JOP Reference Handbook
Martin Schoeberl

This book is about JOP, the Java Optimized Processor. JOP is an implementation of the Java virtual machine (JVM) in hardware. The main implementation platform is a field-programmable gate array (FPGA). JOP began as a research project for a PhD thesis. In the mean time, JOP has been used in several industrial applications and as a research platform. JOP is a time-predictable processor for hard real-time systems implemented in Java.

JOP is open-source under the GNU GPL and has a growing user base. This book is written for all of you who build this lively community. For a long time the PhD thesis, some research papers, and the web site have been the main documentation for JOP. A PhD thesis focus is on research results and implementation details are usually omitted. This book complements the thesis and provides insight into the implementation of JOP and the accompanying JVM. Furthermore, it gives you an idea how to build an embedded real-time system based on JOP.

Martin Schoeberl is the main developer of the Java processor JOP. He has published more than 50 scientific papers on time-predictable computer architectures and real-time Java. Martin Schoeberl is member of the Expert Group for the Safety-Critical Java Specification. Before joining the Institute of Computer Engineering at the Vienna University of Technology as Assistant Professor in 2005, he has been self employed with projects in the automation industry. Martin Schoeberl will start as Associate Professor in System-on-Chip in the Department of Informatics and Mathematical Modelling at the Technical University of Denmark in early 2010.

JOP Reference Handbook

Martin Schoeberl

JOP Reference Handbook

Building Embedded Systems with a Java Processor

Martin Schoeberl