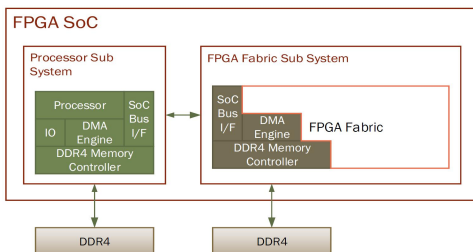




FPGA Design Services

High Performance FPGA-SoC Development

Current generation FPGA Technologies have evolved from a simple programmable look up table based fabric to complete Silicon On Chip (SoC). The synergy between FPGA design and firmware is key for a high performance design in many application scenarios. FPGA based SoCs offer a unique proposition to create highly coupled and high performance designs in a wide variety of application scenarios.



Its just not about FPGA!

With heterogeneous architectures evolving, it is important to carefully architect the total solution across CPU, GPU, and FPGA. Data transfers between different computing elements in an Heterogeneous architecture is key to attaining performance. Efficient device drivers and DMA play a big role in extracting the performance. Carefully designed and scheduled DMA, Device Drivers and FPGA RTL are key elements to a high performance.

FPGA Skills and Tools Expertise Skills

- RTL Development
- Simulation based Verification
- Validation on Target

Complexity

- High speed data path
- Complex control and state machines
- Large Designs Timing closure (400MHz)

Embedded and SoC Skills

- Device Tree generation
- Device Drivers for the FPGA functions
- Effective DMA scheduling for performance
- HW-SW Joint performance profiling and characterization
- API and library development

Verification Skill and Tools

- VCS, Modelsim
- UVM and traditional approaches
- Block and system verification

FPGAs and its Tools

- Altera, Quartus, DSP Builder
- Xilinx: ISE, Vivado design suite
- Matlab in the loop methodology for analysis