**3GPP TSG-SA5 Meeting #140-e S5-221134**

**e-meeting, January 17 – 26 2022**

**Source: Huawei, China Mobile, China Unicom, Deutsche Telekom, Orange**

**Title: Update RadioNetworkExpectation in clause 6.2.1.2.4**

**Document for: Approval**

**Agenda Item: 6.4.9**

# 1 Decision/action requested

***The group is asked to discuss and approval.***

# 2 References

[1] 3GPP draft TS 28.312: “Management and orchestration; Intent driven management services for mobile networks v0.7.0”.

# 3 Rationale

This contribution proposes to update RadioNetworkExpectation in clause 6.2.1.2.4 to align with the common structure for all domain/scenario specific intent expectations in 6.2.1.2.2.

# 4 Detailed proposal

It proposes to make the following changes to TS 28.312[1].

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

# 6.4 Scenario specific IntentExpectation

### 6.4.1 Radio Network Expectation

#### 6.4.1.1 Definition

Radio Network Expectation is an IntentExpectation which can be used to represent MnS consumer's expectations for radio network (RAN SubNetwork) delivering and performance assurance.

The Radio Network Expectation is defined by utilizing the construct of the generic IntentExpectation <<dataType>> with set of allowed values and concrete dataTypes specified.

 Following are the specific allowed values when implemented the IntentExpectation for Radio Network Expectation.

|  |  |
| --- | --- |
| **Attribute Name**  | **Allowed Values** |
| objectType (CM) | RAN SubNetwork  |
| objectInstance (CM) | DN of the RAN SubNetwork |
|  |  |
|  |  |

Note: following are the qualifier description for attribute "objectType" and "objectInstance":

- In case of the intent expectation is not for a specific RAN SubNetwork instance or/and MnS consumer have no knowledge of the DN of this RAN SubNetwork instance, the attribute "objectType" needs to be specified;

- In case of the intent expectation is for a specific RAN SubNetwork instance and MnS consumer have the knowledge of the DN of this RAN SubNetwork instance, the attribute "objectInstance" needs to specified.

#### 6.4.1.2 ObjectContexts

Following provides the concrete ObjectContexts for Radio Network Expectation based on the common structure of ObjectContext. The properties of the attributes in the following table should be same with properties of ObjectContexts defined in clause 6.2.1.3

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute Name | Support Qualifier | isReadable  | isWritable | isInvariant | isNotifyable |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| coverageAreaPolygonContext | O | T | T | F | F |
| coverageTACContext | O | T | T | F | F |
| pLMNContext | O | T | T | F | F |
| nRFqBandContext | O | T | T | F | F |
| rATContext | O | T | T | F | F |

#### 6.4.1.3 ExpectationTargets

Following provides the concrete ExpectationTargets for Radio Network Expectation based on the common structure of ExpectationTarget. The properties of the attributes in the following table should be same with properties of ExpectationTargets defined in clause 6.2.1.3

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute Name | Support Qualifier | isReadable  | isWritable | isInvariant | isNotifyable |
| WeakRSRPRatioTarget  | O | T | T | F | F |
| LowSINRRatioTarget | O | T | T | F | F |
| AveULRANUEThptTarget | O | T | T | F | F |
| AveDLRANUEthptTarget | O | T | T | F | F |
| LowULRANUEThptRatioTarget | O | T | T | F | F |
| LowDLRANUEThptRatioTarget | O | T | T | F | F |

