CLAIMS

What is claimed is:

1. A method for wireless communication, comprising:

identifying a radio link failure (RLF) event associated with a first radio access technology;

reestablishing a radio resource control (RRC) connection with a cell of a second radio access technology based at least in part on identifying the RLF event associated with the first radio access technology;

identifying a duration of a service interruption based at least in part on identifying the RLF event, wherein identifying the duration further comprises:

identifying the duration between a first time when a user equipment (UE) loses data transmission capability at a source cell of the first radio access technology and a second time when the UE can resume data transmission at the cell; or

identifying the duration between a first time when a user equipment (UE) receives a handover command from a source cell and a second time the UE transmits an RRC reconfiguration complete message to the cell; and

transmitting an RLF report to the cell based at least in part on reestablishing the RRC connection, the RLF report including information about one or more directional beams associated with the RLF event and indicating the duration of the service interruption.

2. The method of claim 1, further comprising:

identifying a beam recovery failure for at least one directional beam associated with the first radio access technology, wherein identifying the RLF event is based at least in part on identifying the beam recovery failure.

3. The method of claim 1, wherein the RLF report is configured to indicate whether the RLF event is a radio link failure, a handover failure, a beam recovery failure, or a combination thereof.

4. The method of claim 1, wherein a connection failure type indication in the RLF report is configured to indicate whether the RLF event is a radio link failure, a handover failure, a beam recovery failure, or a combination thereof.

5. The method of claim 1, further comprising:

wherein the RLF report indicates the duration of the service interruption.

6. The method of claim 5, wherein the duration is identified for each of a master cell and a secondary cell when dual connectivity is configured.

7. The method of claim 1, wherein the RLF report includes an identifier of the one or more directional beams associated with the RLF event, beam reference signal received power of the one or more directional beams associated with the RLF event, a beam measurement of the one or more directional beams associated with the RLF event, or a combination thereof.

8. The method of claim 1, further comprising:

identifying that the RLF event is associated with a conditional handover failure, wherein the RLF report includes information about the conditional handover failure.

9. The method of claim 8, wherein the RLF report includes a duration between a last handover initialization and a connection failure, a candidate target cell list comprising at least the cell, measurement information for at least one target cell in the candidate target cell list, an indication about one or more target cells attempted to connect with after the RLF event occurs, a number of connection attempts after the RLF event occurs, or a combination thereof.

10. The method of claim 8, further comprising:

receiving an indication of one or more candidate target cells for a conditional handover;

determining that a handover condition is satisfied for at least one candidate target cell of the one or more candidate target cells, the at least one candidate target cell comprising the cell; and

initiating a random access channel (RACH) to the at least one candidate target cell that satisfied the handover condition, wherein identifying that the RLF event is associated with the conditional handover failure is based at least in part on initiating the RACH to the at least one candidate target cell.

11. The method of claim 1, further comprising:

identifying information about a master cell and a secondary cell in a dual-connectivity configuration, wherein the RLF report includes the identified information.

12. The method of claim 1, wherein the RLF event is for a master cell group (MCG) in a dual-connectivity configuration.

13. The method of claim 1, further comprising:

identifying a measurement for a master cell group (MCG) and a measurement for at least one secondary cell group (SCG) in a dual-connectivity configuration, wherein the RLF report includes the measurements.

14. The method of claim 1, further comprising:

identifying a reference signal received power (RSRP) of a last serving cell that includes a master cell group (MCG) and at least one secondary cell group (SCG) in a dual-connectivity configuration, or a reference signal received quality (RSRQ) of the last serving cell in the dual-connectivity configuration, or a combination thereof, wherein the RLF report includes the RSRP or the RSRQ or both for the last serving cell.

15. The method of claim 1, further comprising:

identifying a reference signal received power (RSRP) of a neighboring cell configured by a master base station or a secondary base station in a dual-connectivity configuration, a reference signal received quality (RSRQ) of the neighboring cell, a frequency of the neighboring cell, or an identifier of the neighboring cell, or a combination thereof, wherein the RLF report includes the RSRP, the RSRQ, the frequency, or the identifier, or a combination thereof of the neighboring cell.

16. The method of claim 1, further comprising:

identifying a cell radio network temporary identifier (C-RNTI) of a master base station and at least one secondary base station in a dual-connectivity configuration, wherein the RLF report includes the C-RNTIs of the master base station and the at least one secondary base station.

17. The method of claim 1, further comprising:

identifying an identifier for each cell of a master base station or a secondary base station in a dual-connectivity configuration that is associated with the RLF event, wherein the RLF report includes the identifiers for each cell associated with the RLF event.

