Fresse, Virginie; **Déforges, Olivier**; **Nezan, Jean-François**

AVSynDEx: a rapid prototyping process dedicated to the implementation of digital image processing applications on multi-DSP and FPGA architectures. (English) Zbl 1107.94319

EURASIP J. Appl. Signal Process. 2002, No. 9, 990-1002 (2002).

Summary: We present AVSynDEx (concatenation of AVS + SynDEx), a rapid prototyping process aiming to the implementation of digital signal processing applications on mixed architectures (multi-DSP + FPGA). This process is based on the use of widely available and efficient CAD tools established along the design process so that most of the implementation tasks become automatic. These tools and architectures are judiciously selected and integrated during the implementation process to help a signal processing specialist without relevant hardware experience. We have automated the translation between the different levels of the process to increase and secure it. One main advantage is that only a signal processing designer is needed, all the other specialized manual tasks being transparent in this prototyping methodology, hereby reducing the implementation time.

MSC:

94A08 Image processing (compression, reconstruction, etc.) in information and communication theory
68M07 Mathematical problems of computer architecture
68U10 Computing methodologies for image processing

Software:

AVSynDEx; SynDEx

Full Text: DOI