CLAIMS

What is claimed is:

1. A method for wireless communication, comprising:

receiving, at performed by a user equipment (UE), a plurality of downlink transmissions comprising: receiving, from a base station;

network entity, one or more downlink grants scheduling a set of downlink transmissions; receiving, atfrom the UE, annetwork entity, a single uplink grant associated with anthat schedules uplink transmission fromresources for a physical uplink shared channel (PUSCH) to be transmitted by the UE to the base stationnetwork entity, the uplink grant comprising an indication ofa field indicating a number of the plurality of downlink transmissions for which the UE is to transmit feedback information during the uplinkin the PUSCH receiving, from the network entity, a subsequent downlink grant after receiving the single uplink grant, the subsequent downlink grant scheduling another downlink transmission that is not in the set of downlink transmissions and that has a higher priority than the set of downlink transmissions, the scheduled uplink resources for the PUSCH not including uplink resources for the other downlink transmission, the feedback information indicating successful or unsuccessful receipt of each ; receiving, from the network entity, a plurality of downlink transmissions including one or more of the set of downlink transmissions and including the other downlink transmission;

generating the feedback information forbased on the reception of the plurality of downlink transmissions, the feedback information including: a first indication, for each received downlink transmission of the plurality of downlink transmissions; and

transmitting, of whether the uplinkdownlink transmission to the base station.

2. The method of claim 1, wherein:

the indication ofwas successfully received or unsuccessfully received, and based on the number of downlink transmissions for which the UE is to transmit feedback information in the PUSCH being greater than the number of received downlink transmissions in the plurality of downlink transmissions, a second indication, for each of one or more missed downlink transmissions of the set of downlink transmissions, that the downlink transmission was not received; rate-matching uplink data around the feedback information in the PUSCH based on the indication of the number of downlink transmissions for which the UE is to transmit feedback information; and transmitting the PUSCH to the network entity.

2. The method of claim 1, wherein: the indication of the number of downlink transmissions for which the UE is to transmit feedback information in the PUSCH is indicated in a downlink assignment index (DAI) transmitted in the uplink grant.

3. The method of claim 1, wherein:

~~the feedback information is transmitted in a physical uplink shared channel (PUSCH) transmission with uplink data from the UE, wherein the uplink data is rate-matched around the feedback information.~~

~~**4**. The method of claim 1, wherein:~~

the uplink grant further comprises a grant of uplink feedback resources for transmission of the feedback information associated with the plurality of downlink transmissions, and wherein the method further comprises; determining whether the uplink feedback resources include resources for feedback for each of the plurality of downlink transmissions; and puncturing a portion of the PUSCH that is outside of the uplink feedback resources with feedback information for at least a first downlink transmission of the plurality of downlink transmissions based at least in part on determining that the uplink feedback resources do not include resources for feedback for the first downlink transmission.

4. A method for wireless communication performed by a base station, comprising: transmitting, to a user equipment (UE), one or more downlink grants scheduling a set of downlink transmissions; transmitting, to the UE, a single uplink grant that schedules uplink resources for a physical uplink shared channel (PUSCH) to be transmitted by the UE to the network entity, the uplink grant comprising a field indicating a number of downlink transmissions for which the UE is to transmit feedback information in the PUSCH; transmitting, to the UE, a subsequent downlink grant after transmitting the single uplink grant, the subsequent downlink grant scheduling another downlink transmission that is not in the set of downlink transmissions and that has a higher priority than the set of downlink transmissions, the scheduled uplink resources for the PUSCH not including uplink resources for the other downlink transmission; transmitting, to the UE, the set of downlink transmissions and the other downlink transmission; and receiving the PUSCH from the UE, the PUSCH including the feedback information and uplink data rate-matched around the feedback information, the rate-matching being based on indication of the number of downlink transmissions for which the UE is to transmit feedback information; wherein the feedback information includes: a first indication, for each downlink transmission received by the UE, of whether the downlink transmission was successfully received or unsuccessfully received, and based on the number of downlink transmissions for which the UE is to transmit feedback information in the PUSCH being greater than the number of downlink transmissions received by the UE, a second indication, for each of one or more missed downlink transmissions of the set of downlink transmissions, that the downlink transmission was not received.

