**3GPP TSG-WG SA2 Meeting #143E e-meeting *S2-210xxxx***

**Elbonia, February 24 – March 09, 2021 (revision of S2-210xxxx)**

**Source: Huawei, HiSilicon**

**Title: New TS: On the local Multicast and Broadcast Service**

**Document for: Approval**

**Agenda Item: 8.9**

**Work Item / Release: 5MBS / Rel-17**

*Abstract: This document adds local multicast service to the new TS*

# Background and Introduction

In the skeleton of the new TS, there is a section for "Support of Local multicast service with/without the location-dependent content".

# Proposal

It is proposed to capture the following changes vs. TS 23.247.

\* \* \* \* First change\* \* \* \*

# 7 MBS procedures

## 7.1 MBS procedures for multicast Session

### 7.1.6 Support of Local multicast service

#### 7.1.6.1 General

The procedures for service Local multicast service contains the ones for Local multicast service with the location-dependent content, and the ones for limited local multicast service distribution, as described in clause 6.2.

#### 7.1.6.2 Support of Local multicast service with the location-dependent content

##### 7.1.6.2.1 Multicast context and Multicast flow setup/modification via PDU Session Modification procedure

Editor's Note: Detailed additions to Multicast context and Multicast flow setup/modification via PDU Session Modification procedure are FFS.

The Multicast context and Multicast flow setup/modification for the UE is performed as defined in section 7.1.1 with the following additions:

* The NEF select MB-SMF as ingress node for the location area and stores related information in the UDR
* If the MBS session is only available in certain location area(s), the location area can be indicated via Service Announcement
* When SMF request multicast context, the associating NF provides information about location areas stored within the multicast context, including MB-SMF ID, Flow ID and location area. The SMF selects location dependent multicast context information based on the location area where the UE is residing.

Editor's Note: The NF type of the associating NF is FFS.

* If SMF has no information about the multicast context for the indicated multicast group and area session ID, SMF interacts with MB SMF to retrieve QoS information of the multicast QoS flow(s) for the multicast group and area session ID.
* SMF requests the AMF to transfer a message to the RAN node using The Namf\_N1N2MessageTransfer service used by SMF to transfer the multicast info to RAN node additionally includes the Flow ID and location area.
* The RAN uses the received multicast group ID and area session ID to determine the localized multicast distribution context and whether the user plane for the multicast group/context and location area distribution is already established.

##### 7.1.6.2.2 Multicast group registration

Editor's Note: Further details of Multicast group registration are FFS.

The Multicast group registration procedure for the UE is performed as defined in section 7.0 with the following additions:

* Multiple AFs may register for the same multicast session but different location areas. NEF selects MB-SMF as ingress control node, possibly based on location area.
* If presented, the NEF maps possible external identifiers for location areas to network-internal identifiers (e.g. list of cells, TAIs).
* NEF requests storage of multicast session at UDR and provides multicast session ID, selected MB-SMF ID and location area.

Editor's Note: Details of allocation Flow ID are FFS.

* The policy of Multicast session is determined based on MBS session ID, Flow ID, and location area.
* The MB-SMF may select the MB-UPF based on the location area.

##### 7.1.6.2.3 Handover procedure

Editor's Note: Further details for Handover procedure are FFS.

The Handover procedure for the UE is performed as defined in section 7.1.5 with the following additions:

* Before the Handover, The UE is camping at Source RAN (S-RAN) and receiving multicast data a corresponding to the multicast session ID and location area ID.
* S-RAN includes MBS Session ID, Flow ID and location area to the Target RAN (T-RAN).
* T-RAN determines whether to establish the forwarding resources and multicast distribution for MBS Session ID and Flow ID provided by S-RAN, based on MBS Session ID, Flow ID and location area.
* T-RAN responses to S-RAN, with the accepted multicast session ID and area session ID. When T-RAN supports multicast but the UE is no longer in the location area, T-RAN rejects to handover the multicast session with a cause indication.

#### 7.1.6.3 Support of limited local multicast service distribution

##### 7.1.6.3.1 Provisioning of location area information

Editor's Note: Provisioning of location area information to UE is FFS.

\* \* \* \* End of changes \* \* \* \*