**3GPP TSG SA WG4#113-e** ***S4-210495***

**E-meeting, 6th-14th April, 2021 A revision of *S4aI201156***

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| *CR-Form-v12.0* |
| **PSEUDO CHANGE REQUEST** |
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|  | **TR 26.802** | **CR** | **–** | **rev** | **–** | **Current version:** | **1.0.0** |  |
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| *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:***  | pCR to TR26.802 on 5GS Broadcast-Multicast User Service |
|  |  |
| ***Source to WG:*** | TELUS |
| ***Source to TSG:*** | S4 |
|  |  |
| ***Work item code:*** | FS\_5GMS\_Multicast |  | ***Date:*** | 2021-03-31 |
|  |  |  |  |  |
| ***Category:*** | **D** |  | ***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:*** | Added potential standardization areas and solutions |
|  |  |
| ***Summary of change:*** |  |
|  |  |
| ***Consequences if not approved:*** |  |
|  |  |
| ***Clauses affected:*** | 6.2 and 7.1 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  |  |
| ***affected:*** |  | **X** |  Test specifications |  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications |  |
|  |  |
| ***Other comments:*** | Changes against baseline document TR 26.802 v0.3.0 |
|  |  |
| ***This CR's revision history:*** |  |

FIRST CHANGE

## 6.2 Potential Standardization Areas

Initially, the following areas are identified as potential standardization areas:

* Create a 5GMS-independendent 5MBS User Service Architecture.
* Make 5GMS + MBS one scenario.
* Define the interfaces and functions independent of 5GMS.
* Expect to have a new spec TS 26.502 for 5MBS User Service Architecture.

### 6.2.1 5GS User Service Architecture



Figure 6.2-1: 5G MBS network architecture with 5G Media Streaming as one scenario

In order to create a 5GMS-independent Multicast-Broadcast User Service Architecture, Figure 6.2-1 provides a view of the network architectrue with 5G multicast media streaming as one scenario. In this figure, two potential standardization areas are identified:

1. How 5GMSd AF and MBSF interact to support MBS session operations and transport (i.e. xMB-C and MB2-C reference points).

2. How to provide MBSTF functionality related to MBS data handling (e.g. encoding) via xMB-U and MB2-U interfaces. Based on the definition in TS 23.247, MBSTF performs generic packet transport functionalities available to any IP multicast enabled application such as framing, multiple flows, packet FEC (encoding). It also performs multicast/broadcast delivery of input files as objects or object flows. If needed, MBSTF provides a media anchor for MBS data fraffic and sourcing of IP multicast.

NEXT CHANGE

# 7 Potential Solutions

This clause provides potential solutions for the standardization areas identified in clause 6.

## 7.1 Broadcast-Multicast User Service Layer

An “MBMS user service”-like layer is expected to be provided by MBSF and MBSTF. Figure 7.1-1 depicts a potential solution for 5GS Multicast-Broadcast User Service functional entities.



Figure 7.1-1: 5GS multicast-broadcast user service functional entities

In Figure 7.1-1, the 5GMSd Application Provider is an external application or some content-specific media functionality (e.g. media creation, encoding and formatting) that uses 5GMSd to stream media to a 5GMSd Aware Application.

The 5GMS AF provides various control functions to the Media Session Handler. It may relay or initate a request for different PCF treatment.

The 5MBS User Service enables applications. It presents a complete service offering, or a set of APIs to the end-user and allows the end-user to activate or deactivate reception of the service. The 5MBS User Service provides several delivery functions. When delivering 5MBS content to a receiving application, one or more 5MBS Delivery Functions are used. The delivery layer provides functionality such as security and key distribution, reliability control (by means of forward-error-correction techniques) and associated delivery procedures.

***- Download delivery function:*** This includes file distribution (both carousel and download) which uses the FLUTE protocol to deliver content over 5MBS sessions. This is equivalent to the “Download Delivery Method” in TS 26.346 [?].

 The encoding of multicast/broadcast delivery objects may alternatively be provided upstream of the MBSTF.

***- Media segment delivery function:*** This should support ABR and chunked segment streaming for low latency. A typical use case is to deliver source media segments encapsulated in the delivery units of a multicast media transport protocol.

***- Transparent delivery function:*** This supports the IPTV/RTP streaming use case, as well as other Application Data Units as part of UDP or IP flows carried to the UE over an MBS session. It is particularly useful in the case of services for which the media codec(s) and application protocol(s) are defined outside 3GPP.

***- Group Communication delivery function:*** This delivers a UDP/IP packet flow to the UE.

 TyGCOther delivery methods may be added beyond the current release.

The above Delivery Functions may use either a multicast or broadcast session to deliver 5MBS content to a receiving application, and may also make use of point-to-point sessions through a set of 5MBS associated procedures. MBS session refers to a multicast session or a broadcast session. In Multicast MBS session, an MBS session is to deliver the multicast communication service. A multicast MBS session is characterised by the content to send, by the list of UEs that may receive the service and optionally by a multicast area where to distribute it. In Broadcast MBS session, an MBS session delivers the broadcast communication service. A broadcast MBS session is characterised by the content to send and the geographical area where to distribute it.

Editor’s Note: how to use the 5GS broadcast-multicast user service to address key issues 1 and 4 is FFS.

END OF CHANGES