**3GPP TSG-WG SA4 Meeting #111e e-meeting *S4-201573***

**Staying safe at home, November 11 – 20, 2020**

**Title: Reply LS on Service Layer aspects for 5G MBS**

**Release: Rel-17**

**Work Item: FS\_5MBS**

**Source: SA WG4**

**To: SA WG2**

**Cc: SA WG6**

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**Attachments: S4-201585**

# 1 Overall description

SA4 thanks SA2 for their LS on Service Layer Aspects for 5MBS. SA4 is already studying potential Multicast extensions for the 5G Media Streaming Architecture within the FS\_5GMS\_Multicast study item. We understand that 5MBS may also be used independently from the 5G Media Streaming Architecture (5GMSA).

SA4 would like to provide the following feedback:

*SA2 assumes that the 5G service layer functionality for MBS is in scope of SA4 work.*

SA4 concur with your assumption that the service layer functionality for 5G MBS is in scope of SA4. SA4 has already started identifying the functional mapping of BM-SC functions and xMB interfaces to the new MBSF entities (MBSF-C and MBSF-U).

…*therefore SA2 would like to seek coordination with SA4 regarding the standardisation of a framework to enable media processing for 5MBS services and related interactions between MBSF-C and MBSF-U. Solution #33 in the TR contains not yet agreed proposals for such a framework*.

SA4 has started the discussions around the MBSF-U functionality and its configuration from an API invoker side. The currently agreed SA4 architecture assumptions are in the attached Tdoc. It is assumed that existing BM-SC user plane functions relating to multicast/broadcast delivery and the related xMB-U ingest protocols are evolved into the MBSF-U. Since SA4 is responsible for the definition of the BM-SC function and the xMB interface, SA4 proposes to specify the MBSF-U and MBSF-C functions and the Nmbsu interface with inputs from SA2. Does SA2 concur with this proposal?

SA4 has also identified several issues which would benefit from SA2 input:

1. For the MBSF-U design (in particular the Nmbsu definition) SA4 would need to know the MB-UPF ingest options and configuration parameters. From TR 23.757, N6 appears to offer two transport options, either direct IP Multicast or a unicast tunnel (MB2-U). Is this assumption correct?
2. Regarding Configuration 1, Figure A.3.2-2, TR 23.757: Can an Application Function in any external Data Network publish data directly into the MB-UPF via N6/MB2-U? Or is Configuration 1 limited to Mission Critical Services / GCS?
3. The existing BM-SC hosts the SYNC (for time synchronization) and RoHC function. The prime reason here is MBSFN operation. SA4 understands that the 5MBS feature does not yet have a requirement for synchronization across adjacent cells, but that the related RAN normative work item does not preclude its introduction in a later release. Does SA2 have any view on the need of SYNC and/or RoHC support in the MBSF-U?
4. For Nmbsu, SA4 proposes that interface Nmbsu follows the SBA design principles (i.e. following HTTP REST principles), re-using semantics, concepts and properties from xMB-C. Can SA2 confirm this assumption?

In addition, SA4 would to provide the following feedback:

* SA2’s converged architecture depicts only a single AF function handling both control plane and user plane interactions. During our recent joint conference call with SA2 FS\_MBS experts it was clarified that the AF can also support the separation of control plane and user plane aspects (like the split between 5GMS AF and 5GMS AS). SA4 kindly asks SA2 to add a note into the final TS that an AF can also support the split of control/user plane.
* SA4 has frequent conference calls to progress the work between formal e-meetings. SA4 may invite SA2 delegates to join such conference call to discuss this matter further.

# 2 Actions

**To SA2**

**ACTION: SA4 kindly asks SA2 to**

* + Inform SA4 once the 5G MBS reference architecture is stable;
  + Add a Note to your 5MBS Technical Specification that the AF can also support the separation of control plane and user plane;
  + Confirm that SA4 will define the detailed MBSF functions (MBSF-C and MBSF-U entities) as well as the Nmbsu Interface;
  + Provide information on the N6 transport options;
  + Provide information on whether an IP Multicast stream can be sourced from an external AF;
  + Provide information on SYNC and / or RoHC in the MBSF;
  + Provide feedback on the SBA-based design assumption for Nmbsu.

# 3 Dates of next TSG SA WG4 meetings

Editor’s note: The SA4#112-e and SA4#113-e dates are not completely fixed.

SA4#112-e [1 - 10] February 2021 E-meeting

SA4#113-e [7 – 16] April 2021 E-meeting