CLAIMS

~~**What is claimed is:**~~

1. A method for wireless communications, comprising:
receiving data units in a Radio Link Control Lo (RLC-Lo) portion of a logical channel of a wireless link according to a scheduling rate;
determining that a backpressure report condition of the logical channel is met;
transmitting, on the wireless link, a backpressure report message indicating the logical channel based at least in part on the determining; and
receiving additional data units in the (RLC-Lo) portion of a logical channel of the wireless link according to an adjusted scheduling rate based at least in part on transmitting the backpressure report message.

2. The method of claim 1, further comprising:
caching a data payload of the received data units in a buffer corresponding to the logical channel, wherein determining that the backpressure report condition of the logical channel is met comprises:
comparing a buffer load value to a buffer load threshold, a buffer load availability to a buffer load availability threshold, or a combination thereof.

3. The method of claim 1, wherein the adjusted scheduling rate comprises a decreased scheduling rate that is lower than the scheduling rate or an increased scheduling rate that is higher than the scheduling rate.

4. The method of claim 1, wherein receiving the additional data units in the (RLC-Lo) portion of the logical channel of the wireless link according to the adjusted scheduling rate comprises:
receiving the additional data units after a temporary halting of data units transmissions.

5. The method of claim 1, wherein the logical channel corresponds to a logical channel identifier, the method further comprising:
configuring the backpressure report message with the logical channel identifier, a logical channel group identifier corresponding to a logical channel group comprising the logical channel, or a combination thereof, wherein the backpressure report message indicates the logical channel based at least in part on the logical channel identifier, the logical channel group identifier, or the combination thereof.

6. The method of claim 1, wherein determining that the backpressure report condition of the logical channel is met comprises:
receiving a backpressure request message indicating the logical channel, wherein transmitting the backpressure report message is based at least in part on a request-based condition.

7. The method of claim 1, further comprising:
configuring the backpressure report message with buffer load information.

8. The method of claim 7, wherein the buffer load information comprises a backpressure indicator, a backpressure indicator value, a buffer load value, a buffer load availability indicator, or a combination thereof.

9. The method of claim 1, further comprising:

receiving a configuration for the logical channel, wherein the configuration comprises one or more backpressure report conditions, wherein determining that the backpressure report condition of the logical channel is met is based at least in part on the configuration.

10.—— The method of claim 9, wherein the one or more backpressure report conditions comprise periodic reporting conditions, buffer load-based reporting conditions, request-based reporting conditions, or a combination thereof.

11.—— The method of claim 10, wherein the one or more backpressure report conditions further comprise indications of time intervals for periodic reporting, buffer load thresholds for buffer load-based reporting, buffer load availability thresholds for the buffer load-based reporting, averaging windows for the buffer load-based reporting, hysteresis values for the buffer load-based reporting, or a combination thereof.

12.—— The method of claim 9, wherein the configuration is received on a layer three (L3) signaling connection, a radio resource control (RRC) connection, an F1 application protocol (AP) interface, or a combination thereof.

13.———— The method of claim 1, further comprising:
transmitting a backpressure capabilities message to a base station centralized unit (CU).

14.—— The method of claim 13, wherein the backpressure capabilities message comprises at least one buffer size value.

15.—— The method of claim 13, wherein the backpressure capabilities message is transmitted on a layer three (L3) signaling connection, a radio resource control (RRC) connection, an F1 application protocol (AP) interface, or a combination thereof.

16.—— The method of claim 1, wherein the backpressure report message comprises a medium access control (MAC) signaling message.

17.———— The method of claim 16, wherein transmitting the backpressure report message comprises:
transmitting the MAC signaling message in a MAC channel element on a physical uplink shared channel (PUSCH), in an uplink channel indicator on a physical uplink control channel (PUCCH), or in a combination thereof.

18.—— The method of claim 1, wherein the data units comprise downlink medium access control (MAC) service data units (SDUs) and are received on a physical downlink shared channel (PDSCH).

