WHAT IS CLAIMED IS:

1. A method comprising:

receiving, at a first node, a unicast listening schedule associated with a second node, wherein the unicast listening schedule identifies a first slot and a second slot when the second node is listening;

determining, by the first node, a first link latency associated with the second node that is a time period between a start of the first slot and a start of the second slot;

in response to the first node detecting a frame transmission failure for a frame being transmitted by the first node to the second node, determining, by the first node based on the first link latency, a backoff time; and

in response to the first node determining that the backoff time has elapsed, the first node retransmitting the frame from the first node to the second node.

2. The method of claim 1, wherein determining the backoff time based on the first link latency comprises determining a random value based on the first link latency.

3. The method of claim 1, wherein the first link latency comprises an active slot time.

4. The method of claim 3, wherein the first link latency further comprises an inactive slot time.

5. The method of claim 1, further comprising:

receiving, at the first node, a second unicast listening schedule associated with a third node;

determining, by the first node, a second link latency associated with the third node based on the second unicast listening schedule;

in response to the first node detecting a frame transmission failure for a second frame being transmitted by the first node to the third node, determining, by the first node based on the second link latency, a second backoff time;

and

in response to the first node determining that the second backoff time has elapsed, the first node retransmitting the second frame from the first node to the third node.

6. The method of claim 5, wherein the second link latency corresponds to a time period from a start of second slot to a start of a next slot in the second unicast listening schedule.

7. The method of claim 5, wherein the second link latency is different from the first link latency.

8. The method of claim 1, further comprising:

determining, by the first node, a frame lifetime value associated with the second node based on the first link latency;

in response to the first node determining that the backoff time has elapsed and prior to retransmitting the frame, determining, by the first node, that a time period corresponding to the frame lifetime value has elapsed; and

in response to the first node determining that the time period corresponding to the frame lifetime value has elapsed, dropping, by the first node, the frame and forgoing retransmitting the frame.

9. The method of claim 8, wherein determining the frame lifetime value associated with the second node based on the first link latency comprises multiplying the first link latency by a scaling factor.

10. One or more non-transitory computer-readable media at a first node in a network, the one or more computer-readable storage media storing program instructions that, when executed by one or more processors at the first node, cause the one or more processors at the first node to perform the steps of:

receiving a unicast listening schedule associated with a second node;

determining a first time period from a start of a first slot to a start of a next slot in the unicast listening schedule;

in response to detecting an unsuccessful attempt to transmit a frame by the first node to the second node, determining a backoff time based on the first time period; and

in response to determining that the backoff time has elapsed, retransmitting the frame from the first node to the second node.

11. The one or more non-transitory computer-readable media of claim 10, wherein the first time period comprises an inactive slot time between the first slot and the next slot in the unicast listening schedule.

12. The one or more non-transitory computer-readable media of claim 11, wherein determining the backoff time based on the first time period comprises determining a random value based on the first time period.

13. The one or more non-transitory computer-readable media of claim 10, wherein the steps further comprise:

receiving a second unicast listening schedule associated with a third node;

determining a second time period associated with the third node based on the second unicast listening schedule;

in response to detecting an unsuccessful attempt to transmit a second frame by the first node to the third node, determining a second backoff time based on the second time period; and

in response to determining that the second backoff time has elapsed, retransmitting the second frame from the first node to the third node.

14. The one or more non-transitory computer-readable media of claim 13, wherein the second time period is different from the first time period.

15. The one or more non-transitory computer-readable media of claim 10, wherein the steps further comprise:

determining a frame lifetime value associated with the second node based on the first time period;

in response to determining that the backoff time has elapsed and prior to retransmitting the frame, determining that a time period corresponding to the frame lifetime value has elapsed; and

in response to determining that the time period corresponding to the frame lifetime value has elapsed, dropping the frame and forgoing retransmitting the frame.

16. A node device in a wireless mesh network, comprising:

a transceiver;

one or more processors; and

memory storing instructions that, when executed by the one or more processors, cause the one or more processors to:

receive a unicast channel hopping sequence for a second node device neighboring the node device, wherein the unicast channel hopping sequence identifies a first slot and a second slot when the second node device is listening;

determine a first link latency associated with the second node device that is a time period between a start of the first slot and a start of the second slot;

in response to detecting a failure in transmitting a frame to the second node device, determine a backoff time based on the first link latency; and

in response to determining that the backoff time has elapsed, retransmit the frame to the second node device via the transceiver.

17. The node device of claim 16, wherein the memory further stores instructions that, when executed by the one or more processors, cause the one or more processors to:

receive a unicast second channel hopping sequence for a third node device neighboring the node device;

determine a second link latency associated with the third node device based on the second unicast channel hopping sequence;

in response to detecting a failure in transmitting a second frame by the node device to the third node device, determine a second backoff time based on the second link latency; and

in response to determining that the second backoff time has elapsed, retransmit the second frame to the third node device via the transceiver.

18. The node device of claim 17, wherein the second link latency is different from the first link latency.

19. The node device of claim 16, wherein the memory further stores instructions that, when executed by the one or more processors, cause the one or more processors to:

determine a frame lifetime value associated with the second node device based on the first link latency;

in response to determining that the backoff time has elapsed and prior to retransmitting the frame, determine that a time period corresponding to the frame lifetime value has elapsed; and

in response to determining that the time period corresponding to the frame lifetime value has elapsed, drop the frame and forgo retransmitting the frame.