**3GPP TSG SA WG4#115-e** ***S4-211143***

**E-meeting, 18th-27th August, 2021**

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| *CR-Form-v12.0* | | | | | | | | |
| **PSEUDO CHANGE REQUEST** | | | | | | | | |
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|  | **TS 26.502** | **CR** | **–** | **rev** | **–** | **Current version:** | **0.0.1** |  |
|  | | | | | | | | |
| *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 TS 26.502 on reference architecture | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | TELUS | | | | | | | | | |
| ***Source to TSG:*** | S4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5MBUSA | | | | |  | ***Date:*** | | | 2021-08-11 |
|  |  | | | |  | |  | | |  |
| ***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 text in reference architecture for 5G Multicast-Broadcast User Services | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | Several clauses | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | |  | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | Changes against skeleton document TS 26.502 | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

FIRST CHANGE

## 4.4 Functional entities

### 4.4.1 General

Figure 4.4.1-1 depicts the 5MBS network architecture, showing 5MBS-related entities involved in providing 5MBS User Service delivery and control.



Figure 4.4.1-1: Network Architecture for 5MBS User Service Delivery and Control

The AF and MBSF interact to support MBS session operations and transport in the control plane (i.e. xMB-C and MB2-C reference points).

The AS and MBSTF interact to support MBS data handling (e.g. encoding) in the user plane via the xMB-U and MB2-U interfaces. The MBSTF performs generic packet transport functions available to any IP multicast-enabled application, such as framing, multiple flows and packet FEC (encoding). It also performs multicast/broadcast delivery of input files as objects or object flows. If needed, the MBSTF provides a media anchor point for MBS data traffic and sourcing of IP multicast.

high-level to make use of the low-level features of the 5MBS SystemThe 5MBS User Service is provided by the MBSF and MBSTF working in combination. It presents a complete service offering to an end-user, via a set of APIs that allows the 5MBS Client to activate or deactivate reception of the service.

Figure 4.4.1-2 depicts the functional entities in MBSF and MBSTF to support 5MBS User Service.



Figure 4.4.1-2: 5MBS user service functional entities

The User Service Discovery/Announcement function of the MBSF provides session access information, which is consumed by the 5MBS Client and subsequently used to initiate the reception of a 5MBS User Service. The session access information may contain information for presentation to the end-user, as well as application parameters used in generating service content to the 5MBS Client.

### 4.4.2 5G Media Streaming with the use of 5MBS User Service

5G Media Streaming, as specified in TS 26.501 [7], may utilize 5MBS User Services to deliver MPEG‑DASH segments. When delivering these segments to a 5MBS Client, the MBSTF uses one or more 5MBS Delivery Methods described in clause 4.5.

Figure 4.4.2-1-1 shows how the logical functions of the 5G Media Streaming architect interact with the 5MBS logical functions. It depicts a deployment of Downlink Media Streaming using 5MBS multicast delivery. The 5GMSd Application Provider is an external application entity incorporating content-specific media functionality (e.g. media creation, encoding and formatting) that uses the 5GMS System to distribute media to a 5GMSd-Aware Application.



Figure 4.4.2-1: 5G multicast media streaming User Service functional entities

The 5GMSd AF provides Downlink Media Streaming provisioning, and various control functions to the Media Session Handler in the 5GMS Client located in the UE. It may relay or initate a request for different policy and/or charging treatment by interacting with the PCF.

In Figure 4.4.2-1, the 5GMSd AF and MBSF are depicted as fully separated logical functions. Alternatively, the MBSF could be integrated within the 5GMSd AF as shown in Figure 4.4.2-2. In such a deployment, the embedded MBSF still uses the Nmb2 to configure and control the multicast delivery functionality of the MBSTF.



Figure 4.4.2-2: 5G multicast media streaming with integrated User Service functional entities

## 4.5 Delivery methods

### 4.5.1 General

A set of 5MBS Delivery Methods is provided by the MBSTF. These provide functionality such as security and key distribution, reliability control (by means of FEC techniques) and associated delivery procedures.

**- Object delivery method:** The transport protocol specified in clause 6 is used to deliver discrete binary objects over an MBS Session. This may be used to support real-time delivery of media segments (as special objects) including Low-Latency CMAF delivery.

Ospecified

**- Transparent delivery method:** Supports 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 of higher layer protocols are RTP [8] and packetized MPEG-2 Ttansport Stream [9].

specified

The above Delivery Methods may use either a multicast MBS session or a broadcast MBS session to deliver content to a receiving application, and may also make use of a set of 5MBS associated delivery procedures.

NEXT CHANGE

# 2 References

[7] 3GPP TS 26.501: "5G Media Streaming (5GMS); General description and architecture".

[8] IETF RFC 3500: "RTP: A Transport Protocol for Real-Time Applications".

[9] IETF RFC 2250: "RTP Payload Format for MPEG1/MPEG2 Video".

END OF CHANGES