**3GPP TSG- Meeting #S5-212300**

**, , -**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **28.535** | **CR** |  | **rev** |  | **Current version:** | **17.0.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **X** | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Input to eCOSLA draft CR S5-211358 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson, Deutsche Telekom AG. | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eCOSLA | | | | |  | ***Date:*** | | | 2021-02-19 |
|  |  | | | |  | |  | | |  |
| ***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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The draft CR contains two use cases that have been discussed 1) co-ordination between loop 2) pause point. The stage 2 solutions have not been discussed yet and is work in progress. The text in 1) has some ambiguities and updates are proposed to both use case and requirements. The use case case in 2) is not needed for the following reasons:  - In practice many closed control loops are closed and with only some basic observability.  - All actions are logged, an operator can monitor the log for detailed information about the internal operation of an assurance closed loop.  - Operation of the loop can be controlled through insertion of policies.  - Having specific breakout point that expose an interface to the ouside of the loop, is taking away from the benefits of a closed control loop, in which case an open control loop may be more applicable. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Improve text in 4.2.x  Remove 6.1.x  Remove associated requirement from 6.2 | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 4.2.x (new), 6.1.X(new), 6.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | This CR is input to draft CR S5-211358 | | | | | | | | |

|  |
| --- |
| **1st Change** |

## 4.2.x Coordination between closed control loops

Different closed control loops reside in the management domains or in the network functions to support automation and the autonomous networks. Different domains may involve overlapping or nonoverlapping coverage areas. The results of a closed control loop may have impact on other closed control loops. Coordination between closed control loops is needed for example in and between, the 5GC management domain and the NG-RAN management domain, to improve the performance in order to achieve the goal(s) of the closed control loops. Furthermore coordination may also be needed when conflicts happen between closed control loops related to their activities.

A closed control loop may coordinate with other closed control loops in the same domain or in a different domain. Closed control loops in domain management for 5GC and NG-RAN are responsible for local optimization. Closed control loops in the cross management domain may need to coordinate with closed control loops in multiple other management domains for the end to end optimization.

The relationships between closed control loops can be hierarchical and/or peer-to-peer. Coordination in the management domains include the following categories:

* Coordination between Cross Management Domain and the 5GC Management Domain
* Coordination between Cross Management Domain and the NG-RAN Management Domain
* Coordination between Cross Management Domain, 5GC Management Domain and NG-RAN Management Domain
* Coordination within:

- Cross Management Domain,

- 5GC Management Domain and

- NG-RAN Management Domain

Coordination in management domains provides the SLS assurance from the overall management perspective. It also provides governance and goals for the 5GC NFs and gNBs.

Editor’s NOTE: This will be revisited.

Editor’s NOTE: Cross management domain interactions are FFS

|  |
| --- |
| **2nd Change** |

6.1.X Assurance closed loop execution supervisionAssurance closed loops have a defined goal related to a communication service SLS may execute various actions in the deployed operator network. To fully understand and trust the execution of such an assurance closed loop in the system, The MnS consumer of the assurance closed loop may want to supervise the execution of the assurance closed loop at “pause point” during the Execute step of the closed loop. At this pause point the consumer is enabled to review the available information. MnS consumer can set the pause point before the closed loop is running or when the closed loop is de-activated.

The 3GPP management system provides the ability to enable or disable such “pause point” during the Execute step of the assurance closed loop. At a pause point, when notification is sent to the MnS consumer, the consumer of the control loop can enable pausing the execution of the control.

The assurance closed loop pause point can be defined by the assurance closed loop and set for “Execute” step only.

The MnS consumer obtain the pause point capabilities for assurance closed loop(s) from the MnS producer. For example, for NR coverage optimization closed loop, the pause point can be coverage adjustment action execution.

Based on the pause capabilities, MnS consumer requests the MnS producer to enable pause point for an assurance closed loop.

When a pause point is reached, the flow of the assurance closed loop is paused and the authorized MnS consumer is informed with the pause information. When the notified MnS consumer sends a resume request, the assurance closed loop flow will continue to execute to the next step of the assurance closed loop. For example, when a pause point at coverage adjustment execute step is enabled, the MnS producer will not execute coverage adjustment action and instead inform the authorized MnS consumer that coverage adjustment action is determined and wait for approval.

- If the coverage adjustment action is approved by the MnS consumer, the MnS consumer will request the MnS producer to resume. Then MnS producer can continue to execute the coverage adjustment action.

- If the coverage adjustment action is not approved by the MnS consumer, the MnS consumer requests MnS producer to reject execution of the coverage adjustment action.

|  |
| --- |
| **3rd 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 against the root cause identified.

**REQ-CSA-CON-10** The 3GPP management system shall have the capability to translate communicate service requirements to cross domain SLS goal and single domain 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 progress information and fulfil information.

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

**REQ-CSA-CON-xx1** The 3GPP management system shall have the capability to configure SLS assurance goals for the 5GC management domain and the NG-RAN management domain.

**REQ-CSA-CON-xx2** The 3GPP management system shall have the capability to allow closed control loops in cross management domain to collect SLS assurance goal status of closed control loops in 5GC management domain and NG-RAN management domain.

**REQ-CSA-CON-X** The 3GPP management system shall have the capability to allow an authorized consumer to enable or disable pause point(s) connected to actions on managed entities during the ACCL’s execution phase and prior to the actions’ execution.”

|  |
| --- |
| **End of Change** |