عنوان مقاله:

Fault Management in the IP/MPLS Networks by using Markov Decision Process

محل انتشار:

ششمین کنفرانس مهندسی برق و الکترونیک ایران (سال: 1393)

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خلاصه مقاله:

Fault and failure in the IP/MPLS (Multi-Protocol Label Switching) networks during traffic routing will seriously affect quality of service content. Using backup paths for traffic rerouting to make a fault tolerant network can improve performance of such networks. In this paper, multiple back up paths are considered to have a fault tolerant traffic routing in the IP/MPLS networks that when an fault is occurred in the main route in IP/MPLS networks, all the data traffic is transferred to the backup routes. The challenge is that after the main route is recovered how much the data traffic should be re-routed to the main route again or remained in the backup route. Here, an Markov Decision Process (MDP) based algorithm is proposed to find optimum flows which should be rerouted to main route after main path recovery. Here, by using Markov decision processes, we optimize the re-routing procedure by finding all possible solutions on the main route. Then, after recovering the main route, using the proposed method, we define the number of data streams which is supposed to come back to the main route from the backup routes such that the cost of .reordering, re-routing and packet loss is minimized

کلمات کلیدی:

component; Recovering, IP Network, Routing, Reinforcement learning

لینک ثابت مقاله در پایگاه سیویلیکا: