enyx · XILINX®

nxFramework: The FPGA-based development framework for finance

INTRODUCTION

The Enyx Development Framework (nxFramework) is a hardware & software development environment designed to efficiently build and maintain ultra-low latency FPGA applications for the financial industry.

Based on 10 years of research and development, nxFramework is the foundation for all Enyx off-the-shelf solutions and provides our clients with the toolchain to manage a large portfolio of applications.

PRODUCT OVERVIEW

Who should use nxFramework?

> Skilled FPGA developers starting a new low latency project, maintaining an existing one, or looking to change platforms can immediately reduce their time-to-production

> Our solution allows for mobility from one platform to another with minimal effort and can support designs across the entire Xilinx Alveo product family

What makes nxFramework unique?

> *Standardization:* Library of 60+ IP cores for MMIO, streaming manipulation, math functions, cache & memory management

> *Simplify integration:* FPGA communication & IP core management via drivers & C/C++ libraries which support a variety of Linux distributions

> *Streamline development:* Python scripts to manage development flow from synthesis to bitstreams & includes a simulation environment

XILINX ALVEO™

Specifications:

Ultra-low latency IP cores:

> 1G/10G MAC + PCS (37 ns RTT)

> 1G/10G full TCP stack (82 ns RTT)

> 1G/10G full UDP stack (76 ns RTT)

> PCIe streaming DMA (790 ns RTT)

Platform management cores:

> QSPI Flash controller support

> I²C bus controller for SFP/QSFP communication

> Unified cross-platform BMC & platform-specific BMC support

> Configurable instantiation of DDR & QDR memory controllers

Additional elements:

> Off-the-shelf, configurable reference designs

XILINX®

Adaptable. Intelligent.

SOLUTION OVERVIEW

nxFramework is the first off-the-shelf development environment that provides the building blocks for FPGA developers to jump-start a project, future-proof their current low-latency applications and ensure compatibility across the entire Xilinx® Alveo™ product family with minimal effort.

Common financial use cases: Market data processing engine, Pre-trade risk gateway, Order execution gateway, Tick-to-trade electronic trading platform, Smart order router, Financial data distribution application

KEY FEATURES

Modular, Scalable, Unique

> Develop projects across different use cases via a modular design that is supported by a robust collection of IP cores & software libraries
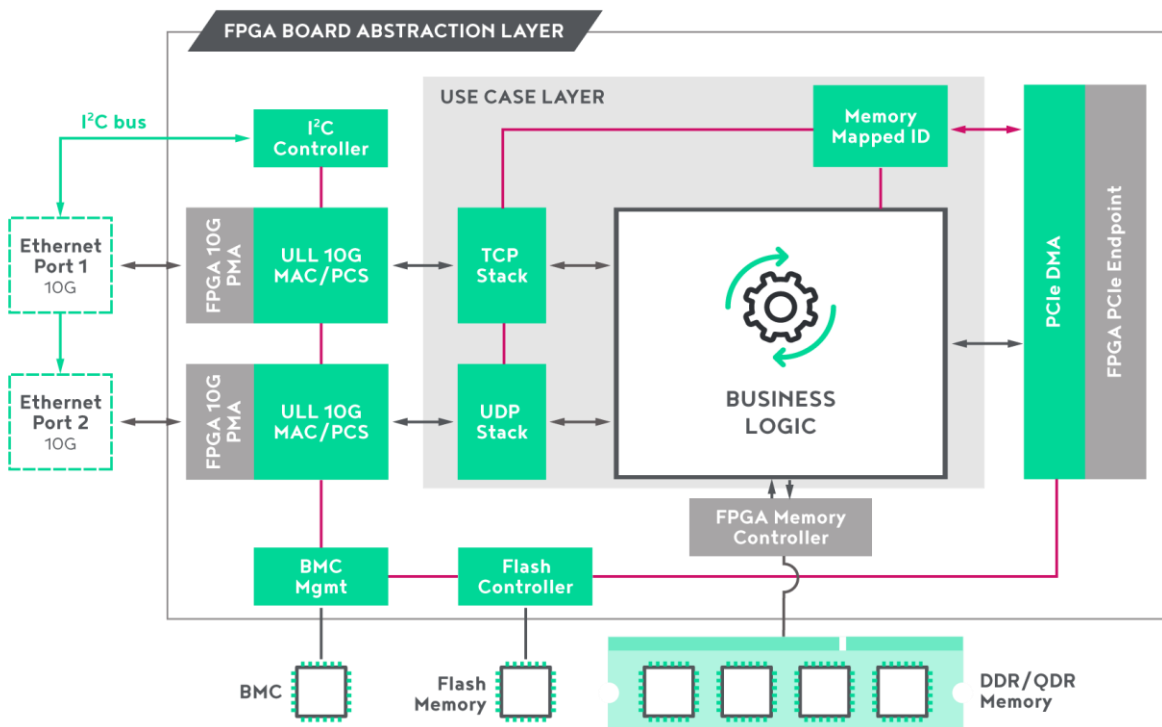
Mature technology, Proven FPGA expertise

> Take advantage of our FPGA expertise and support via regular product updates that provide performance & feature improvements.

Platform mobility: Flexible & Future-Proof

> Supported across the entire Xilinx Alveo family, nxFramework is not restrained by current or future technology updates

The Enyx Inspector: Efficient Debugging

> Equipped with a web-based GUI that can configure and monitor the FPGA at runtime, allowing for quick deployment and debug.

TAKE THE NEXT STEP

Interested? Get in touch with us at www.enyx.com/contact

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