQ-CSA-CON-12** The 3GPP management system shall have the capability to allow its authorized consumer to control the SLS assurance (e.g. specify the SLS to be assured, enable/disable, specify the assurance time and update the SLS assurance requirements).

**REQ-CSA-CON-13** The 3GPP management system shall have the capability to allow its authorized consumer to obtain the SLS assurance fulfilment status information.

NOTE 2: The management system refers to the producer of management service for SLS assurance.

**REQ-CSA-CON-14** The 3GPP management system shall have the capability to do network prediction (e.g. network resource usage and network performance) by analysing the network operation information in special scenarios.

**REQ-CSA-CON-15** The 3GPP management system shall have the capability to take actions such asnetwork configuration and perform network resource reallocation according to the network prediction results.

**REQ-CSA-CON-16** The 3GPP management system shall have the capability to allow its authorized consumer to limit the set of action capabilities executable by an assurance closed loop.

**REQ-CSA-CON-17** The 3GPP management system shall allow an authorized consumer to set a condition to enable/disable an ACCL.

**REQ-CSA-CON-X** The 3GPP management system shall have the capability to configure and deploy the test terminals according to the SLS requirements (e.g. location, SLS, threshold).

**REQ-CSA-CON-Y** The 3GPP management system shall have the capability to reconfigure and redeploy the test terminals to perform root cause analysis.

**REQ-CSA-CON-Z** The 3GPP management system shall have the capability to verify the policy for execution through the simulation test.

**REQ-LCM-CON-01** The 3GPP management system shall have the capability of lifecycle management of a closed control loop.

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| **End of changes** |