Source: Ericsson

Title: Proposal for separate UE capabilities for convolutionally coded and turbo coded transport channels

1 Proposal

The following UE capability is one of the UE capabilities defined in 25.926:

"*Maximum sum of number of sustainedly processable bits of all transport blocks received in TTIs that end at the same time, normalized with the respective TTI lengths in number of radio frames*"

This capability, which in some sense defines the maximum "throughput" (number of transport-channel bits per time unit) that can be processed by the UE, currently does not make any distinction between convolutionally coded and turbo coded transport channels. This implies that a UE, that supports a certain maximum total data rate, must support this data rate regardless of whether the transport channel(s) uses turbo coding or convolutional coding.

For high-rate transport channels, turbo coding is the preferred choice from a performance point-of-view. It therefore makes sense to allow for terminals that support higher data rates only in case of turbo. Consequently, we propose that the capability above should be extended with a second UE capabilitiy:

"*Maximum sum of number of sustainedly processable bits of all <u>convolutionally coded</u> transport blocks received in TTIs that end at the same time, normalized with the respective TTI lengths in number of radio frames*".

The first capability limits the total maximum "throughput" that can be processed, while the second capability limits the total maximum "throughput" of all convolutionally coded transport channels. It is proposed that the range of values for this capability should be the same as the range of values for the current capability.

The same modification should also be applied to the uplink in which case "received" should be replaced by

2 Proposed liason to WG2

We propose that the following liason should be sent to WG2:

WG1 has further considered the use of separate capabilities for convolutionally coded and turbo coded transport channels related to the capability:

"***Maximum sum of number of sustainedly processable bits of all transport blocks received in TTIs that end at the same time, normalized with the respective TTI lengths in number of radio frames***"

WG1 suggests that the current capability is kept as a measure of the total maximum throguhput can be processed by the UE. Furthermore, a second capability:

"***Maximum sum of number of sustainedly processable bits of all <u>convolutionally coded</u> transport blocks received in TTIs that end at the same time, normalized with the respective TTI lengths in number of radio frames***"

should be added. It is proposed that the range of values for this capability should be the same as the range of values for the current capability.

The same modification should also be applied to the uplink in which case "received" should be replaced by