**3GPP TSG-SA5 Meeting #146Bis-e *S5-231114***

Electronic meeting, 16 - 19 January 2023

**Source: Ericsson**

**Title: Adding solutions to undefined attribute handling in CDR**

**Document for: Approval**

**Agenda Item: 7.5.2**

# 1 Decision/action requested

**Include the proposed changes in TR 28.826.**

# 2 References

[1] 3GPP TR 28.826: " Study on Nchf charging services phase 2 improvements and optimizations"

# 3 Rationale

Adding solutions on CDR attribute handling in clause 5.1 for key issues #1h and #1i covering requirement REQ-CH\_INFO-04.

# 4 Detailed proposal

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| **First change** |

#### 5.1.5.x Solution #1.x New attribute on all levels of the CDR structure

A possible solution for key issues #1h and #1i covering requirement REQ-CH\_INFO-04, support undefined attributes and values in CDR.

Adding a new attribute for storing undefined attributes and values, to all grouped attributes in the CDR where an undefined attribute or attribute value could occur. This new field, undefinedAttribute, is defined in clause 5.1.5.x.1.

##### 5.1.5.x.1 Undefined attribute

This field consists of two parts, the resource and the value.

The resource would contain the path and name of the resource attribute e.g., “/multipleUnitUsage/usedUnitContainer/pDUContainerInformation/rATType”

The value would contain the actual the value of the attribute as a string, since all attributes (for openAPI) would be possible to represent as a string e.g., "NR\_GEO".

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| **Second change** |

#### 5.1.5.y Solution #1.y New attribute in the ChargingRecord, using sequence number for multiple attributes

A possible solution for key issues #1h and #1i covering requirement REQ-CH\_INFO-04, support undefined attributes and values in CDR.

Adding a new attribute or sequence of attributes directly in in the ChargingRecord for storing undefined attributes and values. To be able to find in which part of the CDR the attribute belongs both the full resource path as well as a sequence number is needed, the sequence number would refer to which array item the undefined attribute belonged in the case of it being with in an attribute having multiple occurrences e.g., a “SEQUENCE OF”, in the CDR.

The ChargingRecord would contain a new field undefinedInformation defined in clause 5.x.5.2.1.

##### 5.1.5.y.1 Undefined Information

This field consists of three parts, the API name, API version and undefined attribute array.

The API name would contain the service API name i.e., Nchf\_ConvergedCharging or Nchf\_OfflineOnlyCharging.

The API version: the version of the service API e.g., 3.1.1

The undefined attribute array would be array of the undefined attribute as defined in clause 5.x.5.1.1 with the addition of a sequence number reference.

The sequence number reference would identify the specific occurrence in an array that the undefined attribute would belong to e.g., LocalSequenceNumber in the MultipleQFIContainer and UsedUnitContainer.

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| **Third change** |

#### 5.1.5.z Solution #1.z New attribute in the ChargingRecord, using hash value for multiple attributes

A possible solution for key issues #1h and #1i covering requirement REQ-CH\_INFO-04, support undefined attributes and values in CDR.

Adding a new attribute or sequence of attributes directly in in the ChargingRecord for storing undefined attributes and values. To be able to find in which part of the CDR the attribute belongs both the full resource path as well as a hash value for the specific array occurrence, the hash value would be calculated from the attributes and values of a specific array item and thereby uniquely identifying this array item.

The ChargingRecord would contain a new field undefinedInformation defined in clause 5.x.5.3.1.

##### 5.1.5.z.1 Undefined Information

This field consists of three parts, the API name, API version and undefined attribute array.

The API name would contain the service API name i.e., Nchf\_ConvergedCharging or Nchf\_OfflineOnlyCharging.

The API version: the version of the service API e.g., 3.1.1

The undefined attribute array where each item in the array would consist of undefined attribute as defined in clause 5.x.5.1.1 with the addition of a hash value reference. The hash value reference would uniquely identify the specific occurrence in an array where the undefined attribute would belong e.g., if an attribute could not be added to one item in the array of NGRANSecondaryRATUsageReports then the hash value would be created based on the attributes and values that could be stored.

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| **End of changes** |