3GPP TSG SA WG4 ad hoc Meeting post-#123 TDoc S4aI230102

Electronic, 29th June–10th August 2023 *Revision of S4-231105*

**Title: Reply LS on object acquisition**

**Response to: S4-231016 | C4-232181**

**Release: Rel-17**

**Work Item: 5MBS, 5MBUSA, 5MBP3**

**Source:** **3GPP SA4**

**To:** **3GPP CT4**

**Cc: 3GPP CT3**

**Contact person: Richard Bradbury**

**richard dot bradbury at bbc dot co dot uk**

**Send any reply LS to: 3GPP Liaisons Coordinator,** [**mailto:3GPPLiaison@etsi.org**](mailto:3GPPLiaison@etsi.org)

**Attachments:** TS 26.502 CR0015  
TS 26.517 CR0007

# 1 Overall description

SA4 thanks CT4 for its insightful questions about the proposed objAcqusitionKeepUpdated flag and is pleased to provide answers in section 1.1 below.

In addition, SA4 would like to inform CT4 that it agreed at its recent SA4#124 (Berlin) meeting the attached **CR0015** to TS 26.502 that anticipates many of the questions raised, as well as **CR0008** to TS 26.517 that specifies the format of the object manifest document referred to in SA4's answer below. In particular, the syntax of the object manifest document specifies an explicit means to signal an update period for the object manifest itself. This closes the gap identified in SA4's previous LS on this topic, and **SA4 hereby withdraws its request to CT4 to modify the Nmbsmf\_‌MBS‌Distribution‌Session service API defined in TS 29.581**.

**CR0015** to TS 26.502 also updates the specification of notification events in response to previous feedback received from CT4 and provides significant improvements to the high-level procedures for MBS User Services reflecting these revisions. It also provides updates relating to our current understanding of MBS security procedures. We would like to thank CT4 for its patience while SA4 completed this complex Change Request.

## 1.1 Answers to CT4 questions

|  |
| --- |
| Q2: There are two different manifests defined, i.e., a presentation manifest which is used for the OBJECT\_STREAMING mode, and an object manifest which is for the OBJECT\_COLLECTION and OBJECT\_CAROUSEL mode.  - What are the differences between presentation manifest and object manifest?  - For operating modes OBJECT\_COLLECTION and OBJECT\_CAROUSEL, whether there is only a single object manifest to be used (i.e., the attribute *objAcquisitionIdsPull* in *ObjDistributionData* as specified in clause 6.1.6.2.5 of 3GPP TS 29.581 only contains one element)?  - For the OBJECT\_STREAMING mode, whether there is also only a single presentation manifest to be used? |

The presentation manifest(s) provisioned in the case of OBJECT\_STREAMING operating mode are typically streaming media presentation manifests. In this case, more than one presentation manifest may be associated with a given MBS Distribution Session, for example an MPEG‑DASH Media Presentation Description and an HLS master playlist that describe the same media presentation and whose respective media representations/renditions reference identical sets of MPEG‑CMAF media fragments. This point is clarified in clause 6.1 of TS 26.502 in the attached **CR0015**.

NOTE: In the attached Change Requests, SA4 has changed the terminology used from "presentation manifest" to "Application Service Entry Point" to align with TS 26.517.

In the cases of OBJECT\_COLLECTION and OBJECT\_CAROUSEL operating modes, the object manifest is a JSON document listing the objects to be transmitted by the MBSTF in the MBS Distribution Session. The format of this object manifest document is recently specified in TS 26.517 **CR0007** (attached). In both of these operating modes, CT3's understanding that only one object acquisition identifier is permitted is correct. This point is clarified in clause 6.1 of TS 26.502 in the attached **CR0015**.

|  |
| --- |
| Q1: What exactly is the usage of *objAcquisitionKeepUpdated*? As SA4 indicates, *objAcquisitionKeepUpdated* is a Boolean. If it is set to true:  - does SA4 mean the MBSTF needs to keep checking the possible update of the object manifest and the object acquisition shall take place continuously? If so, is there any additional parameter, e.g., frequency/period, to instruct MBSTF how to perform the update? Or  - the AF will trigger the control plane signalling to the MBSTF via NEF/MBSF with the indicator *objAcquisitionKeepUpdated* set to true to request the MBSTF to immediately perform the update, i.e. to perform object acquisition, when such update is required. |

SA4 confirms that CT4's first interpretation of the objAcqusitionKeepUpdated flag is the correct one.

In the case of OBJECT\_STREAMING operating mode provisioned to use the pull-based object acquisition method, the presentation manifest typically includes explicit information about the need to reacquire itself and the required periodicity of updates (e.g., minimum update period). Hence, the objAcqusitionKeepUpdated flag appears to be redundant in this case.

In the case of OBJECT\_CAROUSEL operating mode provisioned to use the pull-based object acquisition method, the MBSTF is responsible for checking the object manifest for updates. As can be seen from the attached **CR0015** to TS 26.502 and **CR0007** to TS 26.517, the object manifest itself defines an update interval as a parameter included at its top level. Hence, the objAcqusitionKeepUpdated flag is now also redundant in this case.

|  |
| --- |
| Q3: Whether the indicator *objAcquisitionKeepUpdated* may also be applicable for the OBJECT\_COLLECTION mode? |

SA4 confirms that the objAcqusitionKeepUpdated flag is not applicable to OBJECT\_COLLECTION operating mode because the objects listed in the object manifest are in this case transmitted only once.

In summary, with the latest agreed changes to its specifications, SA4 believes that the original stage-2 requirement in TS 26.502 for the MBSTF to automatically keep carouselled objects updated is now fully satisfied at stage‑3 by TS 26.517 and that the gap previously identified in the Nmbsmf\_MBSDistributionSession service API therefore no longer exists. Hence, SA4 withdraws its request to add an objAcqusitionKeepUpdated flag to the ObjDistributionData type defined in table 6.1.6.2.5‑1 of TS 29.581.

# 2 Actions

**To CT3**

**ACTION:** SA4 asks CT3 to take the above information into account.

# 3 Dates of next TSG SA WG 4 meetings

SA4#125 21st–25th August 2023 Gothenburg, Sweden

SA4#126 13th–17th November 2023 Chicago, United States of America