



AimValley is a world class engineering and innovation center that designs and builds networking solutions. We are based in Hilversum, with a strong presence in the USA and India. We started in 2003 as a spin-off from Lucent Technologies (a successor from the American company AT&T), that is why we have a strong background in telecommunication solutions and have build-up vast expertise in real time processor techniques. Most of our design & development is done in-house.

Product development entails preparation of requirement documents, specification of system architecture, electronic development (block diagrams, board design, system certification, mechanical design), FPGA/ASIC development, software development, system verification and product/factory introduction. AimValley makes use of FPGAs to process high speed transmission functions. Real time requirements are also key in our software development.

Our business is about people and our teams are dynamic, skilled and passionate about technique. Recruiting and training the right talent is an essential part of the AimValley DNA. We have over 80 employees of which 75% works as design expert in the R&D organization. All R&D employees have a college or university level education.



Project Introduction - Open Source Softcore

A softcore is a microprocessor core that is implemented using basic generic logic elements available in FPGAs. AimValley has used several types of softcores in its products. For example MicroBlaze, NIOS and LM32. Each of them is linked to a specific FPGA vendor. AimValley wants to move to an open source implementation and bypass the vendor lock-in and development cost when selecting a different FPGA vendor.

Project Description

Investigate which open source softcore implementations are available and select the best suitable one. Build a small FPGA example design around this softcore. Develop a small program to run on the softcore using a suitable Software Development Kit (SDK). Step through the program using a debugger. Simulate the softcore together with the program. Optionally run a small footprint Linux system on the softcore.

Complexity

- > Finding the best suitable softcore requires understanding of the application/environment in which it is used.
- > Implement and test an open source softcore in an FPGA using vendor tooling requires FPGA knowledge.
- > Use and SDK to implement a small program requires microprocessor and its tooling knowledge.



Keywords for this project

- > Investigate/evaluate available softcores
- > Implement a small example
- > Tooling

Affinity

- > Microprocessors
- > FPGA Development
- > Software Development
- >

Skills

- > Communicative
- > Independent
- > Competent in English

If you have a can-do attitude and a passion for technology,
AimValley is your company!

Why not join us today: working@aimvalley.com