



Wireless Engineering Research and Education Center

Analysis of a Proportional Integral Rate Control for Streaming Videos

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Abstract

Video service is widely available in the Internet provisioning of Quality of Service (QoS) guarantees for streaming videos is one of the key considerations for video applications. The seminar presents the rate control for streaming videos by jointly considering encoder rate control and network congestion control. A control-theoretic approach is adopted which models video streaming as a feedback control system. Based on a properly chosen operating point, the model is linearized and a proportional-integral (PI) controller is developed to stabilize the streaming video quality. The guidelines are derived for choosing parameters for the proposed PI rate controller and its stability properties are proved.

Bio

Yingsong Huang received the B.S. and M.S. degrees from Chongqing University, Chongqing, China. Since 2007, he has been pursuing the Ph.D. degree in the Department of Electrical and Computer Engineering, Auburn University, Auburn, AL. His research interests include network congestion control and wireless network.

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