3GPP TSG-RAN WG2#131 R2-25XXXXX

Bengaluru, India, 25 Aug - 29 Aug, 2025

Agenda Item: 8.19.1

Source: Huawei, HiSilicon

Title: Report of [AT131][019][TEI19] NES (Huawei)

Document for: Discussion and decision

# 1 Introduction

This document is the report of the following discussion:

* [AT131][019][TEI19] NES (Huawei)

 Intended outcome: update and agree to CR by email

 Deadline: Thursday

**[Cell DTX/DRX]**

[R2-2506049](file:///C%3A%5CUsers%5Cpanidx%5COneDrive%20-%20InterDigital%20Communications%2C%20Inc%5CDocuments%5C3GPP%20RAN%5CTSGR2_131%5CDocs%5CR2-2506049.zip) Discussion on UE assistance information for cell DTX/DRX Huawei, HiSilicon, China Telecom, NTT DOCOMO, Deutsche Telekom, KT Corporation, LG Uplus, Orange, Turkcell, SK Telecom, China Unicom, CMCC, Sharp, TCL, HONOR, ZTE Corporation, Sanechips, Google, Fraunhofer IIS, Fraunhofer HHI, CEWiT, CAICT, Apple, OPPO, CATT discussion Rel-19 TEI19

=> Revised in [R2-2506198](file:///C%3A%5CUsers%5Cpanidx%5COneDrive%20-%20InterDigital%20Communications%2C%20Inc%5CDocuments%5C3GPP%20RAN%5CTSGR2_131%5CDocs%5CR2-2506198.zip)

[R2-2506198](file:///C%3A%5CUsers%5Cpanidx%5COneDrive%20-%20InterDigital%20Communications%2C%20Inc%5CDocuments%5C3GPP%20RAN%5CTSGR2_131%5CDocs%5CR2-2506198.zip) Discussion on UE assistance information for cell DTX/DRX Huawei, HiSilicon, China Telecom, NTT DOCOMO, Deutsche Telekom, KT Corporation, LG Uplus, Orange, Turkcell, SK Telecom, China Unicom, CMCC, Sharp, TCL, HONOR, ZTE Corporation, Sanechips, Google, Fraunhofer IIS, Fraunhofer HHI, CEWiT, CAICT, Apple, OPPO, CATT, TIM discussion Rel-19 TEI19

*Proposal 1: UE indicates to the network that the configured cell DTX/DRX does not suit UE services. RAN2 to down-select from the following:*

*Option 1: Introduce a 1-bit indication in UAI, indicating the UE prefers not to operate under the current cell DTX/DRX configuration;*

*- Option 1-a: 1-bit indication as above, with an optional recommendation from UE of cell DTX/DRX configuration;*

*Option 2: Clarify in the spec that DRX-Preference-r16 can also be used by the network for cell DTX/DRX configuration.*

- Docomo supports this proposal as this helps energy consumption from network perspective.

- Nokia doesn’t share the enthusiasm as we can use normal QoE procedure to let the network control UE behaviour. Huawei explains that this is for OTT services that the network doesn’t understand what type of service it is and that no one pays for it.

- Xiaomi agrees with intention but DRX preference report is sufficient. Huawei thinks that this is option 2, but we need to clarify so after dtx/drx is configured and it is sending a preference it is also sending a preference for dtx/drx. LG shares the view with Xiaomi.

- ZTE agrees and prefers option 1, and using DRX preference without clarification it will be confusing to the network.

- Ericsson thinks that I can report unhappy but it doesn’t mean the network will make the UE happy, so this can go for a while. Huawei assumes that there is always a coverage cell and if it wants it can handover these unhappy UEs that cell.

- BT doesn’t see why we need to use this. Huawei explains that it is for OTT services.

- Vivo thinks that option 1 doesn’t exactly work so option 2 would work better.

- Ericsson thinks that the DRX preference for r16 would work implicitly. Huawei is explaining that we just need to clarify for implementers that this can also be used and also only the long cycle would need to be sent.

* UE indicates to the network that the configured cell DTX/DRX does not suit UE services. Clarify in the spec that DRX-Preference-r16 can also be used by the network for cell DTX/DRX configuration.
* Don’t need to capture how the NW will use this indication

Based on the online agreements I have provided a draft CR in the folder. The field description capturing NW behaviour was removed from the TP.

Please provide your comments by 19:00 on Wednesday to allow time for the rapporteur to update the CR before the deadline.

# 2 UAI CR for NES

Please don’t change the CR text or insert comments to the CR file. Please use the table below for comments and wording suggestions for clarity of the CR tdoc. If you want to highlight several issues, please use comment IDs e.g. HW01, HW02, etc. so it is easier for the rapporteur to respond.

|  |  |  |
| --- | --- | --- |
| **Company and comment ID (e.g. HW01)** | **Section and detailed comments/suggestions** | **Rapporteur response** |
| Ericsson | The current CR seems to go beyond a clarification since it includes procedural text for which the NW does not have control of the UE behavior (no associated RRC configuration) and no ways to verify whether the UE supports this behavior or not (no capability added). We think we should instead add this clarification in the field description below and not include the current changes in the CR e.g:***preferredDRX-LongCycle***Indicates the UE's preferred long DRX cycle length for power saving. Value in ms. *ms10* corresponds to 10ms, *ms20* corresponds to 20 ms, *ms32* corresponds to 32 ms, and so on. If *preferredDRX-ShortCycle* is provided, the value of *preferredDRX-LongCycle* shall be a multiple of the *preferredDRX-ShortCycle* value. If the field is absent from the *DRX-Preference* IE, it is interpreted as the UE having no preference for the long DRX cycle. This field may also indicate UE preference for cellDTX-DRX-Cycle.Also since we agreed to add a clarification and not a new feature per se, it is not clear whether it would be category B or category F. In any case the CR tittle does not seem accurate and should probably say “Clarification” rather than “Introduction”.[Updated comments]To clarify, our preference is to simply add a clarification to the field description as we suggested above. But if we decide to add procedural text, it should be followed by UE capability and RRC configuration, otherwise there could be risk for non-backwards compatibility.  |  |
| BT | Agree with Ericsson. An update on 38.306 should be sufficient. We consider category F is more accurate. |  |
| Huawei (rapporteur) | The current CR is a modified option 2 from the discussion paper, as agreed online. The only difference being removal of the field description, which was discussed and agreed online. Please focus your comments on the CR text. Without the procedural text there will be no standardized UE behavior for the reporting of preferredDRX-LongCycle used for Cell DTX preference. The proposed addition to the field description is fine, on top of the other changes.  |  |
| Nokia | Wouldn’t NW know if UE indicates DRX or cell DTX preference based on reported DRX cycles? If longer then DRX preference, if shorter then cell DTX indication?And if this is the case I guess we don’t need UE capability either or activation to allow this behaviour from NW?I think Ericsson proposal to capture this in field description could work but maybe not according to online discussions. But sure we can think whether it would be OK for proponents of feature to go that way to make this more agreeable?  | First, we would agree that the UE capability is beneficial, as it would enable NW to know if the UE has been able to take into account cell DTX/DRX configuration in the reported drx-Preference. If the UE supports reporting drx-Preference based on cell DTX/DRX configuration (i.e. this TEI19 feature), the NW can configure such UE reporting drx-Preference if NW configures long cell DTX/DTX. Regarding the two questions, we agree that the NW could implicitly understand what this preference is for. For example, if the network configures a long DTX/DRX, and the UE supporting this Rel-19 TEI feature reports a shorter cycle in drx-Preference, then the NW would know that the UE has a preference with shorter cell DTX/DRX configurations, and then the NW can decide, e.g. to hand over the UE to other non-NES carrier or to reconfigure cell DTX/DRX, by implementation.Regarding the last question our interpretation from the online discussions was that we go for option 2 and the wording in the agreement is exactly reflecting option 2 from the proposal. Since the field description proposed by Ericsson does not define NW behavior we think it is fine to add it, but the procedural text also needs to be present (as described in the answer above). |
| HONOR | The draft CR looks fine to us in general. |  |
| CATT | We are OK with the CR.we share the same view as Rapp that without the procedural text there will be no standardized UE behavior for the reporting of preferredDRX-LongCycle used for Cell DTX preference.  |  |
| China Telecom | The CR in the folder is aligned with the online agreement and looks fine to us. |  |
| BT\_2 | We do not agree with Rapporteur that without a change in 38.331 (1), the process is not standardized.1. Clarification: changes to sections 5.3.5.9, 5.7.4.1, 5.7.4.2

