Modeling Compound TCP Over WiFi for IoT

ABSTRACT

- In this paper, we develop a comprehensive analytical model for compound TCP over WiFi.

- Our model captures the flow and congestion control dynamics of multiple competing long-lived compound TCP connections as well as the medium access control layer dynamics that arise from different signal-to-noise ratios perceived by the devices.

- Our model provides accurate estimates for TCP packet loss probabilities and steady-state throughputs for IoT devices with different SNRs.

EXISTING SYSTEM

- Compound TCP will play a central role in future home WiFi networks supporting Internet of Things applications.

- Compound TCP was designed to be fair but can manifest throughput unfairness in infrastructure-based IEEE 802.11 networks when devices at different locations experience different wireless channel quality.

PROPOSED SYSTEM

- More importantly, we propose a simple adaptive control algorithm to achieve better fairness without compromising the aggregate throughput of the system.

- The proposed algorithm mitigates the adverse impacts of SNR differences and accommodates the sporadically-transmitting IoT sensors.

HARDWARE REQUIREMENTS

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

SOFTWARE REQUIREMENTS

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

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