19.—— The method of claim 1, wherein the logical channel comprises a radio link control (RLC) channel, an RLC-bearer, an RLC-bearer chain, or a combination thereof.

20.———— A method for wireless communications, comprising:
transmitting data units in a Radio Link Control Lo (RLC-Lo) portion of a logical channel of a wireless link according to a scheduling rate;
receiving a backpressure report message indicating the logical channel; and
adjusting the scheduling rate for transmitting the data units in the (RLC-Lo) portion of the logical channel based at least in part on the backpressure report message.

21.———— The method of claim 20, further comprising:
transmitting additional data units in the (RLC-Lo) portion of the logical channel of the wireless link according to the adjusted scheduling rate.

22.—— The method of claim 20, wherein adjusting the scheduling rate comprises decreasing the scheduling rate, increasing the scheduling rate, temporarily halting transmission of the data units, or a combination thereof.

23.———— The method of claim 20, wherein:
the logical channel corresponds to a logical channel identifier;
the backpressure report message comprises the logical channel identifier, a logical channel group identifier corresponding to a logical channel group comprising the logical channel, or a combination thereof; and
the backpressure report message indicates the logical channel using the logical channel identifier, the logical channel group identifier, or the combination thereof.

24.———— The method of claim 20, further comprising:
transmitting a backpressure request message indicating the logical channel, wherein the backpressure report message is received based at least in part on the backpressure request message.

25.———— The method of claim 24, further comprising:
receiving a configuration for the logical channel, wherein the configuration comprises one or more trigger conditions for transmitting the backpressure request message.

26.———— The method of claim 20, wherein:
the backpressure report message comprises buffer load information; and
the adjusting the scheduling rate is based at least in part on the buffer load information.

27.—— The method of claim 26, wherein the buffer load information comprises a backpressure indicator, a backpressure indicator value, a buffer load value, a buffer load availability indicator, or a combination thereof.

28.———— The method of claim 20, further comprising:
receiving a configuration for the logical channel, wherein the configuration comprises one or more back-off policies for the logical channel.

29.—— The method of claim 28, wherein the one or more back-off policies comprise indications of a step size, a ramping slope, or a combination thereof adjusting the scheduling rate.

30.—— The method of claim 28, wherein the one or more back-off policies comprise a backpressure condition, a backpressure threshold, a buffer load threshold, a buffer load availability threshold, or a combination thereof, wherein adjusting the scheduling rate is based at least in part on the backpressure condition, the backpressure threshold, the buffer load threshold, the buffer load availability threshold, or the combination thereof.

31.—— The method of claim 28, wherein the configuration is received on a layer three (L3) signaling connection, a radio resource control (RRC) connection, an F1 application protocol (AP) interface, or a combination thereof.

32.———— The method of claim 20, further comprising:
transmitting a backpressure capabilities message to a base station centralized unit (CU).

33.—— The method of claim 32, wherein the backpressure capabilities message is transmitted on a layer three (L3) signaling connection, a radio resource control (RRC) connection, an F1 application protocol (AP) interface, or a combination thereof.

34.—— The method of claim 20, wherein the backpressure report message comprises a medium access control (MAC) signaling message.

35.———— The method of claim 34, wherein receiving the backpressure report message comprises:
receiving the MAC signaling message in a MAC channel element on a physical uplink shared channel (PUSCH), in an uplink channel indicator on a physical uplink control channel (PUCCH), or in a combination thereof.

36.—— The method of claim 20, wherein the data units comprise downlink medium access control (MAC) protocol data units (PDUs).

37.—— The method of claim 20, wherein the logical channel comprises a radio link control (RLC) channel, an RLC-bearer, an RLC-bearer chain, or a combination thereof.

