**3GPP TSG-RAN5 Meeting #90-e draft\_R5-211359**

**Electronic Meeting, 22 Feb – 5 Mar, 2021**

**Title:** LS on 180 Ringing when preconditions are not used

**Source:** TSG RAN WG5

**To:** TSG CT WG1

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1. **Overall Description:**

**1.1 General question on UE behaviour when no preconditions are used**

From user experience perspective, preconditions mechanism is mostly for avoiding “ghost rings” (described in RFC3312), avoiding “media clipping” (described in RFC3960), and other potential problems regarding call quality.

The general question is, when preconditions mechanism is not used, shall the UE do something to prevent the above mentioned problems (“ghost rings” , “media clipping” .etc.) as much as possible? (e.g., the UE shall make sure the network resources at its own side are ready).

**1.2 A specific case of the above mentioned general question (180 Ringing timing)**

For Mobile-Terminated NR access scenarios, when preconditions are not used, the most relevant conformance text on sending 180 Ringing in 24.229 seems to be annex U.3.1.4, as partly quoted below:

Upon receiving an INVITE request not including the "precondition" option-tag in the Supported header field and not including the "precondition" option-tag in the Require header field, and the IP-CAN performs network-initiated resource reservation for the UE, the UE:

1) if the INVITE request contains an SDP offer and the local resources required at the terminating UE for the received SDP offer are not available:

a) shall not alert the user; and

…

Upon successful reservation of local resources, if the precondition mechanism is not used by the terminating UE, the UE can send 180 (Ringing) response to the INVITE request and can alert the user.

However, from implementation conformance perspective, the text above seems to contain some ambiguous wording:

1. “Upon”: it is not very clear whether it indicates a solid sequence, i.e., the 180 Ringing is exactly “after” the local resources reservation.
2. “reservation of local resources”: from technical understanding, it should contain the network resources on the local side, but there is no exact definition to confirm it.
3. “can”: this convention word means “optional”, does it imply the 180 Ringing could be sent even later?

**2. Actions:**

**To CT1 group.**

**ACTION:** RAN5 kindly asks CT1 group to answer following questions:

1. General question: In principle, shall the UE do something to prevent problems (“ghost rings” , “media clipping” .etc.) mentioned in 1.1 as much as possible, or no need to care about it, when preconditions are not used?
2. As described in 1.2, what does the word “Upon” exactly mean on 180 Ringing timing?
3. As described in 1.2, does the phrase “reservation of local resources” contain the network resources on the UE’s local side?
4. As described in 1.2, does the word “can” imply the 180 Ringing might be sent later in some circumstances?

**3. Date of Next TSG-RAN WG5 Meetings:**

TSG-RAN5 Meeting#91 17th – 28th May 2021 Electronic Meeting

TSG-RAN5 Meeting#92 16th – 27th Aug 2021 Electronic Meeting