Energy conservation of content routing through wireless broadcast control in NDN based MANET: A review

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ABSTRACT

Research in Named Data Networking-based Mobile Ad hoc Network (NDN based MANET) experienced a lot of momentum and development in recent years. Such robust developments in the specific area surely contributes to advanced possibilities that Named Data Networking (NDN) can provide compared to traditional host centric networking solutions such as TCP/IP for dynamic routing that is much needed for MANET environment. Based on our observations, most existing work of NDN based MANET studies chose to use full wireless broadcast approach method for dynamic content routing as their solution in MANET environment. This review is carried out by analyzing how energy conservation of dynamic content routing was conducted in previous studies that has employed various methods of wireless broadcast smart control that are totally different from one another. We then discuss the disadvantages of the suggested solution from previous studies and scrutinizes it from the aspects of energy conservation of content routing in NDN based MANET point of view. Following that, we proceed to suggest on how dynamic content routing should have been done in order to achieve beneficial energy efficiencyimprovements of content routing mechanism in NDN based MANET. Following that, we suggest how dynamic content routing mechanisms for energy conservation can be improved in NDN based MANET. At the same time, we show the differences between our suggested solution and existing solution as a proposal towards the creation of next generation of content routing solution for NDN based MANET implementation.

KEYWORDS:

MANET; NDN; ICN; Content routing NDN based MANET; Energy conservation; Energy efficiency; Broadcast control