

Intel's Next Generation of Field Programmable Gate Arrays (FPGAs)

Falcon Mesa - 10 nm FPGA Product Features

New levels of performance using Intel's industry-leading 10 nm FinFET Process and Foundry Platform

Intel's next generation of field programmable gate arrays (FPGAs) will use Intel's own 10-nanometer (10 nm) chip manufacturing process technology – the world's most advanced FinFET process. Known today by the code name “Falcon Mesa,” these FPGA products will target the acceleration and compute needs in data center, wireless 5G, network function virtualization (NFV), automotive, industrial and military/aerospace applications.

Falcon Mesa 10 nm FPGAs will continue Intel's FPGA transceiver technology innovation and leadership.

- 112 Gbps serial transceiver links to support the most demanding bandwidth requirements in next-generation data center, enterprise and networking environments.
- Latest peripheral device interconnect including PCI Express Gen4 x16 support with data rates up to 16 GT/s per lane for next-generation data centers.

The new FPGA family will also build upon several innovative technologies from the current Intel® Stratix® 10 14 nm FPGA family.

- Intel's next-generation Embedded Multi-Die Interconnect Bridge (EMIB) packaging technology for continued leadership in system-in-package (SiP) integration. The second generation will be optimized for higher levels of transceiver performance alongside a monolithic FPGA fabric.
- Next-generation high bandwidth memory (HBM) support, a DRAM memory architecture that delivers 10x the performance of discrete memory solutions in a smaller form factor with lower power consumption.
- Next generation of Intel® HyperFlex™ architecture, which uses registers, called hyper-registers, throughout the FPGA, optimized for leading performance on 10 nm. The second generation of Intel HyperFlex architecture, combined with Intel® Quartus® Prime and high-level design tools, will deliver the highest in performance and productivity required for next-generation systems.

Intel will disclose more details and a timeline for product availability at a later date.

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