**3GPP TSG-CT WG3 Meeting #123-eC3-224114\_r3-aem**

**E-Meeting, 18th – 26th August 2022**

**Source: Nokia, Nokia Shanghai Bell**

**Title: Pseudo-CR on EN resolution related to Error cases in MBSPolicyControl Create service**

**Spec: 3GPP TS 29.537 V1.0.1**

**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 and Authorization services.

**2. Reason for Change**

In cl 5.2.2.2.2, following EN needs to be resolved

Editor's Note: The complete list of Error cases and the related status codes are FFS.

Error case due to incomplete, erroneous or missing information is included.

In cl 6.1.7.3, application errors are defined, and corresponding updates needs to be done.

**3. Conclusions**

N/A.

**4. Proposal**

It is proposed to agree the following changes to 3GPP TS 29.537 V1.0.1.

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

##### 5.2.2.2.2 MBS Session Policy Association Establishment



Figure 5.2.2.2.2-1: MBS Session Policy Association establishment

1. In order to request the creation of an MBS Session Policy Association, the NF service consumer (e.g. MB-SMF) shall send an HTTP POST request to the PCF, as described in step 1of figure 5.2.2.2.2-1, with the request body containing the "MbsPolicyCtxtData" data structure that shall contain:

- the concerned MBS Session Id, within the "mbsSessionId" attribute;

- the DNN of the MBS session within the "dnn" attribute;

- the S-NSSAI of the MBS session, within the "snssai" attribute; and

- the URI towards which MBS policies update notifications should be sent by the PCF, within the "notificationUri" attribute.

Editor's Note: The complete list of attributes is FFS.

2. Upon reception of the HTTP POST request from the NF service consumer, the PCF shall perform MBS perform MBS policy authorization based on the information received from the NF service consumer and operator policies that are pre-configured at the PCF. If MBS policy authorization is successful, the PCF shall create a new "Individual MBS Policy" resource, addressed by a URI as defined in clause 6.1.3.2 and containing a PCF created resource identifier. The PCF shall then respond to the NF service consumer with an HTTP 201 Created response, including a Location header field containing the URI of the created resource and the MbsPolicyDecision data structure in the response body.

Editor's Note: The detailed content of the MbsPolicyData data structure is FFS.

The NF service consumer shall use the URI received in the Location header in subsequent requests to the PCF to refer to the created "Individual MBS Policy" resource.

If errors occur when processing the HTTP POST request, the PCF shall apply the error handling procedures specified in clause 6.1.7.

Editor's Note: The complete list of Error cases and the related status codes are FFS.

If the PCF, based on local configuration and/or operator policies, denies the creation of the "Individual MBS Policy" resource, the PCF may reject the request within an HTTP "403 Forbidden" status code including the "cause" attribute of the ProblemDetails data structure set to "MBS\_POLICY\_CONTEXT\_DENIED". At reception of this error code and based on configured failure actions, the NF service consumer may reject or allow, by applying local policies, the MBS session establishment.

If the provided MBS application service requirements are invalid, incorrect or insufficient for the PCF to perform MBS session policy authorization, the PCF shall reject the request with an HTTP "400 Bad Request" response message including the the ProblemDetails data structure with the "cause" attribute set to " INVALID\_MBS\_SERVICE\_REQS".

If the MBS IP flow(s) description provided within the MBS application service requirements cannot be handled by the PCF because the restrictions defined in clause 5.3.8 of 3GPP TS 29.214 [19] are not respected, the PCF shall reject the request with an HTTP "400 Bad Request" status code including the ProblemDetails data structure with the "cause" attribute set to "FILTER\_RESTRICTIONS\_NOT\_RESPECTED".

If the provided MBS application service requirements are not authorized, the PCF shall reject the request with an HTTP "403 Forbidden" status code including the ProblemDetails data structure with the "cause" attribute set to "MBS\_SERVICE\_REQS\_NOT\_AUTHORIZED".

If application level input parameters are incomplete, erroneous or missing necessary information for the PCF to perform MBS policy control, the PCF shall reject the request with an HTTP "400 Bad Request" response message including the ProblemDetails data structure with "cause" attribute set to the "ERROR\_INPUT\_PARAMETERS" application error

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

###### 6.1.3.2.3.1 POST

This method shall support the URI query parameters specified in table 6.1.3.2.3.1-1.

Table 6.1.3.2.3.1-1: URI query parameters supported by the POST method on this resource

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description | Applicability |
| n/a |  |  |  |  |  |

This method shall support the request data structures specified in table 6.1.3.2.3.1-2 and the response data structures and response codes specified in table 6.1.3.2.3.1-3.

Table 6.1.3.2.3.1-2: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| MbsPolicyCtxtData | M | 1 | Contains the parameters to create an individual MBS Policy resource. |

Table 6.1.3.2.3.1-3: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| MbsPolicyDecision | M | 1 | 201 Created | Successful case. An Individual MBS Policy resource is successfully created and a representation of the created resource is returned to the NF service consumer. |
| ProblemDetails | O | 0..1 | 403 Forbidden | (NOTE 2) |
| ProblemDetails | O | 0..1 | 400 Bad Request | (NOTE 2) |
| NOTE 1: The manadatory HTTP error status code for the POST method listed in Table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply.  NOTE 2: Failure cases are described in clause 6.1.7. | | | | |

Table 6.1.3.2.3.1-4: Headers supported by the POST method on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains the URI of the newly created resource, according to the structure: {apiRoot}/npcf-mbspolicycontrol/<apiVersion>/mbs-policies/{mbsPolicyId} |

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

#### 6.1.7.3 Application Errors

The application errors defined for the Npcf\_MBSPolicyControl service are listed in Table 6.1.7.3-1.

Table 6.1.7.3-1: Application errors

|  |  |  |
| --- | --- | --- |
| Application Error | HTTP status code | Description |
| MBS\_PCC\_RULE\_PERMANENT\_FAIL | 400 Bad Request | The HTTP request is rejected because all the MBS PCC rules provisioned by the PCF in the request cannot be installed. It is used to inform the PCF that the request failed and should not be attempted again. |
| MBS\_PCC\_RULE\_TEMP\_FAIL | 400 Bad Request | The HTTP request is rejected because for some reason all the MBS PCC rules provisioned by the PCF in the request cannot be enforced or modified successfully in a network initiated procedure. It is used to inform the PCF that the request could not be satisfied at the time it was received but may be able to satisfy the request in the future. |
| INVALID\_MBS\_SERVICE\_REQS | 400 Bad Request | The HTTP request is rejected because the provided MBS service requirements are invalid (e.g. invalid QoS reference), incorrect or insufficient for the PCF to perform MBS policy authorization. |
| FILTER\_RESTRICTIONS\_NOT\_RESPECTED | 400 Bad Request | The HTTP request is rejected because the MBS IP flow(s) description provided within the MBS application service requirements cannot be handled due to the restrictions defined in clause 5.3.8 of 3GPP TS 29.214 [19] not being respected. |
| REQUESTED\_MBS\_SERVICE\_REQS\_NOT\_AUTHORIZED | 403 Forbidden | The HTTP request is rejected because the provided MBS service requirements are not authorized for the PCF to perform MBS policy authorization. |
| ERROR\_INPUT\_PARAMETERS | 400 Bad Request | The HTTP request is rejected because the set of MBS session information from application level needed by the PCF for rule selection is incomplete or erroneous or not available for the decision to be made. |
| MBS\_POLICY\_CONTEXT\_DENIED | 403 Forbidden | The HTTP request is rejected because the PCF does not accept the NF service consumer request due to operator policies and/or local configuration. |

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