




# ***Summary from RAN#78***

Source: RAN Chairman

# Outline

 5G NR aspects

 Handling of new WI/SI proposals

 LTE aspects

 Call for a 5G workshop

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## ***5G NR aspects***




***Non-Standalone 5G NR  
standards completed !***

# *Focus on essential functionality*

- 📶 In Q1: RAN1 shall continue to focus on stabilizing basic and essential functionality for **the scope of the December drop** that was defined at RAN#77 in [RP-172108](#), with two additions:
  - Scope for URLLC work for Rel-15 in H1 for the June drop endorsed in [RP-172817](#)
  - For NR-NR CA: finalization of the work to enable up to 2 different numerologies within the same PUCCH group (PUCCH sent on the CC with smaller SCS) in RAN1 in Q1, and in RAN4 (Core) for Q2, for the December drop.
  - *Note: Situation to be re-assessed at RAN#79 in March*
- 📶 RAN2 shall focus on closing the open issues for Option-3, and on commencing specification work for the essential components of Option-2

# *Handling of Study Items in 2018*

Measures to maximize meeting time available for Release-15 NR in H1/2018:

 **Conclusion:** Work on NR Study Items led by RAN1 or RAN2 shall be limited to only one of the WG meetings in Q1, and limited to max. 1 TU each

- The revised TU allocation for SIs is endorsed in [RP-172805](#), [RP-172782](#)

 **Conclusion-bis:** Potential approval of any new proposed SI/WI shall be targeted to June/2018 at the earliest

- This implies to all new RAN1, RAN2, RAN3, RAN4 proposals for both LTE and NR
- Continuation of an existing NR SI to another SI might be possible even before June/2018
- Continuation of an existing LTE SI to a WI/SI might be possible even before June/2018
  - New LTE WI proposals targeting Release 15 are to be discussed and decided case-by-case

# *Architecture options*

 It is recognized that all architecture options remain within the scope of the NR WID (completion target: June/2018)

## Conclusion:

- Until March/2018 WGs shall prioritize Option-3 stabilization (only essential corrections allowed), and on Option-2 specification work
  - NR-NR DC is within the scope of the work, but needs basic Option-2 functionalities to stabilize first → NR-NR DC to commence in Q2
- For Option-4, Option-7x: commence work once Option-2 and Option-3 are stabilized
- Check the progress in March, and adjust plans/measures if necessary

# ***RAN Architecture***





- 📶 Control plane – User plane (CP –UP) split
  - Following the conclusion of the SI, RAN approved a new WID to commence with normative work for Release 15
  
- 📶 CU-DU Lower Layer split
  - TR approved, but no consensus on how and whether to continue the work
  - It was concluded to put the work on hold in RAN3 in Q1, and re-check the situation at RAN#79 (March/2018)



# ***Resolution on contentious items***

- 📶 NR UE feature categorization, endorsed guidance in [RP-172816](#)
- 📶 Mandatory 4Rx, conclusions in [RP-172788](#)
- 📶 Mandatory channel bandwidth aspects, conclusions in [RP-172832](#)
- 📶 UE power sharing aspects, conclusions in [RP-172833](#)
- 📶 NR UE categories, RAN email discussion will be conducted as described in [RP-172757](#)

# *Administrative measures*

-  Ad-hoc meetings in July 2018 – **Conclusion:**
  - RAN1 AH in July is cancelled
  - RAN2 and RAN3 July AH confirmed
  - RAN4 July AH confirmed, but scope restricted to LTE/NR performance work only
  - Freeze 2018 meeting calendar as per the above, no new ad-hoc meetings!
-  Ad-hoc meetings in 2019 – **Conclusion:**
  - Plan for 6 WG meetings for 2019, plan work accordingly (SI/WI approvals, etc...)
  - Remove RAN2, RAN3, RAN4 January and July ad-hocs from 3GPP calendar
  - Decide RAN1 January and July AH in June/2018, mark these as TBC for now
-  Number of parallel sessions to be reduced in RAN1 from Q3/2018 onwards
  - Reduction in overall TU numbers (26→21 for NR, 17→14 for LTE)
-  WGs are reminded about the PCG guidance on working hours

# *IMT2020 submission*

## Calibration for self-evaluation

- Good progress, but more time is needed to complete the work → Email discussion to continue until Feb/2018

## Initial description template

- Initial Description Template for ITU-R submission is complete, LTI containing the template was sent to ITU-R following TSG-SA approval

# ***Study on 6 GHz for LTE and NR***

- 📶 New Study Item was approved to investigate the existing regulatory framework in different regions for the 5.925-7.125 GHz band
  - The study covers the regulation for both the unlicensed and licensed use for this band
- 📶 The Study will be conducted in RAN plenary, mostly on the email reflector
- 📶 Planned completion date of the study: RAN#80 (June/2018)



# *Handling of new WI/SI proposals*

# General Principles

- 📶 Primary focus to be put on ensuring proper Objectives&Scope that correspond to true market needs
  - 📶 **Real** Time Unit estimates to be included that are 'signed off' by the lead WG Chairman
  - 📶 Proposed new WI/SI shall omit Rapporteur information, the Supporting Companies information, and the Lead WG information
    - Lead WG information and Supporting Companies to be filled in upon full stabilization of the Objectives&Scope
    - Rapporteur information to be filled in upon approval of WI/SI
  - 📶 Role of and expectation towards the eventual Rapporteur
    - To serve as a **neutral facilitator** of the work
    - **Not represent any company** proposal or position for the WI/SI
    - Organize and ensure necessary cross-WG correspondence
    - Accurate and honest status reporting (open issues, TUs, etc...)
    - Strictly restrict the number of Rapporteurs for a WI/SI to a single person
- ➔ Rapporteurship does not in any way represent a company's leadership or the amount of innovation of a company for a certain WI/SI!

