Buffer–Based Constant Bit–Rate Control for Scalable Video Coding

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Abstract : The emerging Scalable Video Coding (SVC) is an extension of H.264/AVC standard, which shows improved coding efficiency and scalability functionalities with respect to previous scalable video coding approaches. These new functionalities make SVC suitable for meeting the increasing demand for multimedia data and the diversification of network requirements and terminal devices capabilities. To this purpose, Rate Control plays a key role in video coding process to fulfill all possible rate constraints. This paper presents a Constant Bit–Rate (CBR) control algorithm suitable for multiple layers coding. The proposed single–pass CBR scheme has been implemented into JSVM–8.0, the SVC reference software model, and experimental results show the effectiveness of the proposed algorithm for single and multiple layers coding with different configurations.