**3GPP TSG SA WG5 Meeting #138e S5-214461**

**Online, , 23 Aug 2021- 31 Aug 2021**

**Source: Samsung, Huawei**

**Title: pCR 28.538 Edge NRM**

**Document for: Approval**

**Agenda Item: 6.4.21**

# 1 Decision/action requested

***The group is asked to discuss and approve the proposals.***

# 2 References

None

# 3 Rationale

The NRM fragment for edge need to be defined as depicted in 28.814. This is the introduction of edge NRM fragment

# 4 Detailed proposal

|  |
| --- |
| **First modification** |

Y. Edge NRM

Y.1 Information Model definitions for Edge NRM

## Y.1 Imported information entities and local labels

|  |  |
| --- | --- |
| Label reference | Local label |
| TS 28.622 [30], IOC, Top | Top |
| TS 28.622 [30], IOC, SubNetwork | SubNetwork |
| TS 28.622 [30], IOC, ManagedFunction | ManagedFunction |
|  |  |

## Y.2 Class diagram

### Y.2.1 Relationships



### Figure Y.2.1-2 Edge NRM containment/naming relationship

### Y.2.2 Inheritance



### Figure Y.2.2-1 Edge Inheritance Relationship

## Y.3 Class definition



Y.3.1 EASFunction

Y.3.1.1 Definition

This IOC represent the properties of a EAS in a 3GPP network. For more information about EAS, see 3GPP TS 23.558.

Y.3.1.2 Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Support Qualifier | isReadable | isWritable | isInvariant | isNotifyable |
| eASRequirements | M | T | T | F | T |
|  |  |  |  |  |  |
| eASProfile | M | T | T | F | T |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

#### Y.3.1.3 Attribute constraints

#### Y.3.1.4 Notifications

The common notifications defined in subclause Y.3 are valid for this IOC, without exceptions or additions.

Y.3.2 EASRequirements <<datatype>>

Y.3.2.1 Definition

This datatype represent the deployment requirements of an EAS which need to be considered during EASFunction instantiation.

Y.3.2.2 Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Support Qualifier | isReadable | isWritable | isInvariant | isNotifyable |
| requiredEASservingLocation | M | T | F | F | T |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

#### Y.3.2.3 Attribute constraints

#### Y.3.2.4 Notifications

The common notifications defined in subclause Y.3 are valid for this IOC, without exceptions or additions.

Y.3.3 ServingLocation <<datatype>>

Y.3.3.1 Definition

This datatype represent the location which is to be served by the node.

Y.3.3.2 Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Support Qualifier | isReadable | isWritable | isInvariant | isNotifyable |
| geographicalLocation | CM | T | F | F | T |
| topologicalLocation | CM | T | F | F | T |
|  |  |  |  |  |  |

#### Y.3.3.3 Attribute constraints

|  |  |
| --- | --- |
| Name | Definition |
| geographicalLocation Support Qualifier | Condition: either geographicalLocation or topologicalLocation shall be present. |
| topologicalLocation Support Qualifier | Condition: either geographicalLocation or topologicalLocation shall be present. |

#### Y.3.3.4 Notifications

The common notifications defined in subclause Y.3 are valid for this IOC, without exceptions or additions.

Y.3.4 EASProfile <<datatype>>

Y.3.1.1 Definition

This IOC represent the EAS profile, see 3GPP TS 23.558.

Y.3.1.2 Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Support Qualifier | isReadable | isWritable | isInvariant | isNotifyable |
| eASservingLocation | M | T | T | F | T |
| eASProvider | O | T | T | F | T |
| eASType | O | T | T | F | T |
| eASDescription | O | T | T | F | T |
|  |  |  |  |  |  |

#### Y.3.1.3 Attribute constraints

#### Y.3.1.4 Notifications

The common notifications defined in subclause Y.3 are valid for this IOC, without exceptions or additions.

Y.3.5 GeoLoc <<datatype>>

Y.3.5.1 Definition

This datatype represent the geographical location.

Y.3.5.2 Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Support Qualifier | isReadable | isWritable | isInvariant | isNotifyable |
| geoPoint | CM | T | T | F | T |
| civicAddress | CM | T | T | F | T |

#### Y.3.5.3 Attribute constraints

|  |  |
| --- | --- |
| Name | Definition |
| geoPoint Support Qualifier | Condition: either geoPoint or civicAddress shall be present. |
| civicAddress Support Qualifier | Condition: either geoPoint or civicAddress shall be present. |

#### Y.3.5.4 Notifications

The common notifications defined in subclause Y.3 are valid for this IOC, without exceptions or additions.

