**3GPP TSG-SA4 Meeting #118-e *S4-220533***

**Online, 6th – 14th April 2022**

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| *CR-Form-v12.2* |
| **draft CHANGE REQUEST** |
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|  | **26.501** | **CR** |  | **rev** |  | **Current version:** |  |  |
|  |
| *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 |  | Radio Access Network |  | Core Network |  |

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| ***Title:***  | draft CR on use cases for newly defined 5GMS event  |
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| ***Source to WG:*** | S4 |
| ***Source to TSG:*** | Huawei, HiSilicon |
|  |  |
| ***Work item code:*** | EVEX |  | ***Date:*** | 8 April 2022 |
|  |  |  |  |  |
| ***Category:*** | F |  | ***Release:*** | 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 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-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
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| ***Reason for change:*** | In the EVEX, new 5GMS event types are introduced. However there are no use cases to clairify how the consumer makes use of the exposed 5GMS event types.  |
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| ***Summary of change:*** | Adding new use cases for the newly defined 5GMS event types. |
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| ***Consequences if not approved:*** | Use cases for new 5GMS event types are missing. |
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| ***Clauses affected:*** | Annex X |
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|  | **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 ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

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| **First Change (All new text)** |

# Annex X Use cases for newly added 5GMS event type

- **New exposure event type for invocation of downlink dynamic policies.**

The Media Session Handler may invoke the dynamic policy API to 5GMS AF via M5d to request a specific policy and charging treatment to be applied to a particular application data flow of the download streaming. Afterwards, the 5GMSd AF invokes appropriate APIs to 5GC, e.g. *Npcf\_PolicyAuthorization* and *Nnef\_AFSessionWithQoS*, for the dynamic policy change. Then 5GMSd AF can also obtain the status information (policy accepted, rejected, etc) and information on policy enforcement such as the enforcement method and enforcement bit rate.After recording the invocation of the dynamic policies, the 5GMSd AF may report the records to its subordinate Data Collection for further exposure.

The new event for invocation of dynamic polices may include the time when MSH invokes the dynamic function in 5GMSd AF, the requested policy template, the status information, etc. The 5GMS Application Provider or the NWDAF may subscribe this event to the Data Collection AF. Based on the details about the invocations for dynamic policies, the 5GMS Application Provider or the NWDAF may better analyse the network quality provided by the MNO, the dynamic network requirements for this media streaming service. The NWDAF can expose the analytics results to the 5GMS Application Provider. Then the 5GMS Application Provider may do the corresponding optimizations, e.g. provisioning more appropriate policy templates, negotiating more suitable Service Level Agreement (SLA) with the MNO.

**- New exposure event type for invocation of AF-based UL/DL network assistance.**

The Network Assistance (NA) feature enables a UE to receive a bit rate recommendation from the 5GMS AF that provides the NA server function. The 5GMS AF may use the *Npcf\_PolicyAuthorization* notification or *Nnef\_Monitoring* Event procedure to receive QoS changes, e.g. estimation of throughput, recommendation of a bit rate. The 5GMS AF receives these policy change notifications asynchronously.

After recording the invocation of AF-based UL/DL network assistance, the 5GMS AF can report it to its subordinate Data Collection AF. And the Data Collection AF may expose this to the Event Consumer AF within the 5GMS Application Provider for network status aware optimization, e.g. fast congestion window adjustment.

Besides, the NWDAF can also subscribe to Data Collection AF for exposure of the invocation of AF-based UL/DL network assistance. Based on the exposed requested QoS and recommended QoS, the NWDAF may derive whether the current network deployment or status can support the media streaming services and expose this to the OAM for better network optimization.

**- New exposure event type for invocation of DL media streaming access activity.**

In 5G Media Streaming, the 5GMS AS acts as a CDN server (e.g., edge server) in the hosting and delivery of streaming media content (i.e., of ingested/egested content in downlink/uplink streaming). The corresponding media streaming access activities, i.e., CDN access logs, available at the 5GMS AS can be forwarded to the 5GMS AF for subsequent event exposure to consumer entities such as the Application (Service) Provider.

For example, with the streaming activities exposed from Data Collection AF, e.g. the visited number of users and the access history for different contents, the 5GMS Application Provider may make use of such information for better CDN content distribution.

**- New exposure event type for consumption of downlink media streaming.**

The 5GMSd Client provides feedback reports on currently consumed content according to a provisioned Consumption Reporting Configuration it obtains from the Service Access Information for its Provisioning Session. The consumption reports include the mediaplay entry, the startTime, duration and locations. The MSH shall send the consumption of downlink media streaming to 5GMSd AF for subsequent event exposure.

For example, the 5GMSd Application Provider may subscribe the Data Collection AF for the consumption of downlink media streaming. With the exposed event, the 5GSM Applcation Provider may do the data analytics and derive which part of the specific media content is most popular, which media content is most popular or which media content is most popular at a specific location area, etc. Then this can help to 5GMSd Application Provider for popular media content distribution. Similarly, the NWDAF may also subscribe this event for data analytics and expose them to the 5GMSd Application Provider for popular media content distribution.

**- New exposure event type for QoE metrics for downlink media streaming.**

Use case for usage of new event type for QoE metrics for downlink media streaming can be found in Clause 6.4 of TS 23.288.