

Powerful, yet complex



Xilinx®'s Zynq UltraScale+ is one hell of a chip - APUs, RPU, GPU, MACs, FPGA fabric, and a ton of other features. It is a powerful, highly flexible device that is the absolute right solution for a wide variety of applications and market. But as a wise engineer once said, "with great power comes greater complexity". This document will help open your eyes to the skills and experience needed to get your Zynq UltraScale+ based product to market fast and *why Fidus should be your choice for success.*

To be successful with Zynq UltraScale+. You must...

- **Afford time to learn.** Zynq UltraScale+ is well designed and documented but beware of the plethora of documents to be read and understood. The Technical Reference Manual alone is over 1100 pages! Can you afford the time to learn?
- **Ability to quickly form a highly talented, multi-disciplinary team of experts.** Key designers required: Embedded Software, Application Software, FPGA, Hardware, PCB Layout, and Signal Integrity. Don't approach these designs with a software or FPGA bias— it's dangerous— it must be balanced: software gurus and FPGA gurus battling to the best design.
- **Make the right System-level decisions.** What functions should be assigned to the Processing System (PS) and which must be assigned to the Programmable Logic fabric (PL)? How do these two entities exchange information efficiently?
- **Select the correct Zynq UltraScale+ family member for the job.** What hard functions do I need? How much FPGA fabric will tasks consume? What about DDR4 bandwidth? Power dissipation? Design limitations? Cost implications?
- **Know the Tools.** With Zynq UltraScale+, it's no longer just Vivado, or even just Xilinx tools, you're also using a myriad of other software development tools and processes. Being a tool expert is often the difference between achieving gratifying revenue, or a late launch, a missed window, and a lost customer.
- **Have a properly equipped lab.** Your design is back from manufacturing. Bringing up a Zynq UltraScale+ design is akin to bringing up a complex multi-core Processor alongside an FPGA. You'll need: Intelligent test loads, scopes, debuggers, supplies, high accuracy meters, and perhaps spectrum analyzers, VNAs, and a thermal chamber.

Fidus checks all the boxes...

Key Element	Fidus	Fidus Fact
Afford time to learn	✓	By delivering ~20 Zynq UltraScale+ designs per year, there's a lot more doing than learning! Fidus also takes pride in transferring our knowledge.
A highly talented, multi-disciplinary team	✓	Fidus is staffed with <u>full-time experts</u> in Software, FPGA, Hardware, PCB Layout, and Signal Integrity design. The team is quickly formed, talented, and proven cohesive.
Make the right System-level decisions	✓	With Fidus's design experts and Zynq UltraScale+ experience, most System-level decisions become automatic.
Select the right Zynq UltraScale+	✓	Fidus's Zynq UltraScale+ development process ensures that the device is selected and sized appropriately. We'll meet your cost and functionality targets, and if it's just not possible we'll explain why and propose solutions.
Know the Tools	✓	As a Xilinx Alliance Premier Design Services Member, Fidus often trains alongside Xilinx's own FAEs. This means we have very early exposure to the tools and detailed knowledge of tips and tricks.
Have a properly equipped lab	✓	When you bring-up as many Zynq UltraScale+ designs as Fidus does, the lab set-up is not a question of "what do we need" or "how do we do that", it's about gathering the test equipment we already know we need.

The proof is in our designs



Sidewinder™ featuring

- Zynq US+ ZU19EG, 1760pkg
- PCIe Host Connector Gen3
- 100Gbps QSFP Cages
- M.2 SSD Connectors
- 8643 NVMe connectors
- DDR4 (PS 16GB, PL 16GB)

Applications include

- Storage Acceleration
- Compute Acceleration
- Generic development



Mantys™ featuring

- Zynq US+ ZU19EG, -3 speed
- FMC+ Port (32Gbps)
- Samtec® FireFly's (32Gbps)
- USB3.0 SuperSpeed Port
- SecureDigital Port
- DDR4 (PS 16GB)

Applications include

- ASIC IP development
- Software Defined Radio dev
- Synopsys® HAPS Daughterboard

Due to Customer Confidentiality we can't show you photos of these cool desktop devices!

Video Streamers, featuring

- Zynq US+ EV devices
- HDMI4K, 12G-SDI Interfaces
- GigE Port, USB3.0 SuperSpeed
- H.264/H.265 VCU
- Linux-based
- Cost sensitive consumer

Applications include

- Video Streamers
- Format Converters



ALLIANCE PROGRAM
PREMIER MEMBER

With Xilinx Premier, Fidus receives exclusive training, certification, and early-access to tools, IP, and new silicon. By invitation, Fidus was *the* inaugural Xilinx Premier Design Services member in North America. *So what does this mean?*

It means that when you hire Fidus, you know that Fidus is on the forefront of Xilinx's roadmap, experienced in the most advanced tool flows, and is top of mind within the Xilinx support network.

Fidus is an excellent choice

With top engineering talent, multiple design centers and on-site staffing options, Fidus provides highly responsive engineering teams that are an extension of your development team to successfully bring products to market faster.

Fidus is pleased to provide customers with full end-to-end development solutions or more selective targeted engagements.

Fidus has delivered more than 1500 projects for 300+ clients, from Tier-1

About Fidus

Fidus Systems, founded in 2001, specializes in leading-edge electronic product development with offices in Ottawa and Waterloo Ontario, and San Jose, California. Our hardware, software, FPGA and signal integrity teams architect, design and deliver next-generation products for clients in emerging technology markets. We build long-term relationships by consistently exceeding expectations. Visit fidus.com for more information.

Ottawa • Waterloo • San Jose

fidus.com



The Fidus name, the Fidus logo, Sidewinder-100 and Mantys are trademarks of Fidus Systems Inc.

Other registered and unregistered trademarks are the property of their respective owners.

© Copyright 2020 Fidus Systems Incorporated. All rights reserved. Information subject to change without notice.

APRIL 2020