5. The method of claim 4, wherein: the indication of the number of downlink transmissions for which the UE is to transmit feedback information in the PUSCH is indicated in a downlink assignment index (DAI) transmitted in the uplink grant.

6. A user equipment (UE) comprising: a processor; memory in electronic communication with the processor; and instructions stored in the memory and operable, when executed by the processor, to cause the apparatus to: receive, from a network entity, one or more downlink grants scheduling a set of downlink transmissions; receive, from the network entity, a single uplink grant that schedules uplink resources for a physical uplink shared channel (PUSCH) to be transmitted by the UE to the network entity, the uplink grant comprising a field indicating a number of downlink transmissions for which the UE is to transmit feedback information in the PUSCH; receive, from the network entity, a subsequent downlink grant after receiving the single uplink grant, the subsequent downlink grant scheduling another downlink transmission that is not in the set of downlink transmissions and that has a higher priority than the set of downlink transmissions, the scheduled uplink resources for the PUSCH not including uplink resources for the other downlink transmission; receive, from the network entity, a plurality of downlink transmissions including one or more of the set of downlink transmissions and including the other downlink transmission; generate the feedback information based on the reception of the plurality of downlink transmissions, the feedback information including: a first indication, for each received downlink transmission of the plurality of downlink transmissions, of whether the downlink transmission was successfully received or unsuccessfully received, and based on the number of downlink transmissions for which the UE is to transmit feedback information in the PUSCH being greater than the number of received downlink transmissions in the plurality of downlink transmissions, a second indication, for each of one or more missed downlink transmissions of the set of downlink transmissions, that the downlink transmission was not received; rate-match uplink data around the feedback information in the PUSCH based on the indication of the number of downlink transmissions for which the UE is to transmit feedback information; and transmit the PUSCH to the network entity.

7. The UE of claim 6, wherein: the indication of the number of downlink transmissions for which the UE is to transmit feedback information in the PUSCH is indicated in a downlink assignment index (DAI) transmitted in the uplink grant.

8. The UE of claim 6, wherein: the uplink grant further comprises a grant of uplink feedback resources for transmission of the feedback information associated with the plurality of downlink transmissions, and wherein the method further comprises;

determining whether the uplink feedback resources include resources for feedback for each of the plurality of downlink transmissions; and

puncturing a portion of the ~~uplink transmission~~PUSCH that is outside of the uplink feedback resources with feedback information ~~from~~for at least a first downlink transmission of the plurality of downlink transmissions based at least in part on determining that the uplink feedback resources do not include resources for feedback for the first downlink transmission.

~~5. The method of claim 1, further comprising:~~

~~receiving, at the UE prior to receiving the plurality of downlink transmissions, a downlink grant associated with at least a first downlink transmission, the downlink grant comprising an indication of shared channel uplink resources for transmission of feedback~~

information associated with the first downlink transmission, and wherein the transmitting the uplink transmission comprises transmitting the feedback information using the shared channel uplink resources based at least in part on the indication in the downlink grant.

6. The method of claim 1, further comprising:

identifying, at the UE, first uplink control information (UCI) associated with a first wireless service, and second UCI associated with a second wireless service, wherein the first UCI and the second UCI are to be transmitted to the base station in the uplink transmission, and wherein the first UCI has a first performance reliability parameter and the second UCI has a second performance reliability parameter that is different than the first performance reliability parameter;

formatting the first UCI in accordance with the first performance reliability parameter and the second UCI in accordance with the second performance reliability parameter; and

multiplexing the formatted first UCI and the formatted second UCI into the uplink transmission.

