



# FIDUS SYSTEMS

Electronic Product Development and Consulting Services

## CORPORATE OVERVIEW

v1.2

March 2015



# Facts



- Established in 2001
- Solutions for high speed, high complexity systems
- Industries
  - Communications, Semiconductor, Computing/Storage, Video/Broadcast, Defense & Aerospace, Industrial & Medical, Consumer, Government
- Design Center locations: 3 (Ottawa, Waterloo, San Jose)
- Clients: 300+
- Projects: 1000+
- Xilinx® Premier Design Services member (inaugural N. American)



# Identity

## Mission

To **transform** innovative ideas into **great products**

## Guiding Principles

Trustworthy | Intellectual Excellence | Hospitable |  
Fit & Healthy | Creative | Persistence |  
Contagious Enthusiasm | Elegant Simplicity

# Leadership



“Fidus is dedicated to developing long-term relationships with clients built on integrity, quality and open communications.”

- Michael Wakim, President/CEO



# Services

- **Electronic Product Development**
  - Turnkey electronic design from concept to prototype to production
  - Hardware, FPGA, Signal Integrity, Embedded Software and Mechanical design expertise
  - Onsite assistance models available for all skillsets
- **Consulting Services**
  - Signal Integrity/Power Integrity
    - Fidus maintains a full-time, dedicated, world-class SI and PI team
  - FPGA Timing Closure
    - As a Xilinx Premier Design Services member, Fidus is uniquely positioned and trained to solve the most sophisticated FPGA design challenges

# Capabilities

- Hardware

- Architecture and board design (analog, digital, power, 28Gbps rates)
- PCB Layout capabilities from 2 to 40+ layers, including rigid, flex, and rigid-flex
- Wireless experience beyond 26GHz
- Sophisticated board bring-up and debug with the latest lab equipment

- FPGA

- Xilinx Premier Design Services member
- Experience with CPLDs and Xilinx's 2000T, Zynq®, and everything in between
- Transceivers: GTP, GTX, GTH and GTZ
- Experience with other programmable logic devices as well
- Signal processing including software defined radio, vision, radar
- IP core integration



ALLIANCE PROGRAM  
PREMIER MEMBER



Electronic Product Development

# Capabilities cont

- **Signal Integrity**

- Full-time, dedicated, world-class Signal Integrity team
- Pre- and post-route simulations culminating in practical advice and solutions
- Expert simulation and interpretation at 28Gbps and above
- Expert simulation for multi-drop memory buses such as DDR3 and DDR4
- Layer stack generation; offering optimal yet cost aware solutions

- **Embedded Software**

- Expertise focuses on ARM® and embedded Linux
- Experience with PowerPC, MIPS, x86
- Zynq® designs including AMP (Asymmetric Multi Processing)
- Board support packages, device drivers, bring-up and debug
- Support for User Interface (UI) and low-level applications



