**3GPP TSG-SA5 Meeting #155 *S5-* *2442927REV1***

**Jeju, , -**

**Source: Ericsson India Private Limited**

**Title: DP Correct naming inconsistencies**

**Document for: Endorsement**

**Agenda Item: 5.2 - Technical issues at SA5 level**

# 1 Decision/action requested

***The group to discuss and endorse the proposal.***

# 2 References

[1] 3GPP TR 32.160 “Management and orchestration; Management service template”.

[2] 3GPP TR 32.156 “Telecommunication management; Fixed Mobile Convergence (FMC)Model repertoire”.

[3] 3GPP TS 29.501 “Principles and Guidelines for Services Definition; Stage 3”

[4] 3GPP TS 28.622 “Generic Network Resource Model (NRM)Integration Reference Point (IRP); Information Service (IS)”

# 3 Rationale

Inconsistencies have been found in the naming of the NRM model elements (attributes, attribute fields, data types), there are recommendations defined in 32.156 [2].

SA5 specification [2] clause 5.1a defines naming of Information Object Classes, attributes, attribute fields as follow:

- Names shall include only upper and lower case (7-bit) ASCII letters, digits and underscore

- Names shall start with an (7-bit) ASCII letter

- Names that are different only in capitalization shall not be used.

- Identifiers should not be longer than 64 characters.

 Please note that [2] Annex G recommends the use of camelCase.

In clause 5.2.1.3 Name style, it is stated :

Well Known Abbreviation (WKA) is treated as a word if used in a name. However, WKA shall be used as is (its letter case cannot be changed) except when it is the first word of a name; and if so, its first letter must be in lower case.

In 3GPP TS 29.501 [3] clause 5.1 the UCC and LCC conventions (used for IOC and attribute names) indicate only the use of upper, lower case , upperCamel and lowerCamel.

## Potential issue

In SA5 specifications it is not uncommon that the name of model elements (attributes, attribute fields, data types) are misspelled in stage 2 , as well as its mirror definition is stage 3. Ideally the stage 2 should use a name consistently and both YANG and YAML should use the same name. Practically even stage 2 definitions can be inconsistent and YANG and YAML may use different names. A very common mistake is to use different capitalization in different places.

For example, In 28.622 [4] Stage 2 clause 4.3.59.2 attribute collectionPeriodRrmLte .

#### 4.3.59.2 Attributes

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | S | isReadable | isWritable | isInvariant | isNotifyable |
| listOfMeasurements | M | T | T | F | T |
| reportingTrigger | CM | T | T | F | T |
| reportInterval | CM | T | T | F | T |
| reportAmount | CM | T | T | F | T |
| eventThreshold | CM | T | T | F | T |
| collectionPeriodRrmNr | CM | T | T | F | T |
| collectionPeriodM6Nr | CM | T | T | F | T |
| collectionPeriodM7Nr | CM | T | T | F | T |
| collectionPeriodRrmLte | CM | T | T | F | T |
| measurementPeriodLte | CM | T | T | F | T |
| collectionPeriodM6Lte | CM | T | T | F | T |
| collectionPeriodM7Lte | CM | T | T | F | T |
| eventThresholdUphUmts | CO | T | T | F | T |
| collectionPeriodRrmUmts | CM | T | T | F | T |
| measurementPeriodUmts | CM | T | T | F | T |
| measurementQuantity | CM | T | T | F | T |
| beamLevelMeasurement | CM | T | T | F | T |
| positioningMethod | O | T | T | F | T |
| excessPacketDelayThresholds | CO | T | T | F | T |
| reportAmountM1LTE | CM | T | T | F | T |
| reportAmountM4LTE | CM | T | T | F | T |
| reportAmountM5LTE | CM | T | T | F | T |
| reportAmountM6LTE | CM | T | T | F | T |
| reportAmountM7LTE | CM | T | T | F | T |
| reportAmountM1NR | CM | T | T | F | T |
| reportAmountM4NR | CM | T | T | F | T |
| reportAmountM5NR | CM | T | T | F | T |
| reportAmountM6NR | CM | T | T | F | T |
| reportAmountM7NR | CM | T | T | F | T |

In the same document clause 4.4.1 for Attribute properties , this attribute is then defined collectionPeriodRRMLTE.

…

|  |  |  |
| --- | --- | --- |
| collectionPeriodRRMLTE | It specifies the collection period for collecting RRM configured measurement samples for M3 in LTE. The attribute is applicable only for Immediate MDT. In case this attribute is not used, it carries a null semantic.See the clause 5.10.20 of 3GPP TS 32.422 [30] for additional details on the allowed values. | type: ENUMmultiplicity: 1isOrdered: N/AisUnique: N/AdefaultValue: None isNullable: True |

…

For Stage 3 the definitions are:

Yang:

…

leaf collectionPeriodRRMLTE {

 when 'jobType = "IMMEDIATE\_MDT\_ONLY"'

 + ' or jobType = "IMMEDIATE\_MDT\_AND\_TRACE"';

 type uint32 {

 range "250|500|1000|2000|3000|4000|6000|8000|12000|16000|20000|"

 +"24000|28000|32000|64000";

 }

…

Yaml:

…

 collectionPeriodRrmLte-Type:

 description: See details in 3GPP TS 32.422 clause 5.10.20.

 type: string

 enum:

…

This issue has been seen in several specification and forge.

Ideally all appearances of such names should be corrected both in stage 2 and stage 3, however changing such model element names is a non-backwards compatible change.

## Conclusion

The above issue needs to be confirmed by SA5.

A decision needs to be made to address the issue in Stage 2 and/ or Stage 3.

# 5 Detailed proposal

The group is asked to endorse that this issue needs to be resolved.

If endorsed, CRs will be submitted to SA5#156 to address this as follows:

* Updates for TS 32.156 with clear rules on:
	+ the usage of camelCase naming convention
	+ Clarify that no two model elements shall have the same name when comparing them in a case insensitive manner.
* Updates for TS 32.160 to make clear the usage of camelCase with:
	+ the attribute table definition in i.e IOC, dataTypes and Choice clauses shall the normative definition of an attribute or attribute fields name, and should be reflected in the Attribute Properties table and attribute constrains table.
* Updates will need to be applied accordingly in stage 2 and stage3 for consistency of naming of Information Object Classes, attributes, attribute fields for the applicable specifications:
	+ If an error is found in a frozen release where a model element is misspelled, but the only difference is the capitalization of the letters, this shall not be corrected. It shall be corrected in the next release only.

For the group to agree that this issue need to be resolved in the following releases:

* Rel-18 applicable only for stage 2
* Rel-19 stage 3 (if applicable for SA5#156)