Claims

1. A method comprising:

receiving routing ~~data~~ information by a routing element of a point to point wireless network, the routing ~~data~~ information comprising ~~routing criteria and~~ a plurality of ~~path~~ Virtual Local Area network (VLAN) identifiers which identify a plurality of ~~paths~~ Virtual Local Area networks (VLANs) through the point to point wireless network and a set of rules for determining a preferred path through the point to point wireless network;

~~storing the routing data by the routing element;~~

receiving a packet of data;

~~determining~~ identifying a destination node ~~of~~ for the packet of data~~, the destination node being identified using the routing data as accessible by two or more paths of the plurality of paths~~;

identifying a first VLAN and a second VLAN of the plurality of VLANs that the routing element may use to route the packet of data to the destination node;

receiving a first performance value characterizing performance of the first VLAN at a first time;

applying, according to at least one rule of the set of rules, a weight to the first performance value based on the first time, yielding a first weighted performance value;

~~determining, based on the routing criteria of the routing data, at least one~~ selecting, based on the first weighted performance value, the first VLAN or the second VLAN as a preferred path ~~of the plurality of paths~~ to transmit the packet of data to reach the destination node; and

transmitting, based on the selection, the packet of data to ~~a first node of the determined at least one path of the point to point wireless network~~ the destination node via the preferred path.

2. The method of claim 1, wherein the ~~routing criteria~~ set of rules comprises a rule to ~~transmit over a~~ select the second ~~path of the plurality of paths~~ VLAN as the preferred path if ~~a~~ the first ~~path of the plurality of paths~~ VLAN is determined to be not functional.

3. The method of claim 1, wherein the ~~routing criteria~~ set of rules comprises a rule to ~~transmit over a~~ select the second ~~path of the plurality of paths~~ VLAN as the preferred path if ~~a~~ the first ~~path of the plurality of paths~~ VLAN is determined to be congested.

4. The method of claim 3, further comprising determining, by the routing element, congestion of the first ~~path~~ VLAN by tracking network traffic transmitted from the routing element to one or more nodes of the first ~~path~~ VLAN.

5. The method of claim 4, wherein ~~determining, based on the routing criteria of the routing data, at least one path of the plurality of paths to transmit the packet of data~~ the set of rules comprises ~~determining~~ a rule to transmit the packet of data over ~~a~~ the second ~~path of the plurality of paths~~ VLAN when congestion of the first ~~path~~ VLAN exceeds a predetermined limit.

6. The method of claim 1, wherein the ~~routing criteria comprises~~ first performance value characterizes a capacity of the destination node associated with ~~a~~ the first ~~path of the plurality of paths~~ VLAN.

7. The method of claim 6, wherein ~~determining, based on the routing criteria of the routing data, at least one path of the plurality of paths to transmit the packet of data~~ the set of rules comprises ~~determining~~ a rule to ~~transmit the packet of data over~~ select ~~a~~ the second ~~path of the plurality of paths~~ VLAN as the preferred path ~~based on~~ upon a determination that an amount of traffic ~~reaching the capacity of the destination node associated with~~ transmitted via the first ~~path of the plurality of paths~~ VLAN meets or exceeds a predetermined percentage of the capacity.

8. The method of claim 1, wherein the ~~routing criteria comprises~~ selecting is further based on a time of day when ~~at least one path of the plurality of paths~~ the first VLAN may be congested.

~~9. The method of claim 1, wherein the routing criteria comprises a performance metric.~~

9.~~10.~~ The method of claim ~~9~~ 1, wherein ~~determining, based on the routing criteria of the routing data, at least one path of the plurality of paths to transmit the packet of data comprises determining~~ the first VLAN is selected as the preferred path to transmit the packet of data ~~over a second path of the plurality of paths~~ when ~~a path~~ the first weighted performance value ~~of a~~

first path of the plurality of paths falls below is greater than the a second performance metric value associated with the second VLAN.

11. The method of claim 1, wherein each path of the plurality of paths comprises a VLAN.

10.12. The method of claim 1, wherein the point to point wireless network comprises an MPLS a Multiprotocol Label Switching (MPLS) network.

11.13. The method of claim 1, wherein the point to point wireless network is comprises a microwave network.

12.14. The method of claim 1, wherein the point to point wireless network is comprises a backhaul for a cellular communication network.

13.15. The method of claim 1, wherein the point to point wireless network is comprises a WiMax Worldwide Interoperability for Microwave Access (WiMax) network.

14.16. A system routing element comprising:

a network interface configured to:

receive routing data information of a point to point wireless network, the routing data information comprising routing criteria and a plurality of path Virtual Local Area network (VLAN) identifiers which identify a plurality of paths Virtual Local Area networks (VLANs) through the point to point wireless network and a set of rules for determining a preferred path through the point to point wireless network, and

configured to receive a packet of data;

a storage configured to store the routing data;

a data module configured to:

determine identify a destination node of the packet of data, the destination node being identified as accessible by two or more paths of the plurality of paths;

identify a first VLAN and a second VLAN of the plurality of VLANs that the routing element may use to route the packet of data to the destination node, and

receive a first performance value characterizing performance of the first VLAN at a first time; and

a routing module configured to:

apply, according to at least one rule of the set of rules, a weight to the first performance value based on the first time, yielding a first weighted performance value, and

select, based on the first weighted performance value, the first VLAN or the second VLAN as a preferred path ~~determine, based on the routing criteria of the routing data, at least one path of the plurality of paths~~ to transmit the packet of data to reach the destination node; and

a transmission module configured to transmit, based on the selection, the packet of data to ~~a first node of the determined at least one path of the point to point wireless network~~ the destination node via the preferred path.

