

# Synchronous Distributed Path Computation Algorithm for High Speed Networks

**Dharmini Uppala\* & Dr. S.N.Tirumala Rao**

Dept. of CSE, Narasaraopeta Engineering College, Narasaraopeta, Guntur, AP, India.

## KEYWORDS

Loop Free Routing

DPCIV

Distributed Path

High Speed-

Networks

Synchronous

**Abstract:** *Transient routing loops pose significant stability problems in networks. Distributed routing algorithms capable of avoiding such transient loops in network path are deemed efficient. In this paper we propose a new algorithm, Distributed Path Computation By using Intermediate Variables (DPCIV) that guarantees that no loops, transient or steady-state, can never downgrade network dynamics. It has ability to operate with existing distributed routing algorithms to guarantee that the directed graph induced by the routing decisions stays acyclic by implementing an update mechanism using simple message exchanges between neighboring nodes that guarantees loop freedom at all times. Specifically, the routing seeks robustness against failures by maximizing the number of next hops available at each node for each destination. It outperforms existing loop prevention algorithms in several key metrics such as frequency of synchronous updates and the ability to maintain paths during transitions.*