Y.3.6 GeoP <<datatype>>

Y.3.6.1 Definition

This datatype represent the geographical location.

Y.3.6.2 Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Support Qualifier | isReadable | isWritable | isInvariant | isNotifyable |
| lat | M | T | T | F | T |
| long | M | T | T | F | T |

#### Y.3.6.3 Attribute constraints

#### Y.3.6.4 Notifications

The common notifications defined in subclause Y.3 are valid for this IOC, without exceptions or additions.

Y.3.7 TopoLoc <<datatype>>

Y.3.7.1 Definition

This datatype represent the topological location.

Y.3.7.2 Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Support Qualifier | isReadable | isWritable | isInvariant | isNotifyable |
| cellID | O | T | T | F | T |
| tAI | O | T | T | F | T |
| pLMNID | O | T | T | F | T |

#### Y.3.7.3 Attribute constraints

#### Y.3.7.4 Notifications

The common notifications defined in subclause Y.3 are valid for this IOC, without exceptions or additions.

## Y.2 Attribute definition

Y.2.1 Attribute Properties

| Attribute Name | Documentation and Allowed Values | Properties |
| --- | --- | --- |
|  |  |  |
| eASREquirements | It defines the deployment requirement of an EAS. | type: EASRequirements  multiplicity: 1  isOrdered: N/A  isUnique: True  defaultValue: None  isNullable: False |
| eASservingLocation | It defines the serving location for an EAS. | type: ServingLocation  multiplicity: 1..\*  isOrdered: N/A  isUnique: True  defaultValue: None  isNullable: False |
| eASProvider | It defines the EAS Provider Identifier, see 3GPP TS 23.558. | type: String  multiplicity: 1  isOrdered: N/A  isUnique: True  defaultValue: None  isNullable: False |
| eASType | It defines the EAS Type, see 3GPP TS 23.558. | type: String  multiplicity: 1  isOrdered: N/A  isUnique: True  defaultValue: None  isNullable: False |
| eASDescription | It defines the EAS description, see 3GPP TS 23.558. | type: Sting  multiplicity: 1  isOrdered: N/A  isUnique: True  defaultValue: None  isNullable: False |
| requiredEASservingLocation | It defines the location where the EAS service should be available. | type: ServingLocation  multiplicity: 1..\*  isOrdered: N/A  isUnique: True  defaultValue: None  isNullable: False |
|  |  |  |
| topologicalLocation | This refers to the Topological Service Area, see 3GPP TS 23.558. | type: TopoLoc  multiplicity: 1  isOrdered: N/A  isUnique: True  defaultValue: None  isNullable: False |
| geographicalLocation | This refers to the Geographical Service Area, see 3GPP TS 23.558. | type: GeoLoc  multiplicity: 1  isOrdered: N/A  isUnique: True  defaultValue: None  isNullable: False |
| eASProfile | This refers to the EAS profile, see 3GPP TS 23.558 | type: EASProfile  multiplicity: 1  isOrdered: N/A  isUnique: True  defaultValue: None  isNullable: False |
| geoPoint | This defines the location in terms of latitude and longitude. | type: geoP  multiplicity: 1  isOrdered: N/A  isUnique: True  defaultValue: None  isNullable: False |
| lat | This defines the single latitude coordinate. | type: Float  multiplicity: 1  isOrdered: N/A  isUnique: True  defaultValue: None  isNullable: False |
| long | This defines the single longtitude coordinate. | type: Float  multiplicity: 1  isOrdered: N/A  isUnique: True  defaultValue: None  isNullable: False |
| civicAddress | This defines the location in terms of a civic address | type: String  multiplicity: 1  isOrdered: N/A  isUnique: True  defaultValue: None  isNullable: False |
| cellID | The list of cell IDs defining the topological service area | type: String  multiplicity: 1..\*  isOrdered: N/A  isUnique: True  defaultValue: None  isNullable: False |
| tAI | The list of Tracking Area IDs defining the topological service area | type: String  multiplicity: 1..\*  isOrdered: N/A  isUnique: True  defaultValue: None  isNullable: False |
| pLMNID | The list of PLMN IDs defining the topological service area | type: String  multiplicity: 1..\*  isOrdered: N/A  isUnique: True  defaultValue: None  isNullable: False |
|  |  |  |











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| **End of first modification** |