SDU service data unit

URLLC ultra-reliable low latency communications

[0004] Advantages of 5th Generation (5G) New Radio (NR) communications technology are envisaged to include supporting expanded and diversified usage scenarios and applications in current and future mobile network generations. Present releases of the 5G NR communications technology includes ultra-reliable low-latency communications (URLLC) with strict requirements.

[0005] It is noted that example embodiments as described herein relate to improving at least latency and reliability operations associated with the ultra-reliable low-latency communications.

SUMMARY:

[0006] In an aspect, there is a method, comprising: determining a grant for data to be communicated, wherein the determining comprises identifying one or more logical channels to be multiplexed into a medium access control protocol data unit for the data to be communicated, wherein a length field of at least one logical channel service data unit is configured to be omitted from the medium access control protocol data unit, wherein the length field is omitted for a common control channel service data unit of the medium access control protocol data unit. In an aspect, there is an apparatus, comprising means for determining a grant for data to be communicated, wherein the determining comprises identifying one or more logical channels to be multiplexed into a medium access control protocol data unit for the data to be communicated, wherein a length field of at least one logical channel service data unit is configured to be omitted from the medium access control protocol data unit, wherein the length field is omitted for a common control channel service data unit of the medium access control protocol data unit.. In an aspect, there is a method, comprising: receiving a grant for data to be communicated, comprising one or more logical channels multiplexed into a medium access control protocol data unit for the data to be communicated, wherein a length field of at least one logical channel service data unit is configured to be omitted from the medium access control protocol data unit, wherein the grant omits the length field for a common control channel service data unit of the medium access control protocol data unit. In an aspect, there is an apparatus, comprising: means for receiving

a grant for data to be communicated, comprising one or more logical channels multiplexed into a medium access control protocol data unit for the data to be communicated, wherein based on the grant fulfilling at least one pre-established condition a length field of at least one logical channel service data unit is configured to be omitted from the medium access control protocol data unit, wherein the length field is omitted for a common control channel service data unit of the medium access control protocol data unit. In an example aspect of an embodiment of the invention, there is a method comprising: determining a grant for data to be communicated, comprising identifying logical channels to be multiplexed into a medium access control protocol data unit for the data to be communicated, wherein at least one of a logical channel identifier for at least one logical channel of the multiplexed logical channels and length of at least one logical channel service data unit is configured to be omitted from the medium access control protocol data unit.

[0007] A further example aspect of an embodiment of the invention is a method comprising the method of the previous paragraph, the method where there is determining that the grant is fulfilling at least one pre-established condition, where the grant is for use with only one logical channel, and wherein based on the pre-established condition the configuring comprises a logical channel identifier for the one logical channel is omitted from the medium access control protocol data unit; the metho where the configuring further comprises a Length field of a medium access control subheader is set to all zeros to indicate that no more service data units for the at least one logical channel configured to omit logical channel identity will follow; the method where the configuring further comprises a one bit data control field is set to indicate that one of a Length field follows for a service data unit of a logical channel configured with