38.———— A method for wireless communications, comprising:
identifying a first wireless device operating as a mobile termination (MT) endpoint and a second wireless device operating as a base station distributed unit (DU) endpoint for backpressure handling configuration;
transmitting, to the first wireless device, a first configuration for a split Radio Link Control (RLC) logical channel, the first configuration comprising one or more backpressure report conditions for the ~~logical channel; and~~split RLC logical channel; and transmitting, to the second wireless device, a second configuration for the split RLC logical channel, the second configuration comprising one or more back-off policies for the split logical channel.
~~transmitting, to the second wireless device, a second configuration for the logical channel, the second configuration comprising one or more back-off policies for the logical channel.~~

39.———— The method of claim 38, wherein the split logical channel corresponds to a split RLC logical channel identifier, the method further comprising:
configuring the first configuration with the logical channel identifier, a logical channel group identifier corresponding to a logical channel group comprising the logical channel, or a combination thereof; and
configuring the second configuration with the logical channel identifier, the logical channel group identifier, or the combination thereof.

40.—— The method of claim 38, wherein the one or more backpressure report conditions comprise periodic reporting conditions, buffer load-based reporting conditions, request-based reporting conditions, or a combination thereof.

41.—— The method of claim 40, wherein the one or more backpressure report conditions further comprise indications of time intervals for periodic reporting, buffer load thresholds for buffer load-based reporting, buffer load availability thresholds for the buffer load-based reporting, averaging windows for the buffer load-based reporting, hysteresis values for the buffer load-based reporting, or a combination thereof.

42.—— The method of claim 38, wherein the one or more back-off policies comprise indications of a step size, a ramping slope, or a combination thereof adjusting a data unit scheduling rate.

43.—— The method of claim 38, wherein the one or more back-off policies comprise a backpressure condition, a backpressure threshold, a buffer load threshold, a buffer load availability threshold, or a combination thereof.

44.—— The method of claim 38, wherein the second configuration for the split logical channel comprises one or more backpressure request conditions.

45.———— The method of claim 38, further comprising:
receiving, from the first wireless device, a backpressure capabilities message indicating backpressure handling capabilities of the first wireless device.

46.—— The method of claim 45, wherein the backpressure capabilities message is received on a layer three (L3) signaling connection, a radio resource control (RRC) connection, an F1 application protocol (AP) interface, or a combination thereof.

47.———— The method of claim 38, further comprising:
receiving, from the second wireless device, a backpressure capabilities message indicating backpressure handling capabilities of the second wireless device.

48.—— The method of claim 47, wherein the backpressure capabilities message is received on a layer three (L3) signaling connection, a radio resource control (RRC) connection, an F1 application protocol (AP) interface, or a combination thereof.

49.—— The method of claim 38, wherein the first configuration and the second configuration are transmitted on a layer three (L3) signaling connection, a radio resource control (RRC) connection, an F1 application protocol (AP) interface, or a combination thereof.

50.—— The method of claim 38, wherein the first wireless device comprises a user equipment (UE) or a relay base station.

51.—— The method of claim 38, wherein the second wireless device comprises a relay base station or a donor base station.

52.—— The method of claim 38, wherein the split logical channel comprises a radio link control (RLC) channel, an RLC-bearer, an RLC-bearer chain, or a combination thereof.

53.———— An apparatus for wireless communications, comprising:
means for receiving data units in a (RLC-Lo) portion of a logical channel of a wireless link according to a scheduling rate;

means for determining that a backpressure report condition of the logical channel is met;

means for transmitting, on the wireless link, a backpressure report message indicating the logical channel based at least in part on the determining; and

means for receiving additional data units in the (RLC-Lo) portion of the logical channel of the wireless link according to an adjusted scheduling rate based at least in part on transmitting the backpressure report message.

54. An apparatus for wireless communications, comprising:

means for transmitting data units in a (RLC-Lo) portion of a logical channel of a wireless link according to a scheduling rate;

means for receiving a backpressure report message indicating the logical channel; and

means for adjusting the scheduling rate for transmitting the data units in the (RLC-Lo) portion of the logical channel based at least in part on the backpressure report message.

