

3GPP TSG RAN Rel-18 workshop
Electronic Meeting, June 28 - July 2, 2021

RWS-210066

Agenda Item: 4.3
Source: Spreadtrum Communications
Title: MBS enhancements for R18
Document for: Discussion and decision

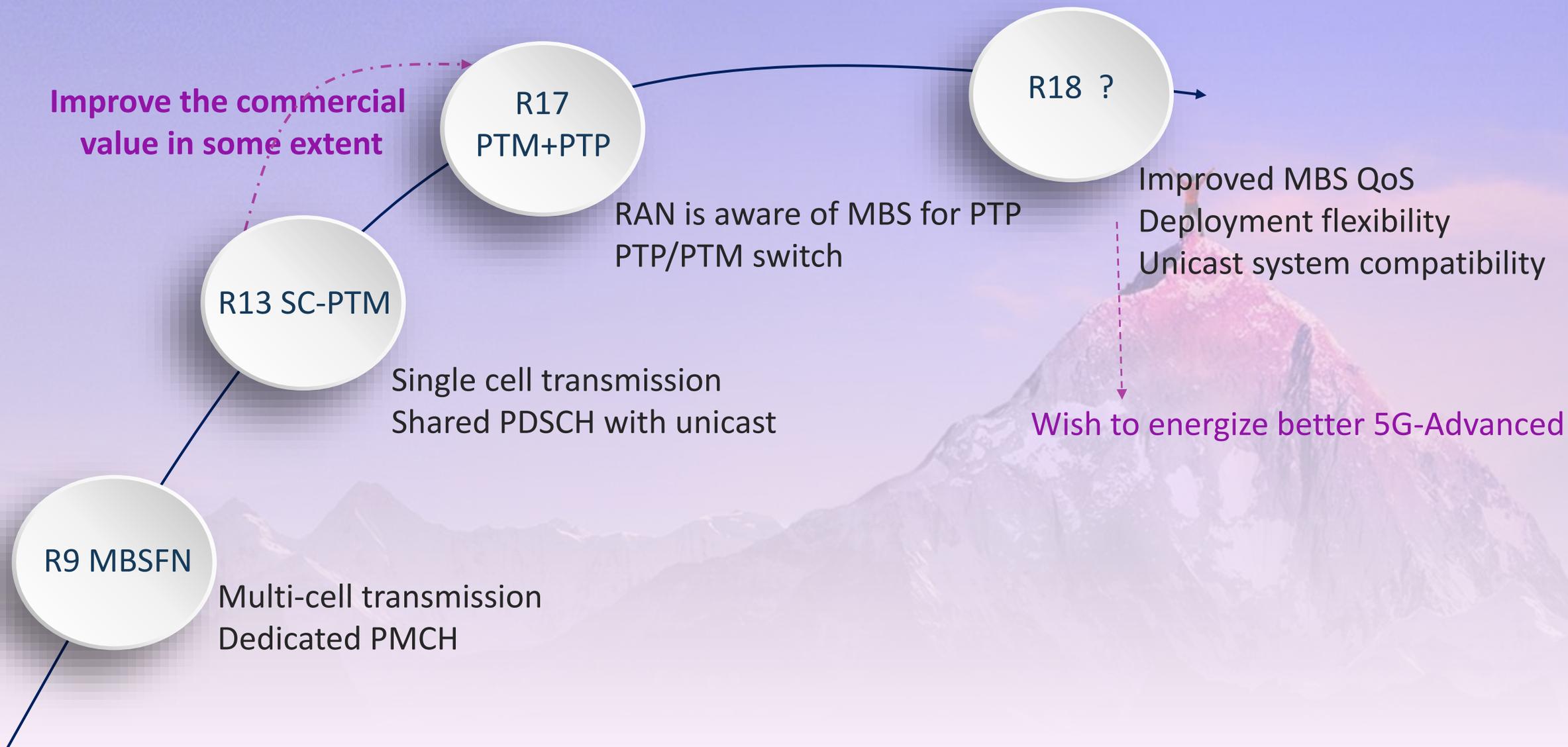


WWW.UNISOC.COM

UNISOC (Shanghai) Technologies Co., Ltd.



