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(54) **Title:** SUPPORTING MULTI-PROTOCOL LABEL SWITCHING (MPLS) APPLICATIONS OVER ETHERNET SWITCH PATHS

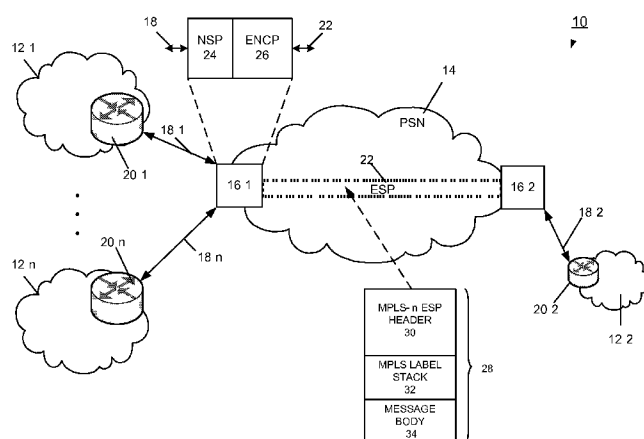


FIG 1

(57) **Abstract:** Described are communications network, a network element, and a method for transporting any type of multi-protocol label switching (MPLS) application over an Ethernet switch path (ESP). A network element connected to a packet-switched network comprises a service processor receiving a packet associated with an MPLS application of any type. An encapsulator encapsulates the packet within an Ethernet frame for transport over an ESP established between the network element and a second network element at a remote end of the packet-switched network. The Ethernet frame includes an Ethertype field with an Ethertype value signifying that the Ethernet frame is carrying an MPLS packet. In one embodiment, the Ethertype value is equal to 8847.

AMENDED CLAIMS

received by the International Bureau on 19 May 2008 (19.05.2008).

1. A network element connected at a first edge of a packet-switched network, the network element comprising:
 - a service processor receiving a packet associated with a multi-protocol label switching (MPLS) application of any type; and
 - an encapsulator encapsulating the packet within an Ethernet frame for transport over an Ethernet switch path (ESP) extending from the network element at the first edge of the packet-switched network to a provider edge (PE) device at a remote edge of the packet-switched network, the Ethernet frame including an Ethertype field with an Ethertype value signifying that the Ethernet frame is carrying an MPLS packet.
2. The network element of claim 1, wherein the Ethertype value is equal to 8847.
3. The network element of claim 1, wherein the MPLS application is pseudo-wire over MPLS.
4. The network element of claim 1, wherein the MPLS application is a virtual private LAN service (VPLS) application.
5. The network element of claim 1, wherein the MPLS application is a virtual private network (VPN) application.
6. The network element of claim 1, wherein the Ethernet switch path is a provider backbone transport (PBT) trunk.
7. The network element of claim 1, wherein the Ethernet switch path is a provider backbone bridging (PBB) trunk.

8. A packet-switched communications network comprising a first provider edge (PE) device at a first edge of the packet-switched Communications network in communication with a second PE device at a second edge of a packet-switched communications network over an Ethernet switch path (ESP) extending from the first PE device to the second PE device, the first PE device receiving a packet associated with a multi-protocol label switching (MPLS) application of any type, the first PE device encapsulating the packet for transmission to the second PE device over the ESP in an Ethernet frame having an MPLS-in-ESP header, the MPLS-in-ESP header including an Ethertype field with an Ethertype value that indicates the Ethernet frame is carrying an MPLS packet.
9. The communications network of claim 8, wherein the Ethertype value is equal to 8847.
10. The communications network of claim 8, wherein the MPLS application is a pseudo-wire over MPLS application,
11. The communications network of claim 8, wherein the MPLS application is a virtual private LAN service (VPLS) application.
12. The communications network of claim 8, wherein the MPLS application, is a virtual private network (VPN) application.
13. The communications network of claim 8, wherein the Ethernet Switch Path is a provider backbone transport (PBT) trunk,
14. The communications network of claim 8, wherein the Ethernet Switch Path is a provider backbone bridging (PBB) trunk.

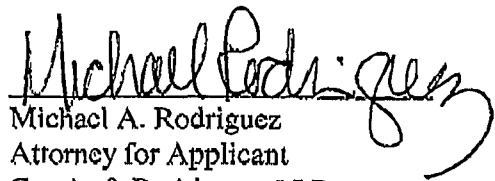
15. A method of transporting multi-protocol label switching (MPLS) packets across a packet-switched network (PSN), the method comprising:
 - establishing an Ethernet switch path (ESP) extending from a first provider edge (PE) device at a first edge of the PSN to a second PE device at a second edge of the PSN;
 - receiving an MPLS packet associated with an MPLS application of any type at the first PE device for forwarding to the second PE device over the ESP; and
 - encapsulating the MPLS packet within an Ethernet frame for transport over the ESP, the Ethernet frame including an Ethertype field with an Ethertype value signifying that the Ethernet frame contains an MPLS packet.
16. The method of claim 15, wherein the Ethertype value is equal to 8847.
17. The method of claim 15, wherein the MPLS application includes a pseudo-wire over MPLS application,
18. The method of claim 15, wherein the MPLS application is a virtual private LAN service (VPLS) application.
19. The method of claim 15, wherein the Ethernet Switch Path is a provider backbone transport (PBT) trunk.
20. The method of claim 15, wherein the Ethernet Switch Path is a provider backbone bridging (PBB) trunk.
21. The network element of claim 1, wherein the Ethernet frame includes an outermost encapsulation comprising a destination address field containing a MAC (media access control) address associated with the PE device at the

- remote edge of the packet-switched network and a source address field containing a MAC address associated with the network element at the first edge of the packet-switched network.
- 22- The method of claim S, wherein the Ethernet frame includes an outermost encapsulation comprising a destination address field containing a MAC (media access control) address associated with the PE device at the remote edge of the packet-switched network and a source address field containing a MAC address associated with the network element at the first edge of the packet-switched network.
23. The method of claim 15, wherein the Ethernet frame includes an outermost encapsulation comprising a destination address field containing a MAC (media access control) address associated with the PE device at the remote edge of the packet-switched network and a source address M d containing a MAC address associated with the network element at the first edge of the packet-switched network.

STATEMENT UNDER ARTICLE 19(1)

Applicant submits this paper with Article 19 amendments, which is being filed within 2 months of the mailing date of the International Search Report and Written Opinion (the two-month date falling on a Saturday). This paper requests amendment of claims for the above-referenced international patent application. Submitted herewith is a clean copy of substitute pages 18-21, which are intended to replace originally filed pages 18-21. Also submitted is marked up copy of the substitute pages 18-21 to show the amendments made to the claims.

Respectfully submitted,



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AMENDED SHEET (ARTICLE 19)