WHAT IS CLAIMED IS:

1. A method comprising:

in response to detecting, by a first node in a mesh network, a first scheduling conflict between a first transmission time associated with a first periodic beacon from the first node in a network and a second transmission time associated with a second periodic beacon from a second node in the network:

determining, by the first node, a first alternate transmission time associated with the first periodic beacon based on a position of the first node in the network and the first transmission time;

transmitting, by the first node, the first periodic beacon at the first transmission time; and

transmitting, by the first node, an alternate periodic beacon at the first alternate transmission time.

2. The method of claim 1, further comprising:

detecting, by the first node, a second scheduling conflict between a third transmission time associated with a third periodic beacon from the first node and a first listening window associated with receiving a fourth periodic beacon from the second node;

determining, by the first node, a second alternate transmission time for the fourth periodic beacon based on a fourth transmission time associated with the fourth periodic beacon;

calculating, by the first node, a second listening window associated with transmission of the fourth periodic beacon from the second node at the second alternate transmission time; and

listening, by the first node, for the fourth periodic beacon during the second listening window.

3. The method of claim 2, wherein detecting the second scheduling conflict comprises determining that an interval between the third transmission time and the

fourth transmission time does not exceed a threshold amount of time that is based on a time uncertainty included in the first listening window.

4. The method of claim 2, wherein detecting the second scheduling conflict comprises determining that an interval between the third transmission time and the fourth transmission time does not exceed a threshold amount of time that is based on a jitter uncertainty and a drift uncertainty included in the first listening window.

5. The method of claim 1, wherein detecting the first scheduling conflict comprises determining that an interval between the first transmission time and the second transmission time does not exceed a threshold amount of time that is based on a first time uncertainty included in a first listening window associated with receiving the first periodic beacon from the first node, a second time uncertainty included in a second listening window associated with receiving the second periodic beacon from the second node, and an overhead factor.

6. The method of claim 5, wherein the first time uncertainty comprises a maximum time uncertainty associated with listening for a periodic beacon from a given node in the network.

7. The method of claim 5, wherein the second time uncertainty comprises at least one of a jitter uncertainty, a drift uncertainty, and a missed synchronization component.

8. The method of claim 1, wherein determining the first alternate transmission time for the first periodic beacon comprises calculating a time slot number based on a hop count from the first node to a root node in the network, wherein the hop count represents the position of the first node in the network.

9. The method of claim 1, wherein the first periodic beacon includes a first network time associated with the first node, and the second periodic beacon includes a second network time associated with the second node.

10. The method of claim 1, wherein the network comprises a mesh network.

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

in response to detecting a first scheduling conflict between a first transmission time associated with a first periodic beacon from the first node in a network and a second transmission time associated with a second periodic beacon from a second node in the network:

determining a first alternate transmission time associated with the first periodic beacon based on a position of the first node in the network and the first transmission time;

transmitting the first periodic beacon at the first transmission time; and

transmitting an alternate periodic beacon at the first alternate transmission time.

12. The one or more non-transitory computer readable media of claim 11, wherein the instructions further cause the one or more processors to perform the steps of:

detecting a second scheduling conflict between a third transmission time associated with a third periodic beacon from the first node and a first listening window associated with receiving a fourth periodic beacon from the second node;

determining a second alternate transmission time for the fourth periodic beacon based on a fourth transmission time associated with the fourth periodic beacon;

calculating a second listening window associated with transmission of the fourth periodic beacon from the second node at the second alternate transmission time; and

listening for the fourth periodic beacon during the second listening window.

13. The one or more non-transitory computer readable media of claim 12, wherein detecting the second scheduling conflict comprises determining that an interval between

the third transmission time and the fourth transmission time does not exceed a sum of a time uncertainty included in the first listening window and an overhead factor.

14. The one or more non-transitory computer readable media of claim 11, wherein detecting the first scheduling conflict comprises determining that an interval between the first transmission time and the second transmission time does not exceed a sum of a first time uncertainty included in a first listening window associated with receiving the first periodic beacon from the first node, a second time uncertainty included in a second listening window associated with receiving the second periodic beacon from the second node, and an overhead factor.

15. The one or more non-transitory computer readable media of claim 14, wherein the first time uncertainty comprises a maximum time uncertainty associated with listening for a periodic beacon from a node in the network and the second time uncertainty comprises a jitter uncertainty and a drift uncertainty.

16. The one or more non-transitory computer readable media of claim 11, wherein the instructions further cause the one or more processors to perform the steps of:

detecting a second scheduling conflict between a first listening window associated with receiving a third periodic beacon from the second node and a second listening window associated with receiving a fourth periodic beacon from a third node;

selecting, from the second node and the third node, a node with an older periodic beacon receive time; and

listening for a periodic beacon from the node during a corresponding listening window.

17. The one or more non-transitory computer readable media of claim 16, wherein detecting the second scheduling conflict comprises determining that an interval between a third transmission time associated with the third periodic beacon and a fourth transmission time associated with the fourth periodic beacon does not exceed a threshold amount of time that is based on a first time uncertainty included in the first

listening window, a second time uncertainty included in the second listening window, and an overhead factor.

18. The one or more non-transitory computer readable media of claim 11, wherein determining the first alternate transmission time for the first periodic beacon comprises calculating a time slot for transmitting the first periodic beacon based on a hop count from the first node to a root node in the network, wherein the hop count represents the position of the first node in the network.

19. The one or more non-transitory computer readable media of claim 11, wherein the network comprises a mesh network.

20. A first node in a mesh network, the first node comprising:
a memory that stores instructions, and
a processor that is coupled to the memory and, when executing the instructions, is configured to:
detect a first scheduling conflict between a first transmission time associated with a first periodic beacon from the first node in a network and a second transmission time associated with a second periodic beacon from a second node in the network and in response:
determine a first alternate transmission time associated with the first periodic beacon based on a position of the first node in the network and the first transmission time;
transmit the first periodic beacon at the first transmission time; and
transmit an alternate periodic beacon at the first alternate transmission time.