CLAIMS

1. A method comprising:

making one or more bandwidth reservations on a wireless channel in response to one or more path requests, each of the one or more path requests being associated with a respective bandwidth reservation request, with a respective setup priority level of a plurality of different priority levels, and with a respective hold priority level of the plurality of different priority levels, the setup priority level indicating priority for setting up a new bandwidth reservation based on the path request, the hold priority level indicating priority for maintaining the bandwidth reservation once bandwidth is reserved based on the path request;

tracking reserved or unreserved bandwidth at each of the plurality of different priority levels;

receiving a bandwidth update associated with a change in total available bandwidth over the wireless channel;

determining if the change in total available bandwidth results in total reserved bandwidth exceeding total available bandwidth;

if the change in total available bandwidth results in total reserved bandwidth exceeding total available bandwidth, then preempting a lowest priority path request based on the respective hold priority level of the previously received one or more path requests;

after preempting the lowest priority path request based on the respective hold priority level, updating the reserved or unreserved bandwidth of one or more priority levels of the plurality of priority levels; and

providing a message to a router regarding the change of total available bandwidth.

2. The method of claim 1, wherein the total available bandwidth is changed due to a change of coding modulation over the wireless channel.

3. The method of claim 2, wherein the coding modulation is changed due to changes in weather conditions affecting a quality of the wireless channel.

4. The method of claim 1, wherein the wireless channel is a microwave wireless channel.

5. The method of claim 1, further comprising:

determining if, after preempting the lowest priority path request based on the respective hold priority level, the total reserved bandwidth still exceeds the total available bandwidth;

if, after preempting the lowest priority path request based on the respective hold priority level, the bandwidth still exceeds the total available bandwidth, preempting the next-lowest priority path request based on the respective hold priority level of the previously received one or more path requests; and

after preempting the next-lowest priority path request based on the respective hold priority level, updating the reserved or unreserved bandwidth of one or more priority levels of the plurality of priority levels, wherein the message to the router indicates the preemption of the lowest priority path request and the next-lowest priority path request.

6. The method of claim 1, further comprising directing data to an alternate path based on the preemption of the lowest priority path request based on the respective hold priority level.

7. The method of claim 1, further comprising receiving a new path request with a new hold priority level and a new setup priority level, comparing the new setup priority level to at least one hold priority level of at least one previously received path request, and preempting the at least one previously received path request based on the comparison.

8. The method of claim 1, further comprising receiving a new path request with a new hold priority level and a new setup priority level, comparing the new setup priority level to at least one hold priority level of at least one previously received path request, and refusing the new path request based on the comparison.

9. The method of claim 1, wherein an RSVP table indicates the previously reserved or unreserved bandwidth at each of the plurality of different priority levels.

10. A system comprising:

a hardware device configured to:

make one or more bandwidth reservations on a wireless channel in response to one or more path requests, each of the one or more path requests being associated with a respective bandwidth reservation request, with a respective setup priority level of a plurality of different priority levels, and with a respective hold priority level of the plurality of different priority levels, the setup priority level indicating priority for setting up a new bandwidth reservation based on the path request, the hold priority level indicating priority for maintaining the bandwidth reservation once bandwidth is reserved based on the path request;

track reserved or unreserved bandwidth at each of the plurality of different priority levels;

receive a bandwidth update associated with a change in total available bandwidth over the wireless channel;

determine if the change in total available bandwidth results in total reserved bandwidth exceeding total available bandwidth;

if the change in total available bandwidth results in total reserved bandwidth exceeding total available bandwidth, then the hardware device is further configured to preempt a lowest priority path request based on the respective hold priority level of the previously received one or more path requests;

after preempting the lowest priority path request based on the respective hold priority level, the hardware device is further configured to update the reserved or unreserved bandwidth of one or more priority levels of the plurality of priority levels; and

provide a message to a router regarding the change of total available bandwidth.

11. The system of claim 10, wherein the total available bandwidth is changed due to a change of coding modulation over the wireless channel.

12. The system of claim 11, wherein the coding modulation is changed due to changes in weather conditions affecting a quality of the wireless channel.

13. The system of claim 10, wherein the wireless channel is a microwave wireless channel.

14. The system of claim 10, wherein the hardware device is further configured to:

determine if, after preempting the lowest priority path request based on the respective hold priority level, the total reserved bandwidth still exceeds the total available bandwidth;

if, after preempting the lowest priority path request based on the respective hold priority level, the bandwidth still exceeds the total available bandwidth, the hardware device is further configured to preempt the next-lowest priority path request based on the respective hold priority level of the previously received one or more path requests; and

after preempting the next-lowest priority path request based on the respective hold priority level, the hardware device is further configured to update the reserved or unreserved bandwidth of one or more priority levels of the plurality of priority levels, wherein the message to the router indicates the preemption of the lowest priority path request and the next-lowest priority path request.

15. The system of claim 10, wherein the hardware device is further configured to direct data to an alternate path based on the preemption of the lowest priority path request based on the respective hold priority level.

16. The system of claim 10, wherein the hardware device is further configured to receive a new path request with a new hold priority level and a new setup priority level, comparing the new setup priority level to at least one hold priority level of at least one previously received path request, and preempting the at least one previously received path request based on the comparison.

17. The system of claim 10, wherein the hardware device is further configured to receive a new path request with a new hold priority level and a new setup priority level, comparing the new setup priority level to at least one hold priority level of at least one previously received path request, and refusing the new path request based on the comparison.

18. The system of claim 10, wherein an RSVP table indicates the previously reserved or unreserved bandwidth at each of the plurality of different priority levels.

19. A non-transitory computer readable medium comprising executable code, the code being executable by at least one processor to perform a method, the method comprises:

making one or more bandwidth reservations on a wireless channel in response to one or more path requests, each of the one or more path requests being associated with a respective bandwidth reservation request, with a respective setup priority level of a plurality of different priority levels, and with a respective hold priority level of the plurality of different priority levels, the setup priority level indicating priority for setting up a new bandwidth reservation based on the path request, the hold priority level indicating priority for maintaining the bandwidth reservation once bandwidth is reserved based on the path request;

tracking reserved or unreserved bandwidth at each of the plurality of different priority levels;

receiving a bandwidth update associated with a change in total available bandwidth over the wireless channel;

determining if the change in total available bandwidth results in total reserved bandwidth exceeding total available bandwidth;

if the change in total available bandwidth results in total reserved bandwidth exceeding total available bandwidth, then preempting a lowest priority path request based on the respective hold priority level of the previously received one or more path requests;

after preempting the lowest priority path request based on the respective hold priority level, updating the reserved or unreserved bandwidth of one or more priority levels of the plurality of priority levels; and

providing a message to a router regarding the change of total available bandwidth.