**3GPP TSG-SA4 Meeting #110-eS4-201158**

**Electronic, Online, 19th–28th August 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **PSEUDO CHANGE REQUEST** | | | | | | | | |
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|  | **TR 26.802** | **CR** | **–** | **rev** | **–** | **Current version:** | **0.0.2** |  |
|  | | | | | | | | |
| *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:*** | Key Issue for support of multicast ingestion and distribution | | | | | | | | | |
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| ***Source to WG:*** | TELUS | | | | | | | | | |
| ***Source to TSG:*** | S4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | FS\_5GMS\_Multicast | | | | |  | ***Date:*** | | | 2020-08-17 |
|  |  | | | |  | |  | | |  |
| ***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)*. | | | | | | | |  | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Add key issue description for support of multicast ingestion and distribution | | | | | | | | |
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| ***Summary of change:*** | | 1. Add key issue description for support of multicast ingestion and distribution. | | | | | | | | |
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| ***Consequences if not approved:*** | | The Study Item will be lack of key issue which the solution will address | | | | | | | | |
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| ***Clauses affected:*** | | 5.1 | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | |  | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | Changes against baseline document TR 26.802 v0.0.2 | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

FIRST CHANGE

# 5.1 Key Issue #1: Support of multicast ingest and distribution

## 5.1.1 Description

The key issue aims at addressing the support of multicast ingest and distribution in 5G MS architecture.

In TS 26.501, the 5GMSd Application provider could use the M2d API to ingest content. After the ingest, the content is accessible from the 5GMSd AS through a new location identifier. The Media Streaming access (M4d) then starts between the 5GMSd Client and 5GMSd AS. DASH streaming with HTTP methods is specified in TS26.501 as a unicast streaming protocol.

As multicast architecture has the potential to play an important role in 5G media streaming, an enhanced architecture is desired to support multicast ingest and distribution in 5GMS. The following use cases provide a subset of examples where this capability is required.

* The transparent IPTV IPv4/IPv6 multicast delivery scenario in TS 23.316 [8] requires the content to be ingest and delivered in multicast. The following IPTV requirements and principles specified in TS 23.757 [7] apply:
* Solutions to IPTV shall minimize the impact on IPTV network and STB.
* Solutions to IPTV shall reuse IGMP/MLD message via user plane to join/leave an IPTV channel group
* Solutions to IPTV shall provide an efficient mechanism for the UE to join/leave an IP channel group, including reducing latency and signaling.
* In Multicast ABR reviewed in Clause 4.3.1, The Multicast server could be deployed in the 5GMSd, and Multicast gateway retrieves periodic updates of multicast channel map and analyses maps to see if any previously unicast streams are available in multicast. The multicast gateway could be deployed at the edge, or integrated with 5GMS UE. The closer the Multicast Gateway is deployed to the UE, the higher the multicast efficiency it could achieve.
* The switch between multicast traffic and unicast traffic is required to support MooD

5.1.2 Identified Gaps

Protocol and procedures are required to support the above-mentioned multicast use cases. The solutions to address this key issue could leverage existing M2d, M4d interfaces, new modes for certain reference points, or a new reference point.

END OF CHANGES