**Performance Analysis of TCP Variants**

**Introduction:**

Transmission Control Protocol (TCP) is one of the core protocols of communication networks. It is a reliable connection-oriented end-to-end protocol. Since its origin, many enhancements have been proposed to the original design. Analysis of these variants is important to determine the best protocol variant for a given network scenario.

Our project describes the results of simulation-based experiments to analyze the performance of several TCP variants, namely: TCP Tahoe, Reno, New-Reno, Vegas and TCP SACK. The focus is on comparing the different variants by studying them in simulated environments, either in presence of each other or in the presence of a Constant Bitrate flow (CBR).

We evaluate the variants based on their performance under congestion, fairness to each other, and we also study the influence of queueing algorithms on the overall performance of flows.

**Requirements:**

Network Simulator NS-2

**Existing System:**

Experiment 1 deals with the analysis of the performance of four TCP variants – Tahoe, Reno, New-Reno, and Vegas as a function of the bandwidth used by the CBR flow.

Experiment 2 deals with the analysis of fairness between different TCP variants.

**Proposed System:**

In addition to above 2 experiments, we are going to conduct additional experiment for the better analysis.

Experiment 3 deals with the study of the influence of queueing algorithms used by the nodes.