Abstract

Transmission Control Protocol (TCP) running in the Transport Layer of layered architecture models like OSI, has been struggling with poor performance in wireless networks. Various probable solutions have been established by researchers worldwide. One branch of solutions uses the Cross Layer Design for improving TCP performance. Cross Layer Design violates the layered architecture norms of strictly discrete layers, and is used to improve TCP performance in wireless technology. In this paper, we talk about two cross layer techniques that have been established by researchers over past few years, employed to improve TCP performance. We compare, contrast and judge these techniques and propose our own technique for the same.

References

- Dzmitry Kliazovich and Fabrizio Granelli&quot;Cross Layer Designs in WLAN
systems" in University of Luxemburg 6 rue Condohove kalergi, L-1359 Luxemburg.  
DISI-University of Trento via Sommarive14, I-38050 Trento, Italy., 2011
- Jeffrey Mehlman" Cross-Layer Design: A Case for Standardization" in 
Electrical Engineering Department, Stanford University Stanford, California 94305 jmehlman at stanford dot edu
- Nasim Arianpoo, Paria Jokar, Victor C. M. Leung Department of Electrical and Computer 
Engineering, The University of British Columbia, Vancouver, BC, Canada V6T 1Z4, 
"Enhancing TCP Performance in Wireless Mesh Networks by Cross Layer Design"; 
Workshop on Computing, Networking and Communications, 2011.
- P. Sudame and B. R. Badrinath. On Providing Support for Protocol Adaptation in 
IEEE, March 2003.
- Gang Wu, Yong Bai, Jie Lai, and A. Ogielski. Interactions between TCP and RLP in 
Wireless Internet. In IEEE GLOBECOM, volume 1B, pages 661–666, Rio de Janeiro, Brazil, 
December 1999. IEEE.
- P. Mehra, A. Zakhor, and C. Vleeschouwer. Receiver-Driven Bandwidth Sharing for 
TCP. In IEEE INFOCOM, SF, USA, April 2003.

Index Terms

Computer Science Wireless

Keywords

Cross Layer Design Layered Architecture Transmission Control Protocol
Congestion
Explicit Congestion Notice
Multi-hop environment
Data Packets.