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Intel® Programmable Acceleration Card (PAC) with Intel Stratix® 10 SX FPGA

Introduction

This high-performance FPGA acceleration card for data centers offers both inline and lookaside acceleration. Expanding upon the Intel® FPGA Programmable Acceleration Card (PAC) portfolio, it offers inline high-speed interfaces up to 100 Gbps for video transcode and streaming analytics applications. It provides the performance and versatility of FPGA acceleration and is one of several platforms supported by the Acceleration Stack for Intel Xeon® CPUs with FPGAs. This acceleration stack provides a common developer interface for both application and accelerator function developers, and includes drivers, application programming interfaces (APIs), and an FPGA interface manager. Together with acceleration libraries and development tools, the acceleration stack saves developer's time and enables code re-use across multiple Intel FPGA platforms.

Targeted Workloads

- Streaming analytics
- Video transcoding
- Financial technology (FinTech)
- Genomics
- Artificial intelligence

Key Components and Interfaces

- Intel Stratix® 10 SX FPGA - 1SX280HN2F43E2VG device
- 32 GB DDR4 memory banks with error correction code (ECC) (4 banks, 2,400 Mbps)
- x2 quad small form factor pluggable (QSFP) with interface speeds up to 100G
- PCIe Gen3 x16 interface

Form Factor

- Standard PCIe (3/4 length, full height, dual slot)

Board Management

- Intel MAX® 10 FPGA Baseboard Management Controller (BMC)
  - Temperature and voltage readout
  - Platform Level Data Model (PLDM)
  - Intelligent Platform Management Interface (IPMI 2.0)
- Remote update of FPGA flash and BMC
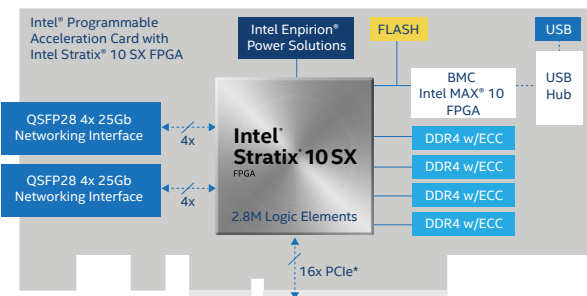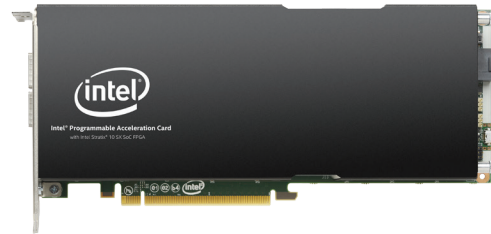
Power and Thermals

- Intel Enpirion® digital PowerSoC modules
- 225W Thermal Design Power (TDP)
- 55°C Temp Local Ambient (TLA); 650 Linear Feet per Minute (LFM)

FPGA Interface Manager

- Common developer interface for Intel FPGAs
- Dynamically reconfigure the FPGA to suit the application workload acceleration demands

Developer Tools and Libraries for Acceleration Function Developers

- Intel Quartus® Prime software and the Intel FPGA SDK for OpenCL™ Application Developers
- Open Programmable Acceleration Engine (OPAE)
- Intel-provided libraries
- Ability to co-simulate acceleration function with application

Availability

- Production programmable acceleration cards available through select original equipment manufacturers (OEMs) in 1H19
- Contact an Intel sales representative for inquiries

For More Information

- www.intel.com/stratix10sxpac