**3GPP TSG-SA5 Meeting #133e S5-205054**

**e-meeting 12th 21st October 2020**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **28.536** | **CR** | **0009** | **rev** | **-** | **Current version:** | **16.1.0** |  |
|  |
| *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 |  | Core Network |  |

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| ***Title:***  |  Clarify predicted value of the AssuranceGoalStatus |
|  |  |
| ***Source to WG:*** | Huawei |
| ***Source to TSG:*** | S5 |
|  |  |
| ***Work item code:*** | TEI16 |  | ***Date:*** | 2020-10-01 |
|  |  |  |  |  |
| ***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-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 meaning of attribute assuranceGoalStatusPredicted is defined as “the predicted value of the controlLoopGoal at the end of an observation period or of a future observation period”.There is no indication which meaning is valid for an instance of this attribute.Also, it is undefined what type and values are allowed for the attributes assuranceGoalStatusObserved and assuranceGoalStatusPredicted. |
|  |  |
| ***Summary of change:*** | Clarify the meaning of the attributes assuranceGoalStatusObserved and assuranceGoalStatusPredicted.Describe the allowed values of these attributes. |
|  |  |
| ***Consequences if not approved:*** | Unpredictable behavior due to two meanings of the same attribute and undefined allowed values. |
|  |  |
| ***Clauses affected:*** | 4.1.2.2.3, 4.1.2.4.1, B.2.1 |
|  |  |
|  | **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:*** |  |

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| **1st Change** |

##### 4.1.2.2.3 AssuranceGoalStatus

4.1.2.2.3.1 Definition

This class represents the status of the controlLoopGoal at the end of an observationPeriod. The status can be reported as actual status and predicted future status. Data that is monitored by an assuranceControlLoop includes measurements [x] and KPI's [y] and predictions that are applicable to the assuranceControlLoopGoals.

An assuranceGoalStatus holds the status of compliance to the assuranceControlLoopGoals and where applicable the predicted future compliance to the assuranceControlLoopGoals.

4.1.2.2.3.2 Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Support Qualifier | isReadable | isWritable | isInvariant | isNotifyable |
| AssuranceGoalStatusObserved | M | T | T | F | T |
|  |  |  |  |  |  |
| AssuranceGoalStatusPredicted | O | T | T | F | T |

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| **2nd Change** |

##### 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 ControlLoop. AllowedValues: Preparation, Commissioning, Operation and Decommissioning.  | type: Enummultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: None isNullable: False |
|  |  |  |
| observationTimePeriod | It indicates the time duration over which a controlLoopGoal is observed. During the observation period various observation data is collected to assess if the controlLoopGoal has been met The observation time is expressed in timeUnits. | type: Integermultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: None isNullable: False |
| timeUnit | It indicates the unit of time used to express the observationTimeAllowedValues: second, minute, hour, day | type: Enummultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: None isNullable: False |
| observationTime | It indicates the observation time expressed in number of timeUnit.  | type: Integer multiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: None isNullable: False |
| assuranceGoalStatus | It reports the compliance to the controlLoopGoal at the end of an observationPeriod. The status is reported as actual status and optionally predicted future status.  | type: <<dataType>> multiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: None isNullable: False |
| assuranceGoalStatusObserved | It indicates the actual compliance to the controlLoopGoal at the end of an observation periodallowedValues: COMPLIANT, NOT\_COMPLIANT  | type: Enum multiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: None isNullable: False |
|  |  |  |
| assuranceGoalStatusPredicted | It indicates the predicted compliance to the controlLoopGoal at the end of the next observation period. The predicted status is calculated by using a method for predicting the most likely status in the future.allowedValues: COMPLIANT, NOT\_COMPLIANT | type: Enummultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: None isNullable: False |
| NOTE 1: VOIDNOTE 2: VOID |

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| **3rd Change** |

## B.2.1 OpenAPI document "coslaNrm.yml"

openapi: 3.0.3

info:

 title: coslaNrm

 version: 16.5.0

 description:

 OAS 3.0.1 specification of the Cosla NRM

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externalDocs:

 description: 3GPP TS 28.536 V16.5.0; Cosla NRM

 url: http://www.3gpp.org/ftp/Specs/archive/28\_series/28.536/

paths: {}

components:

 schemas:

#------------ Type definitions ---------------------------------------------------

 ControlLoopLifeCyclePhase:

 anyOf:

 - type: string

 enum:

 - PREPARATION

 - COMMISSIONING

 - OPERATION

 - DECOMMISSIONING

 - type: string

 TimeUnit:

 anyOf:

 - type: string

 enum:

 - SECOND

 - MINUTE

 - HOUR

 - DAY

 - type: string

 OperationalState:

 anyOf:

 - type: string

 enum:

 - ENABLED

 - DISABLED

 - type: string

 AdministrativeState:

 anyOf:

 - type: string

 enum:

 - LOCKED

 - SHUTTING\_DOWN

 - UNLOCKED

 - type: string

 ObservationTime:

 type: integer

 ObservationTimePeriod:

 type: object

 AssuranceControlLoopGoal:

 type: object

 AssuranceGoalStatus:

 type: object

 AssuranceGoalStatusObserved:

 type: string

 enum:

 - COMPLIANT

 - NOT\_COMPLIANT

 AssuranceGoalStatusPredicted:

 type: string

 enum:

 - COMPLIANT

 - NOT\_COMPLIANT

#-------- Definition of concrete IOCs --------------------------------------------

 AssuranceControlLoop-Single:

 allOf:

 - $ref: 'genericNrm.yaml#/components/schemas/SubNetwork-Attr'

 - type: object

 properties:

 operationalState:

 $ref: '#/components/schemas/OperationalState'

 administrativeState:

 $ref: '#/components/schemas/AdministrativeState'

 controlLoopLifeCyclePhase:

 $ref: '#/components/schemas/ControlLoopLifeCyclePhase'

 observationTimePeriod:

 allOf:

 - $ref: '#/components/schemas/ObservationTimePeriod'

 - type: object

 properties:

 observationTime:

 $ref: '#/components/schemas/ObservationTime'

 timeUnit:

 $ref: '#/components/schemas/TimeUnit'

 AssuranceGoalStatus:

 allOf:

 - $ref: '#/components/schemas/AssuranceGoalStatus'

 - type: object

 properties:

 assuranceGoalStatusObserved:

 $ref: '#/components/schemas/AssuranceGoalStatusObserved'

 assuranceGoalStatusPredicted:

 $ref: '#/components/schemas/AssuranceGoalStatusPredicted'

 required:

 - assuranceGoalStatusObserved

 managedEntity-Multiple:

 $ref: '#/components/schemas/ManagedEntity-Multiple'

 assuranceControlLoopGoal:

 $ref: '#/components/schemas/AssuranceControlLoopGoal'

 ManagedEntity-Single:

 oneOf:

 - $ref: 'sliceNrm.yaml#/components/schemas/NetworkSlice'

 - $ref: 'sliceNrm.yaml#/components/schemas/NetworkSliceSubnet'

 - $ref: 'genericNrm.yaml#/components/schemas/ManagedFunction-Attr'

 - $ref: 'genericNrm.yaml#/components/schemas/ManagedElement-Attr'

#-------- Definition of JSON arrays for name-contained IOCs ----------------------

 AssuranceControlLoop-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/AssuranceControlLoop-Single'

 ManagedEntity-Multiple:

 type: array

 items:

 $ref: '#/components/schemas/ManagedEntity-Single'

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| **End of changes** |