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RESEARCH ARTICLE

Fast IP Network Recovery Using MRC from Multiple Failures

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Abstract

Internet takes vital role in our communications infrastructure, due to slow convergence of routing protocols after network failure become a budding problem. To assure fast recovery scheme from link and node failure in networks, we present a new recovery scheme called **Multiple Routing Configuration** (MRC). Now a days, Internet plays a major role in our day to day activities e.g., for online transactions, online shopping, and other network related applications. Internet suffers from slow convergence of routing protocols after a network failure which becomes a growing problem. Multiple Routing Configurations [MRC] recovers network from single node/link failures, but does not support network from multiple node/link failures. In this paper, we present MRC, and analyze its performance with respect to load distribution after a failure. We also show how an estimate of the traffic demands in the network can be used to improve the distribution of the recovered traffic, and thus reduce the chances of congestion when MRC is used. We propose Enhanced MRC [EMRC], to support multiple node/link failures during data transmission in IP networks without frequent global re-convergence. By recovering these failures, data transmission in network will become fast.

Keywords: Re-convergence, Routing Instability, Proactive Mechanism, Failure Recovery, MRC, Availability, computer network reliability.

Full Text: <http://www.ijcsmc.com/docs/papers/January2014/V3I1201459.pdf>