CLAIMS

1. A method for wireless communications by a user equipment (UE), the method comprising:

determining a type of a network to access for communications;

determining, based at least in part on the type of the network, at least one capability identifier associated with at least one set of UE radio capabilities for the type of the network;

sending the at least one capability identifier to the network; and

after sending the at least one capability identifier, receiving an updated capability identifier from the network for the at least one set of UE radio capabilities.

2. The method of claim 1, wherein determining the type of the network comprises determining one or more capabilities supported by the network.

3. The method of claim 2, wherein the one or more capabilities comprises at least one of a type of duplexing supported by the network, one or more bands supported by the network, or a type of traffic supported by the network.

4. The method of claim 1, wherein:

the at least one capability identifier is determined further based on one or more attributes of the UE; and

the one or more attributes of the UE comprises at least one of a type of traffic to be exchanged with the network, a geographical region associated with the UE, or a software version of the UE.

5. The method of claim 1, further comprising determining a plurality of capability identifiers, wherein:

each capability identifier is associated with a set of UE radio capabilities; and

the at least one capability identifier is determined from the plurality of capability identifiers.

6. The method of claim 1, wherein the at least one capability identifier is an operator specific capability identifier assigned by a serving operator network.

7. The method of claim 1, wherein the at least one capability identifier is a manufacturer specific capability identifier assigned by a UE manufacturer.

8. The method of claim 1, wherein the at least one capability identifier is based on a software version of the UE.

9. The method of claim 1, wherein the at least one capability identifier is semi-statically associated with the UE.

10. The method of claim 1, wherein the at least one capability identifier is sent via a radio resource control (RRC) message or a non-access stratum (NAS) message during a registration procedure with the network.

11. The method of claim 10, wherein the NAS message comprises a Registration message or an Identity Response message.

12. The method of claim 1, further comprising:

after sending the at least one capability identifier, determining at least another capability identifier associated with a different set of UE radio capabilities; and

sending the at least other capability identifier to the network.

13. An apparatus for wireless communications, comprising:

at least one processor configured to:

determine a type of a network to access for communications; and

determine, based at least in part on the type of the network, at least one capability identifier associated with at least one set of user equipment (UE) radio capabilities for the type of the network;

a transmitter configured to transmit the at least one capability identifier to the network;

a receiver configured to receive an updated capability identifier from the network for the at least one set of UE radio capabilities, after the at least one capability identifier has been transmitted; and

a memory coupled to the at least one processor.

14. A method for wireless communications by a network node, the method comprising:

receiving an indication of at least one capability identifier from a user equipment (UE), the at least one capability identifier being associated with at least one set of UE radio capabilities;

identifying the at least one set of UE radio capabilities associated with the at least one capability identifier;

storing the at least one set of UE radio capabilities associated with the at least one capability identifier;

determining an updated capability identifier for the at least one set of UE radio capabilities; and

sending an indication of the updated capability identifier to the UE.

15. The method of claim 14, wherein identifying the at least one set of UE radio capabilities comprises:

determining whether the at least one set of UE radio capabilities have been stored in a network; and

interacting with at least one of the UE or another network node based on the determination.

16. A method for wireless communications by a network node, the method comprising:

receiving an indication of at least one capability identifier from a user equipment (UE), the at least one capability identifier being associated with at least one set of UE radio capabilities;

identifying the at least one set of UE radio capabilities associated with the at least one capability identifier, comprising: (i) determining whether the at least one set of UE radio capabilities have been stored in a network and (ii) interacting with at least one of the UE or

another network node based on the determination, comprising:

retrieving the at least one set of UE radio capabilities if the determination is that the at least one set of UE radio capabilities have been stored in the network; and

sending an initial context setup message comprising the at least one set of UE radio capabilities to the other network node; and

storing the at least one set of UE radio capabilities associated with the at least one capability identifier.

17. The method of claim 16, wherein:

the network node is an access and mobility function (AMF) and the other network node is a next generation base station (gNB); or

the network node is a mobility management entity (MME) and the other network node is a base station (eNB).

18. A method for wireless communications by a network node, the method comprising:

receiving an indication of at least one capability identifier from a user equipment (UE), the at least one capability identifier being associated with at least one set of UE radio capabilities;

identifying the at least one set of UE radio capabilities associated with the at least one capability identifier, comprising: (i) determining whether the at least one set of UE radio capabilities have been stored in a network and (ii) interacting with at least one of the UE or another network node based on the determination, comprising:

sending an initial context setup message that does not include the at least one set of UE radio capabilities to the other network node if the determination is that the at least one set of UE radio capabilities have not been stored in the network; and

after sending the initial context setup message, receiving an indication of the at least one set of UE radio capabilities from the other network node; and

storing the at least one set of UE radio capabilities associated with the at least one capability identifier.

19. The method of claim 15, wherein interacting with at least one of the UE or the other

network node comprises retrieving the at least one set of UE radio capabilities from the UE if the determination is that the at least one set of UE radio capabilities have not been stored in the network.

20. The method of claim 19, wherein retrieving the at least one set of UE radio capabilities comprises:

sending a UE capability enquiry message to the UE; and

receiving, in response to the UE capability enquiry message, an indication of the at least one set of UE radio capabilities from the UE.

21. The method of claim 14, further comprising receiving at least another capability identifier from the UE, wherein the at least another capability identifier is associated with a different set of UE radio capabilities.

22. The method of claim 14, wherein the indication of the at least one capability identifier is received via a radio resource control (RRC) message or a non-access stratum (NAS) message during a registration procedure with the UE.

23. The method of claim 22, wherein the NAS message comprises a Registration message or an Identity Response message.

24. The method of claim 14, wherein the at least one capability identifier is a manufacturer specific capability identifier assigned by a UE manufacturer.

25. The method of claim 14, wherein the at least one capability identifier is an operator specific capability identifier assigned by a serving operator network.

26. The method of claim 14, wherein the at least one capability identifier is based on a software version of the UE.

27. The method of claim 14, wherein the at least one capability identifier is semi-statically

associated with the UE.

28. An apparatus for wireless communications, comprising:

a receiver configured to receive an indication of at least one capability identifier from a user equipment (UE), the at least one capability identifier being associated with at least one set of UE radio capabilities;

at least one processor configured to:

identify the at least one set of UE radio capabilities associated with the at least one capability identifier;

store the at least one set of UE radio capabilities associated with the at least one capability identifier; and

determine an updated capability identifier for the at least one set of UE radio capabilities;

a transmitter configured to transmit an indication of the updated capability identifier to the UE; and

a memory coupled to the at least one processor.