

## عنوان مقاله:

A path protection method using congestion control in IP/MPLS networks as an underlying network in Smart Grids

## محل انتشار:

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## خلاصه مقاله:

To provide a reliable backbone network, fault tolerance should be considered in the network design. Multiprotocol label switching (MPLS) based backbone network, is used to provide traffic engineering (TE) and high speed networking. The fault-tolerant issue which is one of the aspects of QoS, focuses on how to protect the traffic of a label switched paths (LSP) against node and link failures. Fault tolerance techniques are very useful to maintain the survivability of the network by recovering from failure within acceptable delay and minimum packet loss while efficiently utilizing network resources. In this paper, based on the modified  $(k, n)$  threshold sharing scheme with multi-path routing, we propose a relationship between  $k$  and  $n$  by considering the priority levels of incoming traffics, we apply a congestion method to reduce the packet loss. The traffics that are going to be injected to our IP/MPLS network are received from a Smart Grid sub-networks. The approach introduces very low recovery delay and low packet loss while giving desirable throughput of the network. In addition, it can easily handle single and multiple path failures. We validate the analytical results through simulations in OPNET.

## کلمات کلیدی:

Failure tolerance, Priority levels, Smart Grids, Packet Loss, Multiple path failures

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/205222>

