CLAIMS

1. A method for managing connections for an active communication session by a secondary wireless device, the method comprising:

by the secondary wireless device:

engaging in a communication session with a remote device via a non-cellular wireless network, wherein the communication session directly terminates on the secondary wireless device;

determining performance of the non-cellular wireless network; and

when the performance of the non-cellular wireless network does not satisfy a performance criterion and a primary wireless device is in proximity to the secondary wireless device:

providing an indication to the primary wireless device to cause the primary wireless device to transfer the communication session to terminate on the primary wireless device, wherein packets for the communication session are relayed via the primary wireless device to and from the secondary wireless device, and

blocking direct termination of communication sessions via the non-cellular wireless network at the secondary wireless device for a blocking period of time by at least deregistering from an Internet Protocol Multimedia Subsystem (IMS) core network element.

2. The method of claim 1, wherein determining performance of the non-cellular wireless network comprises determining performance of one or more of:

a local connection of the secondary wireless device to the non-cellular wireless network, or

a backhaul connection of the non-cellular wireless network.

3. The method of claim 2, wherein the packets for the communication session are relayed to and from the secondary wireless device using the local connection of the non-cellular wireless network when performance of the local connection satisfies the performance criterion for the communication session.

4. The method of claim 2, wherein the packets for the communication session are relayed to and from the secondary wireless device using an alternate connection

between the primary wireless device and the secondary wireless device when performance of the local connection does not satisfy the performance criterion for the communication session.

5. The method of claim 1, further comprising the secondary wireless device determining whether the primary wireless device is in proximity to the secondary wireless device.

6. The method of claim 5, wherein the secondary wireless device determines proximity of the primary wireless device by scanning in accordance with a wireless personal area network (WPAN) communication protocol.

7. The method of claim 1, wherein the primary wireless device terminates the communication session with the remote device via a wireless wide area network connection.

8. The method of claim 2, wherein the secondary wireless device evaluates performance of the backhaul connection using any combination of one or more application layer metrics.

9. The method of claim 2, wherein the secondary wireless device evaluates performance of the local connection using any combination of one or more physical layer metrics.

10. The method of claim 1, wherein in response to the indication from the secondary wireless device to cause the primary wireless device to transfer the communication session, the primary wireless device establishes a connection to a network based server associated with the communication session to transfer packets for the communication session from terminating at the secondary wireless device to terminating at the primary wireless device.

11. The method of claim 1, further comprising:

by the secondary wireless device:

after expiration of a timer associated with the blocking period of time, re-evaluating performance of connections via the non-cellular wireless network; and

when the performance of the connections via the non-cellular wireless network satisfy the performance criterion, allowing direct termination of communication sessions via the non-cellular wireless network at the secondary wireless device by at least re-registering with the IMS core network element.

12. A method for managing connections for an active communication session by a secondary wireless device, the method comprising:

by the secondary wireless device:

engaging in a communication session with a remote device via a non-cellular wireless network, wherein the communication session directly terminates on the secondary wireless device;

determining performance of the non-cellular wireless network; and

when the performance of the non-cellular wireless network does not satisfy a performance criterion and a primary wireless device is in proximity to the secondary wireless device:

displaying an option to transfer the communication session to terminate on the primary wireless device; and

in response to an input to transfer the communication session:

providing an indication to the primary wireless device to cause the primary wireless device to transfer the communication session, wherein packets for the communication session are relayed via the primary wireless device to and from the secondary wireless device, and

blocking direct termination of communication sessions via the non-cellular wireless network at the secondary wireless device for a blocking period of time by at least deregistering from an Internet Protocol Multimedia Subsystem (IMS) core network element.

13. The method of claim 12, further comprising the secondary wireless device determining whether the primary wireless device is in proximity to the secondary wireless device.

14. The method of claim 13, wherein the secondary wireless device determines proximity of the primary wireless device by scanning in accordance with a wireless personal area network (WPAN) communication protocol.

15. The method of claim 12, further comprising the secondary wireless device receiving from the primary wireless device an indication of a radio access technology available for connection via the primary wireless device.

16. The method of claim 15, further comprising the secondary wireless device evaluating whether performance of the radio access technology available for connection via the primary wireless device satisfies the performance criterion for the communication session.

17. The method of claim 12, wherein determining performance of the non-cellular wireless network comprises determining performance of one or more of:

a local connection of the secondary wireless device to the non-cellular wireless network, or

a backhaul connection of the non-cellular wireless network.

18. The method of claim 17, wherein the packets for the communication session are relayed to and from the secondary wireless device using the local connection of the non-cellular wireless network when performance of the local connection satisfies the performance criterion for the communication session.

19. The method of claim 17, wherein the packets for the communication session are relayed to and from the secondary wireless device using an alternate connection between the primary wireless device and the secondary wireless device when performance of the local connection does not satisfy the performance criterion for the communication session.

20. A secondary wireless device comprising:

processing circuitry comprising a processor and a memory storing instructions that, when executed by the processor, cause the secondary wireless device to perform a method including:

engaging in a communication session with a remote device via a non-cellular wireless network, wherein the communication session directly terminates on the secondary wireless device;

determining performance of the non-cellular wireless network; and

when the performance of the non-cellular wireless network does not satisfy a performance criterion and a primary wireless device is in proximity to the secondary wireless device:

providing an indication to the primary wireless device to cause the primary wireless device to transfer the communication session to terminate on the primary wireless device, wherein packets for the communication session are relayed via the primary wireless device to and from the secondary wireless device, and

blocking direct termination of communication sessions via the non-cellular wireless network at the secondary wireless device for a blocking period of time by at least deregistering from an Internet Protocol Multimedia Subsystem (IMS) core network element.