

TCP CONGESTION CONTROL PROTOCOLS OVER UMTS WCDMA NETWORK

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ABSTRACT

Universal Mobile Telecommunication Network (UMTS) deal with various packet losses. These packet losses developed in network due to channel fading and shadowing. Contention in network should maintain by TCP end-to-end semantics and dependency on intermediate nodes is minimized. Recent development in 3G UMTS networks new services provide to users makes it necessary for improving TCP's efficiency and resource utilization. In this paper, we implement various TCP protocol's flavours on UMTS networks. TCP is reliable protocol but with a problem of slow start. This paper simulate the efficiency of different TCP variants i.e. TCP RENO, TCP TAHOE, TCP SACK and TCP NEWRENO. Performance comparison is done between all of these TCP variants on UMTS network. Simulation results shows that which TCP version perform better in UMTS network and how long take time to send and receive a FTP file. These protocols are inspected based on 'FTP traffic sent (packets/seconds)', 'FTP traffic received (packets/seconds)' and TCP connection (Congestion Window)'.

KEYWORDS: Universal Mobile Telecommunication System (UMTS), Transmission Control Protocol Tahoe (TCP Tahoe), TCP RENO, TCP SACK. TCP NEW RENO & Operational Network Evaluation Tool (OPNET)