7. A method for wireless communication, comprising:

receiving, at a user equipment (UE), at least a first downlink transmission from a base station;

receiving, at the UE, an uplink grant associated with an uplink transmission from the UE to the base station, the uplink grant comprising an indication of uplink feedback resources for transmission of feedback information associated with at least the first downlink transmission, the feedback information indicating successful or unsuccessful receipt of at least the first downlink transmission;

receiving, at the UE, at least a second downlink transmission from the base station;

determining whether the uplink feedback resources include resources for feedback information associated with the second downlink transmission;

formatting the uplink transmission to include feedback information for one or more of the first downlink transmission or the second downlink transmission based at least in part on the determining; and

transmitting the uplink transmission to the base station.

8. The method of claim 7, wherein the determining comprises:

determining a time difference between receiving the uplink grant and receiving the second downlink transmission; and

determining whether the uplink feedback resources include resources for feedback information associated with the second downlink transmission based at least in part on the time difference.

9. The method of claim 8, wherein:

the uplink feedback resources are determined to include resources for feedback information associated with the second downlink transmission when the time difference is below a threshold value and the uplink feedback resources are determined not to include resources for feedback information associated with the second downlink transmission when the time difference is at or above the threshold value.

10. The method of claim 8, wherein:

the time difference corresponds to a difference in one or more of a number of subframes, a number of slots, a number of symbols, a number of mini-slots, or an absolute time between receiving the uplink grant and receiving the second downlink transmission.

11. The method of claim 7, wherein the determining comprises:

identifying an indication in a downlink grant associated with the second downlink transmission that indicates whether the uplink feedback resources include resources for feedback information associated with the second downlink transmission.

12. The method of claim 11, wherein:

the indication comprises an explicit indication that the uplink feedback resources include resources for feedback information associated with the second downlink

transmission or an indication that the feedback information associated with the second downlink transmission is to be rate-matched around by other data of the uplink transmission.

13. The method of claim 7, wherein:

the determining comprises determining a time difference between receiving the uplink grant and receiving the second downlink transmission exceeds a threshold value, and identifying an indication in a downlink grant associated with the second downlink transmission that indicates whether the uplink feedback resources include resources for feedback information associated with the second downlink transmission.

14. The method of claim 7, wherein:

the uplink grant comprises an indication of a number of the plurality of downlink transmissions for which the UE is to transmit feedback information during the uplink transmission.

15. The method of claim 7, further comprising:

receiving, at the UE prior to receiving the first downlink transmission, a downlink grant associated with at least the first downlink transmission, the downlink grant comprising an indication of shared channel uplink resources for transmission of first feedback information associated with the first downlink transmission, and wherein the transmitting the uplink transmission comprises transmitting the first feedback information using the shared channel uplink resources based at least in part on the indication in the downlink grant.

16. The method of claim 7, further comprising:

identifying, at the UE, first uplink control information (UCI) associated with a first wireless service and second UCI associated with a second wireless service, wherein the first UCI and the second UCI to be transmitted to the base station in the uplink transmission, and wherein the first UCI has a first performance reliability parameter and the second UCI has a second performance reliability parameter that is different than the first performance reliability parameter;

formatting the first UCI in accordance with the first performance reliability parameter and the second UCI in accordance with the second performance reliability parameter; and

multiplexing the formatted first UCI and the formatted second UCI into the uplink transmission.

17. A method for wireless communication, comprising:

receiving, at a user equipment (UE), a downlink grant associated with at least a first downlink transmission from a base station, the downlink grant comprising an indication of shared channel uplink resources for transmission of feedback information associated with the first downlink transmission;

generating the feedback information for the first downlink transmission; and

transmitting the feedback information in an uplink transmission using the shared channel uplink resources based at least in part on the indication in the downlink grant.

18. The method of claim 17, wherein:

the feedback information is transmitted using the shared channel uplink resources irrespective of whether an uplink grant is received for the uplink transmission.

19. The method of claim 17, wherein:

the indication of shared channel uplink resources comprises at least a number of resource blocks (RBs) of the uplink transmission allocated for transmission of the feedback information.

