AMENDMENTS TO THE CLAIMS

1. (Currently amended) A method for processing data packets in a communication network, comprising:

establishing a path for a flow of the data packets through the communication network;

at a node along the path, which is connected to a subsequent node along the path by a Link Aggregation (LAG) group comprising ~~having~~ a plurality of aggregated physical ports, selecting a port from ~~among~~ the ~~plurality~~ LAG group to serve as part of the path;

choosing a label responsively to the selected port;

attaching the label to the data packets in the flow at a point on the path upstream from the node; and

upon receiving the data packets at the node, switching the data packets to the subsequent node through the selected port responsively to the label.

2. (Original) The method according to claim 1, wherein the path comprises a tunnel through the communication network.

3. (Original) The method according to claim 2, wherein the tunnel comprises a MPLS (Multi-Protocol Label Switching) tunnel, and wherein establishing the path comprises receiving and responding to a RSVP-TE (Resource Reservation Protocol) PATH message.

4. (Currently amended) The method according to claim 1, wherein the ~~plurality of aggregated ports comprises a~~ LAG ~~(Link Aggregation)~~ group~~, according~~ conforms to an IEEE 802.3ad specification.

5. (Original) The method according to claim 1, wherein establishing the path comprises receiving a request to establish the path from a preceding node in the communication network, which is located upstream along the path, and wherein attaching the label comprises sending the label to the preceding node, to be attached to the packets sent by the preceding node.

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6. (Original) The method according to claim 1, wherein establishing the path comprises receiving an indication of a requested service property of the flow, and wherein selecting the port comprises assigning the port to the flow so as to comply with the requested service property.

7. (Original) The method according to claim 6, wherein the requested service property comprises at least one of a guaranteed bandwidth, a peak bandwidth and a class-of-service.

8. (Original) The method according to claim 7, wherein assigning the port comprises selecting the port having a maximum available bandwidth out of the plurality of aggregated ports.

9. (Original) The method according to claim 7, wherein assigning the port comprises selecting the port having a minimum available bandwidth out of the plurality of aggregated ports, which is still greater than or equal to the guaranteed bandwidth.

10. (Original) The method according to claim 1, wherein switching the data packets comprises mapping the data packets to the selected port responsively to the label.

11. (Original) The method according to claim 10, wherein mapping the data packets comprises applying a hashing function to the label so as to determine a number of the selected port, and wherein choosing the label comprises applying an inverse of the hashing function to the number of the selected port.

12. (Original) The method according to claim 10, wherein choosing the label comprises inserting into the label one or more bits that correspond to a number of the selected port, and wherein mapping the data packets comprises extracting the one or more bits from the label so as to determine the number of the selected port.

13. (Original) The method according to claim 10, wherein choosing the label comprises storing the label and a number of the selected port in a memory, and wherein mapping the data packets comprises extracting the number from the memory responsively to the label so as to determine the number of the selected port.

14. (Original) The method according to claim 1, and comprising:

allocating another port from among the plurality of aggregated ports, different from the selected port, to serve as a backup port; and

responsively to a service interruption of the selected port, replacing the selected port with the backup port as part of the path.

15. (Currently amended) Apparatus for processing data packets at a node in a communication network, the apparatus comprising:

a plurality of aggregated ports, which are connected to another node in the communication network, are configured as a Link Aggregation (LAG) group, and are arranged to transmit the data packets to the other node over a respective plurality of physical links;

a mapper, which is arranged to receive the data packets from the network, and to map the data packets to the plurality of aggregated ports for onward transmission; and

a processor, which is arranged to establish ~~the~~ a path for a flow of the data packets through the communication network, to select a port from ~~among~~ the ~~plurality of aggregated ports~~ LAG group to serve as part of the path, to choose a label responsively to the selected port, and to cause the chosen label to be attached to the data packets in the flow at a point on the path upstream from the node, so that the mapper, upon receiving the data packets, switches the data packets through the selected port to the other node responsively to the label.

