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CROSS LAYER APPROACH TO IMPROVE CONGESTION CONTROL MECHANISM BY DETECTING ROUTE FAILURE INMANET

SUJATA TAPKIR AND S. A. JAIN
Department of Computer Engineering, MIT Academy of Engineering
Alandi (D), Pune, India.

Abstract

MANET is mobile ad hoc networks with no infrastructure.The main characteristic of MANET is mobility, which causes dynamic changing topology and link failure. Since the topology of the network is constantly changing, it leads to the packet loss and delays. These packet losses due to link breakage must be differentiated from congestion loss to discover link failures. In the MANET, link failure may happen because of node movement or wireless link collisions on routes. So all these different issues are addressed in this paper by introducing an algorithm for detecting the cause of route failures and implementing node movement detection scheme that will prevent unnecessary route reestablishments caused by false route failures. After detection of true route failure, alternate path can be established by explicit node movement. This mechanism resolves the false route failure problem and improves network performance in terms of parameters like end to end delay, packet delivery ratio and normalized routing overhead.By carrying out NS-2 based simulations, we can show that this protocol improves the congestion control mechanism in MANET with respect to increase in node density and traffic load

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Keywords : ad hoc network, route failure, congestion, throughput