**3GPP TSG-SA4 Meeting #112e *S4-210158***

**Electronic meeting, Telco, Feb 01-10, 2021**

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| *CR-Form-v12.0* |
| **Draft CHANGE REQUEST** |
|  |
|  | **26.512** | **CR** | **-** | **rev** | **-** | **Current version:** | **16.1.0** |  |
|  |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

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|  |
| ***Title:***  | Various Corrections  |
|  |  |
| ***Source to WG:*** |  Ericsson LM |
| ***Source to TSG:*** | S4 |
|  |  |
| ***Work item code:*** | 5GMS3 |  | ***Date:*** | 2021-01-27 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-16 |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)Rel-12 (Release 12)**Rel-13 (Release 13)Rel-14 (Release 14)Rel-15 (Release 15)Rel-16 (Release 16)* |
|  |  |
| ***Reason for change:*** | * The specification still contains a number of Editor’s Notes, which are to a certain extend obsolete and can be removed.
* The service announcement information data model contains a serverAddress property (Network Assistance), which is not following the format of the other serverAddresses properties. A note is added to give some background.
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| ***Summary of change:*** | * Several Editor’s Notes are removed.
* The serverAddress property in the NetworkAssistance section of the ServiceAccessInformation data model is changed to an array.
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| ***Consequences if not approved:*** |  |
|  |  |
| ***Clauses affected:*** | 4.7.3, 4.7.4, 7.9.3.1, 11.2.3.1 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
| ***56***  |  |
| ***This CR's revision history:*** |  |

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

### 4.7.3 Procedures for dynamic policy invocation

This procedure is used by a Media Session Handler to manage Dynamic Policy Instance resources via the M5d interface. A dynamic policy invocation consists of a Policy Template Id, flow description(s), a 5GMSd Application Service Configuration Id and potentially other parameters, according to TS 26.501 clause 5.7.

A Policy Template Id identifies the desired Policy Template to be applied to an application flow. A Policy Template includes properties such as specific QoS (e.g. background data) or different charging treatments. The 5GMSd AF combines the information from the Policy Template with dynamic information from the Media Session Handler to gather a complete set of parameters to invoke the N33 or N5 API call. The Policy Template may contain for example the AF identifier.

The flow description allows the identification and classification of the media traffic, such as the packet filter sets given in clause 5.7.6 of [2].

In order to instantiate a new dynamic policy, the Media Session Handler shall first create a resource for the Dynamic Policy Instance on the 5GMSd AF. When the Media Session Handler needs several dynamic policies, it repeats the step as often as needed.

The Media Session Handler creates a new Dynamic Policy Instance by sending an HTTP POST message to the 5GMSd AF. The body of the HTTP POST message shall include a Provisioning Session Id, the Policy Template Id and the traffic descriptor. The traffic descriptor identifies the actual application flow(s) to be policed according to the Policy Template. If the operation is successful, the 5GMSd AF creates a new resource URL representing the Dynamic Policy Instance. In this case, the 5GMSd AF shall respond to the Media Session Handler with a 201 Created HTTP response message, including the URL for the newly created Dynamic Policy Instance resource as the value of the Location header field.

Editor's Note: At minimum, the N5 and N33 API requires the UE IP Address at time of API invocation. The full Flow Description is an optional element, when more fine-grained traffic flow identification is required. It needs to be studied, how to enable usage of other traffic filtering parameters, such as an application id.

The Media Session Handler can modify the parameters of an existing Dynamic Policy Instance resource using either the HTTP PUT or PATCH methods, as appropriate to the desired update. The 5GMSd AF shall trigger the appropriate actions towards other Network Functions like PCF or NEF when all information is set.

The Media Session Handler can destroy a Dynamic Policy Instance resource using the HTTP DELETE method. As a result, the 5GMSd AF shall trigger the appropriate actions towards other Network Functions like PCF or NEF to remove the associated PCC rule.

### 4.7.4 Procedures for consumption reporting

These procedures are used by the Media Session Handler and the Consumption Reporting functions of the 5GMSd Client to submit a consumption report via the M5d interface if Consumption Reporting is applied for a downlink streaming session.

