Hacking the Packet in ASIC with an eFPGA

STAC 2022

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Achronix
Data Acceleration

Achronix Corporate Overview

- The only independent supplier of high-end FPGAs and eFPGA IP solutions
- Founded in 2004, profitable and strong financial position for IPO in 2023
- Headquarters in Santa Clara, CA

Target Markets

Cloud / Data center
AI/ML

Networking

Infrastructure

Test
& Measurement

Automotive/
ADAS

★ Financial ★
Technology

SPEEDSTER7t

- 7nm Speedster7t FPGA Shipping
- VectorPath Accelerator Card Shipping

SPEEDCORE™

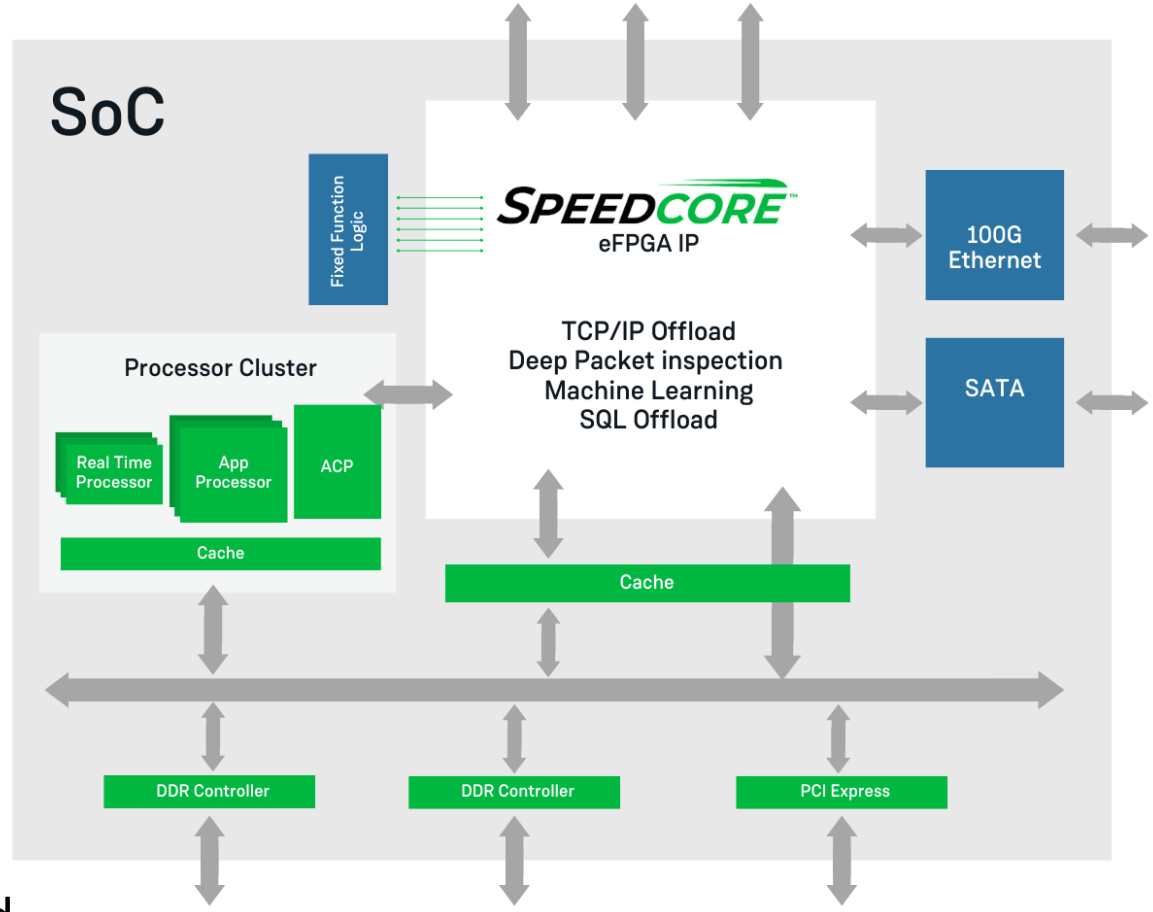
- Shipped > 15 million Speedcore eFPGA IP

