**3GPP TSG-CT WG4 Meeting #96C4-200590**

**E-Meeting, 24th – 28th February 2020**

**Source: Huawei**

**Title: Pseudo-CR on Small Data Rate**

**Spec: 3GPP TS 29.541**

**Agenda item: 6.2.4**

**Document for: Decision**

**1. Introduction**

None

**2. Reason for Change**

In TS23.501 clause 5.31.14.3 Small Data Rate Control, we can read:

"*At subsequent establishment of a new PDU Session, the (H-)SMF may receive the previously stored Small Data Rate Control Status and if the validity period has not expired, it provides the parameters to the UE in the PCO and to the UPF/NEF as the initially applied parameters, in addition to the configured Small Data Rate Control parameters. If the initially applied parameters are provided, the UE and UPF or NEF use the configured Small Data Rate Control parameters once the initially applied Small Data Rate Control validity period expires.*"

*"The rate control information is separate for uplink and downlink and in the form of:*

*- an integer 'number of packets per time unit', and*

*- an integer 'number of additional allowed exception report packets per time unit' once the rate control limit has been reached."*

Based on the information above,

- Small Data Rate Control Status should be included in Nnef\_SMContext Service Create Service Operation if it is available.

- Small Data Rate Control parameters should include *number of packets per time unit* and *number of additional allowed exception report packets per time unit* for both uplink and downlink

**3. Conclusions**

Include Small Data Rate Control Status in request message of Nnef\_SMContext Service Create Service Operation.

Include *number of packets per time unit* and *number of additional allowed exception report packets per time unit* for both uplink and downlink in data model of SmallDataRateControl.

Add "6MINUTES" in SmallDataRateControlTimeUnit for consistency with 29.244 and N1 interface.

**4. Proposal**

It is proposed to agree the following changes to 3GPP TS 29.541 v1.0.0

\* \* \* First Change \* \* \* \*

##### 6.1.6.2.8 Type: SmContextConfiguration

Table 6.1.6.2.8-1: Definition of type SmContextConfiguration

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| smalDataRateControl | SmallDataRateControl | O | 0..1 | When present, this IE shall contain the configured Small Data Rate Control for downlink data, as specified in clause 5.31.14.3 of 3GPP TS 23.501 [2]. |  |
| smallDataRateStatus | SmallDataRateStatus | C | 0..1 | This IE shall contain the Small Data Rate Status if the Small Data Rate Status is available (see clause 5.31.14.3 of 3GPP TS 23.501 [2]). |  |
| servPlmnDataRateCtl | integer | O | 0..1 | When present, this IE shall contain the maximum allowed number of Downlink NAS Data PDUs per deci hour of the serving PLMN, as specified in clause 5.31.14.2 of 3GPP TS 23.501 [2].Minimum: 10 |  |
| NOTE: At least one of the attributes in the table shall be present. |

\* \* \* Next Change \* \* \* \*

##### 6.1.6.2.9 Type: SmallDataRateControl

Table 6.1.6.2.8-1: Definition of type SmallDataRateControl

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
|  |  |  |  |  |  |
| timeUnit | SmallDataRateControlTimeUnit | M | 1 | This IE shall indicate the time unit for which the data rate control is applied. |  |
| maxPacketRateUl | integer | O | 0..1 | If present, this IE shall indicate the maximum number of uplink packets allowed to be sent within the time unit.(NOTE 1) |  |
| maxPacketRateDl | integer | O | 0..1 | If present, this IE shall indicate the maximum number of downlink packets allowed to be sent within the time unit.(NOTE 1) |  |
| maxAdditionalPacketRateUl | integer | O | 0..1 | If present, this IE shall indicate the additional maximum number of uplink packets allowed to be sent within the time unit.(NOTE 2) |  |
| maxAdditionalPacketRateDl | integer | O | 0..1 | If present, this IE shall indicate the additional maximum number of downlink packets allowed to be sent within the time unit.(NOTE 3) |  |
| NOTE 1: At least one of parameters maxPacketRateUl, or maxPacketRateDl should be included.NOTE 2: Parameter maxAdditionalPacketRateUl should be absent if parameter maxPacketRateUl is absent.NOTE 3: Parameter maxAdditionalPacketRateDl should be absent if parameter maxPacketRateDl is absent. |

\* \* \* Next Change \* \* \* \*

##### 6.1.6.3.4 Enumeration: SmallDataRateControlTimeUnit

The enumeration SmallDataRateControlTimeUnit represents the allowed time unit. It shall comply with the provisions defined in table 6.1.5.3.3-1.

Table 6.1.6.3.4-1: Enumeration SmallDataRateControlTimeUnit

|  |  |  |
| --- | --- | --- |
| Enumeration value | Description | Applicability |
| "MINUTE" | Indicates the rate control is applied per minute. |  |
| "HOUR" | Indicates the rate control is applied per hour. |  |
| "DAY" | Indicates the rate control is applied per day. |  |
| "WEEK" | Indicates the rate control is applied per week. |  |
| "6MINUTES" | Indicates the rate control is applied per 6 minutes. |  |

\* \* \* Next Change \* \* \* \*

## A.2 Nnef\_SMContext API

openapi: 3.0.0

***(… text not shown for clarity …)***

 SmContextConfiguration:

 type: object

 properties:

 smalDataRateControl:

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

 smallDataRateStatus:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/SmallDataRateStatus'

 servPlmnDataRateCtl:

 type: integer

 description: >

 When present, this IE shall contain the maximum allowed number of

 Downlink NAS Data PDUs per deci hour of the serving PLMN, as specified

 in subclause 5.31.14.2 of 3GPP TS 23.501 [2].

 Minimum 10

 SmallDataRateControl:

 type: object

 properties:

 timeUnit:

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

 maxPacketRateUl:

 type: integer

 maxPacketRateDl:

 type: integer

 maxAdditionalPacketRateUl:

 type: integer

 maxAdditionalPacketRateDl:

 type: integer

 required:

 - timeUnit

***(… text not shown for clarity …)***

#

# Enumeration Data Types

#

 SmContextStatus:

 anyOf:

 - type: string

 enum:

 - "RELEASED"

 - type: string

 description: >

 This string provides forward-compatibility with future

 extensions to the enumeration but is not used to encode

 content defined in the present version of this API.

 description: >

 Possible values are

 - "RELEASED": Indicates that the Individual SM Context for NIDD is released.

 SmallDataRateControlTimeUnit:

 anyOf:

 - type: string

 enum:

 - "MINUTE"

 - "HOUR"

 - "DAY"

 - "WEEK"

 - "6MINUTES"

 - type: string

 description: >

 This string provides forward-compatibility with future

 extensions to the enumeration but is not used to encode

 content defined in the present version of this API.

 description: >

 Possible values are

 - "MINUTE": Indicates the rate control is applied per minute.

 - "HOUR": Indicates the rate control is applied per hour.

 - "DAY": Indicates the rate control is applied per day.

 - "WEEK": Indicates the rate control is applied per week.

 - "6MINUTES": Indicates the rate control is applied per 6 minutes.

***(… text not shown for clarity …)***

\* \* \* End of Changes \* \* \* \*