



Inventec FPGA IPU C5020X

Infrastructure Processing Units for Next-Gen Workloads

Highlights

- **FPGA-based IPU coupled with a Xeon-D SoC**
- **Dual 25G (SFP28) Ethernet Port**
- **PCIe Gen3 x16 Host Interface with x8 data width**



SDN



5G RAN



Edge Computing



Intel® Stratix® 10 DX FPGAs

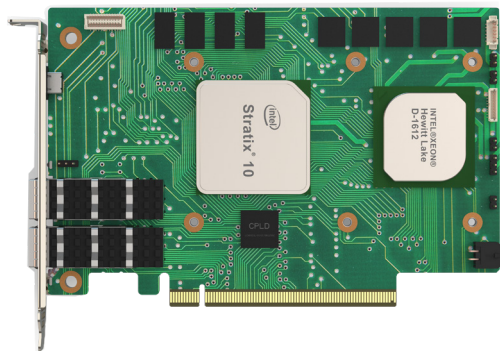
[1]<https://www.intel.com.tw/content/www/tw/zh/products/programmable/fpga/stratix-10.html>

10

In virtualization environments, general Network Interface Controller (NIC) cards can no longer satisfy the evolving needs of applications. Inventec FPGA IPU C5020X solution offers dual port 25G high speed connectivity in a full-height, half-length and single-width PCIe form factor, combining a controller that is based on Intel FPGA Stratix 10 DX, and an Intel® Xeon-D. It can be tailored to add specific acceleration applications, or even fulfill unique functions that are yet to be seen in today's architecture. Most importantly, C5020X offers flexibility that is not constrained by the existing hardware infrastructure. The programmability makes C5020X adaptable with the growth of your business, open to all the possibilities in application of network acceleration, smart security, software define storage, network function virtualization (NFV), among others.

Flexibility, Programmability, and High Performance

In C5020X, the FPGA gets its own PCIe channels, connecting to both the Intel® Xeon D and the host x86 CPU. Performance can be extracted from it if treating the NIC and the FPGA as two independent devices. The FPGA offers programmability and high performance, while the Intel® Xeon-D runs embedded Linux - new features can be added-in to either or both of them, providing great flexibility. The Inventec C5020X series is generally customizable to accelerate workloads in cloud such virtual switch and storage functions, as well as in 5G RAN, edge computing, and other software defined networks.



Inventec FPGA IPU C5020X

Model Name	Inventec FPGA IPU C5020X
Form Factor	Full Height/Half Length/Single Width Standard PCIe Card
CPU	Intel® Xeon D One DDR4 channel x8 PCIe Gen3 connect to FPGA
FPGA	Intel FPGA Stratix 10 DX Two DDR4 channels x16 PCIe Gen3 (x8 for SoC, x8 for golden finger)
Memory	16GB DDR4-2133 on board for SoC: One channel Support 72 bit (64 bit+8 bit ECC) DDR4 up to 2133 MT/s 4GB DDR4-2133 on board for FPGA: Two channels, 2GB per channel Support for DDR4 at 2133 MT/s
Storage	32GB eMMC flash
Network	Dual port 25G SFP28
Host Interface	PCIe Gen3 x16 (only x8 data width)
TPM	75W

About Inventec Data Center Solutions (Inventec EBG)

Inventec Data Center Solutions (Inventec EBG) was established in 1998 and has been focusing on the design and manufacturing of server systems in Inventec Corporation. Over decades, Inventec EBG has been the key server system supplier of the global branding clients.

Inventec Corporation (TAO)

No.88, Dazhi Rd., Taoyuan Dist., Taoyuan City 33068, Taiwan
Tel: 886-3-390-0000 Fax: 886-3-376-2370
Email: TAOproductsupport@inventec.com



Learn more at <https://ebg.inventec.com/>