***All non-spectrum and non-testing WI/SI proposals to comply with General Principles from RAN#78 onwards***

# Next Steps for Rel16 proposals

- Work areas with multiple proposals at RAN#78 to be consolidated led by a Moderator over the RAN\_Drafts exploder:
  - MIMO (NR & LTE), moderator: Samsung
  - NR Voice (including fallback), moderator: Huawei
  - IoT / eMTC evolution (LTE & NR), moderator: Ericsson
  - Broadcast (NR & LTE), moderator: Qualcomm
  - NR V2X, moderator: Vodafone
  - NR Positioning, moderator: Intel
  - NR flexible duplex, moderator: LG
  - NR Power Consumption, moderator: CATT (for the standalone aspects start after March)
  - NR URLLC Enhancements, moderator: Nokia (to be started after March)
  - NR Mobility, moderator: Intel (to be started after March)
  - Other miscellaneous NR enhancements/leftovers, moderator: Docomo
    - Note: individual SI/WI is needed for each individual item, i.e. no umbrella WI/SI!
- Other individual company proposals are also encouraged to be further developed on the RAN\_Drafts exploder

# *Practical Steps until June/2018*

- 📶 Both the individual as well as the consolidated WI/SI proposals are encouraged to be further developed over the RAN\_Drafts reflector
- 📶 Role of the Moderator for consolidating the new work areas:
  - To serve as a **neutral facilitator** for the consolidation of the new work area into SI(s) and WI(s)
  - **Not represent any company** proposal or position during consolidation

→ Being a Moderator does not in any way represent a company's leadership or the amount of innovation of a company for the work area
- 📶 Goals for moderation:
  - Determination of a core set of objectives carrying support of a wide majority
  - Capturing other objectives with scattered support in []
  - Determining TUs for all potential objectives
  - Next checkpoint at RAN#79 (March/2018): moderator to submit summaries where applicable
- 📶 TSG-RAN to approve a set of new SIs/WIs at RAN#80 (June/2018)
  - This set will be a subset of all consolidated and individual proposals



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## ***LTE aspects***

# ***LTE ASN.1 freeze in March/2018***

In accordance with earlier decisions, it is confirmed that

- 📶 For LTE: The March/2018 ASN.1 freeze contains functions essential for **NR NSA Option-3 family only**, and does not contain any other Rel-15 LTE feature

# *LTE aspects*

## Number of Radio Bearers

- RAN approved a new WID to increase the maximum number of Radio Bearers a UE can establish to 15, see [RP-172835](#)
- The WID is scheduled to be completed by June/2018, in time for Release-15
- RAN assumes the corresponding core architecture&protocol parts to also complete in Release 15

## Low Latency for IMT2020

- RAN decided to task RAN2 to specify a solution within Release-15 to reduce control plane latency so that IMT2020 requirements can be met
- It is also endorsed for RAN2 to address the 0ms latency requirement as per [RP-172807](#)

# *LTE aspects*

## LTE URLLC

- Scope of the WID enhanced to enable the network to provide timing information at high granularity

## Light Connection

- RAN decided to put the WID on LTE Light Connection on hold in accordance with SA decision
- Topic to be re-addressed in June together with all other Release-16 proposals

## Support of Aerial Vehicles

- New WID approved to optimize mobility and power control aspects to enable better support of aerial vehicles in LTE, see [RP-172826](#)

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***Call for a 5G workshop***

# ***Background***

- 📶 3GPP presented its plans for the submission of “5G” for inclusion in IMT-2020 during the ITU-R WP5D meeting in October 2017.
- 📶 At the end of the workshop a request was raised to organize a meeting between 3GPP and Evaluation Groups to provide an insight on the technology and ensure alignment of simulation scenarios.
- 📶 Possible dates are to be evaluated, but likely after the conclusion of Rel-15 Self Evaluation (September 2018).

# Workshop Scope

- 📶 Organize a 3GPP Workshop on “5G” in 2018
  - 1 ½ day workshop
  - From October 24<sup>th</sup>, 13:00 to October 25<sup>th</sup>, 17:00
  - Tentative host: European Commission in Bruxelles (pending confirmation)
- 📶 Target audience: Independent Evaluation Groups , Regulators, Administrations, Verticals
- 📶 Scope:
  - Present to Independent Evaluation Groups 3GPP’s IMT2020 submission to WP5D in October
  - Provide insights to 3GPP’s “5G” technology
- 📶 Proposed agenda: (Details TBD in later stage)
  - Specific technical features of the “5G” proposal
  - Submission templates
    - Description characteristics template, link budget template, and compliance templates
  - Self-Evaluation results (including simulation assumptions and calibration)
  - Anticipations on the final submission with Rel 15 and Rel 16 contents
  - Overview of System Aspects

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***Thank You !***