[0008] SUMMARY

[0009] The present invention is related to a method and apparatus for assigning an ARQ/H-ARQ process in a WTRU for supporting EU transmissions. After parameters associated with the ARQ/H-ARQ processes are configured, the WTRU assigns an ARQ/H-ARQ process for a selected data. After transmitting the data, the WTRU determines whether feedback information for the data has been received. The WTRU releases the ARQ/H-ARQ process if an acknowledgement (ACK) message has been received, and retransmits the data if a non-acknowledgement (NACK) message or no feedback information has been received in a predetermined time period while incrementing a transmission counter in the WTRU. When a transmission limit has been reached, the WTRU may discard the data or reinitiate the transmission. An ARQ/H-ARQ process assigned for transmission of lower priority data may be preempted for transmission of higher priority data when there is no available ARQ/H-ARQ process.

[0009a] According to a first aspect of the present invention, there is provided a method for assigning a hybrid-automatic repeat request (H-ARQ) process in a wireless transmit/receive unit (WTRU) for supporting enhanced uplink (EU) data transmission, the method comprising: receiving configuration parameters for a plurality of medium access control for dedicated channel (MAC-d) flows, wherein the configuration parameters include a priority associated with each MAC-d flow and a maximum number of H-ARQ transmissions associated with each MAC-d flow; selecting data for transmission over an enhanced dedicated channel (E-DCH) based on a priority associated with at least one of the plurality of MAC-d flows, wherein data of at least one of the plurality of MAC-d flows associated with a highest priority that has data available for transmission is selected; on a condition that the selected data is new data that was not previously transmitted, assigning an available H-ARQ process for supporting transmission of the selected data, and transmitting the selected data over the E-DCH using the assigned H-ARQ process; on a condition that the selected data was previously transmitted, transmitting the selected data over the E-DCH using the same H-ARQ process that was assigned to previously transmit the selected data; incrementing a transmission count in response to transmitting the selected data; determining

whether the transmission count is at least equal to a maximum number of H-ARQ transmissions associated with one of the plurality of MAC-d flows from which the data for transmission was selected; and discarding the selected data in response to a determination that the transmission count is at least equal to a maximum number of H-ARQ transmissions associated with one of the plurality of MAC-d flows from which the data for transmission was selected.

[0009b] According to a second aspect of the present invention, there is provided a wireless transmit/receive unit (WTRU) for assigning a hybrid automatic repeat request (H-ARQ) process for supporting enhanced uplink (EU) transmission comprising: means for receiving configuration parameters for a plurality of medium access control for dedicated channel (MAC-d) flows, wherein the configuration parameters include a priority associated with each MAC-d flow and a maximum number of H-ARQ transmissions associated with each MAC-d flow; means for selecting data for transmission over an enhanced dedicated channel (E-DCH) based on a priority associated with at least one of the plurality of MAC-d flows, wherein data of at least one of the plurality of MAC-d flows associated with a highest priority that has data available for transmission is selected; on a condition that the selected data is new data that was not previously transmitted, means for assigning an available H-ARQ process for supporting transmission of the selected data, and means for transmitting the selected data over the E-DCH using the assigned H-ARQ process; on a condition that the selected data was previously transmitted, means for transmitting the selected data over the E-DCH using the same H-ARQ process that was assigned to previously transmit the selected data; a transmission counter configured to indicate a transmission count; means for incrementing the transmission counter in response to transmitting the selected data; means for determining whether the transmission counter is at least equal to a maximum number of H-ARQ transmissions associated with one of the plurality of MAC-d flows from which the data for transmission was selected; and means for discarding the selected data in response to a determination that the transmission counter is at least equal to a maximum number of transmissions associated with one of the plurality of MAC-d flows from which the data for transmission was selected.

[0010] BRIEF DESCRIPTION OF THE DRAWINGS

[0011] A more detailed understanding of the invention may be had from the following description of a preferred embodiment, given by way of example and to be understood in conjunction with the accompanying drawing wherein:

[0012] Figure 1 is a block diagram of a wireless communication system operating in accordance with the present invention;

[0013] Figure 2A is a flow diagram of an EU transmission process implemented by the system of Figure 1 for assigning an ARQ or H-ARQ process in accordance with one embodiment of the present invention;

[0014] Figure 2B is a flow diagram of an EU feedback reception process implemented by the system of Figure 1;

[0015] Figure 3A is a flow diagram of an EU transmission process implemented by the system of Figure 1 for assigning an ARQ or H-ARQ process using preemption and re-initiation procedures in accordance with another