Annex- capture status of RAN2 Agreements in RRC running CR for IIOT WI

**Green: Captured in RRC**

**Gray: No RRC impact**

**Blue: Not clear if RRC impact, will re-visit in the next ruuning CR when more agreements are reached.**

**Red: Not Captured**

# RAN2#109bis-e

## Accurate reference timing

* The CONNECTED UE can request the reference time information.
* The request of the reference time information is sent via the UEAssistanceInformation message.
* The UE indication of the delivery periodicity of the reference time is not supported in this release.
* The GPS time of the Rel-16 reference time information is provided independently without using the Rel-15 GPS 10ms resolution of SIB9.
* The reference time is encoded by using multiple fields, as the current specification, i.e. no optimization into a single field.
* The text proposal given in Annex A is used as the baseline for the request of the reference time information.

## Scheduling enhancements

* Not to introduce restrictions of how many SPS configurations are supported, e.g. per cell/ per UE (SPS/CG).
* No need to capture limitation of maximum CG/SPS configurations per MAC entity in TS 38.300.
* Support up to 32 SPS configurations per MAC entity.
* SPS-Config and SPS-ConfigList in BWP-DownlinkDedicated cannot be configured simultaneously at a given time.
* ConfiguredGrantConfig and ConfiguredGrantConfigList in BWP-UplinkDedicated cannot be configured simultaneously at a given time.
* The change in the time domain offset seems agreeable, not sufficient support to clarify closest N, at least the way that was proposed here, can discuss more.

[R2-2003586](file:///D:\Documents\3GPP\tsg_ran\WG2\TSGR2_109bis-e\Docs\R2-2003586.zip) Remaining issues on configured grant type 1 resources calculation ZTE, Sanechips discussion Rel-16 NR\_IIOT-Core

* FFS if Option 1 or 2

## Intra-UE prioritization and multiplexing

R2-2003226 Summary of e-mail discussion: [Post109e#50][IIOT] Remaining issues intra-UE prioritization

* MAC CE is not considered for grant prioritization in Rel-16.
* On P3, it seems no company have strong reasons that we need to do either Option 1 or 2, can be resolved later (TS rapporteur to choose what is simplest)
* On P5, we send an LS to R1 informing on R2 agreements and the current gap, we explain the solutions on the table and we ask R1 for feedback (quick). LS to R1: Nokia (in email discussion above). LS approval 24h after stable.

R2-2004130 Summary of Offline Discussion [028]: Intra-UE prioritization and MAC, Part 1

* No text change in TS 38.321 to address the cases with multiple overlapping SPS PDSCH.
* Adopt the first TP in R2-2003226 (the one targets at Section 5.4.2.1. of TS38.321) to address the issue of HARQ buffer flushing when the grant for autonomous retransmission is again de-prioritized.
* For Rel-16, no enhancement is introduced for SR counter and SR Prohibit Timer.
* Data/Data and Data/SR prioritization should be configured as a single configuration
* Both Multiple Entry Configured Grant Confirmation MAC CE and Duplication RLC Activation/Deactivation MAC CE are assigned to LCID Set2.
* Autonomous retransmission should be continued upon reactivation of Type-2 CG if and only if the TBS remains the same.
* NOTE5 in MAC specification will be updated: “NOTE 5: If cg\_RetransmissionTimer is not configured, A HARQ process is not shared between different configured grant configurations.”
* Keep Rel-15 principle for resource overlapping with uplink grant received in RAR:
* For the collision with case UL grant received in RAR (or addressed to temporary C-RNTI) vs CG, the uplink grant in RAR is prioritized and used for transmission. (need text change)
* For the collision with case UL grant received in RAR (or addressed to temporary C-RNTI) vs DG, it is up to UE implementation which resource is chosen. (no need to change)”
* Capture “De-prioritized uplink grant is excluded in prioritization of other grants”. CATT’s TP in the comment is a baseline.
* Use AutonomousTx.
* Use the MAC Correction CR, R2-2002947, for Part 2 discussion on CR update.
* RAN2 confirms the following problematic scenario happens for the case of two PDUs generation: “An already de-prioritized uplink grant needs to be prioritized after high-priority data arrival. But the current normative text does not allow it”
* How to fix in the spec will be discussed in the next meeting.