R18 Motivations for MBS



Consideration on Objective B

- In R17, we don't have enough time to discuss Objective B^[1] in RAN
- In R18, we should include Objective B in the WI for RAN
 - Services that Objective B supports:
 - ✓ Linear TV
 - ✓ Smart TV
 - ✓ Managed and OTT content
 - ✓ Radio services
 - ✓ Others...
- Free-to-Air (FTA) can support Objective B (RAN2)

[1] SP-190442 Revised SID: Architectural enhancements for 5G multicast-broadcast services, SA WG2.

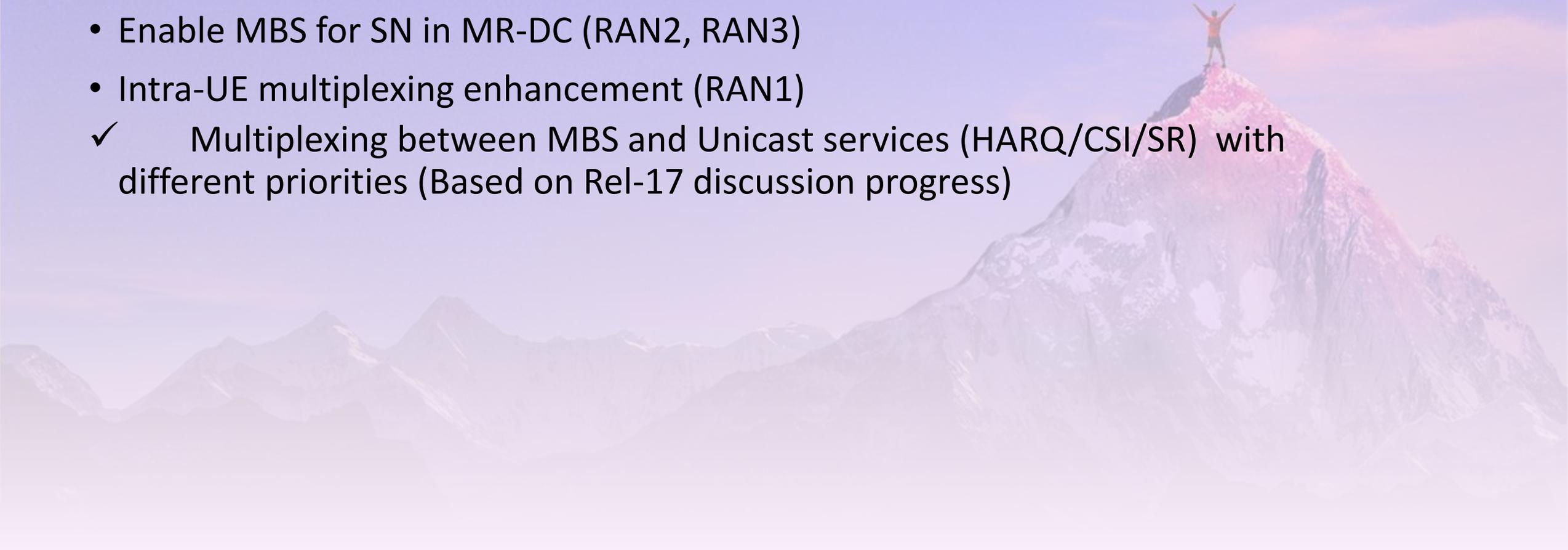
Capability Enhancement for R18 MBS

- Motivations

- Only support MBS for MN is limited to application scenario

- Objectives

- Enable MBS for SN in MR-DC (RAN2, RAN3)
- Intra-UE multiplexing enhancement (RAN1)
- ✓ Multiplexing between MBS and Unicast services (HARQ/CSI/SR) with different priorities (Based on Rel-17 discussion progress)



Intra-CU SFN for R18 MBS

- Motivations

- SFN is benefit for spectrum planning, coverage enhancement and reducing transmitter cost
- R17 only support transparent SFN in one DU, the synchronization is based on the network implementation, hence no standardization work
- Extend the area of SFN can promote the system performance

- Objectives

- Enable intra-CU SFN (RAN3)
- ✓ To study the synchronization issue among transmitters in different DU

