**3GPP TSG SA4 116-E** ***S4-211449***

**E-meeting, 10th-19th November, 2021**

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| *CR-Form-v12.0* | | | | | | | | |
| **PSEUDO CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **TS 26.502** | **CR** | **–** | **rev** | **–** | **Current version:** | **0.1.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
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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 overview of delivery methods | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei Technologies Co.,Ltd. | | | | | | | | | |
| ***Source to TSG:*** | S4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5MBUSA | | | | |  | ***Date:*** | | | 2021-11-02 |
|  |  | | | |  | |  | | |  |
| ***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 | | | | | | | | |
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| ***Summary of change:*** | | Add overview of delivery methods. | | | | | | | | |
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| ***Consequences if not approved:*** | | WID not complete. | | | | | | | | |
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| ***Clauses affected:*** | | 6.1.1, 6.2.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 v0.1.0 | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

First change

second CHANGE

## 6.1 Object Distribution Method

### 6.1.1 Overview

The Object Distribution Method shall be used by the MBSTF to deliver the binary objects over MBS sessions, including files, media segments, etc. Specially, the objects can be the real-time media segments including Low-Latency CMAF delivery. The object distribution method can be further separated into object carouselling and object streaming distribution methods in different cases for support of non-real-time file delivery and regular-latency/low-latency streaming delivery.

Basd on the con figuration from the MBSF via the Nmb2 interface, the objects are ingested from the MBS Application Provider to the MBSTF. The MBSTF may fragmentize the objects into appropriate payloads, add the FEC redundancy and scheduling the packet transmission to the MBS Client via the MBS bearers.

The file repair functionality may be utlized to repair lost or corrupted object fragements from the Object Distribution Method. The MBS Client may send a repair request message to the 5MBS AS for request of missing object fragements.

Second change

## 6.2 PDU Distribution Method

### 6.2.1 Overview

The 5MBS PDU distribution method shall be used by the MBSTF to transmit downstream service content received over Nmb8 interface ([6]) from the MBS Application Provider. The PDU distribution method delivers application data units as part of UDP or IP flows over a MBS session to the UE. This distribution method complements the object distribution method and is particularly useful for multicast and broadcast of IP-based services for which the media codecs and application protocols are defined outside of this specification.

The MBSTF receives Packet Data Units (PDUs) from the MBS Application Provider, typically provided as UDP/IP packets and forwards them to the destination multicast IP address and port number. Optionaly, the FEC redundancy shall be added by the MBSTF. Both IPv4 and IPv6 may be used by the PDU distribution method.

A MBS PDU distribution session may be operated in a forward-only or in a proxy mode. In the forward-only mode, the transport protocol on top of IP is opaque to the MBS system and the session announcement may be handled by the MBS Application Provider via external means. The Nmb10 interface between the MBSF and AF can re-use the N33 or N5 interface design. In the proxy mode, the UDP packet payload of the UDP streams is opaque to the MBS session and an MBS Client is expected to make the UDP Payloads available to an application, without further knowledge on the content.

Editor’s Note: The MBS Reception Reporting for the PDU Distribution Method is FFS.