**3GPP TSG-SA5 Meeting #140-e *S5-216230***

**e-meeting, 15 - 24 November 2021**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **28.536** | **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)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **x** | Core Network | **x** |

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| ***Title:***  | Input to draftCR S5-215550 Updates to assurance report for eCOSLA |
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| ***Source to WG:*** | Huawei |
| ***Source to TSG:*** | S5 |
|  |  |
| ***Work item code:*** | eCOSLA |  | ***Date:*** | 2021-11-2 |
|  |  |  |  |  |
| ***Category:*** | **C** |  | ***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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
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| ***Reason for change:*** | 1. Reference to AssuranceClosedControlLoop is missing in AssuranceReport IOC.2. It is too restrictive to define properties of assuranceGoalStatusId and assuranceTargetStatusId as “Integer”. |
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| ***Summary of change:*** | 1. Add attribute assuranceClosedControlLoopRef in AssuranceReport IOC. Add relation of AssuranceReport and assurance control loop, and reference to clause 4.2.5 regarding ACCL governance and monitoring in TS 28.535.2. Modify properties of assuranceGoalStatusId and assuranceTargetStatusId from “Integer” to “String”. |
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| ***Consequences if not approved:*** | Inconsistency exists between AssuranceReport IOC definition and the UML diagram for “Assurance management NRM fragment”. |
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| ***Clauses affected:*** | 2, 4.1.2.2.1, 4.1.2.2.2, 4.1.2.3.x.2, 4.1.2.3.x.3, 4.1.2.4 |
|  |  |
|  | **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 28.536 DraftCR S5-215550 for eCOSLA |
|  |  |
| ***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".

[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".

[x] 3GPP TS 28.535: "Management and orchestration; Management services for communication service assurance; Requirements".

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| **2nd of changes** |

#### 4.1.2.2 Class diagram

#### 4.1.2.2.1 Relationships

This clause depicts the set of classes that encapsulates the information relevant for this MnS. This clause provides an overview of the relationships between relevant classes in UML.



Figure 4.1.2.2.1.1: Assurance management NRM fragment

#### 4.1.2.2.2 Inheritance



Figure 4.1.2.2.2.1: Assurance management inheritance relationships

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| **3rd of changes** |

##### 4.1.2.3.x AssuranceReport <<IOC>>

4.1.2.3.x.1 Definition

This class represents the attributes (typically characteristics attributes) of assurance report, e.g, the information about one or multiple AssuranceGoalStatus and one or multiple AssuranceTargetStatus.

The attribute “assuranceGoalStatusList” defines a list of AssuranceGoalStatus. The attribute “assuranceTargetStatusList” defines a list of AssuranceTargetStatus.

AssuranceReport represents the monitoring information of an assurance closed control loop. There is one AssuranceReport per assurance closed control loop for an observation time. The contents of the AssuranceReport may be different for different observation time. According to the AssuranceGoal and the AssuranceReport, the consumer performs closed control loop governance as described in clause "4.2.5 Closed control loop governance and monitoring" in TS 28.535 [x].

4.1.2.3.x.2 Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Support Qualifier | isReadable | isWritable | isInvariant | isNotifyable |
| assuranceGoalStatusList | O | T | F | F | T |
| assuranceTargetStatusList | O | T | F | F | T |
| **Attributes related to role** |  |  |  |  |  |
|  assuranceClosedControlLoopRef | CM | T | T | F | T |

4.1.2.3.x.3 Attribute constraints

|  |  |
| --- | --- |
| Name | Definition |
|  assuranceClosedControlLoopRef | Condition: the AssuranceReport applies to AssuranceClosedControlLoop |

4.1.2.3.x.4 Notifications

The common notifications defined in subclause 4.1.2.5 are valid for this IOC, without exceptions or additions.

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| **2nd of changes** |

#### 4.1.2.4 Attribute definitions

##### 4.1.2.4.1 Attribute properties

The following table defines the properties of attributes that are specified in the present document.

