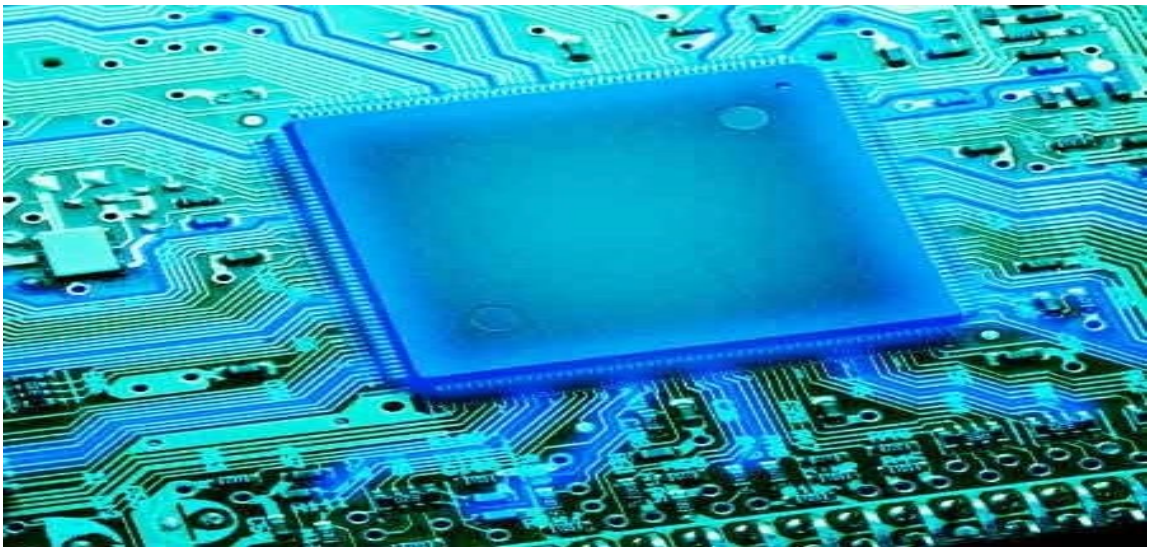
AimValley

FPGA versus CPU Software
Design Brief

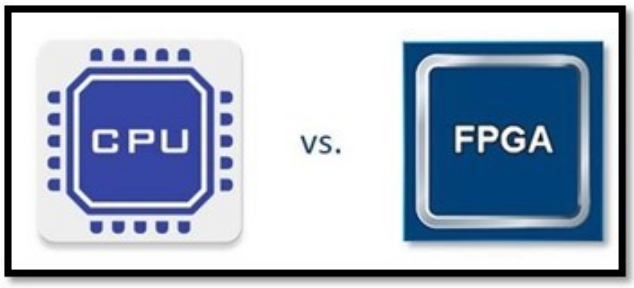


Optimal FPGA designs, leverage CPU-based Software

In many ways FPGA devices are miraculous. They bridge the gap between custom made Application Specific Integrated Circuits (ASICs) and Microprocessors (CPUs/GPUs). One testament to this fact is that all FPGAs can emulate a microprocessor in soft logic. Some FPGAs even support a built-in CPU to form a System on Chip (SoC), enabling a powerful combination of microprocessor and custom-made circuit designs in a single device.

There is a trade-off to be made when using FPGAs however. While it is easy to apply one or more large FPGAs to any circuit design, the “everything done in FPGA logic” approach is expensive, consumes extra electrical power, and the engineers that create code for an FPGA are generally paid more and a more critical resource. What’s more, many functions are very easy to achieve in a standard software environment on standard CPUs written in high level languages such as C++ and Python whereas the same function in an FPGA consumes valuable FPGA gates.

Finally, adding a new feature to an FPGA requires a full regression test of the entire build, whereas an isolated new feature in high level software is often less stringent.



AimValley is experienced in both FPGA and high-level software written in many languages.
For that reason, AimValley’s engineers can not only create the correct functionality in both environments but can also provide advice regarding the split and execute on the correct balance. This can save both time and money and preserve some flexibility for new features thanks to software releases.

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Why AimValley?

AimValley is a reliable provider of Edge technology since 2003, delivering solutions for:

- High speed data processing applications
- Complex FPGA-based accelerated systems
- High speed, low power hardware equipment
- Robust embedded software
- Early adopter of Acceleration Technology

Joint Development

Achieving your goals requires you to constantly adapt to new technologies. Based on your requirements, we design solutions and ways to jointly implement them.

Tailor-made Solutions

We collaborate with you to deliver your desired solution (complete product or only part of the development).

Fast-Track Development

Taking advantage of re-usable designs and IP enables us to develop your solution on a fast track.

Innovative Solutions

AimValley is continuously looking for alternative and optimized ways of designing high-tech products. We have an extensive patent library.

Phased Approach

Our design process is structured to successfully take your product from concept to production and flexible enough to allow you to leverage any of our services on a standalone basis.

Certification

AimValley is experienced in certifying products or systems, such as EMC/ESD, CB and CE.

Life Cycle Management

We offer life cycle management for the design and/or the product. This includes maintenance and component obsolescence management.

Quality Focus

- Outstanding track record of on-time delivery
- Best in Class Designs – Time, Budget & Quality
- ISO9001, ISO140001, Ecovadis Platinum CSR

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