18. The method of claim 1, further comprising:

identifying an identifier of a primary secondary cell in a dual-connectivity configuration when a last RRC reconfiguration message including mobility control information was received, wherein the RLF report includes the identifier.

19. The method of claim 1, further comprising:

identifying whether a type of a handover is an inter-radio access technology (RAT) handover or an intra-RAT handover, wherein the RLF report includes an indication of the type of the handover.

20. The method of claim 1, wherein reestablishing the RRC connection further comprises:

transmitting an RRC connection reestablishment request;

receiving an RRC connection reestablishment message based at least in part on transmitting the RRC connection reestablishment request; and

transmitting an RRC connection reestablishment complete message based at least in part on receiving the RRC connection reestablishment message.

21. The method of claim 1, further comprising:

transmitting an RRC message that includes an indication that one or more RLF reports are available to report to a network, wherein transmitting the RLF report is based at least in part on transmitting the RRC message that includes the indication.

22. The method of claim 21, further comprising:

receiving an information request message based at least in part on transmitting the RRC message that includes the indication, wherein transmitting the RLF report is based at least in part on receiving the information request message.

23. The method of claim 22, wherein the RLF report is part of an information response message transmitted based at least in part on receiving the information request message.

24. The method of claim 21, wherein the RRC message comprises an RRC connection reestablishment complete message.

25. The method of claim 1, further comprising:

performing a handover between a source cell and the cell, wherein identifying the RLF event is based at least in part on performing the handover.

26. The method of claim 1, wherein the RLF report includes a transmission power of a preamble, a number of attempts to successfully send the preamble, a number of transmissions before receiving an acknowledgement that the preamble was received, a reference signal received power (RSRP), or a layer 1 (L1) RSRP, or a combination thereof.

27. The method of claim 26, wherein the preamble is a random access channel (RACH) preamble.

28. The method of claim 1, wherein the first radio access technology is associated with a 5G core network (5GC) and the second radio access technology is associated with an evolved packet core (EPC).

29. A method for wireless communication, comprising:

reestablishing a radio resource control (RRC) connection with a user equipment (UE) after a radio link failure (RLF) event, wherein the RLF event is associated with a first radio access technology and the RRC connection is associated with a second radio access technology;

receiving, over the RRC connection of the second radio access technology, an RLF report from the UE that includes information about one or more directional beams associated with the RLF event;

identifying a duration of a service interruption based at least in part on identifying the RLF event, wherein identifying the duration further comprises:

identifying the duration between a first time when a user equipment (UE) loses data transmission capability at a source cell of the first radio access technology and a second time when the UE can resume data transmission at the cell; or

identifying the duration between a first time when a user equipment (UE) receives a handover command from a source cell and a second time the UE transmits an RRC reconfiguration complete message to the cell; and

transmitting a message to another cell of a network based at least in part on receiving the RLF report, the message including at least a portion of the information about the one or more directional beams associated with the RLF event and indicating the duration of the service interruption.

30. The method of claim 29, wherein transmitting the message to the other cell comprises:

transmitting the message to a source cell associated with a handover of the UE.

31. The method of claim 29, wherein transmitting the message to the other cell comprises:

transmitting the message to a core network component, wherein the core network component communicates at least some of the information in the message to a source cell associated with a handover of the UE.

32. The method of claim 31, wherein the core network component comprises at least one component of an evolved packet core (EPC).

33. The method of claim 31, wherein the core network component comprises at least one component of a 5G core network (5GC).

34. The method of claim 29, wherein the first radio access technology is associated with a 5G core network (5GC) and the second radio access technology is associated with an evolved packet core (EPC).

35. The method of claim 29, further comprising:

identifying a type of the RLF event; and

selecting a type of the message to transmit based at least in part on identifying the type of the RLF event, wherein transmitting the message is based at least in part on identifying the type of the RLF event.

36. The method of claim 29, wherein the message is an RLF indication.

37. The method of claim 29, wherein the message is a handover report.

38. The method of claim 29, wherein transmitting the message to the other cell comprises:

transmitting the message over an Xn interface.

39. The method of claim 29, wherein transmitting the message to the other cell comprises:

transmitting the message over an X2 interface.

40. The method of claim 29, further comprising:

identifying that a cause of the RLF event is a beam recovery failure associated with the first radio access technology, wherein the message indicates that a type of the RLF event comprises the beam recovery failure.

41. The method of claim 40, wherein the message comprises a connection failure type indication and is configured to indicate whether the RLF event is a radio link failure, a handover failure, the beam recovery failure, or a combination thereof.

42. The method of claim 40, wherein a connection failure type indication in the RLF report is configured to indicate whether the RLF event is a radio link failure, a handover failure, the beam recovery failure, or a combination thereof.

43. The method of claim 29, further comprising:

wherein the message indicates the duration of the service interruption.