## Ethernet Header Compression

* Decompressor behaviour is unspecified if it receives a compressed packet with an unknown context ID (not much support to specify).
* Network reconfigures ethernetHeaderCompression only upon reconfiguration involving PDCP re-establishment.
* For LTE, EHC cannot be configured together with UDC.
* In RRC specifications, replace parameter ehc-HeaderSize with ehc-CID-Length.
* The clause “5.12.3 Protocol parameters” in TS 38.323 and clause “5.14.3 Protocol parameters” in TS 36.323 are VOID’ed.
* If both SDAP header and EHC are configured, how to distinguish SDAP control PDU from SDAP Data PDU is left to UE implementation.
* There is no reserved bit/codepoint in EHC header.
* CID length is 7 or 15 bits, for 1 byte and 2 byte EHC header, respectively.
* EHC feedback packet format in TS 38.323 v16.0.0 clause A2.1.2 can be confirmed, i.e. there is 1 reserved bit in EHC feedback packet.

## PDCP Duplication

* Rel-15 Duplication MAC CE is not used for Rel-16 Duplication configuration (with more than two RLC entities configured).
* For DRBs, if the duplicationState is absent, the initial duplication states are deactivated for all RLC entities.
* Add the text in the duplicationState field description as “For DRBs, if the field is absent, the initial PDCP duplication states are deactivated for all associated RLC entities.”
* Update the definition of split secondary RLC entity to specify the setting of the split secondary RLC entity for the PDCP entity associated with only two RLC entities
* The following text proposal is agreed: Split secondary RLC entity: in dual connectivity, the RLC entity other than the primary RLC entity which is responsible for split bearer operation. If the PDCP entity is associated with two RLC entities, the split secondary RLC entity is the RLC entity other than the primary RLC entity. If the PDCP entity is associated with more than two RLC entities, the split secondary RLC entity is configured by upper layers.
* Agree to clearly specify that PDCP duplication is deactivated for the DRB when all secondary RLC entities are deactivated
* Confirm that index I for RLCi field of Rel-16 MAC CE is determined by ascending order of logical channel ID of secondary RLC entities in MCG and SCG, and remove the Editor’s Note from the MAC specification.
* No clarification is needed for CA duplication.
* Confirm that duplication is always activated for all RLC entities for SRB (meaning e.g. that duplicationState has no meaning for SRB).

## Capabilities

* Data vs. data and SR vs. data prioritization are signalled as a single capability.
* Do not introduce additional signalling for maximum value of supported periodicities for SPS/CG.
* Introduce an indication parameter, e.g. maxNumberEHC-ContextsSN, in ConfigRestrictInfoSCG IE of CG-ConfigInfo Message, to indicate the maximum number of EHC contexts allowed to the SN terminated bearer.
* UE signals the maximum number of supported EHC contexts across all DRBs using maxNumberEHC-Contexts parameter.
* maxNumberEHC-Contexts parameter indicates the number of EHC contexts supported by the UE’s compressor and decompressor jointly.
* Maximum value of maxNumberEHC-Contexts that can be signalled is 65536
* Minimum value of maxNumberEHC-Contexts that can be signalled is 2
* FFS whether additional capability or related signalling is needed for joint EHC and ROHC operation
* R2 assumes that PHY-based prioritization and LCH-based prioritization are configured independently and one can be configured without the other (assumption may be modified when LS reply from R1 is received)
* FFS how to address the scenario where PHY layer of a UE which is not configured to perform PHY-based prioritization, receives from MAC layer two MAC PDUs related to overlapping grants.
* FFS: Revisit the discussion on the number of DRBs the UE shall support with Rel-16 PDCP duplication after the related issue for Rel-15 is clarified.
* FFS: Allow additional RLC entities to be configured for duplication without impacting the maximum number of DRBs. Discuss further the conditions for allowing additional RLC entities to be configured.