Multistandard Video Decompression Based on a Uniform Meta Format Stream

Author(s) : Henryk Richter (University of Rostock, Germany)
            Erika Müller (University of Rostock, Germany)

Abstract : In this paper, we propose an alternative design approach for multistandard video decompression systems. The key component of our proposal is a self-contained and extensible meta data format for unified description of image processing and reconstruction operations. Dividing between the syntactic layer of the video coding schemes and the signal processing part, the meta data format offers the option of designing straightforward hardware processing units without the burden of multiple higher layer bitstream management considerations. The meta data concept provides additional benefits regarding the current trend in processor development towards multi-core chips. The specified syntax is tailored for low computational overhead. Since there is no backward channel required, the inter-process communication on software-driven multi-core and multiprocessor systems can be reduced to a minimum.