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.

## 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.

# RAN2#110-e

## Class 3 RIL issues

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ID** | **Work Item** | **Class** | **Status** | **After discussion** |
| H570 | IIOT | 3 | DiscMail2 | ConcAgree |
| N042 | IIOT | 3 | DiscMail2 | ConcReject |
| O316 | IIoT | 3 | DiscMail2 | ConcAgree |
| E223 | IIoT | 3 | DiscMail2 | ConcAgree |
| N041 | IIOT | 3 | DiscMail2 | ConcReject |
| E225 | IIoT | 3 | DiscMail2 (tdoc) | ConcAgree |
| C601 | IIOT | 3 | DiscMail2 (tdoc) | ConcAgree |
| E221 | IIoT | 3 | DiscMeet2 | ConcAgree |
| H578 | IIOT | 3 | DiscMeet2 | ConcReject |
| Z105 | IIOT | 3 | PropAgree2 | ConcAgree |
| H572 | IIOT | 3 | PropAgree2 | ConcAgree |
| E222 | IIoT | 3 | PropAgree2 | ConcAgree |
| H577 | IIOT | 3 | PropAgree2 | ConcAgree |
| E226 | IIoT | 3 | PropAgree2 | ConcAgree |
| H580 | IIOT | 3 | PropAgree2 | ConcAgree |
| H575 | IIOT | 3 | PropAgree2 | ConcAgree |
| E224 | IIoT | 3 | PropAgree2 | ConcAgree |
| H576 | IIOT | 3 | PropAgree2 | ConcAgree |
| E227 | IIoT | 3 | PropAgree2 | ConcAgree |
| H571 | IIOT | 3 | PropReject2 | ConcReject |
| S207 | IIOT | 3 | PropReject2 | ConcReject |
| E902 | IIOT (LTE) | 2 | PropAgree2 | ConcAgree |

## RRC open issues and corrections (6.7.2)

* RAN2 confirm that “up-to 32 CG configurations can be configured per Cell Group across all BWPs” is captured by the constant maxNrofConfiguredGrantConfigMAC-r16.
* “Support up to 32 SPS configurations per MAC entity” is not captured in 38.331.
* In conditional presence MoreThanTwoRLC, change to “Upon RRC reconfiguration when a PDCP entity is associated with more than two logical channels, this field is optionally present”.
* RAN2 confirm moving sps-PUCCH-AN-List from SPS-ConfigList to PUCCH-Config.
* Set the status of RIL issue H578 to “ConcReject”
* Change the wording “interest in reference time information” to “preference in being provisioned with reference time information”.
* [053] UE can always calculate/predict the reference timing based on DL timing information after receiving the referenceTimeInfo from gNB once. (No spec impact)
* UE can calculate/predict the reference timing based on DL timing information after receiving the referenceTimeInfo from gNB once. (No spec impact)
* Option A. Once UE send the interest request, UE rely on periodic gNB broadcast/unicast to refresh its reference time and should no longer resend the request to the network. (and nothing more)

## MAC open issues and corrections (6.7.3)

* Remove the current condition “for each uplink grant which is not already a de-prioritized uplink grant”
* RAN2 will not specify further on priority of SR triggered by MAC CE in Rel-16. The intention of current MAC text is that such SR has no priority and is handled as lowest priority.
* A NOTE for RAN2#109-e agreement on next CG selection for autonomous retransmission to be added. Current proposal is not agreeable, possibly a simplified version can be considered, TBD offline (if no agreement in the end we just skip the Note for now).
* (When MAC determines to generate a PDU) MAC entity shall not generate a PDU that cannot be transmitted due to collision with transmission (at least due to equal L1 priority).
* N is non negative (rapporteur to include this in MAC CR discussion whether and how to capture)
* The extra CG periodicities of multiple of 2/7 symbols are not introduced in Rel-16

## PDCP open issues and corrections (6.7.4)

* The presence of *pdcp-Duplication* indicates the PDCP duplication configuration (i.e. *pdcp-Duplication* is always used to indicate the PDCP duplication configuration for both DRBs and SRBs). The 38.331 and 38.323 specifications need to be changed accordingly.
* The UE just follows the received MAC CE, even if the RLCi field belongs to the other node. No specification change is required.
* PDCP duplication with more than two RLC entities is supported only by NR. It needs to be clarified in 37.340 and 38.331.
* Clarify DC+CA duplication in 38.300. 3+1 duplication scenario also needs to be considered. CA duplication may need clarification. Wording to be worked on.
* In the description of *duplicationState* in 38.331, remove “initial” and use “at the time of receiving this IE”.
* Parameter *maxCID-EHC* is introduced in TS 38.331 to indicate the maximum number of EHC contexts the UE can establish in uplink for a DRB
* CID length cannot be reconfigured during the lifetime of the DRB. Field description of *ehc-CID-Length* is updated by adding a sentence “The value for this field cannot be changed after the initial configuration”
* We don’t capture an example of operation on the different Ethernet header structures as an informative text.
* Leave trigger in compressor for CID overwriting for implementation (right now the only mandatory trigger is when max CID has been reached).
* [058][046] In TS 38.323 clause 5.12.4 and TS 36.323 clause 5.14.4, clarification is added that EHC compressed packets include EHC full header packets and EHC compressed header packets.
* [058][046] In TS 38.323 Annex A.1, for the description of EHC operation, change “compressed” to “removed”.
* [058][046] There is no need to change field name “PAYLOAD (+PAD)” to “PAYLOAD” in Figure A.2.1.1-1 and A.2.1.1-2 of TS 38.323.
* [058][046] In TS 38.331 and TS 36.331, IE *maxCID-EHC-UL* is introduced, with the value range: INTEGER (1..32767). The field description is: “Indicates the value of the MAX\_CID\_EHC\_UL parameter as specified in TS 38.323 [5]. The total value of MAX\_CID\_EHC\_ULs across all bearers for the UE should be less than or equal to the value of *maxNumberEHC-Contexts* parameter as indicated by the UE.”

## UE Capabilities

* Introduce a capability for the UE to indicate whether it supports simultaneous configuration of EHC and RoHC for the same DRB.
* If the UE indicates support for RoHC and EHC, but does not indicate support for a new capability as proposed in Proposal Ph1-1, EHC and RoHC may be simultaneously configured for different DRBs.

## Class 2 RIL issues

email discussion 068 -> No impacts to IIoT WI

email discussion 067:

**Conclusion I665:** Add Condition (e.g. SPS-ListOnly:  “The field is mandatory present when included in sps-ConfigToAddModList, otherwise the field is absent”. Capture in WI IIOT CR.

email discussion 066:

change need code from to ”need R” for fields in SPS-Config and ConfiguredGrantConfig.

email discussion 065 -> No impacts to IIoT WI