20. The method of claim 17, further comprising:

receiving an uplink grant that indicates resources and one or more parameters for the uplink transmission, and wherein the uplink transmission is based at least in part on the uplink grant.

21. The method of claim 20, wherein:

the uplink grant comprises an indication of a number of the plurality of downlink transmissions for which the UE is to transmit feedback information during the uplink transmission.

22. The method of claim 20, wherein:

the uplink grant further comprises a grant of uplink feedback resources for transmission of feedback information associated with at least the first downlink transmission, and wherein the method further comprises:

determining whether the uplink feedback resources include resources for each of a plurality of downlink transmissions; and

puncturing a portion of the uplink transmission that is outside of the uplink feedback resources with feedback information from at least a second downlink transmission of the plurality of downlink transmissions based at least in part on determining that the uplink feedback resources do not include resources for the second downlink transmission.

23. The method of claim 17, further comprising:

identifying, at the UE, first uplink control information (UCI) associated with a first wireless service and second UCI associated with a second wireless service, wherein the first UCI and the second UCI to be transmitted to the base station in the uplink transmission, and wherein the first UCI has a first performance reliability parameter and the second UCI has a second performance reliability parameter that is different than the first performance reliability parameter;

formatting the first UCI in accordance with the first performance reliability parameter and the second UCI in accordance with the second performance reliability parameter; and

multiplexing the formatted first UCI and the formatted second UCI into the uplink transmission.

24. A method for wireless communication, comprising:

identifying, at a user equipment (UE), first uplink control information (UCI) associated with a first wireless service and second UCI associated with a second wireless service, wherein the first UCI and the second UCI are to be transmitted to a base station in a first uplink transmission, and wherein the first UCI has a first performance reliability parameter and the second UCI has a second performance reliability parameter that is different than the first performance reliability parameter;

formatting the first UCI in accordance with the first performance reliability parameter and the second UCI in accordance with the second performance reliability parameter;

multiplexing the formatted first UCI and the formatted second UCI into the first uplink transmission; and

transmitting the first uplink transmission to the base station.

25. The method of claim 24, wherein:

the multiplexing comprises frequency division multiplexing the formatted first UCI and the formatted second UCI into a physical uplink shared channel (PUSCH) and a physical uplink control channel (PUCCH).

26. The method of claim 24, wherein:

the multiplexing comprises time division multiplexing the formatted first UCI and the formatted second UCI into a physical uplink control channel (PUCCH).

27. The method of claim 24, wherein:

the formatting comprises independently encoding the formatted first UCI and the formatted second UCI.

28. The method of claim 27, wherein:

the formatted first UCI is encoded using a first number of modulation symbols and the formatted second UCI is encoded using a second number of modulation symbols that is different than the first number of modulation symbols.

29. The method of claim 24, wherein:

the first UCI and the second UCI include feedback information indicating successful or unsuccessful reception of one or more downlink transmissions of each wireless service.

30. The method of claim 24, wherein:

the first UCI and the second UCI include channel quality information (CQI) associated with each wireless service.

31. The method of claim 24, wherein:

an uplink grant comprises an indication of a number of a plurality of downlink transmissions for which the UE is to transmit feedback information during the first uplink transmission.

32. The method of claim 24, further comprising:

receiving an uplink grant including uplink feedback resources for transmission of feedback information associated with at least a first downlink transmission;

determining whether the uplink feedback resources include resources for each of a plurality of downlink transmissions; and

puncturing a portion of the first uplink transmission that is outside of the uplink feedback resources with feedback information from at least a second downlink transmission of the plurality of downlink transmissions based at least in part on determining that the uplink feedback resources do not include resources for the second downlink transmission.

