**3GPP TSG-RAN WG3 Meeting #110-e R3-207052**

**E-meeting, 2 – 12 Nov 2020**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.401** | **CR** | **0153** | **rev** | **4** | **Current version:** | **16.3.0** |  |
|  | | | | | | | | |
| *For* [***HELP***](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 | **X** | Core Network | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | Introduction of NR MBS | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, CMCC | | | | | | | | | |
| ***Source to TSG:*** | R3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_MBS-Core | | | | |  | ***Date:*** | | | 2020-10-22 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***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)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | As per RP-193248, MBS (Multicast Broadcast Service for NR) is supported in release 17. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | NR MBS is introduced. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | NR MBS not supported in case of split gNB architecture. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 3.2, 6.1.x, 7.x, 8.xx | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Rev-1: typo: NR-MBS -> NR MBS  Rev-2: editorial checking  Rev-3: resubmission based on latest version of spec  Rev-4: update wording | | | | | | | | |

***--------------------------------Start of the First Change-----------------------------***

# 3 Definitions and abbreviations

## 3.1 Definitions

For the purposes of the present document, the terms and definitions given in TR 21.905 [1] and the following apply.   
A term defined in the present document takes precedence over the definition of the same term, if any, in TR 21.905 [1].

**Conditional Handover:** as defined in TS 38.300 [2].

**Conditional PSCell Change:** as defined in TS 37.340 [12].

**DAPS Handover:** as defined in TS 38.300 [2].

**en-gNB**: as defined in TS 37.340 [12].

**Early Data Forwarding**: as defined in TS 38.300 [2].

**gNB:** as defined in TS 38.300 [2].

**gNB Central Unit (gNB-CU):** a logical node hosting RRC, SDAP and PDCP protocols of the gNB or RRC and PDCP protocols of the en-gNB that controls the operation of one or more gNB-DUs. The gNB-CU terminates the F1 interface connected with the gNB-DU.

**gNB Distributed Unit (gNB-DU):** a logical node hosting RLC, MAC and PHY layers of the gNB or en-gNB, and its operation is partly controlled by gNB-CU. One gNB-DU supports one or multiple cells. One cell is supported by only one gNB-DU. The gNB-DU terminates the F1 interface connected with the gNB-CU.

**gNB-CU-Control Plane (gNB-CU-CP):** a logical node hosting the RRC and the control plane part of the PDCP protocol of the gNB-CU for an en-gNB or a gNB. The gNB-CU-CP terminates the E1 interface connected with the gNB-CU-UP and the F1-C interface connected with the gNB-DU.

**gNB-CU-User Plane (gNB-CU-UP):** a logical node hosting the user plane part of the PDCP protocol of the gNB-CU for an en-gNB, and the user plane part of the PDCP protocol and the SDAP protocol of the gNB-CU for a gNB. The gNB-CU-UP terminates the E1 interface connected with the gNB-CU-CP and the F1-U interface connected with the gNB-DU.

**IAB-node**: as defined in TS 38.300 [2].

**IAB-donor**:as defined in TS 38.300 [2].

**IAB-donor-CU**: the gNB-CU of an IAB-donor, terminating the F1 interface towards IAB-nodes and IAB-donor-DU.

**IAB-donor-DU**: the gNB-DU of an IAB-donor, hosting the IAB BAP sublayer (as defined in TS 38.340 [22]), providing wireless backhaul to IAB-nodes.

**IAB-DU**: as defined in TS 38.300 [2].

**IAB-MT**: as defined in TS 38.300 [2].

**ng-eNB:** as defined in TS 38.300 [2].

**ng-eNB Central Unit (ng-eNB-CU):** as defined in TS 37.470 [21].

**ng-eNB Distributed Unit (ng-eNB-DU):** as defined in TS 37.470 [21].

**NG-RAN node:** as defined in TS 38.300 [2].

**PDU Session Resource**: This term is used for specification of NG, Xn, and E1 interfaces. It denotes NG-RAN interface and radio resources provided to support a PDU Session.

**Public Network Integrated NPN:** as defined in TS 23.501 [3].

**Stand-alone Non-Public Network:** as defined in TS 23.501 [3].

## 3.2 Abbreviations

For the purposes of the present document, the terms and definitions given in TR 21.905 [1] and the following apply.   
A term defined in the present document takes precedence over the definition of the same term, if any, in TR 21.905 [1].

5GC 5G Core Network

AMF Access and Mobility Management Function

AP Application Protocol

AS Access Stratum

BH Backhaul

CAG Closed Access Group

CHO Conditional Handover

CLI Cross-Link Interference

CM Connection Management

CMAS Commercial Mobile Alert Service

DAPS Dual Active Protocol Stack

ETWS Earthquake and Tsunami Warning System

F1-U F1 User plane interface

F1-C F1 Control plane interface

F1AP F1 Application Protocol

FDD Frequency Division Duplex

GTP-U GPRS Tunnelling Protocol

IAB Integrated Access and Backhaul

IP Internet Protocol

MBS Multicast Broadcast Service

NAS Non-Access Stratum

NID Network identifier

NPN Non-Public Network

PNI-NPN Public Network Integrated Non-Public Network

PTP Point to Point

PTM Point to Multipoint

O&M Operation and Maintenance

PWS Public Warning System

QoS Quality of Service

RET Remote Electrical Tilting

RIM Remote Interference Management

RIM-RS Remote Interference Management Reference Signal

RNL Radio Network Layer

RRC Radio Resource Control

SAP Service Access Point

SCTP Stream Control Transmission Protocol

SFN System Frame Number

SM Session Management

SMF Session Management Function

SNPN Stand-alone Non-Public Network

TDD Time Division Duplex

TDM Time Division Multiplexing

TMA Tower Mounted Amplifier

TNL Transport Network Layer

***--------------------------------Start of the Next Change-----------------------------***

## 6.1 Overview

***//skip unchanged part***

### 6.1.x Overall Architecture of MBS

***--------------------------------Start of the Next Change-----------------------------***

# 7 NG-RAN functions description

***//skip unchanged part***

## 7.x Support for MBS

The Support of MBS in non-split gNB case is specified in TS 38.300 [2].

***--------------------------------Start of the Next Change-----------------------------***

# 8 Overall procedures in gNB-CU/gNB-DU Architecture

***//skip unchanged part***

## 8.2 Intra-gNB-CU Mobility

### 8.2.1 Intra-NR Mobility

***//skip unchanged part***

***--------------------------------Start of the Next Change-----------------------------***

## 8.xx Overall procedures for MBS

The following clauses describe the overall procedures for MBS involving E1 and F1.

***--------------------------------End of the Changes-----------------------------***