**3GPP TSG- Meeting #**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
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|  |  | **CR** | 0017 | **rev** | **-** | **Current version:** |  |  |
|  |
| *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:***  |  |
|  |  |
| ***Source to WG:*** | , BBC, Ericsson LM |
| ***Source to TSG:*** | S4 |
|  |  |
| ***Work item code:*** | 5MBUSA |  | ***Date:*** |  |
|  |  |  |  |  |
| ***Category:*** | F |  | ***Release:*** |  |
|  | *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)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
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| ***Reason for change:*** | There are several instances of mistakes and incomplete spec text in TS 26.502 to be fixed. |
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| ***Summary of change:*** | * Clause 4.2.1
	+ Correcting mistake in copying the MBS network architecture from clause 5.1 of TS 23.247, by adding N5 reference point between AF/AS and PCF.
	+ Add description of additional functionality of Nmb2 previously missing in description.
* Clause 4.3.1 – Add description of additional functionality of Nmb2 previously missing in the description.
* Clause 5.4 – Update the call flow in Figure 5.4-1 by insertion of an additional step (e.g., call that 2c, and renumber the existing step 2c to 2d), as well as revise the corresponding description of steps, to indicate that 2c corresponds to employing MBS User Service Announcement delivery in the same MBS Distribution Session carrying the advertised MBS Application Service content from the MBSF to the MBSF Client, at reference point MBS-4-MC (and whereas the original step 2c description now corresponds to that of the renumbered step 2d).
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| ***Consequences if not approved:*** | Incorrect and incomplete specification. |
|  |  |
| ***Clauses affected:*** | 4.2.1, 4.3.1 and 5.4 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

FIRST CHANGE

## 4.2 System description

### 4.2.1 Network architecture

Figure 4.2.1-1 depicts the MBS network architecture defined in clause 5.1 of TS 23.247 [5] using the reference point representation.



Figure 4.2.1-1: Network architecture for MBS User Services delivery and control

The functions and reference points involved in providing MBS User Services within the MBS System are highlighted in green. In particular:

- Reference point Nmb10 is used by the AF/AS to provision MBS User Services in the MBSF by invoking the Nmbsf service defined in clause 7.2.

- Reference point Nmb2 is used by the MBSF to configure and control MBS User Services distribution methods in the MBSTF by invoking the Nmbstf service defined in clause 7.3. Additionally, Nmb2 may be used by the MBSTF to ingest User Service Announcement objects from the MBSF via either the pull-based or push-based object ingest method (see clause 6.1) for subsequent delivery to the MBS Client via a suitable MBS Distribution Session (see clause 4.2.4).

- Reference point Nmb8 is used by the MBSTF to ingest content from the AF/AS.

NEXT CHANGE

## 4.3 Functional entities

### 4.3.1 General

The MBSF and MBSTF offer service layer functionality for sending data via MBS Sessions. The MBSF (clause 4.3.2) offers control plane functionality while the MBSTF (clause 4.3.3) offers user plane functionality. The MBSTF acts as a User Plane anchor when it sources IP multicast traffic. Reference point Nmb2 provides the means for the MBSF to configure the delivery methods in the MBSTF, and supports Object ingest at the MBSTF of User Service Announcements for delivery to the MBS Client via reference point MBS‑4‑MC (as described in clause 4.2.4).

Figure 4.3.1-1 shows the complete set of functional entities involved in supporting MBS User Services when the MBS Application Provider is deployed in the Trusted DN, including client functions in the UE.



NOTE: When the MBS Application Provider is deployed outside the Trusted DN, it interacts with the MBSF via the NEF at reference point N33, as shown in figure 4.2.2‑1, instead of via Nmb10.

Figure 4.3.1-1 MBS User Service reference architecture

In the above architecture, MBS-specific functions such as the MBS AS and MBSF are shown as independent and standalone. In deployments, they may be co-located on physical devices with other functions. As an example, the MBS AS may be hosted in the MBS Application Provider domain, or it may be hosted in a 5GMS AS.

NEXT CHANGE

## 5.4 Procedures for User Service advertisement/discovery

At this point, the MBS User Service Session is advertised to the MBSF Client, as shown in figure 5.4‑1 below.



Figure 5.4‑1: Call flow for MBS User Service advertisement/discovery

The steps are as follows:

1. The MBSF compiles a composite MBS User Service Announcement from the set of individual MBS Distribution Session Announcements compiled in step 14 of clause 5.3. The compiled MBS User Service Announcement describes the current set of MBS Distribution Sessions that comprise the active MBS User Data Ingest Session. The advertised start date–time is the next start time indicated in the MBS User Data Ingest Session schedule of active periods, or the current date–time if no schedule is provisioned.

2. The MBS User Service Announcement is distributed using one or more of the following mechanisms:

a. The MBS User Service Announcement is made available for unicast retrieval by the MBSF Client at reference point MBS‑5.

b. The MBS User Service Announcement is made available to the MBSTF via reference point Nmb2 for ingest as defined in clause 4.3.3.2. Depending on the object acquisition method configured for the intended MBS Distribution Session, the MBS User Service Announcement is either pulled from the MBSF by the MBSTF or pushed to the MBSTF by the MBSF.

As a result, the MBS User Service Announcement is delivered (optionally repeatedly) via a suitable MBS Distribution Session at reference point MBS‑4‑MC using the Object Distribution Method. As specified in clause 4.2.4, this may be the same MBS Distribution Session as that carrying the advertised MBS Application Service content and/or a separate and dedicated MBS Distribution Session (i.e., the MBS User Service Announcement Channel).

c. The MBS User Service Announcement is passed back to the MBS Application Provider by invoking the Nmbsf\_MBSUserDataIngestSession\_StatusNotify callback service operation at reference point Nmb10 (or Nmb5+N33, if invoked via the NEF).

 As a result, the MBS Application Provider advertises the MBS User Service Announcement to the MBS-Aware Application by private means at reference point MBS‑8.

The MBSF may rescind an MBS User Service Announcement at any time for operational reasons.

END OF CHANGES