Temporal Scalability Comparison of the H.264/SVC and Distributed Video Codec

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Abstract

The problem of the multimedia scalable video streaming is a current topic of interest. There exist many methods for scalable video coding. This presentation is focused on the scalable extension of H.264/AVC (H.264/SVC) and distributed video coding (DVC). It presents an efficiency comparison of SVC and DVC having reduced encoder complexity. Moreover, temporal scalability is described for these two algorithms, and it is analyzed and compared.

Index Terms: H.264/SVC, distributed video coding, temporal scalability.

REFERENCES

- [1] International Organization for Standardization, "Introduction to SVC Extension of Advanced Video Coding", ISO/IEC JTC1/SC29/WG11, International Organization for Standardization, Coding of Moving Pictures and Audio, Pozna , Poland, July 2005. URL: http://www.chiariglione.org/mpeg/technologies/mp04-svc/svc/.
- [2] B. Girod, A. Aaron, S. Rane and D. Rebollo-Monedero, "Distributed Video Coding". Proceedings of the IEEE, vol. 93, no. 1,
- pp. 71-83, January 2005.
- [3] A. Aaron, R. Zhang, and B. Girod, "Transform-domainWyner-Ziv codec for video," In Proc. SPIE Visual Com. and Img. Proc., vol. 5308, pp. 520-528, January 2004.
- [4] JSVM 9.15 software package, CVS server for the JSVM software. http://iphome.hhi.de/
- [5] H. Schwarz, D. Marpe, and T. Wiegand "Overview of the Scalable Video Coding Extension of the H.264/AVC Standard", IEEE Transactions on Circuits and Systems for Video Technology, Vol. 17, No. 9, September 2007