The Service Access Information indicating whether Consumption Reporting is provisioned for downlink streaming sessions is described in clause 11.2.3. When the ClientConsumptionReportingConfiguration.samplePercentage value is 100, the Media Session Handler shall activate the consumption reporting procedure. If the samplePercentage is less than 100, the Media Session Handler shall generate a random number which is uniformly distributed in the range of 0 to 100, and the Media Session Handler shall activate the consumption report procedure when the generated random number is of a lower value than the samplePercentage value.

If the consumption reporting procedure is activated, the Media Session Handler shall submit a consumption report to the 5GMSd AF when any of the following conditions occur:

* Start of consumption of a downlink streaming session;
* Stop of consumption of a downlink streaming session;
* Upon determining the need to report ongoing 5GMS consumption at periodic intervals determined by the ClientConsumptionReportingConfiguration.reportingInterval property.
* Upon determining a location change, if the ClientConsumptionReportingConfiguration.locationReporting property is set to True.

Whenever a consumption report is sent, the Media Session Handler shall reset its reporting interval timer to the value of the reportingInterval property and it shall begin countdown of the timer again. Whenever the Media Session Handler stops the consumption of a downlink streaming session, it shall disable its reporting interval timer.

In order to submit a consumption report, the Media Session Handler shall send an HTTP POST message to the 5GMSd AF. If several 5GMSd AF addresses are listed in the ClientConsumptionReportingConfiguration.‌serverAddresses array (see table 11.2.3.1-1), the Media Session Handler shall choose one and send the message to the selected. The request body shall be a ConsumptionReport structure, as specified in clause 11.3.3.1.The server shall respond with a 200 (OK) message to acknowledge successful processing of the consumption report.

The Consumption Reporting API, defining the data formats and structures and related procedures for consumption reporting, is described in clause 11.3.

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

#### 7.9.3.1 PolicyTemplate resource

The data model for the PolicyTemplate resource is specified in table 7.9.3‑1 below:

Table 7.9.3-1: Definition of PolicyTemplate resource

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Property | Type | Cardinality | Usage | Visibility | Description |
| policyTemplateId | String | 1..1 | C: ROR: ROU: RO |  | Unique identifier of this Policy Template within the scope of the Provisioning Session. |
| state | Enumeration of Strings | 1..1 | C: ROR: ROU: RO |  | A Policy Template may be in the pending, ready, or suspended state.Only a Policy Template in the ready state may be instantiated as a Dynamic Policy Instance and applied to streaming sessions. |
| apiEndPoint | String | 1..1 | C: RWR: ROU: RW | MNO Admin | The API endpoint that should be invoked when activating a Dynamic Policy Instance based on this Policy Template. |
| apiType | Enumeration of Strings | 1..1 | C: RWR: ROU: RW | MNO Admin | N5: Npcf Policy Authorization Service.N33: AsSessionWithQoS or CHargableParty. |
| externalReference | String | 1..1 | C: RWR: ROU: RW |  | Additional identifier for this Policy Template, unique within the scope of its Provisioning Session, that can be cross-referenced with external metadata about the streaming session. |
| qoSSpecification | M1QoSSpecification | 0..1 | C: RWR: ROU: RW |  | Specifies the network quality of service to be applied to streaming sessions at this Policy Template. |
| ApplicationSession‌Context | Object | 1..1 |  |  | Specifies information about the application session context to which this Policy Template can be applied. |
|  afAppId | AfAppId | 0..1 |  | Read-Only | As defined in clause 5.6.2.3 of TS 29.514 [34]. |
|  sliceInfo | Snssai | 0..1 |  |  |
|  dnn | Dnn | 0..1 |  |  |
|  aspId | AspId | 0..1 |  |  |
| chargingSpecification | ChargingSpecification | 0..1 |  |  | Provides information about the charging policy to be used for this Policy Template. |

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

#### 11.2.3.1 ServiceAccessInformation resource type

The data model for the ServiceAccessInformtion resource is specified in table 11.2.3.1-1 below:

