Comm Logic Design, Inc.

FPGA / HW ENGINEERING / µCODE / SW ENGINEERING

FPGA & Board Design

Hardware & Embedded Processor Design

Comm Logic Design has established a reputation as a small highly focused team exploring and co-architecting innovative, unique and effective system solutions with our clients. Providing expert FPGA, hardware, microcode and software design services, we focus on applications in networking and communications.

Co-Architecting
System Solutions

*We provide concept-to-production expertise including:*

- *Detailed functional specifications as living documents*
- *Simulation-based systems design methodology*
- *Design-for-visibility integration and test methodology*
- *Focus on diagnostics and performance characterization*
- *Comprehensive on-site support, training and design transfer*

Network Processor System Design:

System solutions using Network Processors and FPGAs integrating network search engines, TCAMs, classification coprocessors, security processors and custom coprocessing engines. Originating with the alpha IXP1200, our extensive NPU systems and microcode expertise encompasses the entire Intel NPU family. We have a growing library of reusable software, IXP NPU family microcode and FPGA IP cores that can be licensed or customized for your application.

Embedded Processor System Design:

Solutions using FPGA-integrated embedded processors include embedded network processor, flexible sandbox prototyping, control plane and data-path assist subsystems.
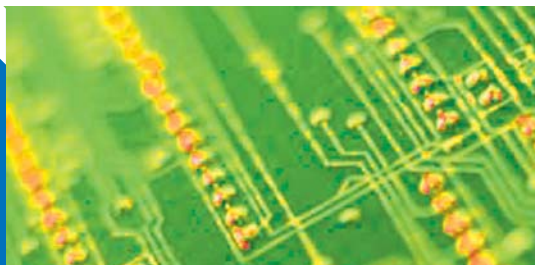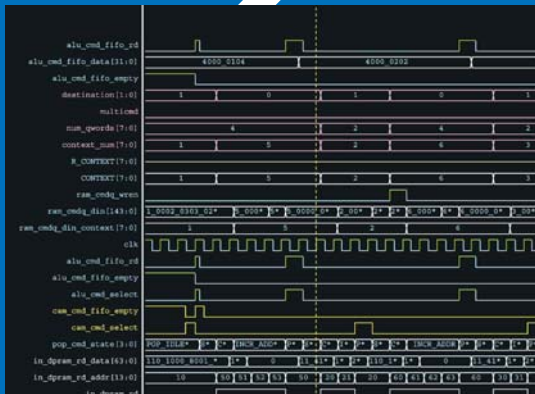
www.commlogicdesign.com

FPGA Design Services

"Right-Sizing" the project development effort
- Optimize time-to-market, cost and quality pressures

"Right-Sizing" the documentation effort
- Provide detailed FPGA, board and system specifications
- Extensive RTL comments in complex design areas

"Right-Sizing" the design effort
- Architect system and FPGA designs to meet client's design challenge
- RTL coding in a self-documenting, clear and intuitive style
- Support software and system integration teams with built-in diagnostic, analysis and system visibility tools

"Right-Sizing" the implementation effort
- Leveraging and integrating IP cores
- Structured approach using best-in-class tools
- Structured constraints methodology
- Physical synthesis to amplify design

"Right-Sizing" the verification effort
- Complete in-system RTL simulations
- Regression testing and test bench coverage
- Built-in Integrated Logic Analysis

"Right-Sizing" the support effort
- Expert team support during system integration
- Comprehensive support and training to ensure a complete design transfer

Comm Logic Design's target application areas include:

- **Networking and Communications**
- **Network Processors**
- **Network Security**
- **Network Protocols**
- **Classification and Network Search Engines**
- **Embedded Processor Subsystems**
- **QDR, DDR, TCAM and Custom Memory Controllers**
- **Data Storage**

FPGA Design Methodology:

Our FPGA design methodology encompasses a simulation and verification based approach. We integrate our RTL designs with bus functional models, embedded processor models and test suites to provide a comprehensive system test environment. We routinely build system models integrating our FPGA designs with surrounding system components including software simulators and transactors.

FPGA Embedded Processor Design Services:

- Hard / Soft core embedded processor subsystems
- Custom processor accelerators
- Peripheral core development and integration
- Multi-processor integration and communication
- Linux implementations for embedded and control plane environments
- Flexible sandbox prototyping, control plane, data-path assist, diagnostics, statistics applications

Hardware / Board Design Services:

Comm Logic's engineers have delivered many board designs utilizing state-of-the-art processors, network processors, ternary content addressable memories (TCAM), co-processors, and memory systems.

With a specific emphasis on high-speed digital design, we work closely with our partners leveraging signal integrity and static timing analysis tools to provide rules driven schematics for PCB layout services.

PARTNERS

Xperts

Synplicity — Simply Better Results

ACAP — Altera Consultants Alliance Program

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