**3GPP TSG-SA4 Meeting #117-e**S4-220076

**14th – 22nd February 2022**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | 26.512 | **CR** | **0016** | **rev** | **1** | **Current version:** | **16.4.0** |  |
|  | | | | | | | | |
| *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:*** | dCR on Edge Configuration over M5 for Media Services | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Qualcomm Incoroporated | | | | | | | | | |
| ***Source to TSG:*** | S4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GMS\_EDGE\_3 | | | | |  | ***Date:*** | | | 8th February 2022 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | B |  | | | | | ***Release:*** | | | Rel-17 |
|  | *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 can be 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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
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| ***Reason for change:*** | | This CR introduces extensions to the 5GMS Media Session Handling APIs to add support for configuring edge resources for media services. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | The 5GMS AF is able to share the edge configuration with the MSH to enable usage of edge resources for corresponding 5G media sessions. | | | | | | | | |
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| ***Consequences if not approved:*** | | it would not be possible to configure edge resource usage for 5G media sessions. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 11.2.2, 11.2.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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| First Change |

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

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[43] 3GPP TS 29.558: "Enabling Edge Applications; Application Programming Interface (API) specification; Stage 3".

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| First Change |

### 11.2.2 Resource structure

The Service Access Information API is accessible through the following URL base path:

{apiRoot}/3gpp-m5/{apiVersion}/service-access-information/

The operations and the corresponding HTTP methods in Table 11.2.2-1 are supported. In each case, the sub-resource path specified in the second column shall be appended to the URL base path.

Table 11.2.2‑1: Operations supported by the Service Access Information API

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| --- | --- | --- | --- |
| Operation | Sub-resource path | Allowed HTTP method(s) | Description |
| Fetch Service Access Information | *{provisioningSessionId}* | GET | Used to acquire the Service Access Information resource for the specified Provisioning Session.  The {provisioningSessionId} uniquely identifies the Service Access Information Resource and is allocated by the 5GMS AF during creation of a Provisioning Session. |

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| Second Change |

### 11.2.3 Data model

#### 11.2.3.1 ServiceAccessInformation resource type

The data model for the ServiceAccessInformtion resource is specified in table 11.2.3.1-1 below. Different properties are present in the resource depending on the type of Provisioning Session from which the Service Access Information is derived (as indicated in the provisioningSessionType property) and this is specified in the Applicability column.

Table 11.2.3.1‑1: Definition of ServiceAccessInformation resource

| Property name | Type | Cardinality | Usage | Description | Applicability |
| --- | --- | --- | --- | --- | --- |
| provisioningSessionId | ResourceId | 1..1 | RO | Unique identification of the M1 Provisioning Session. | All types |
| provisioningSession‌Type | Provisioning‌Session‌Type | 1..1 | RO | The type of Provisioning Session. | All types. |
| StreamingAccess | Object | 0..1 | RO |  | downlink |
| mediaPlayerEntry | Url | 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 |  | downlink |
| 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 media streaming session has ended. |
| serverAddresses | Array(Url) | 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 media streaming sessions that shall send consumption reports, expressed as a floating point value between 0.0 and 100.0. |
| DynamicPolicyInvocation‌Configuration | Object | 0..1 | RO |  | downlink,  uplink |
| serverAddresses | Array(Url) | 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(ResourceId) | 1..1 | RO | A list of Policy Template identifiers which the 5GMS 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 media streaming session.  Example: "HD\_Premium". |
| ClientMetricsReporting‌Configurations | Array(Object) | 0..1 | RO |  | downlink,  uplink |
| serverAddresses | Array(Url) | 1..1 | RO | A list of 5GMS AF addresses to which metrics reports shall be sent. See NOTE.  (Opaque URL, following the 5GMS URL format.) |
| dataNetworkName | Dnn | 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 media streaming session has ended. |
| samplePercentage | Percentage | 1..1 | RO | The percentage of media streaming sessions that shall report metrics, expressed as a floating point value between 0.0 and 100.0. |
| urlFilters | Array(String) | 0..1 | RO | A non-empty 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 |  | downlink,  uplink |
| serverAddress | Url | 1..1 | RO | Address of the 5GMS AF that offers the APIs for 5GMS 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. |
| Client‌EdgeResources‌Configuration | Object | 0..1 | RO | Present only for Provisioning Sessions with client-driven edge computing management mode provisioned. | downlink,  uplink |
| eligibilityCriteria | Edge‌Processing‌Eligibility‌Criteria | 0..1 | RO | Conditions for activating edge resources for media streaming sessions in the scope of this Service Access Information. (See clause 6.4.3.8.) |
| easDiscoveryTemplate | EAS‌Discovery‌Template | 1..1 | RO | A template for the EAS discovery filter that shall be used by the EEC to discover and select a 5GMS EAS instance to serve media streaming sessions in the scope of this Service Access Information. (See clause 11.2.3.2.) |
| easRelocation‌Requirements | array(M5EAS‌Relocation‌Requirements) | 0..1 | RO | EAS relocation tolerance and requirements.  If absent, the EEC shall assume that relocation is tolerated by all 5GMS EAS instances in the scope of this Service Access Information. (See clause 11.2.3.3.) |
| 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. | | | | | |

#### 11.2.3.2 EASDiscoveryTemplate type

Table 6.4.3.10-1  Definition of EASDiscoveryTemplate type

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| --- | --- | --- | --- |
| Property name | Type | Cardinality | Description |
| easProviderIds | array(string) | 1..1 | The set of acceptable EAS provider identifiers.  Corresponding to EASProfile.provId, as specified in clause 8.1.5.2.3 of TS 29.558 [43]. |
| easType | string | 0..1 | The 5GMS EAS type.  Corresponding to EASProfile.type, as specified in clause 8.1.5.2.3 of TS 29.558 [43]. |
| easFeatures | array(string) | 1..1 | The required service features for the EAS to serve this session.  Corresponding to EASProfile.easFeats, as specified in clause 8.1.5.2.3 of TS 29.558 [43] |

#### 11.2.3.3 M5EASRelocationRequirements type

Table 11.2.3.3-1: Definition of M5EASRelocationRequirements type

| Property name | Type | Cardinality | Description |
| --- | --- | --- | --- |
| tolerance | EASRelocation‌Tolerance | 1..1 | Indicates whether the 5GMS EAS instance tolerates relocation. (See clause 6.4.4.4.) |
| maxInterruptionDuration | UintegerRm | 0..1 | The maximum downtime (expressed in milliseconds) that an application can tolerate during EAS relocation.  If the expected downtime of the application is expected to exceed this duration, relocation of the 5GMS AS EAS instance shall not be performed. |

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| End of Changes |