ACE

- Licensed to 600 companies
- 15+years in development

Achronix Speedcore Embedded FPGA (eFPGA) IP

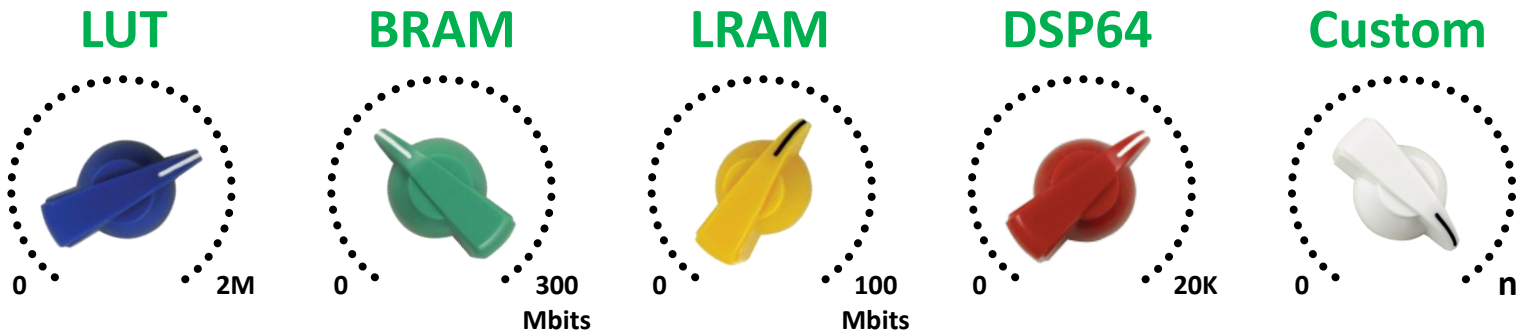
- Speedcore eFPGA IP is a customized FPGA fabric for integration into an SoC or ASIC
- Customers define the amount of FPGA resources needed for their eFPGA implementation:
  - LUTs
  - Memory
  - DSP / MLP blocks
  - 2D NoC
- Available on TSMC 16FFC, 12FFC and N7 today
  - Able to port to any node at any foundry
  - Delivered in GDSII format
  - Supported with ACE development tools
- Achronix is the only supplier that offer eFPGA IP and FPGAs with over **15M eFPGA IP cores shipped**



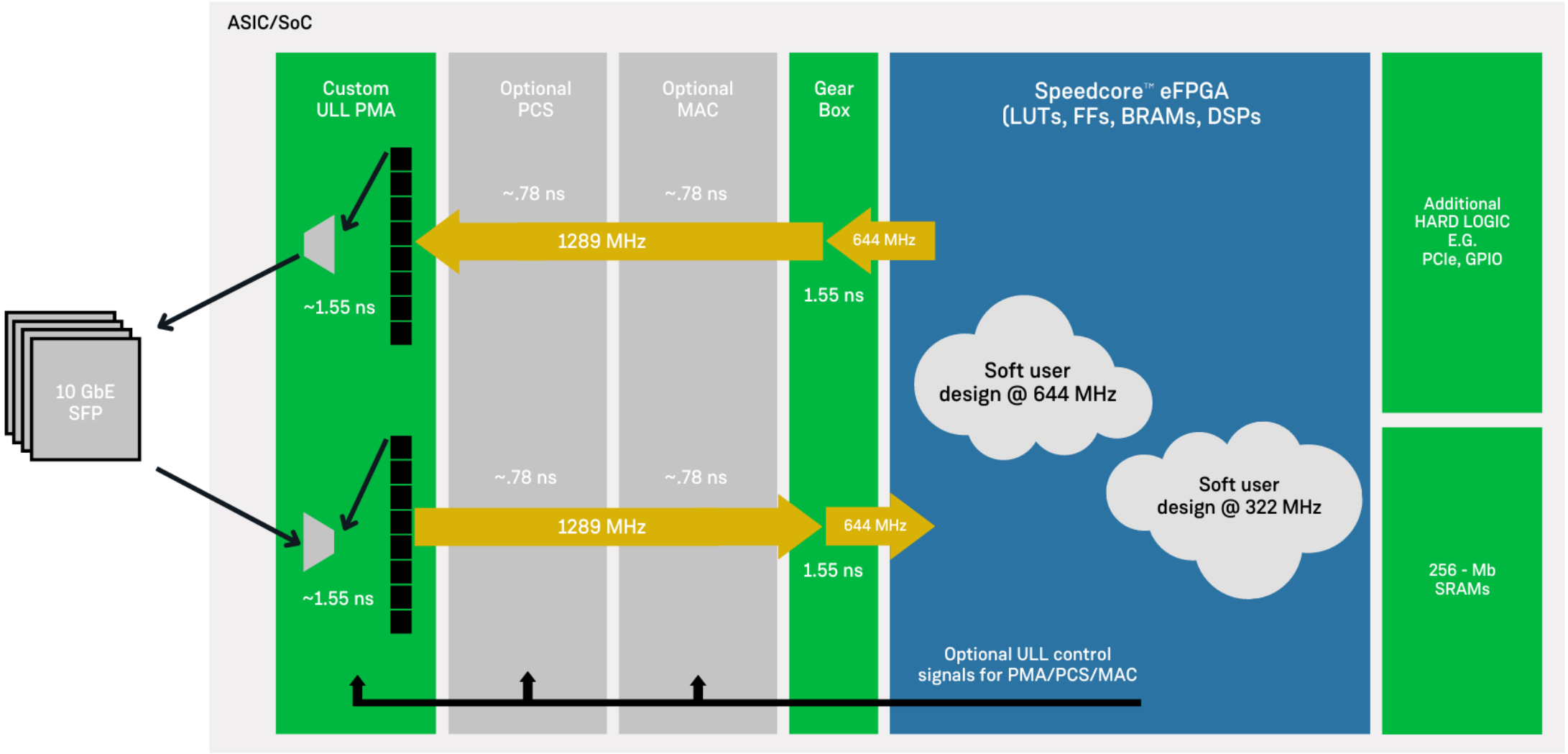
Flexible eFPGA Fabric Configuration and Sizing

- Resources are designed as building block structures that can easily be combined to build any size eFPGA
- Custom eFPGA IP resource mix is defined by the customer
- IP delivered as physically laid out transistors for efficient ASIC integration

eFPGA Layout Examples



UDP-to-TCP Latency - Under 10 ns with Ultra-Low-Latency Data Path



Not STAC benchmarks

Thank you

Let's connect

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