

# Implementation of the Power Save Mode 802.11s in NS-3

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**Abstract**—IEEE 802.11s is an extension to the IEEE 802.11 standard which allows wireless nodes to connect with each other without having an access point. The network exists as long as the nodes have enough charge to forward packets, so it is important to minimize the energy consumption and prolong the lifetime of the network. The goal of this work is implementation of the Power Save Mode (PSM) in network simulator NS-3.

**Keywords**—NS-3, 802.11s, PSM.

## I. SUMMARY

Wireless Mesh Network (WMN) is multi-hop wireless network with redundant interconnections between nodes which cooperate with one another to route packets. One of the main challenges is enhancement of the energy saving

ability of the wireless nodes and a lot of work has been done in this direction [1].

For testing efficiency of the different strategies network simulators are used. The NS-3 has a flexible object-oriented and plug-in architecture for creating different network topologies and extend it with new traces output formats [2]. NS-3 can work with different kind of networks from small LAN to huge ad-hoc or WMN. We investigate how to implement PSM in NS-3 simulator.

## REFERENCES

- [1] Mirza Nazrul Alam, Riku Jäntti, Johanna Nieminen, "An EvPerformance Analysis of the IEEE 802.11s PSM", Web: <http://www.hindawi.com/journals/jcnc/2012/438654/>.
- [2] NS-3 description, Web: <http://www.nsnam.org/wiki>.