**3GPP TSG-CT WG3 Meeting #122-eC3-223165**

**E-Meeting, 12th – 20th May 2022**

**Source: Nokia, Nokia Shanghai Bell**

**Title: Pseudo-CR on the MBS QoS information and its association with the Rule.**

**Spec: 3GPP TS 29.537 V0.2.0**

**Agenda item: 17.31 (5MBS)**

**Document for: Approval**

**1. Introduction**

TS 29.537 has been allocated under the 5MBS work item to define the MBS Policy Control services.

**2. Reason for Change**

MBS QoS information and its association with the Rule for Npcf\_MBSPolicyControl\_Create service operation needs to be specified.

Stage 2 requirements for policy data are defined in TS 23.247:

## *6.10    Policy control for Multicast and Broadcast services*

*The policy and charging control framework as defined in TS 23.503 [7] applies to Multicast and Broadcast services in the following aspects:*

*-     MBS Session binding: MBS Session binding is the association of an AF Session information to one and only one MBS Session. The PCF shall perform the session binding based on the MBS Session ID, i.e. TMGI or source specific IP multicast address.*

*-     QoS Flow binding: For an MBS Session, QoS Flow binding is the association of a PCC rule to a QoS Flow within an MBS Session. The MB-SMF performs QoS Flow binding for an MBS Session in the same way as the SMF for a PDU Session.*

*-* ***PCC rules for MBS Session are used to provide policy for QoS flows: The following PCC rule parameters defined in Table 6.3.1 of TS 23.503 [7] are applicable for MBS:***

***-     Rule identifier.***

***-     Service data flow detection: Precedence, Service data flow template (only for IP PDU traffic).***

***-     Policy Control: 5G QoS Identifier (5QI), DL-maximum bitrate, DL-guaranteed bitrate, ARP, Priority Level, Averaging Window, Maximum Data Burst Volume.***

***-     Policy information can also be applicable for an entire MBS session. The following parameters defined for a PDU session in Table 6.4.1 of TS 23.503 [7] are applicable for an entire MBS session:***

***-     Authorized Session-AMBR.***

***-     Explicitly signalled QoS Characteristics.***

**3. Conclusions**

N/A.

**4. Proposal**

It is proposed to agree the following changes to 3GPP TS 29.537 V0.2.0.

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

#### 5.2.1.m MBS QoS Info definition

MBS QoS info defines QoS parameters (e.g. bitrates) associated with a rule. The MBS QoS info encoding table is defined in subclause 6.1.6.2.y.

"mbsQosInfo" attribute shall include:

-     QoS ID within "qosId" attribute;

"mbsQosInfo" attribute may include:

-     5QI within "5qi" attribute;

-     Allocation and Retention Priority within "Arp" attribute;

-     Maximum Bit Rate for Downlink within "mbrDl" attribute;

-     Guaranteed Bit Rate Downlink within "gbrDl" attribute;

-     5QI Priority Level within "priorityLevel" attribute;

-     Averaging window within "averWindow" attribute;

-     Maximum Data Burst Volume within "mbsMaxDataBurstVol" attribute;

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

#### 6.1.6.1 General

This clause specifies the application data model supported by the API.

Table 6.1.6.1-1 specifies the data types defined for the Npcf\_MBSPolicyControl service based interface protocol.

Table 6.1.6.1-1: Npcf\_MBSPolicyControl specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Clause defined | Description | Applicability |
| MbsPolicyCtxtData | 6.1.6.2.2 | Contains the parameters used to request the creation of an Individual MBS Policy resource. |  |
| MbsPolicyData | 6.1.6.2.4 | Contains the MBS policy data of an Individual MBS Policy resource. |  |
| MbsPolicyDecision | 6.1.6.2.3 | Contains the MBS policies authorized by the PCF. |  |
| MbsPolicyNotif | 6.1.6.2.5 | Represents an MBS policy update notification. |  |
| MbsQosInfo | 6.1.6.2.y | Contains the description of MBS QoS information |  |
| MbsTermNotif | 6.1.6.2.6 | Represents an MBS policy termination notification. |  |

Table 6.1.6.1-2 specifies data types re-used by the Npcf\_MBSPolicyControl service based interface protocol from other specifications, including a reference to their respective specifications and when needed, a short description of their use within the Npcf\_MBSPolicyControl service based interface.