33. The method of claim 24, further comprising:

receiving, at the UE prior to receiving a first downlink transmission, a downlink grant associated with at least the first downlink transmission, the downlink grant comprising an indication of shared channel uplink resources for transmission of first feedback information associated with the first downlink transmission, and wherein the transmitting the first uplink transmission comprises transmitting the first feedback information using the shared channel uplink resources based at least in part on the indication in the downlink grant.

34. A method for wireless communication, comprising:

transmitting, from a base station, a plurality of downlink transmissions to a user equipment (UE);

transmitting, to the UE, an uplink grant for an uplink transmission from the UE to the base station, the uplink grant comprising an indication of a number of the plurality of 9. A base station comprising: a processor; memory in electronic communication with the processor; and

instructions stored in the memory and operable, when executed by the processor, to cause the apparatus to: transmit, to a user equipment (UE), one or more downlink grants scheduling a set of downlink transmissions; transmit, to the UE, a single uplink grant that schedules uplink resources for a physical uplink shared channel (PUSCH) to be transmitted by the UE to the network entity, the uplink grant comprising a field indicating a number of downlink transmissions for which the UE is to transmit feedback information in the PUSCH; transmit, to the UE, a subsequent downlink grant after transmitting the single uplink grant, the subsequent downlink grant scheduling another downlink transmission that is not in the set of downlink transmissions and that has a higher priority than the set of downlink transmissions, the scheduled uplink resources for the PUSCH not including uplink resources for the other downlink transmission; transmit, to the UE, the set of downlink transmissions and the other downlink transmission; and receive the PUSCH from the UE, the PUSCH including the feedback information and uplink data rate-matched around the feedback information, the rate-matching being based on indication of the number of downlink transmissions for which the UE is to transmit feedback information; wherein the feedback information includes: a first indication, for each downlink transmission received by the UE, of whether the downlink transmission was successfully received or unsuccessfully received, and based on the number of downlink transmissions for which the UE is to transmit feedback information in the PUSCH being greater than the number of downlink transmissions received by the UE, a second indication, for each of one or more missed downlink transmissions of the set of downlink transmissions, that the downlink transmission was not received.

10. The base station of claim 9, wherein: the indication of the number of downlink transmissions for which the UE is to transmit feedback information ~~during the uplink transmission, the feedback information indicating successful or unsuccessful receipt of each downlink transmission; and~~

~~receiving the uplink transmission from the UE.~~

~~**35**. The method of claim 34, wherein:~~

~~the indication of the number of the plurality of downlink transmissions~~in the PUSCH is indicated in a downlink assignment index (DAI) transmitted in the uplink grant.

~~**36**. The method of claim 34, wherein:~~

~~the feedback information is transmitted in a physical uplink shared channel (PUSCH) transmission with uplink data from the UE, wherein the uplink data is rate-matched around the feedback information.~~

~~**37**. A method for wireless communication, comprising:~~

~~transmitting, from a base station, at least a first downlink transmission to a user equipment (UE);~~

transmitting, to the UE, an uplink grant for an uplink transmission from the UE to the base station, the uplink grant comprising an indication of uplink feedback resources for transmission of feedback information associated with at least the first downlink transmission, the feedback information indicating successful or unsuccessful receipt of at least the first downlink transmission;

transmitting, to the UE, at least a second downlink transmission;

determining whether the uplink feedback resources include resources for the second downlink transmission;

receiving the uplink transmission from the UE; and

identifying the feedback information for the first downlink transmission and the second downlink transmission based at least in part on the determining.

38. The method of claim 37, wherein the determining comprises;

determining a time difference between receiving the uplink grant and receiving the second downlink transmission, and determining whether the uplink feedback resources include resources for feedback information associated with the second downlink transmission based at least in part on the time difference.

39. The method of claim 38, wherein:

the uplink feedback resources are determined to include resources for feedback information associated with the second downlink transmission when the time difference is below a threshold value and the uplink feedback resources are determined not to include resources for feedback information associated with the second downlink transmission when the time difference is at or above the threshold value.

