

AGENT-BASED RATE CONTROL SCHEME IN MULTIMEDIA WIRELESS INTERNET: A CROSS LAYER APPROACH

**R. C. BIRADAR, S. S. MANVI
& GEETA D.DEVANAGAVI**

Abstract

In today's wireless Internet, wireless segment introduces random and undetectable losses, which cannot be handled by the reliable transport protocols. Traditional TCP protocols such as split-TCP, wireless TCP (WTCP), link layer solutions developed to overcome these losses for wireless segments also have some drawbacks since they facilitate window based transmission and they fail to maintain end-to-end semantics. These drawbacks can be effectively mitigated by using intelligent software agents.

In this paper, an agent based rate control scheme is proposed for improving TCP performance over error-prone wireless links in wireless Internet. Rate control scheme resides at a base station and mobile receiver. The scheme facilitates rate-based transmission at the sender depending on characteristics of wireless link. Communicating hosts maintain the required rate for TCP connection by using their link layer information through TCP and link layer (DLL) cross layer interaction. The proposed scheme employs two types of agents: static and mobile. The scheme is simulated using wireless Internet scenarios to evaluate the transmission rate control. It is observed that proposed scheme outperforms traditional TCP.

Key words: Rate control, Agent technology, wireless Internet, Cross layer interaction.