**3GPP TSG-S2 Meeting #147-E S2-21xxxxx**

**Online, , 18–22 October 2021**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **CR** | **–** | **rev** |  | **Current version:** | **17.0.0** |  |
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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 | **X** |

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| ***Title:*** |  | | | | | | | | | |
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| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
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| ***Work item code:*** |  | | | | |  | ***Date:*** | | | 2021-10-XX |
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| ***Category:*** |  |  | | | | | ***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 can be 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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
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| ***Reason for change:*** | | Clearer depiction of the 5MBS architecutre such that the same diagram can be used in TS 23.247 and TS 26.502.  Support for Application Functions supporting xMB and MB2 interfaces are proposed to be captured as a normative annex, similar approach as in TS 23.503 to capture the support of Rx interface. | | | | | | | | |
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| ***Summary of change:*** | | Editorial update:   * Change of typeface. * More white space between functions. * Alignment of functions into two horizontal planes. * Depiction of AF/AS spanning both planes.   Move the support of legacy AF/AS from clause 5.1 to normative Annex.  Move the MB2/xMB related description from clause 7.1.1.1 to Annex | | | | | | | | |
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| ***Consequences if not approved:*** | | Inconsistent specification handling within SA2 regarding support of legacy interfaces | | | | | | | | |
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| ***Clauses affected:*** | | 5.1, 7.1.1.1, Annex C (new) | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | |  | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
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| ***Other comments:*** | |  | | | | | | | | |
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| ***This CR's revision history:*** | |  | | | | | | | | |

FIRST CHANGE

5.1 General architecture

Figure 5.1-1 depicts the 5G MBS reference architecture. Service-based interfaces are used within the Control Plane. Support for interworking at reference points xMB and MB2 is described in annex C.



Figure 5.1-1: 5G System architecture for Multicast and Broadcast Service.

NOTE 1: The MBSF is optional and may be collocated with the NEF or AF/AS, and the MBSTF is an optional network function.

NOTE 2: The existing service-based interfaces of Nnrf, Nudm, and Nsmf are enhanced to support 5G MBS. The existing service-based interfaces of Npcf and Nnef are enhanced to support 5G MBS.

NOTE 3: A 5G MBS-enabled AF uses either Nmbsf or Nnef to interact with the MBSF.

Editor's note: Which NF is used to store service parameters, including serving MB-SMF information will be updated in future versions.

Figure 5.1-2 depicts the 5G system architecture for MBS using the reference point representation.



Figure 5.1-2: 5G System architecture for Multicast and Broadcast Service in reference point representation.

NOTE 4: The existing reference points of N1, N2, N4, N10, N11, N30 and N33 are enhanced to support 5G MBS.

NEXT CHANGE

#### 7.1.1.1 General

The call flows in Clause 7.1.1 and clause 7.3 show a "NEF/MBSF", but as detailed in Annex A, there can be different related configurations involving either only NEF, or MBSF, or both.

The interactions between "NEF/MBSF" and MB-SMF, PCF, BSF and NRF depicted in the call flows apply for NEF, MBSF or a combined NEF and MBSF, depending on configuration. They may also apply for AF in trusted domain where NEF is not mandated.

However, the interactions between AF and "NEF/MBSF" depicted in the call flows only apply for the NEF.

Services offered by the MBSF and related interactions based on that service between MBSF and AF or NEF (if MBSF and NEF are split as shown in configuration 2) are specified in TS 26.502 [18].

NEXT CHANGE

Annex C (normative): Interworking at reference points MB2 and xMB

## C.1 Interworking with GCS AS at MB2 reference points

To allow the 5G MBS System to interwork with a GCS AS supporting the MB2 interfaces defined in TS 23.468 [10]:

- In addition to supporting the Nmbsf service-based API at Nmb10 (as defined in clause 5.1) the MBSF shall support interface MB2‑C.

- In addition to supporting content ingest interfaces defined in TS 26.502 [18] at Nmb8 (as defined in clause 5.1) the MBSTF shall support interface MB2‑U.

In this scenario, the MBSF and MBSTF together fulfil the role of the BM‑SC.



Figure C.1: Interworking between 5G MBS system and GCS AS supporting MB2 interfaces

## C.2 Interworking with Content Provider at xMB reference points

To allow the 5G MBS System to interwork with a Content Provider supporting the xMB interfaces defined in TS 26.348 [11]:

- In addition to supporting the Nmbsf service-based API at Nmb10 (as defined in clause 5.1) the MBSF shall support interface xMB‑C.

- In addition to supporting content ingest interfaces defined in TS 26.502 [18] at Nmb8 (as defined in clause 5.1) the MBSTF shall support interface xMB‑U.

In this scenario, the MBSF and MBSTF together fulfil the role of the BM‑SC.



Figure C.2: Interworking between 5G MBS system and Content Provider supporting xMB interfaces

END OF CHANGES