Table 6.1.6.1-2: Npcf\_MBSPolicyControl re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| Dnn | TS 29.571 [15] | Identifies a DNN. |  |
| MbsSessionId | TS 29.571 [15] | Represents an MBS Session Identifier. |  |
| RedirectResponse | TS 29.571 [15] | Contains redirection related information. |  |
| Snssai | TS 29.571 [15] | Identifies an S-NSSAI. |  |
| SupportedFeatures | TS 29.571 [15] | Represents the list of supported features. It is used to negotiate the applicability of the optional features. |  |
| Uri | TS 29.571 [15] | Represents a URI. |  |
| BitRate | TS 29.571 [15] | Indicates the Bit Rate. |  |
| 5Qi | TS 29.571 [15] | Indicates the 5G QoS Identifier. |  |
| Arp | TS 29.571 [15] | Indicates the allocation and retention priority. |  |
| 5QiPriorityLevel | TS 29.571 [15] | Indicates the 5QI Priority Level. |  |
| AverWindow | TS 29.571 [15] | Indicates the Averaging Window. |  |

Editor's note: Whether the data type MbsMaxDataBurstVol will be defined in 3GPP TS 29.537 or 3GPP TS 29.571 is FFS.

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

##### 6.1.6.2.y Type: MbsQosInfo

Table 6.1.6.2.y-1: Definition of type MbsQosInfo

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| qosId | string | M | 1 | Univocally identifies the QoS control policy data within a MBS session. |  |
| 5qi | 5Qi | O | 0..1 | Identifier for the authorized QoS parameters for the service data flow.  |  |
| mbrDl | BitRate | O | 0..1 | Indicates the maximum bandwidth in downlink. |  |
| gbrDl | BitRate | O | 0..1 | Indicates the guaranteed bandwidth in downlink. (NOTE) |  |
| arp | Arp | O | 0..1 | Indicates the allocation and retention priority. |  |
| priorityLevel | 5QiPriorityLevel | O | 0..1 | Indicates a priority in scheduling resources among QoS Flows. (NOTE) |  |
| averWindow | AverWindow | O | 0..1 | Represents the duration over which the guaranteed and maximum bitrates shall be calculated. (NOTE) |  |
| mbsMaxDataBurstVol | MbsMaxDataBurstVol | O | 0..1 | Denotes the largest amount of data that is required to be transferred within a period. (NOTE) |  |
| NOTE: Applicable only when a value different from the standardized value for this 5QI, provided in table 5.7.4-1 3GPP TS 23.501 [2], is required. |

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

# A.2 Npcf\_MBSPolicyControl API

openapi: 3.0.0

info:

 title: Npcf\_MBSPolicyControl API

 version: 1.0.0-alpha.2

 description: |

 MBS Session Policy Control Service

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externalDocs:

 description: >

 TS 29.537 V0.2.0; 5G System; Multicast/Broadcast Policy Control Services.

 url: 'https://www.3gpp.org/ftp/Specs/archive/29\_series/29.537/'

[…]

 MbsQoSInfo:

 description: Contains MBS session QoS requirements.

 type: object

 properties:

 qosId:

 type: string

 description: Univocally identifies the QoS control policy data within a MBS session.

 5qi:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/5Qi'

 mbrDl:

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

 gbrDl:

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

 arp:

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

 priorityLevel:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/5QiPriorityLevel'

 averWindow:

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

 mbsMaxDataBurstVol:

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

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