Table 11.2.3.1‑1: Definition of ServiceAccessInformation resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Property name | Type | Cardinality | Usage | Description |
| provisioningSessionId | String | 1..1 | RO | Unique identification of the M1d Provisioning Session. |
| StreamingAccess | Object | 0..1 | RO |  |
| mediaPlayerEntry | URL String | 0..1 | RO | A document or a pointer to a document that defines a media presentation e.g. MPD for DASH content or URL to a video clip file. |
| ClientConsumptionReporting‌Configuration | Object | 0..1 | RO |  |
| reportingInterval | DurationSec | 0..1 | RO | The time interval, expressed in seconds, between consumption report messages being sent by the Media Session Handler. The value shall be greater than zero.When this property is omitted, a single final report shall be sent immediately after the streaming session has ended. |
| serverAddresses | Array(URL String) | 1..1 | RO | A list of 5GMSd AF addresses (URLs) where the consumption reporting messages are sent by the Media Session Handler. See NOTE.(Opaque URL, following the 5GMS URL format.) |
| locationReporting | Boolean | 1..1 | RO | Stipulates whether the Media Session Handler is required to provide location data to the 5GMSd AF in consumption reporting messages (in case of MNO or trusted third parties). |
| samplePercentage | Percentage | 1..1 | RO | The percentage of streaming sessions that shall send consumption reports, expressed as a floating point value between 0.0 and 100.0. |
| DynamicPolicyInvocationConfiguration | Object | 0..1 | RO |  |
| serverAddresses | Array(URL String) | 1..1 | RO | A list of 5GMSd AF addresses (URLs) which offer the APIs for dynamic policy invocation sent by the Media Session Handler. See NOTE.(Opaque URL, following the 5GMS URL format.) |
| validPolicyTemplateIds | Array(String) | 1..1 | RO | A list of Policy Template identifiers which the 5GMSd Client is authorized to use. |
| sdfMethods | Array(SdfMethod) | 1..1 | RO | A list of recommended service data flow description methods (descriptors), e.g. 5-Tuple, ToS, 2-Tuple, etc, which should be used by the Media Session Handler to describe the service data flows for the traffic to be policed. |
| externalReferences | Array(String) | 0..1 | RO | Additional identifier for this Policy Template, unique within the scope of its Provisioning Session, that can be cross-referenced with external metadata about the streaming session.Example: "HD\_Premium". |
| ClientMetricsReportingConfigurations | Array(Object) | 0..1 | RO |  |
| serverAddresses | Array(URL String) | 1..1 | RO | A list of 5GMSd AF addresses to which metrics reports shall be sent. See NOTE.(Opaque URL, following the 5GMS URL format.) |
| dataNetworkName | String | 0..1 | RO | The DNN which shall be used when sending metrics reports. If not specified, the name of the default DN shall be used. |
| reportingInterval | DurationSec | 0..1 | RO | The time interval, expressed in seconds, between metrics reports being sent by the Media Session Handler. The value shall be greater than zero.When this property is omitted, a single final report shall be sent immediately after the streaming session has ended. |
| samplePercentage | Percentage | 1..1 | RO | The percentage of streaming sessions that shall report metrics, expressed as a floating point value between 0.0 and 100.0. |
| urlFilters | Array(String) | 1..1 | RO | A list of URL patterns for which metrics reporting shall be done. The format of each pattern shall be a regular expression as specified in [5].If not specified, reporting shall be done for all sessions. |
| metrics | Array(String) | 1..1 | RO | A list of metrics which shall be reported. |
| NetworkAssistanceConfiguration | Object | 0..1 | RO |  |
| serverAddress | URL String | 1..1 | RO | Address of the 5GMSd AF that offers the APIs for 5GMSd AF-based Network Assistance, for access by the 5GMSd Media Session Handler. See NOTE.This address shall be an opaque URL, following the 5GMS URL format. |
| NOTE: In deployments where multiple instances of the 5GMSd AF expose the Media Session Handling APIs at M5, the 5G System may use a suitable mechanism (e.g. HTTP load balancing or DNS resolution) to direct requests to a suitable AF instance. |

\*\*\*\* Last Change \*\*\*\*