

# **An Enhanced Estimator To Multi-Objective OSPF Weight Setting Problem**

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## **Summary**

Open shortest path first (OSPF) is a routing protocol which is widely used in the industry. Its functionality mainly depends on the weights assigned to the links. Given the traffic demands on a network, setting weights such that congestion can be avoided is an NP-hard problem. Optimizing these link weights leads to efficient network utilization which is the main goal of traffic engineering. In this paper, simulated annealing iterative heuristic is applied to this problem. This will provide close-to-optimal solutions that can be used for network provisioning. For this problem, the cost function that has been used in the literature depends solely on the links utilization and therefore optimizes only the network utilization. In this paper, our goal is to optimize the number of congested links in the network in addition to the utilization. Therefore, we propose a new cost function that depends on the utilization and the extra load caused by congested links in the network. This provides the network designer with more flexibility to optimize desired parameters. Our results show less number of congested links and comparable extra load in the network when compared to results of using the existing cost function

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