**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)*. | | | | | | | |  | |
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| ***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

## 6.1 Object Distribution Method

### 6.1.1 Overview

The Object Distribution Method is used to deliver binary objects to the MBS Client over an MBS Session that have been received from the MBS Application Provider over reference point Nmb8.

The following Use Cases are supported:

- Single file delivery.

- Delivering a root object and its dependent objects as a collection, e.g. a web page and all the assets needed to render it.

- Object carouselling for file delivery, including updates of files.

- Real-time object streaming, for example for regular-latency or low-latency streaming delivery. In the latter case, the objects distributed may be CMAF segments as defined by the 5G Media Streaming DASH Interoperability Point specified in clause 7.3.11 of TS 26.247 [X].

Based on the configuration received from the MBSF via reference point Nmb2, the objects are ingested by the MBSTF from the MBS Application Provider via pull-based or push-based method. As defined in clause 4, the MBSTF segments the objects into appropriate payloads, adds the FEC redundancy and schedule packet transmission to the MBS Client.

File repair functionality may be utilzed to repair object fragments transmitted by the MBSTF using the Object Distribution Method but lost or corrupted in transit. In such cases, the MBS Client may request the missing object fragments from the MBS AS. File repair may be done during an ongoing MBS User Services Session or after an MBS User Services Session.

Second change

## 6.2 [Packet/PDU] Distribution Method

### 6.2.1 Overview

The [Packet|PDU] Distribution Method is used to deliver packet streams to the MBS Client over an MBS Session that have been received from the MBS Application Provider over reference point Nmb8. This Distribution Method is particularly useful for multicast and broadcast of IP-based services for which the content delivery protocols are defined outside the scope of the Distribution Method.

The MBSTF receives packet streams from the MBS Application Provider, typically in the form of UDP/IP packets, and sends them to the configured MBS Session. Optionally, packet sequence numbering and/or FEC redundancy may be added by the MBSTF.

The [Packet|PDU] Distribution Session may be operated in one of two different modes:

- In the *Forward-only mode*, the transport protocol on top of IP is opaque to the MBS System. The User Service Announcement may be handled by the MBS Application Provider via external means at reference point MBS-8.

- In the *Proxy mode*, the UDP packet payload of the UDP streams is opaque to the MBS Session. An MBS Client is expected to make the UDP Payloads available directly to an application, without further knowledge of the content carried.

Editor’s Note: MBS Reception Reporting for the [Packet|PDU] Distribution Method is FFS.