

IMPROVEMENT IN ENERGY AND AVOIDING PACKET ERRORS IN TCP BY CODA MECHANISM

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ABSTRACT

In order to eradicate Congestion problem, an Enhanced version of congestion Control is proposed called ECODA (Enhanced Congestion Detection and avoidance for Multiple Class of Traffic in Sensor Networks). Using three mechanisms which uses dual buffer Thresholds/Weighted buffer difference, Flexible Queue Scheduler and bottleneck based Control Schemes. ECODA effectively Controls Congestion problems for different class of traffic using MAC layer. ECODA has a flexible queue scheduler and packets are scheduled according to their priority. Many applications would require fast data transfer in high-speed wireless networks nowadays. However, due to its conservative congestion control algorithm, Transmission Control Protocol (TCP) cannot effectively utilize the network capacity in lossy wireless networks. In this paper, we propose a receiver-assisted congestion control mechanism (RACC) in which the sender performs loss-based control, while the receiver is performing delay-based control. The receiver measures the network bandwidth based on the packet interarrival interval and uses it to compute a congestion window size deemed appropriate for the sender. After receiving the advertised value feedback from the receiver, the sender then uses the additive increase and multiplicative decrease (AIMD) mechanism to compute the correct congestion window size to be used. Our mechanism can mitigate the effect of wireless losses, alleviate the timeout effect, and therefore make better use of network bandwidth and also our mechanism can outperform conventional TCP in high-speed and lossy wireless environments. It can reduce packet loss, improve efficiency and lower delay.

KEYWORDS: CODA, Queue Scheduler, RMST and Buffer State