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**An Advanced Practice for Congestion Control, Routing and  
Security Issues in Multi Protocol Label Switching (Mpls)**

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**Abstract:** In recent decades, IP networks have been subjected to different types of Internet applications with different quality of service (QoS) requirements. Traffic engineering enables routed traffic to be altered from standard to alternative routes to improve network reliability and avoid network congestions. However the best effort characteristic of IP makes it inadequate to support traffic engineering and QoS. To support QoS over IP networks, traffic engineering (TE) has introduced Multi-Protocol Label Switching (MPLS). Network traffic delays are often the result of congestions. Internet service providers (ISP) have to minimize congestions because it causes packet delays and consume network resources resulting in low QoS. In MPLS network edge router has complete routing information in its control plane which is obtained through reliable links, bandwidth, efficient path etc. In this paper, we propose a robust framework for MPLS-based network survivability against congestion that occurs in LSPs and redundancy in case of any link failure by making the MPLS control plane routing information stored in a static agent. The static agent selects best paths from OSPF routing table and divide the traffic as defined by traffic engineering formula. In case, any path is down during data transmission, agent will shift the traffic over next best available path. This proposed schema covers not only Congestion Avoidance & Congestion detection but also provides reliability of data transmission over LSPs.

**Keywords:** *MPLS, OSPF Routing, Congestion Control*

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