44. The method of claim 29, wherein the message includes an identifier of the one or more directional beams associated with the RLF event, beam reference signal received power of the one or more directional beams associated with the RLF event, a beam measurement of the one or more directional beams associated with the RLF event, or a combination thereof.

45. The method of claim 29, further comprising:

identifying that the RLF event is associated with a conditional handover failure based at least in part on receiving the RLF report, wherein the message includes information about the conditional handover failure.

46. The method of claim 45, wherein transmitting the message to the other cell comprises:

transmitting the message to a plurality of candidate target cells associated with a conditional handover, wherein transmitting the message to the other cell is based at least in part on transmitting the message to the plurality of candidate target cells.

47. The method of claim 45, wherein the message includes a duration between a last handover initialization and a connection failure, a candidate target cell list, measurement information for at least one target cell in the candidate target cell list, an indication about one or more target cells attempted to connect with after the RLF event occurs, a number of connection attempts after the RLF event occurs, or a combination thereof.

48. The method of claim 45, further comprising:

transmitting an indication of one or more candidate target cells for a conditional handover, wherein receiving the RLF report is based at least in part on transmitting the indication of the one or more candidate target cells for the conditional handover.

49. The method of claim 29, further comprising:

identifying information about a master cell and a secondary cell in a dual-connectivity configuration based at least in part on receiving the RLF report, wherein the message includes the identified information.

50. The method of claim 29, wherein transmitting the message to the other cell comprises:

transmitting the message to a master cell group (MCG) and a secondary cell group (SCG) in a dual-connectivity configuration.

51. The method of claim 29, wherein the RLF event is for a master cell group (MCG) in a dual-connectivity configuration.

52. The method of claim 29, further comprising:

identifying a measurement for a master cell group (MCG) and a measurement for at least one secondary cell group (SCG) in a dual-connectivity configuration based at least in part on receiving the RLF report, wherein the message includes the measurements.

53. The method of claim 29, further comprising:

identifying, based at least in part on receiving the RLF report, a reference signal received power (RSRP) of a last serving cell that includes a master cell group (MCG) and at least one secondary cell group (SCG) in a dual-connectivity configuration, or a reference signal received quality (RSRQ) of the last serving cell in the dual-connectivity configuration, or a combination thereof, wherein the message includes the RSRP or the RSRQ or both for the last serving cell.

54. The method of claim 29, further comprising:

identifying, based at least in part on receiving the RLF report, a reference signal received power (RSRP) of a neighboring cell configured by a master base station or a secondary base station in a dual-connectivity configuration, a reference signal received quality (RSRQ) of the neighboring cell, a frequency of the neighboring cell, or an identifier of the neighboring cell, or a combination thereof, wherein the message includes the RSRP, the RSRQ, the frequency, or the identifier, or a combination thereof of the neighboring cell.

55. The method of claim 29, further comprising:

identifying, based at least in part on receiving the RLF report, a cell radio network temporary identifier (C-RNTI) of a master base station and at least one secondary base station in a dual-connectivity configuration, wherein the message includes the C-RNTIs of the master base station and the at least one secondary base station.

56. The method of claim 29, further comprising:

identifying, based at least in part on receiving the RLF report, an identifier for each cell of a master base station or a secondary base station in a dual-connectivity configuration that is associated with the RLF event, wherein the message includes the identifiers for each cell associated with the RLF event.

57. The method of claim 29, further comprising:

identifying, based at least in part on receiving the RLF report, an identifier of a primary secondary cell in a dual-connectivity configuration when a last RRC reconfiguration

message including mobility control information was received, wherein the message includes the identifier.

58. The method of claim 29, wherein reestablishing the RRC connection further comprises:

receiving an RRC connection reestablishment request from the UE;

transmitting an RRC connection reestablishment message based at least in part on receiving the RRC connection reestablishment request; and

receiving an RRC connection reestablishment complete message based at least in part on transmitting the RRC connection reestablishment message.

59. The method of claim 29, further comprising:

receiving an RRC message that includes an indication that one or more RLF reports are available at the UE, wherein receiving the RLF report is based at least in part on receiving the RRC message that includes the indication.

60. The method of claim 59, further comprising:

transmitting an information request message based at least in part on receiving the RRC message that includes the indication, wherein receiving the RLF report is based at least in part on transmitting the information request message.

61. The method of claim 60, wherein the RLF report is part of an information response message received based at least in part on transmitting the information request message.

62. The method of claim 59, wherein the RRC message comprises an RRC connection reestablishment complete message.

63. The method of claim 29, further comprising:

transmitting a handover command to the UE, wherein receiving the RLF report is based at least in part on transmitting the handover command.