In the paper shown in the slide, some important features of the TCP has been explained, and analyzed. It clearly explains the three phases in the congestion control mechanism, Slow Start, Congestion Avoidance and Congestion Detection. It describes the comparative study of five TCP variants such as TCP Tahoe, TCP Reno, TCP New Reno, TCP Vegas and TCP Dynamic Vegas, and their mechanisms, are also summarized as shown. .TCP Tahoe works on packet preservation technique, but the disadvantage identified here is that it holds an entire time-out interval to identify packet losses. When the packet loss is identified, the behavior of TCP Tahoe is too slow. But, in several packet losses, the behavior of TCP New Reno is the best, the shortcoming with TCP New Reno is that it hold single RTT to discover packet deficit. While TCP Vegas perform best in high congested network, it basically recognizes congestion before it arise, because of the modification in the slow start and re-transmission technique. The purpose of this paper was to compare TCP variants in the bandwidth estimation technique and hence resolve the TCP slow start problem, and it has been discussed well.

This paper, presented, surveys several MANET routing protocols, and has reviewed the immense importance of congestion control algorithms. The paper in consideration has explored few works carried out previously on MANET routing protocols in the absence or presence of TCP congestion control algorithm. The research and survey carried out here shows that if there is no mechanism involved in avoiding or controlling the congestion then data may be lost or corrupted in a high volume, in spite of using an optimal routing algorithm. Performance observations are well depicted here, showing that DSDV, that is Destination Sequenced Distance Vector Protocol has the lowest Packet Delivery Ratio (PDR) compared to others and AODV, that is Ad Hoc On-demand Distance Vector routing protocol has the highest value of Average End to End Delay. It also discusses about the overhead in multicast routing. The research carried out here, shows the Quality of Service (QoS) lies in the performance of the routing protocols used. Detailed analysis of the existing MANET routing protocols has been done, which can be used as base for development in this area for research purposes.

This paper presents a short introduction to the congestion problem, and general observations have been made on few parameters, neatly tabulated. All the simulation work is carried out using TCP variants with only the Dynamic Source Routing protocol and the network traffic is provided by using File Transfer Protocol (FTP) application. Simulation has been carried out for various parameters like simulation time, no of nodes, node speed and few others. The focus has been on three TCP variants - TCP Tahoe, Reno and Lite. A graph demonstrating no of nodes v/s packet loss, throughput and also the pause time v/s bytes received has been explained. Conclusion arrived in the paper was that Some of protocols show better response and some of them show poor responsiveness to changing network conditions and network utilization. This analysis done in this paper has contributed in providing further research directions in the area of routing, analyzing MANET on a real-life test-bed.

The paper in consideration performs a comparative analysis of the TCP variants TCP Tahoe, TCP Reno, TCP New Reno. The result analysis has been tabulated and graphically represented, drawing a conclusion that the three protocols react differently in the presence of low and high mobility and that the performance of DSR protocol is best suited while compared with AODV for applications with large number of nodes in MANETs. Performance of DSDV protocol is not satisfactory with any TCP variant. The experimental analysis presented here, though compared with only few parameters, can be used in applications requiring the suitable TCP protocol.

Various existing researches have been carried out and improvised variants of TCP by only one or two measures, have been proposed. Summary of the existing work in the field and the gap identified will be briefed by my teammate Sudharsan.