# CoCoWa: A Collaborative Contact-based Watchdog for Detecting Selfish Nodes

## ABSTRACT

Mobile Ad-hoc Networks (MANETs) assume that mobile nodes voluntary cooperate in order to work properly. This cooperation is a cost-intensive activity and some nodes can refuse to cooperate, leading to a selfish node behaviour. Thus, the overall network performance could be seriously affected. The use of watchdogs is a well-known mechanism to detect selfish nodes. However, the detection process performed by watchdogs can fail, generating false positives and false negatives that can induce to wrong operations.

## EXISTING SYSTEM

This is specially important on networks with sporadic contacts, such as Delay Tolerant Networks (DTNs), where sometimes watchdogs lack of enough time or information to detect the selfish nodes. Thus, we propose CoCoWa (Collaborative Contact-based Watchdog) as acollaborative approach based on the diffusion of local selfish nodes awareness when a contact occurs, so that information about selfish nodes is quickly propagated. This collaborative approach reduces the time and increases the precision when detecting selfish nodes.

## PROPOSED SYSTEM

CoCoWa can reduce the effect of malicious or collusive nodes. If malicious nodes spread false negatives or false positives in the network CoCoWa is able to reduce the effect of these malicious nodes quickly and effectively. Additionally, we have

shown that CoCoWa is also effective in Opportunistic Networks and DTNs, where contacts are sporadic and have short durations, and where the effectiveness of using only local watchdogs can be very limited.

## SYSTEM REQUIRMENTS

### Hardware Requirements

- Processor - Pentium –III
- Speed - 1.1 Ghz
- RAM - 256 MB(min)
- Hard Disk - 20 GB
- Key Board - Standard Windows Keyboard

- Mouse - Two or Three Button Mouse
- Monitor - SVGA

**Software Requirements:-**

- Operating System : LINUX
- Tool : Network Simulator-2
- Front End :OTCL (Object Oriented Tool Command Language)

**REFERENCES**

[1] M. D. Serrat-Olmos, E. Hern´andez-Orallo, J.-C. Cano, C. T. Calafate, and P. Manzoni. A collaborative bayesian watchdog for detecting black holes in MANETs. In Intelligent Distributed Computing VI, volume 446, pages 221–230. Springer, 2012.

[2] C. K. N. Shailender Gupta and C. Singla. Impact of selfish node concentration in MANETs. International Journal of Wireless and Mobile Networks (IJWMN), 3(2):29–37, Apr 2011.