16. (Original) The apparatus according to claim 15, wherein the path comprises a tunnel through the communication network.

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17. (Original) The apparatus according to claim 16, wherein the tunnel comprises a MPLS (Multi-Protocol Label Switching) tunnel, and wherein the processor is arranged to receive and respond to a RSVP-TE (Resource Reservation Protocol) PATH message so as to establish the tunnel.

18. (Currently amended) The apparatus according to claim 15, wherein the ~~plurality of aggregated ports comprises a~~ LAG ~~(Link Aggregation)~~ group~~, according~~ conforms to an IEEE 802.3ad specification.

19. (Original) The apparatus according to claim 15, wherein the processor is arranged to receive a request to establish the path from a preceding node in the communication network, which is located upstream along the path, and to send the label to the preceding node, to be attached to the packets sent by the preceding node.

20. (Original) The apparatus according to claim 15, wherein the processor is arranged to receive an indication of a requested service property of the flow, and to assign the port to the flow so as to comply with the requested service property.

21. (Original) The apparatus according to claim 20, wherein the requested service property comprises at least one of a guaranteed bandwidth, a peak bandwidth and a class-of-service.

22. (Original) The apparatus according to claim 21, wherein the processor is arranged to select the port having a maximum available bandwidth out of the plurality of aggregated ports.

23. (Original) The apparatus according to claim 21, wherein the processor is arranged to select the port having a minimum available bandwidth out of the plurality of aggregated ports, which is still greater than or equal to the guaranteed bandwidth.

24. (Original) The apparatus according to claim 15, wherein the mapper is arranged to map the data packets to the selected port responsively to the label.

25. (Original) The apparatus according to claim 24, wherein the mapper is arranged to apply a hashing function to the label so as to determine a number of the selected port, and wherein the processor is arranged to apply an inverse of the hashing function to the number of the selected port.

26. (Original) The apparatus according to claim 24, wherein the processor is arranged to insert into the label one or more bits that correspond to a number of the selected port, and wherein the mapper is arranged to extract the one or more bits from the label so as to determine the number of the selected port.

27. (Original) The apparatus according to claim 24, wherein the processor is arranged to store the label and a number of the selected port in a memory, and wherein the mapper is arranged to extract the number from the memory responsively to the label, so as to determine the number of the selected port.

28. (Original) The apparatus according to claim 15, wherein the processor is arranged to allocate another port from among the plurality of aggregated ports, different from the selected port, to serve as a backup port, and to replace the selected port with the backup port as part of the path, responsively to a service interruption of the selected port.

29. (New) The method according to claim 1, wherein the node comprises a Label Switched Router (LSR).

30. (New) The apparatus according to claim 15, wherein the node comprises a Label Switched Router (LSR).

31. (New) A method for processing data packets in a communication network, comprising:
establishing a path for a flow of the data packets through the communication network;

at a node along the path having a plurality of aggregated ports, mapping the data packets to the ports by applying a hashing function to respective labels conveyed by the data packets;

selecting a port from among the plurality to serve as part of the path;

applying an inverse of the hashing function to an index of the selected port, so as to produce a label;

attaching the label to the data packets in the flow at a point on the path upstream from the node; and

upon receiving the data packets at the node, switching the data packets through the selected port responsively to the label.

32. (New) Apparatus for processing data packets at a node in a communication network, the apparatus comprising:

a plurality of aggregated ports, which are arranged to transmit the data packets over a respective plurality of physical links;

a mapper, which is arranged to receive the data packets from the network, and to map the data packets to the plurality of aggregated ports for onward transmission by applying a hashing function to respective labels conveyed by the data packets; and

a processor, which is arranged to establish a path for a flow of the data packets through the communication network, to select a port from among the plurality of aggregated ports to serve as part of the path, to apply an inverse of the hashing function to an index of the selected port so as to produce a label, and to cause the label to be attached to the data packets in the flow at a point on the path upstream from the node, so that the mapper, upon receiving the data packets, switches the data packets through the selected port responsively to the label.