Electronic Product Development

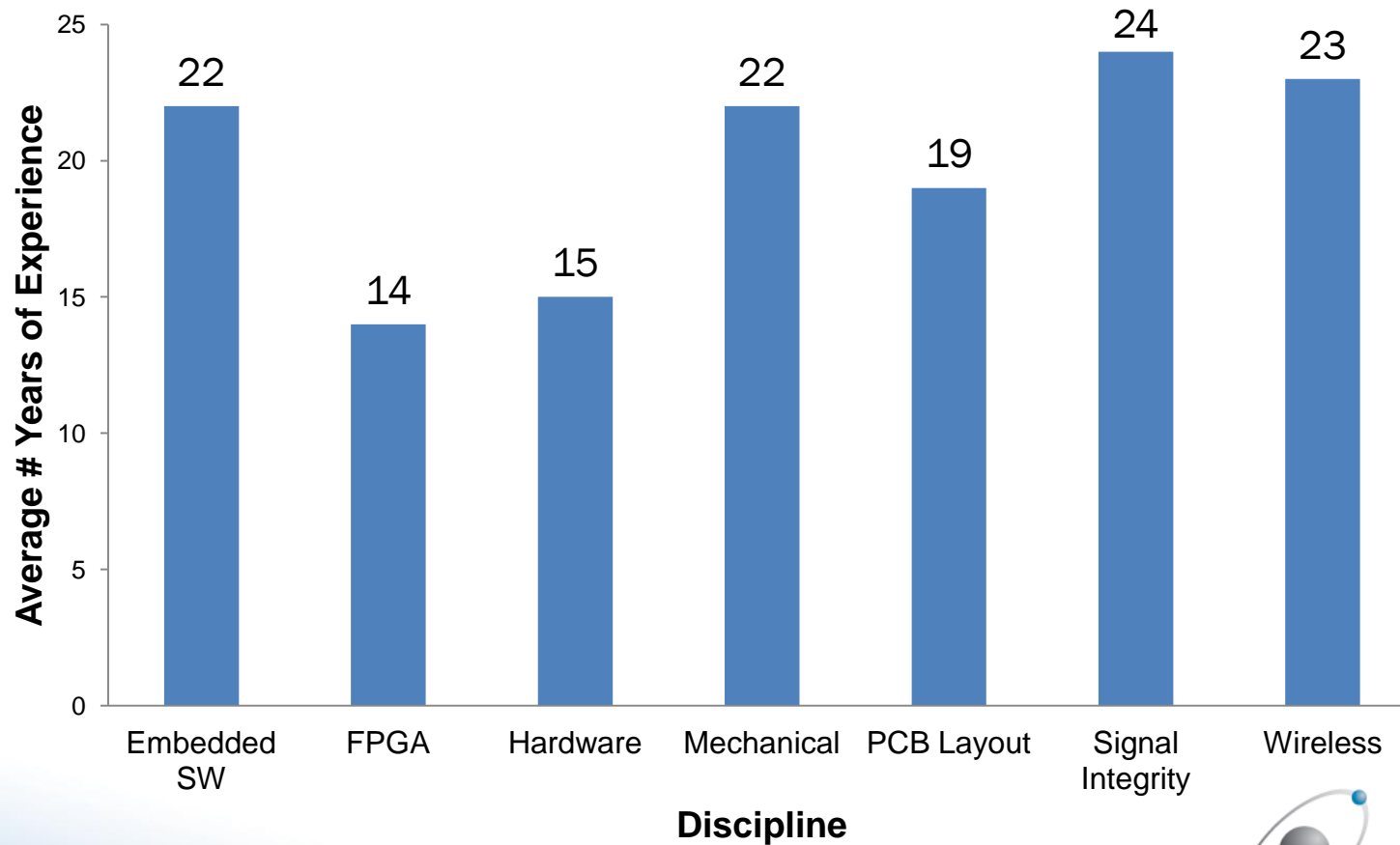
# Capabilities cont

- **Mechanical**

- Completes Fidus' capabilities offering a full service electronic design firm
- 3D modeling, design, and prototyping
- Custom RF shield solutions working with the Signal Integrity team
- Thermal solutions
  - chassis and board level simulation and solutions
  - conductive and convective environments
- Finite Element Analysis (FEA)
- Experience with all common materials (steel, aluminum, plastics, etc)



# Experts



# Business Models

- **Time and Materials** | hourly-based billing
  - Get started quickly on straightforward programs
  - Program is research-based
  - Program requires further development to accurately capture project definition
  - The most flexible business model
- **Fixed Price** | deliverable-based billing
  - The program is well defined and understood
  - Your budget system requires defined effort for defined deliverables

# Xilinx® Premier Design Services

- In 2011, Fidus accepted Xilinx's invitation, passed an extensive audit, and became Xilinx's inaugural North American Premier Design Services member
- Fidus works and trains closely with Xilinx. This means that Fidus always has the latest knowledge of Xilinx's technologies and methodologies.
- When and if challenges arise, Fidus receives enhanced factory support from Xilinx
- Fidus has expertise working with all of Xilinx's families, but these days we focus on:
  - 6-series (Spartan®, Virtex®)
  - 7-series (Artix®, Kintex®, Virtex®, and Zynq®)
  - UltraScale™ coming soon...



# Xilinx – Really, really advanced expertise

- Fidus goes way beyond the everyday Xilinx tools, bringing high value expertise in:
  - High Level Synthesis (HLS): Xilinx’s ‘C-to-gates’ flow for porting algorithms from C to RTL
  - Partial Reconfiguration (PR): The ultimate in flexibility while avoiding system down time
  - Isolation Design Flow (IDF): A robust solution for achieving redundancy or isolation within a single FPGA
  - Zynq® AMP: Asymmetric Multi Processing by running a different OS on each Zynq® ARM® A9, or running an OS on CPU0 (e.g. Linux) and no-OS on CPU1 (i.e. Bare Metal)
  - 2000T ASIC emulation
- FMC designs that are Xilinx development kit compatible
- 7-Series IP integration
  - JESD204B, PCIe Gen3, MIPI, Aurora, DDR3, transceivers (GTX/GTH/GTZ), Interlaken, MicroBlaze, etc...
- UltraScale™ Early Access adopter

# Tools

## Hardware

- Cadence® OrCAD (Capture CIS), Design Entry HDL, Mentor Graphics® DxDesigner®, Altium Designer®, Cadence® PSpice®, Linear Technology LTspice®

## FPGA

- Xilinx (Vivado™, Vivado™ HLS, PlanAhead™, ISE®, MicroBlaze™, PicoBlaze™, EDK/SDK),
- Mentor Graphics® Questa® , NC-Sim, Verilog-XL, Synplify Pro®, Synopsys Design Compiler®

## Signal Integrity

- Cadence® Allegro PCB SI, ANSYS HFSS™, Synopsys HSPICE®, Mentor Graphics® HyperLynx®

## Wireless

- Agilent ADS, Agilent Network Analyzer, Agilent Vector RF/Signal Generator, Agilent PXA Signal Analyzer, Agilent Digital Signal Analyzer, Signal Generators, Spectrum Analyzers

## PCB Layout

- Cadence® Allegro PCB Design XL/OrCAD® Layout, Altium PCAD®/Protel®, Mentor Graphics® PADS®

## Embedded Software

- Keil µVision™, IAR Embedded Workbench®, Freescale Code Warrior™

## Mechanical

- SolidWorks®, SolidWorks® Simulation, SolidWorks® CircuitWorks™, Autodesk Inventor®



Electronic Product Development

# Partners and Associations



# Contact Us



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