**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 MBS service provisioning**

**Document for: Approval**

**Agenda Item: 8.9**

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

*Abstract: This document adds MBS service provisioning parts to the new TS.*

# Background and Introduction

In the skeleton of the new TS, there is a section for adding MB service provisioning.

It is proposed to add the phases and examples for both multicast and broadcast using the similar style as section 4.4 of TS 23.246.

SA part.

# Proposal

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

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

## 5.4 MB service provisioning

### 5.4.1 Multicast data provisioning

Reception of the Multicast data is enabled by certain procedures that are illustrated in the Figure below.

**Service Announcement**

**UE Session Join**

**Session Establishment**

**Data Transfer**

**Session Leave**

**Session Release**

Figure 5.4.1-1: Phases of Multicast data provisioning

The following phases are performed for a specific UE:

* UE Session Join: UE Session Join is the process by which a UE joins a multicast group, i.e. the UE indicates to 5GC that such UE wants to receive Multicast data identified by a specific MBS group ID.
* Session Leave: Session Leave is the process by which a UE leaves a multicast group, i.e. the UE no longer wants to receive Multicast data identified by a specific MBS group ID.

The following phases are performed for a specific service:

* Service announcement: Service announcement is used to distribute to information about the service, parameters required for service activation and possibly other service related parameters (e.g. service start time).
* Session Establishment: Session Establishment is the point at which the transmission resources need to be established for transmitting the DL Multicast data between 5GC and NG-RAN. Session Establishment could be triggered by the Session Join request from UE.
* Data transfer: It is the phase when Multicast data are transferred to the UEs.
* Session Release: It is the point at which there will be no more need to transmit Multicast data. At Session Release, the resources in 5GS are released.

The phase of Multicast data provisioning is illustrated with the following example of timeline:

**Time**

**UE 1 events**

**UE 2 events**

**Transfer of data**

**Multicast Session**

UE Session Join

Session Leave

UE Session Join

Session Leave

Service Announcement

Session Establishment

Session Release

Data Transfer

Data Transfer

Data Transfer

Session existing period

Data sent to UE1

Data sent to UE1 and UE2

Data sent to UE1 and UE2

Data sent to UE2

Figure 5.4.1-2: Multicast service timeline example

Editor's Note: Details of the timeline is FFS.

### 5.4.2 Broadcast data provisioning

An example for the phases of broadcast data provisioning is described in the figure below:

**Service Announcement**

**Session Establishment**

**Data Transfer**

**Session Release**

Figure 5.4.2-1: Phases of Broadcast data provisioning

The following phases are performed for a specific service:

* Service announcement: Service announcement is used to distribute to information about the service, parameters required for service activation and possibly other service related parameters (e.g. service start time).
* Session Establishment: Session Establishment is the point at which the transmission resources need to be established for transmitting the DL Broadcast data between 5GC and NG-RAN. Session Establishment is triggered by the request from AF.
* Data transfer: It is the phase when Multicast data are transferred in the air interface.
* Session Release: It is the point at which there will be no more need to transmit Broadcast data. At Session Release, the resources in 5GS are released.

The phase of Broadcast data provisioning is illustrated with the following example of timeline:

**Time**

**UE 1 events**

**UE 2 events**

**Transfer of data**

**Multicast Session**

UE1 local service activation

UE1 local service de-activation

UE2 local service activation

UE2 local service de-activation

Service Announcement

Session Establishment

Session Release

Data Transfer

Data Transfer

Data Transfer

Session existing period

Broadcast of Data, received by any UE which is present

Broadcast of Data, received by any UE which is present

Broadcast of Data, received by any UE which is present

Figure 5.4.2-2: Broadcast service timeline

Editor's Note: Details of the timeline is FFS.

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