**3GPP TSG-SA4 meeting #114-e *S4-210827***

**Electronic Meeting, 19th-28th May, 2021**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **PSEUDO CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **TR 26.803** | **CR** | **–** | **rev** | **–** | **Current version:** | **1.2.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | EAS Relocation Gap in EMSA architecture | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Samsung Electronics Co., Ltd., Tencent | | | | | | | | | |
| ***Source to TSG:*** | S4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | FS\_EMSA | | | | |  | ***Date:*** | | | 10 May 2021 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***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)*. | | | | | | | |  | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Adding gap in EMSA architecture. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add additional gap on EAS relocation to TR 26.803. The justification for additional EAS relocation gap in given in S4-210826. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Insufficient gaps in TR 26.803 | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.4, 7 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | |  | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

|  |
| --- |
| **First Change** |

## 6.4 Identified Gaps in Architecture and Procedures

### 6.4.1 General

Based on the recommended EMSA architecture in clause 6.2 and the high-level call flows defined in clause 6.3, we can identify the following gaps in the existing 5GMS architecture:

1. The procedures and services offered by the 5GMS AF and the 5GMS Client need to be defined.
2. Extensions to the M1 and M5 interfaces are required to provide additional procedures for provisioning and edge processing request.
3. Definition of the M3 interface between the 5GMS AF and 5GMS AS to manage edge processing.
4. Procedures to support session mobility and context transfer, triggered by the UE or by the 5GMS AF. In particular, the application and media-specific aspects of the Application Context Relocation would need to be specified.
5. EAS relocation scenarios, conditions and triggers for such relocation based on use cases documented in TR 26.803 and TR 26.998
6. Procedures in the 5GMS client and interactions with the application in the UE to discover and select an appropriate EAS/5GMS AS for the media processing needs of the application are only partially supported.

|  |
| --- |
| **Second Change** |

# 7 Conclusions and Recommendations

Edge media processing is an enabler for a variety of immersive media streaming services, such AR/MR and cloud gaming, which require stringent QoS guarantees to operate properly. The 5GMS architecture has been developed to support media streaming services by leveraging 5G System functionality to optimize the streaming experience. Extensions to the 5GMS architecture are necessary to leverage 5G edge computing capabilities and integrate them into media streaming workflows.

The present document provides an overview of the different edge-related activities that are taking place in 3GPP. It also collects together a set of media streaming use cases that rely on or benefit from media processing at the edge. Based on these, a recommended architecture for edge media processing is derived and documented. The architecture is an integration of the 5G Media Streaming architecture with the architectures and procedures for establishment, control, and management of edge computing sessions that have been developed elsewhere in 3GPP.

It is recommended that normative work be initiated with the following objectives:

1. Extend the 5GMS Architecture to support edge media processing according to the recommended architecture in clause 6.2.
2. Enhance the procedures and services that are offered by the 5GMS AF and the 5GMS Client to enable establishment and management of media streaming session with edge processing.
3. Extend the M1 interface to support the provisioning of edge media processing.
4. Extend the M5 interface to support discovery and request of edge media processing resources.
5. Define the M3 interface between the 5GMS AF and 5GMS AS to manage edge processing resources and sessions.
6. Specify media and application context relocation information based on the Application Context Relocation procedures for session continuity in edge media processing.
7. Specify edge application server relocation scenarios, conditions and triggers for relocation