FPGA Developer Intern

Internship reference: VOSYS_2017_IN_002

Starting date and duration: February – September (2018) (6 months)

Type of contract: Full time internship

Monthly salary: 1100€ gross salary

Work location: Grenoble (Rhône Alpes), France

Description and objectives:
Virtual Open Systems, a French virtualization start up active in many European research projects, proposes an internship in the area of datacenter networking acceleration by means of virtualized hardware accelerators on FPGA.

In the research and development team of Virtual Open Systems the candidates will have the opportunity to work on hardware FPGA design and low level embedded software development (Linux kernel drivers, hypervisor extensions, etc). This internships includes both research and development activities, targeting Xilinx FPGAs and their Dynamic Partial Reconfiguration (DPR) technology.

The candidate will have as objective to evaluate the partial reconfiguration (PR) feature on recent a Xilinx FPGA family. In the context of FPGA hardware acceleration he will first do the state of art of existing solutions using PR. Then he will evaluate the the impact of the partial reconfiguration on the performance (resources and latency overhead, frequency etc), reconfiguration time and overhead. Next the candidate will have to study and apply a partial reconfiguration implementation flow with Vivado. The last part of the internship will consist in the realization of a proof of concept permitting the PR, in real, time of hardware accelerators.

Activities:

- FPGA design and development with Vivado (Xilinx) and Virtex 7 UltraScale FPGA
- State of the art analysis of the FPGA Dynamic Partial Reconfiguration technology
- Design and development of a PR flow using the Xilinx environment (e.g Tcl-based)
- FPGA IPs integration, test and verification
- FPGA implementation
- Scientific paper dissemination

Required skills:

- Results-driven attitude
- Programming languages - VHDL, C
- Strong FPGA Design Flow skills
- Understanding of the Linux kernel (driver development), bash
- Excellent communication and good teamwork skills
- Written and spoken English communication skills

How to apply
Any application (resume+cover letter preferably in PDF format) should be sent by email at the following address : contact@virtualopensystems.com