55. An apparatus for wireless communications, comprising:

means for identifying a first wireless device operating as a mobile termination (MT) endpoint and a second wireless device operating as a base station distributed unit (DU) endpoint for backpressure handling configuration;

means for transmitting, to the first wireless device, a first configuration for a split logical channel, the first configuration comprising one or more backpressure report conditions for the ~~logical channel; and~~split RLC logical channel; and means for transmitting, to the second wireless device, a second configuration for the split logical channel, the second configuration comprising one or more back-off policies for the split logical channel.

~~means for transmitting, to the second wireless device, a second configuration for the logical channel, the second configuration comprising one or more back-off policies for the logical channel.~~

56. An apparatus for wireless communications, comprising:

a processor;

memory in electronic communication with the processor; and

instructions stored in the memory and executable by the processor to cause the apparatus to:

receive data units in a (RLC-Lo) portion of a logical channel of a wireless link according to a scheduling rate;

determine that a backpressure report condition of the logical channel is met;

transmit, on the wireless link, a backpressure report message indicating the logical channel based at least in part on the determining; and

receive additional data units in the (RLC-Lo) portion of the logical channel of the wireless link according to an adjusted scheduling rate based at least in part on transmitting the backpressure report message.

57. An apparatus for wireless communications, comprising:

a processor;

memory in electronic communication with the processor; and

instructions stored in the memory and executable by the processor to cause the apparatus to:

transmit data units in a (RLC-Lo) portion of a logical channel of a wireless link according to a scheduling rate;

receive a backpressure report message indicating the logical channel; and

adjust the scheduling rate for transmitting the data units in the (RLC-Lo) portion of the logical channel based at least in part on the backpressure report message.

58. An apparatus for wireless communications, comprising:

a processor;

memory in electronic communication with the processor; and

instructions stored in the memory and executable by the processor to cause the apparatus to:

identify a first wireless device operating as a mobile termination (MT) endpoint and a second wireless device operating as a base station distributed unit (DU) endpoint for backpressure handling configuration;

transmit, to the first wireless device, a first configuration for a split RLC logical channel, the first configuration comprising one or more backpressure report conditions for the ~~logical channel; and~~split logical channel; and transmit, to the second wireless device, a second configuration for the split RLC logical channel, the second configuration comprising one or more back-off policies for the split logical channel.

~~transmit, to the second wireless device, a second configuration for the logical channel, the second configuration comprising one or more back-off policies for the logical channel.~~

59. A non-transitory computer-readable medium storing code for wireless communications, the code comprising instructions executable by a processor to:

receive data units in a (RLC-Lo) portion of a logical channel of a wireless link according to a scheduling rate;

determine that a backpressure report condition of the logical channel is met;

transmit, on the wireless link, a backpressure report message indicating the logical channel based at least in part on the determining; and

receive additional data units in the (RLC-Lo) portion of a logical channel of the wireless link according to an adjusted scheduling rate based at least in part on transmitting the backpressure report message.

60. A non-transitory computer-readable medium storing code for wireless communications, the code comprising instructions executable by a processor to: transmit data units in a split RLC logical channel of a wireless link according to a scheduling rate; receive a backpressure report message indicating the split RLC logical channel; and adjust the scheduling rate for transmitting the data units in the split RLC logical channel based at least in part on the backpressure report message.

~~transmit data units in a logical channel of a wireless link according to a scheduling rate;~~

~~receive a backpressure report message indicating the logical channel; and~~

~~adjust the scheduling rate for transmitting the data units in the logical channel based at least in part on the backpressure report message.~~

61. A non-transitory computer-readable medium storing code for wireless communications, the code comprising instructions executable by a processor to:

identify a first wireless device operating as a mobile termination (MT) endpoint and a second wireless device operating as a base station distributed unit (DU) endpoint for backpressure handling configuration;

transmit, to the first wireless device, a first configuration for a split RLC logical channel, the first configuration comprising one or more backpressure report conditions for the ~~logical channel; and~~split logical channel; and transmit, to the second wireless device, a second configuration for the split RLC logical channel, the second configuration comprising one or more back-off policies for the split RLC logical channel.

~~transmit, to the second wireless device, a second configuration for the logical channel, the second configuration comprising one or more back-off policies for the logical channel.~~