

Intel® FPGA Programmable Acceleration Card N3000 for Networking

Introduction

Intel® FPGA Programmable Acceleration Card N3000 (Intel FPGA PAC N3000) is a highly customizable platform which enables high-throughput, lower latency, and high-bandwidth applications. It allows the optimization of data plane performance to achieve lower costs while maintaining a high degree of flexibility. End-to-end industry-standard and open-source tool support allow users to quickly adapt to evolving workloads and industry standards. Intel is accelerating 5G and network functions virtualization (NFV) adoption for ecosystem partners, such as telecommunications equipment manufacturers (TEMs), virtual network functions (VNF) vendors, system integrators, and telcos, to bring scalable and high-performance solutions to market.

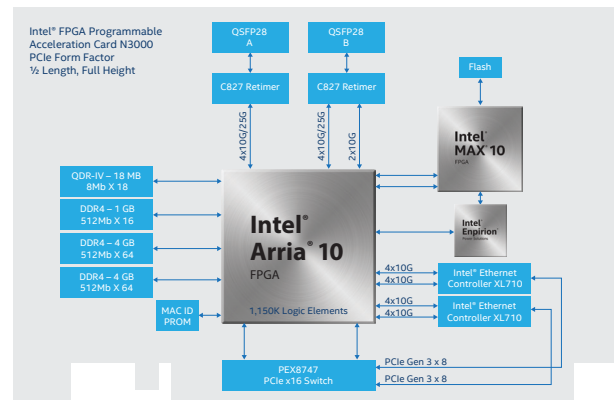


Targeted Workloads

- virtual Broadband Networking Gateway (vBNG): H-QoS, Classification, Policing, Scheduling, and Shaping
- virtualized Evolved Packet Core (vEPC), 5G Next-Generation Core Network (NGCN)
- Internet Protocol Security (IPSec)
- Segment routing for IPv6 (SRv6) vector packet processing (VPP)
- Virtual radio access network (vRAN)

Key Components and Interfaces

1. Intel-provided intellectual property (IP) cores for NFV acceleration functions:
 - a. vBNG: H-QoS, Classification, Policing, Scheduling, and Shaping
 - b. vEPC and 5G NGCN
 - c. IPSec
 - d. SRv6 VPP
 - e. vRAN
2. Development Tools
 - a. Data Plane Developer Kit (DPDK)
 - b. Open Programmable Acceleration Engine (OPAE)
3. Features
 - a. Intel Arria® 10 FPGA
 - b. High-speed network interface support
 - i. 10 Gbps
 - ii. 25 Gbps
 - c. High-bandwidth, low-latency memory support
 - i. 9 GB DDR4
 - ii. 144 Mb QDR-IV
 - d. High-speed host interface : PCIe* Gen 3x16



- e. Dual Intel Ethernet Converged Network Adapter XL710
 - i. Built on more than 35 years of continuous Ethernet innovations, the Intel Ethernet 700 Series delivers networking performance across a wide range of network port speeds through intelligent offloads, sophisticated packet processing, and quality open source drivers.
4. Board Management
 - a. Intel MAX® 10 FPGA Baseboard Management Controller (BMC)
 - i. Temperature and voltage readout
 - ii. Platform Level Data Model (PLDM)
 - iii. Remote update of FPGA flash memory and BMC

Form Factor

- Full height, half length

Power Management

- Intel® Eniprion® Power Solutions
 - Low-noise and high-efficiency voltage regulators

For More Information

- Visit the [Intel FPGA NFV web page](#)