15.~~17.~~ The ~~system~~ routing element of claim ~~16~~ 14, wherein the ~~routing criteria~~ set of rules comprises a rule to ~~transmit over~~ select ~~a~~ the second ~~path of the plurality of paths~~ VLAN as the preferred path if ~~a~~ the first ~~path of the plurality of paths~~ VLAN is determined to be not functional.

16.~~18.~~ The ~~system~~ routing element of claim ~~16~~ 14, wherein the ~~routing criteria~~ set of rules comprises a rule to ~~transmit over a~~ select the second ~~path of the plurality of paths~~ VLAN as the preferred path if ~~a~~ the first ~~path of the plurality of paths~~ VLAN is determined to be congested.

17.~~19.~~ The ~~system~~ routing element of claim ~~18~~ 16, further comprising a congestion module configured to determine congestion of the first ~~path~~ VLAN by tracking network traffic transmitted from the routing element to one or more nodes of the first ~~path~~ VLAN.

18.~~20.~~ The ~~system~~ routing element of claim ~~19~~ 17, wherein the ~~routing module configured to determine, based on the routing criteria of the routing data, at least one path of the plurality of paths to transmit the packet of data~~ set of rules comprises ~~the routing module configured to determine~~ a rule to transmit the packet of data over ~~a~~ the second ~~path of the plurality of paths~~ VLAN when congestion of the first ~~path~~ VLAN exceeds a predetermined limit.

19.~~21.~~ The ~~system~~ routing element of claim ~~16~~ 14, wherein the ~~routing criteria comprises~~ first performance value characterizes a capacity of the destination node associated with ~~a~~ the first ~~path of the plurality of paths~~ VLAN.

20.22. The ~~system~~ routing element of claim ~~21~~ 19, wherein the routing module ~~configured to determine, based on the routing criteria of the routing data, at least one path of the plurality of paths to transmit the packet of data comprises the routing module configured to determine to transmit the packet of data over~~ selects ~~a~~ the second ~~path of the plurality of paths~~ VLAN as the preferred path ~~based on~~ when an amount of traffic ~~reaching the capacity of the destination node associated with~~ transmitted via the first ~~path of the plurality of paths~~ VLAN meets or exceeds a predetermined percentage of the capacity.

21.23. The ~~system~~ routing element of claim ~~16~~ 14, wherein the routing ~~criteria comprises~~ module selects the first VLAN or the second VLAN as the preferred path further based on a time of day when ~~at least one path of the plurality of paths~~ the first VLAN may be congested.

~~24. The system of claim 16, wherein the routing criteria comprises a performance metric.~~

22.25. The ~~system~~ routing element of claim ~~24~~ 14, wherein ~~the routing module configured to determine, based on the routing criteria of the routing data, at least one path of the plurality of paths~~ the first VLAN is selected as the preferred path to transmit the packet of data ~~comprises the routing module configured to determine to transmit the packet of data over a second path of the plurality of paths~~ when ~~a path~~ the first weighted performance value of ~~a~~ the first ~~path of the plurality of paths~~ VLAN ~~falls below~~ is greater than ~~the~~ a second performance ~~metric~~ value associated with the second VLAN.

~~26. The system of claim 16, wherein each path of the plurality of paths comprises a VLAN.~~

23.27. The ~~system~~ routing element of claim ~~16~~ 14, wherein the point to point wireless network comprises ~~an MPLS~~ a Multiprotocol Label Switching (MPLS) network.

24.28. The ~~system~~ routing element of claim ~~16~~ 14, wherein the point to point wireless network ~~is~~ comprises a microwave network.

25.29. The ~~system~~ routing element of claim ~~16~~ 14, wherein the point to point wireless network ~~is~~ comprises a backhaul for a cellular communication network.

26.~~30.~~ The ~~system~~ routing element of claim ~~16~~ 14, wherein the point to point wireless network ~~is~~ comprises a ~~WiMax~~ Worldwide Interoperability for Microwave Access (WiMax) network.

27.~~31.~~ A non-transitory computer readable medium comprising instructions executable by a processor to perform a method, the method comprising:

receiving routing ~~data~~ information by a routing element of a point to point wireless network, the routing ~~data~~ information comprising ~~routing criteria and~~ a plurality of ~~path~~ Virtual Local Area network (VLAN) identifiers which identify a plurality of ~~paths~~ Virtual Local Area networks (VLANs) through the point to point wireless network and a set of rules for determining a preferred path through the point to point wireless network;

~~storing the routing data by the routing element;~~

receiving a packet of data;

~~determining~~ identifying a destination node ~~of~~ for the packet of data~~, the destination node being identified using the routing data as accessible by two or more paths of the plurality of paths~~;

identifying a first VLAN and a second VLAN of the plurality of VLANs that the routing element may use to route the packet of data to the destination node;

receiving a first performance value characterizing performance of the first VLAN at a first time;

applying, according to at least one rule of the set of rules, a weight to the first performance value based on the first time, yielding a first weighted performance value;

~~determining, based on the routing criteria of the routing data, at least one~~ selecting, based on the first weighted performance value, the first VLAN or the second VLAN as a preferred path ~~of the plurality of paths~~ to transmit the packet of data to reach the destination node; and

transmitting, based on the selection, the packet of data to ~~a first node of the determined at least one path of the point to point wireless network~~ the destination node via the preferred path.