

Smooth Payout Control for Video Streaming over Error-Prone Channels

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Abstract

The quality of media streaming over best-effort networks suffers from network delays and packet losses. The latter is more profound for wireless video. To enhance the QoS of streaming services, adaptive media payout (AMP) has been developed to adjust the payout interval. With AMP, the risk of delay and buffer underflow is reduced. However, the smoothness of playback is not guaranteed. In this paper, we propose a novel AMP control that enables smooth payout and meanwhile maintains reliable visual quality. Our AMP control adjusts the payout interval based on an estimation of channel quality, so it is more adaptive than conventional AMP controls that are based on buffer fullness. Experimental results are provided to justify our approach. Even at 20% packet loss rate, the proposed AMP control is still able to provide smooth and reliable playback.