40. The method of claim 38, wherein:

the time difference corresponds to a difference in one or more of a number of subframes, a number of slots, a number of symbols, a number of mini-slots, or an absolute time between receiving the uplink grant and receiving the second downlink transmission.

41. The method of claim 37, wherein:

a downlink grant for the second downlink transmission includes an indication of whether the uplink feedback resources include resources for feedback information associated with the second downlink transmission.

42. A method for wireless communication, comprising:

transmitting, from a base station to a user equipment (UE), a downlink grant associated with at least a first downlink transmission from the base station, the downlink grant comprising an indication of shared channel uplink resources for use in transmission of feedback information associated with the first downlink transmission irrespective of whether the UE receives an uplink grant for an uplink transmission;

transmitting the uplink grant to the UE, the uplink grant comprising one or more parameters for the shared channel uplink resources for an uplink transmission containing the feedback information; and

receiving the feedback information from the UE in the uplink transmission.

43. The method of claim 42, wherein:

the feedback information is transmitted using the shared channel uplink resources irrespective of whether an uplink grant is received for the uplink transmission.

44. The method of claim 42, further comprising:

transmitting an uplink grant that indicates resources and one or more parameters for the uplink transmission, and wherein the uplink transmission is based at least in part on the uplink grant.

45. The method of claim 44, wherein:

the indication of shared channel uplink resources comprises at least a number of resource blocks (RBs) of the uplink transmission allocated for transmission of the feedback information.

46. A method for wireless communication, comprising:

configuring a user equipment (UE) with a first wireless service for communications between the UE and a base station and a second wireless service for

communications between the UE and the base station, wherein the first wireless service has a first performance reliability parameter and the second wireless service has a second performance reliability parameter that is different than the first performance reliability parameter;

receiving, in a first uplink transmission from the UE, first uplink control information (UCI) associated with the first wireless service established, and second UCI associated with the second wireless service, wherein the first UCI is formatted in accordance with the first performance reliability parameter and the second UCI is formatted in accordance with the second performance reliability parameter, and wherein the first UCI is multiplexed with the second UCI in the first uplink transmission; and

decoding the first UCI and the second UCI based at least in part on the first reliability parameter and the second reliability parameter.

47. The method of claim 46, wherein:

the formatted first UCI and the formatted second UCI are multiplexed according to frequency division multiplexing into a physical uplink shared channel (PUSCH) and a physical uplink control channel (PUCCH).

48. The method of claim 46, wherein:

the formatted first UCI and the formatted second UCI are multiplexed according to time division multiplexing into a physical uplink control channel (PUCCH).

49. The method of claim 46, wherein:

the formatting comprises independently encoding the formatted first UCI and the formatted second UCI.

50. The method of claim 49, wherein:

the formatted first UCI and the formatted second UCI are independently encoded.

51. The method of claim 46, wherein:

the first UCI and the second UCI include feedback information indicating successful or unsuccessful reception of one or more downlink transmissions of each wireless service.

52. The method of claim 46, wherein:

the first UCI and the second UCI include channel quality information (CQI) associated with each wireless service.

53. An apparatus for wireless communication, comprising:

means for receiving, at a user equipment (UE), a plurality of downlink transmissions from a base station;

means for receiving, at the UE, an uplink grant associated with an uplink transmission from the UE to the base station, the uplink grant comprising an indication of a number of the plurality of downlink transmissions for which the UE is to transmit feedback information during the uplink transmission, the feedback information indicating successful or unsuccessful receipt of each downlink transmission;

means for generating the feedback information for the plurality of downlink transmissions; and

means for transmitting the uplink transmission to the base station.

54. An apparatus for wireless communication, comprising:

means for receiving, at a user equipment (UE), at least a first downlink transmission from a base station;

means for receiving, at the UE, an uplink grant associated with an uplink transmission from the UE to the base station, the uplink grant comprising an indication of uplink feedback resources for transmission of feedback information associated with at least the first downlink transmission, the feedback information indicating successful or unsuccessful receipt of at least the first downlink transmission;

means for receiving, at the UE, at least a second downlink transmission from the base station;

means for determining whether the uplink feedback resources include resources for feedback information associated with the second downlink transmission;

means for formatting the uplink transmission to include feedback information for one or more of the first downlink transmission or the second downlink transmission based at least in part on the determining; and

means for transmitting the uplink transmission to the base station.

