

***Abstract: A Hybrid Routing Algorithm for an Efficient Shortest Path Decision in Network Routing***

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**Abstract**

Recently, shortest path tree construction is essential in network routing. Dijkstra algorithm, one of the static routing algorithms, is widely used. When some links develop new weights, dynamic routing algorithms become more efficient than static routing algorithms. This is because dynamic routing algorithms reduce the redundancy caused by re-computing the affected part of the network in regards to the changed links. However, dynamic routing algorithms are not always efficient in some cases and increase the computation time when making the shortest path tree. In this paper, we present a Hybrid Shortest Path Tree (HSPT) algorithm which reduces the total execution time of shortest path tree computation by using the advantages of both static and dynamic routing algorithms. Comparisons with the other routing algorithms such as Dijkstra, Dynamic Dijkstra and RDSP show that the HSPT algorithm provides a better performance as demonstrated by the decrease in the execution time.

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