Table 4.1.2.4.1.1

| Attribute Name | Documentation and Allowed Values | Properties |
| --- | --- | --- |
| controlLoopLifeCyclePhase | It indicates the lifecycle phase of the AssuranceClosedControlLoop instance. AllowedValues: Preparation, Commissioning, Operation and Decommissioning.  | type: Enummultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: NULL isNullable: False |
| assuranceTargetName | The name of the attribute which is part of AssuranceTarget.The assuranceTargetName shall be equal to the name of an attribute in the relevant ServiceProfile or SliceProfile. The relevant ServiceProfile or SliceProfile is identified by the attribute serviceProfileId or sliceProfileId in the AssuranceGoal. | type: Stringmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: NoneisNullable: False |
| assuranceTargetValue | The value of the attribute which is part of AssuranceTarget | type: Stringmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: NoneisNullable: False |
| assuranceTargetList | This is an attribute containing a list of AssuranceTarget(s) that are part of an AssuranceGoal | type: AssuranceTargetmultiplicity: 1..\*isOrdered: N/AisUnique: N/AdefaultValue: NoneisNullable: False |
| observationTime | It indicates the time duration over which an AssuranceGoal is observed. The observation time is expressed in seconds. | type: Integermultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: None isNullable: False |
| assuranceGoalStatusObserved | It holds the status of the observed goal fulfilment to the assuranceGoal. The value is FULFILLED only if all the constituent assuranceTargetStatusObserved are FULFILLED.allowedValues: "FULFILLED", “NOT\_FULFILLED  | type: ENUMmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: None isNullable: False |
| assuranceGoalStatusPredicted | It holds the status of the predicted future goal fulfilment to the assuranceGoal . The value is FULFILLED only if all the constituent assuranceTargetStatusPredicted are FULFILLED.allowedValues: "FULFILLED", “NOT\_FULFILLED" | type: ENUMmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: None isNullable: False |
| assuranceTargetStatusObserved | It holds the status of the observed target fulfilment to the assuranceGoal. allowedValues: "FULFILLED", “NOT\_FULFILLED  | type: ENUMmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: None isNullable: False |
| assuranceTargetStatusPredicted | It holds the status of the predicted future target fulfilment to the assuranceGoal allowedValues: "FULFILLED", “NOT\_FULFILLED" | type: ENUMmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: None isNullable: False |
| networkSliceRef | It holds the reference to the NetworkSlice instance subject to assurance requirements | type: Dnmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: None isNullable: False |
| networkSliceSubnetRef | It holds the reference to the NetworkSliceSubnet instance subject to assurance requirements | type: Dnmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: None isNullable: False |
| operationalState | It indicates the operational state of the AssuranceClosedControlLoop instance. It describes whether the resource is installed and partially or fully operable (Enabled) or the resource is not installed or not operable (Disabled).Allowed values; Enabled/DisabledallowedValues: "ENABLED", "DISABLED".The meaning of these values is as defined in 3GPP TS 28.625 [14] and ITU-T X.731 [15]. | type: ENUM multiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: DisabledallowedValues: Enabled, DisabledisNullable: False |
| administrativeState | It indicates the administrative state of the AssuranceClosedControlLoop instance. It describes the permission to use or the prohibition against using the AssuranceClosedControlLoop instance. The administrative state is set by the MnS consumer. Allowed values; Locked/UnlockedallowedValues: "LOCKED", "UNLOCKED".The meaning of these values is as defined in 3GPP TS 28.625 [14] and ITU-T X.731 [15]. | type: ENUM multiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: LockedallowedValues: Locked, UnlockedisNullable: False |
|  assuranceClosedControlLoopRef | It holds the reference to the AssuranceClosedControlLoop instance. | type: Dnmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: None isNullable: False |
| assuranceGoalStatusId | The indication of the AssuranceGoalStatus. | type: Stringmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: NoneisNullable: False |
| assuranceTargetStatusId | The indication of the AssuranceTargetStatus. | type: Stringmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: NoneisNullable: False |
| assuranceGoalStatusList | This is an attribute containing a list of assuranceGoalStatus | type: AssuranceGoalStatusmultiplicity: 1..\*isOrdered: N/AisUnique: N/AdefaultValue: NoneisNullable: False |
| assuranceTargetStatusList | This is an attribute containing a list of assuranceTargetStatus | type: AssuranceTargetStatusmultiplicity: 1..\*isOrdered: N/AisUnique: N/AdefaultValue: NoneisNullable: False |
| NOTE 1: VoidNOTE 2: Void |

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| **End of changes** |