Channel-Aware Rate Adaptation for Backscatter Networks

ABSTRACT

- In this paper, we propose a channel-aware rate adaptation framework for backscatter networks. CARA incorporates three essential modules, a lightweight channel probing scheme.
- That differentiates collisions from packet losses, a burstiness aware channel selection mechanism benefiting as many backscatter nodes as possible, a rate selection method choosing the optimal rate, and a mobility detection that discovers location changes.

EXISTING SYSTEM

- Backscatter communication networks receive much attention recently due to the small size and low power of backscatter nodes.
- As backscatter communication is often influenced by the dynamic wireless channel quality, rate adaptation becomes necessary.
- Most existing approaches share a common drawback: they fail to take both spatial and frequency diversity into consideration at the same time.

Consequently, the transmission rate may be improperly selected, resulting in low network throughput.

PROPOSED SYSTEM

- This paper has proposed a channel-aware rate adaptation framework that exploits channel diversity, including spatial and frequency diversity.
- A lightweight channel probing scheme and a novel channel selection algorithm have been presented to enable throughput gain.
- We have also described a mobility detection method using difference of phase profiles to further save probing overhead.

HARDWARE REQUIREMENTS Intel core i3 • Processor • RAM - 2B Hard Disk - 20 GB •

SOFTWARE REQUIREMENTS

- Operating System : LINUX
- Tool : Network Simulator-2

• Front End : OTCL (Object Oriented Tool Command Language)

REFERENCE

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