Satellite has been identified as a potential candidate to meet the explosive Internet demand and to evolve the global Internet services. With a view to combat channel errors predominant in satellite based networks, TCP with Adaptive Flow Control and Delayed Fast Recovery (TCP-AFC) has been designed to identify a random loss with the help of selective acknowledgments. TCP-AFC has demonstrated significant performance enhancement in error prone environments through simulations and experiments on an active emulated network. In order to substantiate the improvement, we investigate the performance of TCP-AFC in a real environment consisting of a Ku band satellite link, which is more susceptible to atmospheric conditions. This paper focuses on evaluation of TCP-AFC in real life situations having appreciable channel noise and delay. Results of the extensive experiments conducted on a test bed consisting of a symmetric GEO satellite link for different channel conditions, data volume, data type and data traffic are presented in this paper. Analysis of the results reconfirms the compatibility of TCP-AFC in a heterogeneous network besides the performance
improvement over a dedicated satellite link.

Reference

Performance Analysis of TCP-AFC for Satellite-based Networks

**Index Terms**

Computer Science  
Communication  
Satellite

**Key words**

TCP-AFC  
SACK_OK  
cwnd  
Cd  
BER