

Network Coding Based Packets Queue Operation for Wireless Ad Hoc Networks

Abstract

Wireless communication is a technology that simplify the daily life and to narrow the distance between people. Unfortunately throughput limitation of wireless networks is limiting the performance of wireless networks. In order to increase the throughput of the wireless network, network coding has been proposed to increase the throughput of network. Unlike conventional store-and-forward method, network coding is a method that intelligently combines packet from difference flow to reduce the transmissions while transfer the packets instead of just relay packets without doing any additional processing. Ad hoc on-demand distance vector routing protocol (AODV) will be used to discover route for packets from source to destination in wireless ad hoc networks. The simulation of wireless ad hoc network with and without network coding will be conducted in MATLAB. This paper introduces the development of simulation to illustrate the performance of network coding in wireless ad hoc network. The simulation will calculate the transmit packet time according to the size of the packet. Lastly, average network throughput performance between network coding and store-and-forward is shown and compared.