#### 6.4.X Attribute definition

| Attribute Name | Documentation and Allowed Values | Properties |
| --- | --- | --- |
|  |  |  |
|  |  |  |
| coverageAreaPolygonContext | It describes the coverage areas for the RAN SubNetwork that the intent expectation is applied in the form of polygon.CoverageAreaPolygonContext is a Context including attributes: contextAtrribute, contextCondition and contextValueRange. Following are the allowed values:-contextAttribute: "CoverageAreaPolygon"-contextCondition: "With the range"-contextValueRange: a list of CoverageArea defined in TS 28.541  | type: Contextmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: FalseisNullable: True |
| coverageTACContext | It describes the coverage areas for the RAN SubNetwork that the intent expectation is applied in the form of TAC.CoverageTACContext is a Context including attributes: contextAttribute, contextCondition and contextValueRange.Following are the allowed values:-contextAttribute: "CoverageAreaTAC"-contextCondition: "With the range"-contextValueRange: a list of nRTAC defined in TS 28.541 | type: Contextmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: FalseisNullable: True |
| plMNContext | It describes the PLMN(s) supported by the RAN SubNetwork that the intent expectation is applied.PLMNContext is a Context including attributes: contextAtrribute, contextCondition and contextValueRange.Following are the allowed values:-contextAttribute: "PLMN"-contextCondition:"With the range"-contextValueRange: a list of PLMNId defined in TS 28.541 | type: Contextmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: FalseisNullable: True |
| nRFqBandContext | It describes the nRFqBands supported by the RAN SubNetwork that the intent expectation is applied.nRFqBandContext is a Context including attributes: contextAtrribute, contextCondition and contextValueRange.Following are the allowed values:-contextAttribute: "NRFqBand"-contextCondition: "With the range"-contextValueRange: a list of NRFqBand expressed as string. Valid frequency band values are specified in sub-clause 5.4.2 in 3GPP TS 38.104. | type: Contextmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: FalseisNullable: True |
| rATContext | It describes the RAT supported by the RAN SubNetwork that the intent expectation is applied.RATContext is a Context including attributes: contextAtrribute, contextCondition and contextValueRange.Following are the allowed values:-contextAttribute: "RAT"-contextCondition: "With the range"-contextValueRange: a list of ENUM with allowed value: UTRAN, EUTRAN and NR. | type: Contextmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: FalseisNullable: True |
| WeakRSRPRatioTarget | It describes the downlink weak coverage ratio target for the RAN SubNetwork that the intent expectation is applied.WeakRSRPRatioTarget is an ExpectationTarget including attributes: targetName, targetCondition and targetValueRange.Following are the allowed values:-targetName: "WeakRSRPRatio"-targetCondition: "is less than"-targetValueRange: integer with allowed value [0,100].-targetContext: WeakRSRPContext | type: ExpectationTargetmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: FalseisNullable: True |
| WeakRSRPRatioTarget.WeakRSRPContext | It describes the threshold for downlink weak RSRP of the RAN SubNetwork that the intent expectation is applied.WeakRSRPContext is a Context including attributes: contextAtrribute, contextCondition and contextValueRange.Following are the allowed values:-contextAttribute: "WeakRSRPThreshold"-contextCondition: "is less than"-contextValueRange: Float. | type: Contextmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: FalseisNullable: True |
| LowSINRRatioTarget | It describes the low SINR ratio target for the RAN SubNetwork that the intent expectation is applied. LowSINRRatioTarget is an ExpectationTarget including attributes: targetName, targetCondition and targetValueRange.Following are the allowed values:-targetName: "WeakRSRPRatio"-targetCondition: "is less than"-targetValueRange: integer with allowed value [0,100].- targetContext: LowSINRContext | type:ExpectationTargetmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: FalseisNullable: True |
| LowSINRRatioTarget.LowSINRContext | It describes the threshold for low SINR for RAN SubNetwork that the intent expectation is applied.LowSINRContext is a Context including attributes: contextAtrribute, contextCondition and contextValueRange.Following are the allowed values:-contextAttribute: "LowSINRThreshold"-contextCondition: "is less than"-contextValueRange: integer. | type: Contextmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: FalseisNullable: True |
| AveULRANUEThptTarget | It describes the average UL RAN UE throughput target for RAN SubNetwork that the intent expectation is applied.AveULRANUEThptTarget is an ExpectationTarget including attributes: targetName, targetCondition and targetValueRange.Following are the allowed values:-targetName: "AveULRANUEThpt"-targetCondition: "is greater than"-targetValueRange: integer | type: ExpectationTargetmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: FalseisNullable: True |
| AveDLRANUEThptTarget | It describes the average DL RAN UE throughput target for RAN SubNetwork that the intent expectation is applied.AveDLRANUEThptTarget is an ExpectationTarget including attributes: targetName, targetCondition and targetValueRange.Following are the allowed values:-targetName: "AveDLRANUEThpt"-targetCondition: "is greater than"-targetValueRange: integer | type: ExpectationTargetmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: FalseisNullable: True |
| LowULRANUEThptRatioTarget | It describes the low UL RAN UE throughput ratio target for the RAN SubNetwork that the intent expectation is applied. LowULRANUEThptRatioTarget is an ExpectationTarget including attributes: targetName, targetCondition and targetValueRange.Following are the allowed values:-targetName: "LowULRANUEThptRatio"-targetCondition: "is less than"-targetValueRange: integer with allowed value [0,100].-targetContext: LowULRANUEThptContext | type: ExpectationTargetmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: FalseisNullable: True |
| LowULRANUEThptRatioTarget.LowULRANUEThptContext | It describes the threshold for the low UL RAN UE throughput of the RAN SubNetwork that the intent expectation is applied LowULRANUEThptContext is a Context including attributes: contextAtrribute, contextCondition and contextValueRange.Following are the allowed values:-contextAttribute: "LowULRANUEThptThreshold"-contextCondition: "is less than"-contextValueRange: Float. | type: Contextmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: FalseisNullable: True |
| LowDLRANUEThptRatioTarget | It describes the low DL RAN UE throughput ratio target for the RAN SubNetwork that the intent expectation is applied. LowDLRANUEThptRatioTarget is an ExpectationTarget including attributes: targetName, targetCondition and targetValueRange.Following are the allowed values:-targetName: "LowDLRANUEThptRatio"-targetCondition: "is less than"-targetValueRange: integer with allowed value [0,100].-targetContext: LowDLRANUEThptContext | type: ExpectationTargetmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: FalseisNullable: True |
| LowDLRANUEThptRatioTarget.LowDLRANUEThptContext | It describes the threshold for the low DL RAN UE throughput of the RAN SubNetwork that the intent expectation is applied LowDLRANUEThptContext is a Context including attributes: contextAtrribute, contextCondition and contextValueRange.Following are the allowed values:-contextAttribute: "LowDLRANUEThptThreshold"-contextCondition: "is less than"-contextValueRange: Float. | type: Contextmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: FalseisNullable: True |

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| **End of changes** |