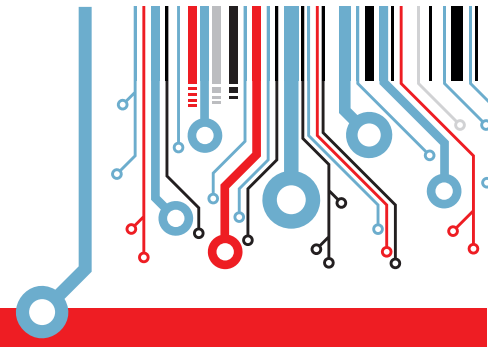




Instigate

Parallel Systems Development



Design Services Overview

SOFTWARE AND HARDWARE QUALITY ASSURANCE

- Verification of HW Fabrics – massive parallel reconfigurable device, FPGA, SoC, NoC
- Verification of EDA tools – modeling, simulation, profiling, synthesis
- QA of FPGA tool-chain
- Validation of models at various stages of flow – system level, RTL, physical netlist, test-chip
- Regression testing and automation
- GUI IDE automated testing

APPLICATION ENGINEERING

- Evaluation of the architecture programmability
- Inventing design patterns for flow control
- Creating rich function library – conversion, vector, matrix, trigonometry, filters, transforms
- Complex applications – WiFi 802.11g, WiMax, H.264 encoder/decoder
- ESL modeling of various bus architectures – AHB, AXI, OCP, UniPro
- NoC, SoC complex designs creation
- Universal deblocking processor – H.264, MPEG2, MPEG4, H.263, AVS, VC-1 video codecs

SOFTWARE AND HARDWARE DESIGN

- ESL/EDA tools (clock/bit accurate simulators, profilers, modeling environments)
- Modeling of SoCs (SystemC/TLM2), virtual platform prototyping
- IDEs for customer specific proprietary architectures
- GUI cockpit for multi-core architecture
- Compilers for EDA specific proprietary languages

EMBEDDED/AUTOMOTIVE/MOBILE PROGRAMMING

- OS/Driver development and porting
- Multiple OS/Kernel support (Linux, iOS, ...)
- Multiple Framework support (Android, COCOA, ...)
- Touch-screen interface, 10-foot Interface
- Audio/Video Coding - H.264, VP8, MPEG, VC-1, H.263, AVS
- Image Processing – HDR, SuperResolution, BlurFilter, Format Converters
- Networking and Communication – WiFi, LTE, UniPro, AHB, AXI, AWGN and Multipath channels
- Digital Signal Processing – Filters, Transformations, Coding, Scaling

SOFTWARE ACCELERATION AND PARALLELIZATION

- Application profiling and parallelization
- NUMA specific optimizations for multi-core systems
- Acceleration using NVIDIA and ATI GPGPU cards
- Hardware acceleration (FPGA/ASIC)

INSTIGATE ADVANTAGE

- Large, well trained team
- Existing, proven IP, using advanced application frameworks
- Understanding of Hardware and System Level aspects
- Close to HW programming
- Modeling of parallel systems, “not yet available” platforms
- Development of massive parallel algorithms
- Experience with modern GPGPU and Coarse Grain Reconfigurable devices