55. An apparatus for wireless communication, comprising:

means for receiving, at a user equipment (UE), a downlink grant associated with at least a first downlink transmission from a base station, the downlink grant comprising an indication of shared channel uplink resources for transmission of feedback information associated with the first downlink transmission;

means for generating the feedback information for the first downlink transmission; and

means for transmitting the feedback information in an uplink transmission using the shared channel uplink resources based at least in part on the indication in the downlink grant.

56. An apparatus for wireless communication, comprising:

means for identifying, at a user equipment (UE), first uplink control information (UCI) associated with a first wireless service and second UCI associated with a second wireless service, wherein the first UCI and the second UCI are to be transmitted to a base station in a first uplink transmission, and wherein the first UCI has a first performance reliability parameter and the second UCI has a second performance reliability parameter that is different than the first performance reliability parameter;

means for formatting the first UCI in accordance with the first performance reliability parameter and the second UCI in accordance with the second performance reliability parameter;

means for multiplexing the formatted first UCI and the formatted second UCI into the first uplink transmission; and

means for transmitting the first uplink transmission to the base station.

57. An apparatus for wireless communication, comprising:

means for transmitting, from a base station, a plurality of downlink transmissions to a user equipment (UE);

means for transmitting, to the UE, an uplink grant for an uplink transmission from the UE to the base station, the uplink grant comprising an indication of a number of the plurality of downlink transmissions for which the UE is to transmit feedback information during the uplink transmission, the feedback information indicating successful or unsuccessful receipt of each downlink transmission; and

means for receiving the uplink transmission from the UE.

58. An apparatus for wireless communication, comprising:

means for transmitting, from a base station, at least a first downlink transmission to a user equipment (UE);

means for transmitting, to the UE, an uplink grant for an uplink transmission from the UE to the base station, the uplink grant comprising an indication of uplink feedback resources for transmission of feedback information associated with at least the first downlink transmission, the feedback information indicating successful or unsuccessful receipt of at least the first downlink transmission;

means for transmitting, to the UE, at least a second downlink transmission;

means for determining whether the uplink feedback resources include resources for the second downlink transmission;

means for receiving the uplink transmission from the UE; and

means for identifying the feedback information for the first downlink transmission and the second downlink transmission based at least in part on the determining.

59. An apparatus for wireless communication, comprising:

means for transmitting, from a base station to a user equipment (UE), a downlink grant associated with at least a first downlink transmission from the base station, the downlink grant comprising an indication of shared channel uplink resources for use in transmission of feedback information associated with the first downlink transmission irrespective of whether the UE receives an uplink grant for an uplink transmission;

means for transmitting the uplink grant to the UE, the uplink grant comprising one or more parameters for the shared channel uplink resources for an uplink transmission containing the feedback information; and

means for receiving the feedback information from the UE in the uplink transmission.

60. An apparatus for wireless communication, comprising:

means for configuring a user equipment (UE) with a first wireless service for communications between the UE and a base station and a second wireless service for communications between the UE and the base station, wherein the first wireless service has a first performance reliability parameter and the second wireless service has a second performance reliability parameter that is different than the first performance reliability parameter;

means for receiving, in a first uplink transmission from the UE, first uplink control information (UCI) associated with the first wireless service established, and second UCI associated with the second wireless service, wherein the first UCI is formatted in accordance with the first performance reliability parameter and the second UCI is formatted in accordance with the second performance reliability parameter, and wherein the first UCI is multiplexed with the second UCI in the first uplink transmission; and

means for decoding the first UCI and the second UCI based at least in part on the first reliability parameter and the second reliability parameter.