PERFORMANCE METRICS TO INVESTIGATE THE PERFORMANCE OF MOBILE AD HOC NETWORKS (MANET)

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In the most Name of ALLAH S.W.T

Most Gracious Most Merciful

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ABSTRACT

After a disaster, the destruction of the infrastructure strike raises the sudden need of an mobile ad hoc network. Abbreviated as MANET, is a system of wireless mobile nodes that can freely and dynamically self-organize in temporary network topologies without the need of a wired backbone or a centralized administration. The objective is to develop and investigate the performance metrics of a mobile ad hoc network with multiple nodes by using a realistic radio propagation and signal reception mechanism. The disasters provide almost impossible way to communicate. With the mobile ad hoc network (MANET), people and devices can be seamlessly internetworked in areas without any existing communication infrastructure or when the use of such infrastructure requires wireless extension. This paper presents the simulation tool developed for multiple nodes MANET in the Network Simulator 2 (ns-2). Propagation Channel Models are use with Free Space, Two Ray Ground and Shadowing as default models while Rayleigh fading and Ricean fading as implemented realistic models. The simulation of Rayleigh and Ricean fading resulted in high Packet Delivery Ratio (PDR) and Total Data Transferred.

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