The agreement says:* UE indicates to the network that the configured cell DTX/DRX does not suit UE services. Clarify in the spec that DRX-Preference-r16 can also be used by the network for cell DTX/DRX configuration
* Don’t need to capture how the NW will use this indication

In order to clarify in the spec that DRX-Preference-r16 can also be used by the network for cell DTX/DRX configuration, there is no need to modify 38.331. In current specs, it was assumed that UEs will provide longer patterns, but shorter DRX patterns are not precluded anywhere. 38.331 currently says1> if the received *otherConfig* includes the *drx-PreferenceConfig*:2> if *drx-PreferenceConfig* is set to *setup*:3> consider itself to be configured to provide its preference on DRX parameters for power saving for the cell group in accordance with 5.7.4;2> else:3> consider itself not to be configured to provide its preference on DRX parameters for power saving for the cell group and stop timer T346a associated with the cell group, if running;The text “*consider itself to be configured to provide its preference on DRX parameters for power saving for the cell group*” is still valid and no other text is required. By indicating a shorter DRX pattern, the UE indicates its preference on DRX parameters for power saving for the cell group. In this case, it indicates it needs the network increases the power consumption.In the agreement, we decided not to capture how the NW will use this indication. Hence, a proper network implementation will identify that if UE reports longer cell DTX/DRX, most likely is for NES purpose. If the report is shorter than configured, it is most likely to suit QoS UE requirements.For that reason, BT does not agree with “Without the procedural text there will be no standardized UE behavior for the reporting of preferredDRX-LongCycle used for Cell DTX preference”. By modifying 38.306, it is clarified that a device can report preferred cell DRX to suit its services.If we stick to the agreement, “*UE indicates to the network that the configured cell DTX/DRX does not suit UE services*”, the text in red should be enough.***preferredDRX-LongCycle***Indicates the UE's preferred long DRX cycle length for power saving or preferred cell DRX to suit its services. Value in ms. *ms10* corresponds to 10ms, *ms20* corresponds to 20 ms, *ms32* corresponds to 32 ms, and so on. If *preferredDRX-ShortCycle* is provided, the value of *preferredDRX-LongCycle* shall be a multiple of the *preferredDRX-ShortCycle* value. If the field is absent from the *DRX-Preference* IE, it is interpreted as the UE having no preference for the long DRX cycle. |  |
| Xiaomi | The current CR goes too far beyond what was agreed. We should respect the conclusion, and we suggest to only have the following note in 5.7.4.3 and romove all the other changes:Note X: DRX-Preference-r16 reported by UE can also be used by the network for cell DTX/DRX configuration |  |
| Vivo | (1)5.3.5.9 Other configuration1> if the received *otherConfig* includes the *drx-PreferenceConfig*:2> if *drx-PreferenceConfig* is set to *setup*:3> consider itself to be configured to provide its preference on DRX parameters for power saving for the cell group, and its preference on cell DTX/DRX related parameters for PCell, in accordance with 5.7.4;5.7.4.1 General- its preference on DRX parameters for power saving, and its preference on cell DTX/DRX related parameters; or5.7.4.2 Initiation1> if configured to provide its preference on DRX parameters of a cell group for power saving and its preference on cell DTX/DRX related parameters:2> if the UE has a preference on DRX parameters of the cell group or cell DTX/DRX parameters and the UE did not transmit a *UEAssistanceInformation* message with *drx-Preference* for the cell group since it was configured to provide its preference on DRX parameters of the cell group for power saving and cell DTX/DRX parameters; or[Comment] ‘and’ is not correct. It should be ‘or’:- There may be UEs not supporting cell DTRX connected to the NES cell, if legacy UEs and R19 UEs not supporting cell DTRX are not barred.- There are cells not operating in cell DTRX mode, which may only enable preferred C-DRX report for power saving. If we use ‘and’, then the cells not operating in cell DTRX mode cannot enable preferred C-DRX report for power saving.(2)5.7.4.3 Actions related to transmission of *UEAssistanceInformation* message1> if transmission of the *UEAssistanceInformation* message is initiated to provide *drx-Preference* of a cell group for power saving or for cell DTX/DRX configuration preference according to 5.7.4.2 or 5.3.5.3:2> include *drx-Preference* in the *UEAssistanceInformation* message;2> if the UE has a preference on DRX parameters for the cell group or cell DTX/DRX related parameters:3> if the UE has a preference for the long DRX cycle or for *cellDTX-DRX-Cycle*:[Comment] Since the other places have clarified that the *drx-Preference* can be used for preference of cell DTRX, we agree with Nokia and Ericsson’s comment that it is up to the NES cell to adjust its cell DTRX Cycle according to the reported UE long DRX cycle. We disagree to further clarify the UE report the long DRX for preference of cellDTX-DRX-Cycle, this goes beyond the online agreement.(3)We have not agreed to add new UE capability, this should be confirmed online, if needed. | On the “and” “or” issue:Please note that there is single configuration (*drx-PreferenceConfig*) in *otherConfig*, this single configuration is used to enable UE report based on both “C-DRX preference” and “cell DTX/DRX preference”). So when describing the whole feature or describing the configuration, we should use “and”. On the other hand, when describing the triggering or UE reporting behavior, we should use “or” since UE can trigger the reporting when either C-DRX configuration or cell DTX/DRX configuration becomes unsuitable.Of course using a separate indication (i.e. Option1 in the original contribution) would be a cleaner solution, but Option2 is chosen as the outcome of online discussion.On *cellDTX-DRX-Cycle*:This is the outcome of the online agreement:* UE indicates to the network that the configured cell DTX/DRX does not suit UE services. Clarify in the spec that DRX-Preference-r16 can also be used by the network for cell DTX/DRX configuration.
* Don’t need to capture how the NW will use this indication