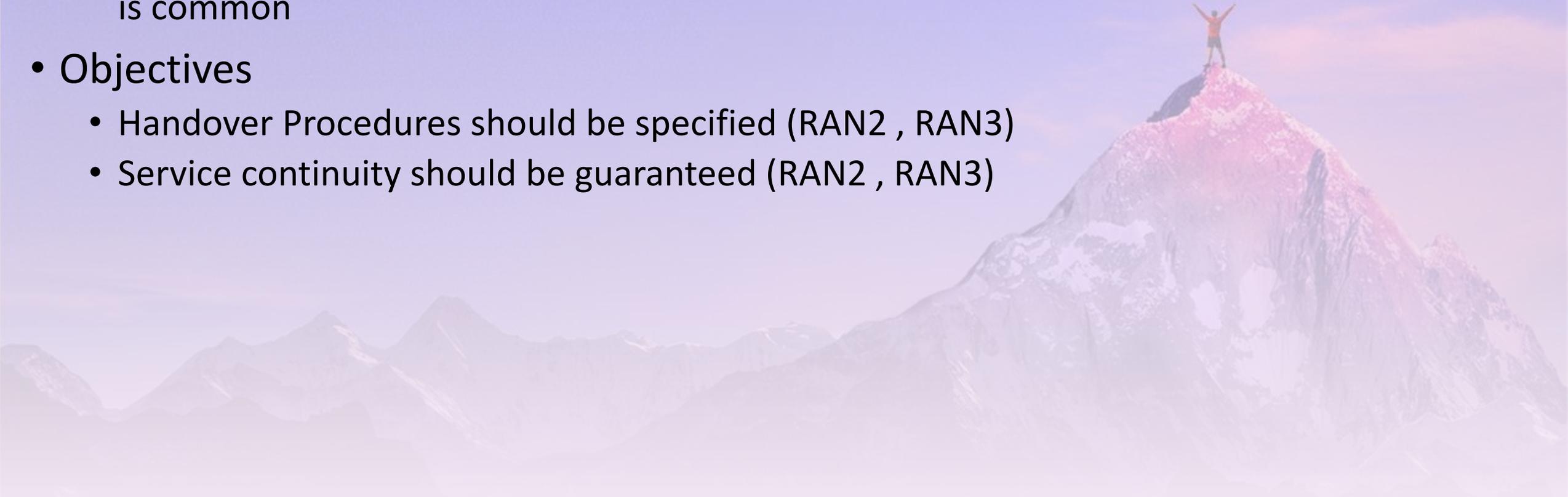
Inter RAT Handover for R18 MBS

- Motivations

- R17 only study Handover among the same RAT
- During mobility, handover from E-UTRAN to NG-RAN or from NG-RAN to E-UTRAN is common

- Objectives

- Handover Procedures should be specified (RAN2 , RAN3)
- Service continuity should be guaranteed (RAN2 , RAN3)



RRC_IDLE/INACTIVE state enhancement

- Motivations

- When lots of UEs are receiving multicast, limit UE to RRC_CONNECTED will cause power consumption and reduce resource efficiency
- MBS services are generally periodic, configured grant can be used
- Coverage enhancement is a potential requirement

- Objectives

- Multicast reception for IDLE/INACTIVE UEs (RAN2)
- Support SPS group-common PDSCH transmission (RAN1, RAN2)
 - ✓ Conservative DL scheduling to accommodate all UEs
 - ✓ Reduced DL control resources
- PDSCH repetition (RAN1)
 - ✓ Consecutive slot-level PDSCH repetition as a convenient solution



Proposals

- Proposal 1: Objective B should be included in R18 WID and FTA should be supported to enable Objective B. (RAN2)
- Proposal 2: Intra-CU SFN should be studied. (RAN2)
- Proposal 3: Further enhancement for multiplexing of MBS and Unicast services (HARQ/CSI/SR) with different priorities should be studied (Based on Rel-17 discussion progress). (RAN1)
- Proposal 4: MBS is supported for SN in MR-DC. (RAN2)
- Proposal 5: Inter-RAT handover should be studied. (RAN2)
- Proposal 6: For IDLE/INACTIVE UEs, multicast service reception and performance enhancement are supported. (RAN2, RAN1)

Thank you

All data and information contained in this document are confidential assets of UNISOC. All rights reserved. Your reception of this document indicates that you agree that this document contains confidential information, and not to use or duplicate all or part of this document prior to UNISOC's permission. UNISOC has the right to modify this document as it wishes without making prior notices. UNISOC does not provide any guarantee on information and data contained in this document. UNISOC is not liable in any cases for any harm or damage directly or indirectly related with this document.

