**3GPP TSG SA WG4#113-e** ***S4-210617***

**E-meeting, 6th-14th April, 2021 A revision of *S4-210495***

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| *CR-Form-v12.0* | | | | | | | | |
| **PSEUDO CHANGE REQUEST** | | | | | | | | |
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|  | **TR 26.802** | **CR** | **–** | **rev** | **–** | **Current version:** | **1.0.8** |  |
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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:*** | | | 2021-04-07 |
|  |  | | | |  | |  | | |  |
| ***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

[26] 3GPP TS 23.247, v0.1.0: "Architectural enhancements for 5G multicast-broadcast services; Stage 2;" Release 17.

## 3.1 Terms

**Broadcast MBS Session:** See TS 23.247 [26].

**Multicast MBS Session:** See TR 23.757 [26].

**MBS Session:** See TR 23.757 [26].

NEXT CHANGE

## 6.2 Potential Standardization Areas

### 6.2.1 Introduction

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.

### 6.2.2 5MBS User Service Architecture

This clause provides a proposed 5MBS User Service architecture that is 5GMS-independendent, but also provides the scenario that 5GMS is the northbound application function.



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

## 7.1 General

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

## 7.2 Support of multicast ABR in 5G Media Streaming Architecture

(SNIPPED)

## 7.3 Broadcast-Multicast User Service Layer

An “MBMS user service”-like layer is expected to be provided by MBSF and MBSTF. Figure 7.3-1 depicts a potential solution for 5GS Multicast-Broadcast User Service functional entities.



Figure 7.3-1: 5GS multicast-broadcast user service functional entities

In Figure 7.31, 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. When delivering content to a 5MBS Client, the MBSTF uses one or more 5MBS Delivery Functions. These functions or methods provide functionality such as security and key distribution, reliability control (by means of forward-error-correction techniques) and associated delivery procedures. Initially, the following delivery methods/functions are going to be studied.

***- Download delivery function:*** This includes file distribution (both carousel and download). Functionally, this is equivalent to the “Download Delivery Method” in TS 26.346 [16].

B

Editor’s Note: the protocol to support Download delivery function is FFS.

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

Editor’s Note: The Media segment delivery function might use the generic download delivery function.

***- Transparent delivery function:*** This supports the IP streaming use cases, for which UDP payloads (also referred to as Application Data units) are distributed as part of UDP or IP flows carried to the UE over an MBS session. Examples for higher layer protocols are RTP, packetized MPEG-2 TS or other UDP-based streams.

***- Group Communication delivery function:*** This delivers a multicast 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