

Embodiments disclosed herein relate to a new set of radio link protocols (RLPs) configured to provide for efficient data transmission in a multi-link communication system. In an embodiment, an upper-layer packet is segmented into link-layer packets to be transmitted over a plurality of communication links, each including a first sequence number in accordance with a predetermined order. A second sequence number is further added to each link-layer packet to be transmitted for the first time. The second sequence number is configured to be in a sequence space associated with a particular communication link, and may be used for detection of missing packets.