If *cellDTX-DRX-Cycle* becomes unsuitable, UE should trigger the reporting.On UE capability:Since we are reusing the R16 reporting, a UE capability is needed for backward compatibility, otherwise the NW has no idea whether the reported C-DRX preference also hints the UE preference on cell DTX/DRX. |
| InterDigital | We are okay with the suggestions by Ericsson and Xiaomi, and should be sufficient to capture the agreement, which is just to clarify that DRX-Preference-r16 can also be used to indicate preference in light of availability of a cell DTX/DRX configuration.  |  |
| DCM | We agree with the current version of CR.We also think, without the procedural text, a UE is supposed to never report its preference of cell DTX. From operators' perspective, it is beneficial to define clearer UE behavior. |  |
| Apple | The latest CR in the folder looks fine to us. And we think the new capability is needed. Otherwise, it will lead to legacy issue. |  |
| Xiaomi 2 | From UE point of view, what really matters is the impact of cell DTX/DRX to the UE DRX, and the resulted actual DRX pattern. UE doesn’t care about how to configure cell DTX/DRX for network energy saving.The current CR put in parallel the preference on DRX parameters for power saving and the preference on cell DTX/DRX related parameters:“its preference on DRX parameters for power saving, and its preference on cell DTX/DRX related parameters”But the ultimate purpose for UE’s preference on cell DTX/DRX related parameters is to have an actual UE DRX that matches UE’s power saving purpose with least impact to the traffic. In this sense, there is actual only one purpose for UE, which is its preference on DRX parameters for power saving, which covers the purpose of its preference on cell DTX/DRX preference. Listing two preferences that are not exclusive to each other making UE difficult to decide for which purpose to report the DRX preference.To in line with the following agreement* UE indicates to the network that the configured cell DTX/DRX does not suit UE services. Clarify in the spec that DRX-Preference-r16 can also be used by the network for cell DTX/DRX configuration.
* Don’t need to capture how the NW will use this indication

Our suggestion is to and only to add a note in 5.7.4.2 that:Note: It is up to UE implementation to decide on whether to initiate transmission of *drx-Preference* to network if the configured cell DTX/DRX results in an unwanted actual UE DRX pattern. The reported *drx-Preference* can then be used by network to decide on the cell DTX/DRX configuration. Since anyway it is up to UE implementation to decide whether DRX requirement is met or not, UE decision is unpredictable to network. For the same situation, UE may or may not report drx-prefefrence. So, it is useless for UE to report its capability to network.  |  |
| ZTE | The draft CRs look good to us in general. |  |