

Encapsulating MPLS in UDP

draft-xu-mpls-in-udp-03

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Problem Statement and Solution Overview

- **To support multi-tenancy, MPLS-based L2VPN or L3VPN technologies (e.g., endsystem-l3vpn) are expected to be deployed in cloud data centers where the underlying networks are usually IP enabled, rather than MPLS enabled.**
 - Moreover, ECMP is a much desirable feature in such environments for the purpose of maximizing the bisection bandwidth between servers.
 - However, with the normal MPLS-in-GRE encapsulation, P routers (i.e., core routers) could not achieve an ideal load-balancing for the tunneled traffic due to the lack of adequate entropy information.
- **Based on the fact that many shipped and even shipping core routers can perform ECMP by default based on the UDP header but not the GRE Key field, it would be reasonable to use MPLS-in-UDP instead of MPLS-in-GRE in such environments.**

Changes since IETF84

- **Add a detailed description of the target scenario (i.e., cloud data centers) for MPLS-in-UDP according to Andrew G. Malis's comment.**
- **Add a detailed description of the security consideration according to Eric Rosen's comment.**

Next-steps

- **The co-authors think that this draft is ready to be adopted as a working group document.**