



CUBRO
NETWORK VISIBILITY

CUBRO SMART NIC



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DATA SHEET

Product Highlights

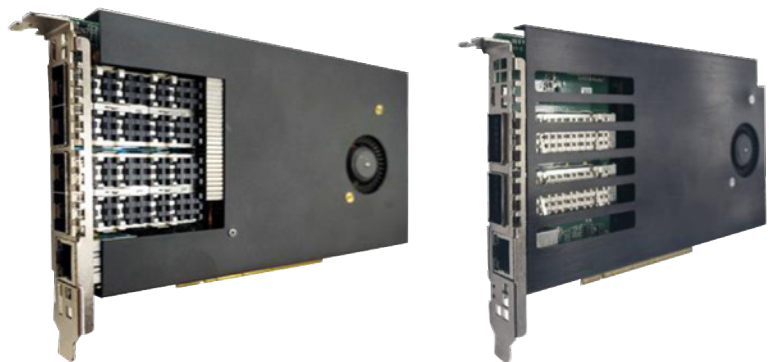
- Sessionmaster on Omnia NIC
- IPFIX and DPI on Omnia NIC
- Software UPF
- SSL/TLS deciphering to offload capture servers
- Inline Monitoring in combination with the EX400 Bypass

Product Overview

Omnia NIC is a 25GE/100GE Ethernet smart network card based on a high-performance 24 Core ARM CPU from Marvell. It supports standard PCIe*16 Gen3.0/Gen-4.0 interface and can be easily plugged into the PCIe slots of commercial data center servers.

While Cubro provides Omnia NIC hardware, it also provides Linux kernel operating systems and development kits. The customer's various DPDK applications, VPP applications and ordinary Linux driver applications originally running on the x86 server can be quickly transplanted to the Omnia smart network card with a simple compilation.

This combination of VPP, DPDK and Linux technologies provides a powerful platform for easy and rapid expansions on new or emerging business applications and hence allows cloud data center administrators to build up their highly-efficient, highly-intelligent and highly-flexible networks operations while at the same time, minimize computing resource consumption in their data center servers and optimize their overall cost of operations.



Smart NIC

Key Product Features

- 4 Ports of 25Gbps SFP28 or 2 Ports of 100Gbps QSFP28 Interfaces: with upto 100Gbps processing of network functional services
- High-performance DPU chip, up to 24-core high-performance ARM processor, integrated various hardware acceleration coprocessors (such as hardware encryption and decryption coprocessors, compression and decompression coprocessors, etc.)
- Host Software Supports: DPDK & VPP driver
- SNIC Firmware Supports: Standard Linux kernel & container environment, DPDK and VPP driver
- Large Capacity ACL & Connection Tables: support over 10 Million concurrent sessions with 64GB internal memory
- SSL Offload Acceleration: with asymmetric & symmetric crypto engines
- Dedicated OOB Port - for independent network management functions
- Cost Efficient: ~1/3 of the cost of comparative-performance FPGA-based NICs
- Rapid CI/CD Supports: with online NIC firmware upgrade through the PCIe interface









Product Specifications

Category		OMNIC-425-MAU	OMNIC-2100-MAU
Interface	Network Interface	4*25GE SFP28	2*100GE QSFP28
	Host Interface	PCIe*16 Gen3.0/Gen4.0	
	Management Interface	1*Console Micro USB, 1*GE RJ45 OOB Port	
Power & Dimension	Power Consumption	60W	
	Dimension (W*H*D,mm)	111.15mm*21.8mm*167.65mm	111.15mm*21.8mm*184.16mm
	Weight (kg)	0.8	
	Operating Temperature	0~35°C	
	Operating Humidity	10%~90%(non-condensing)	

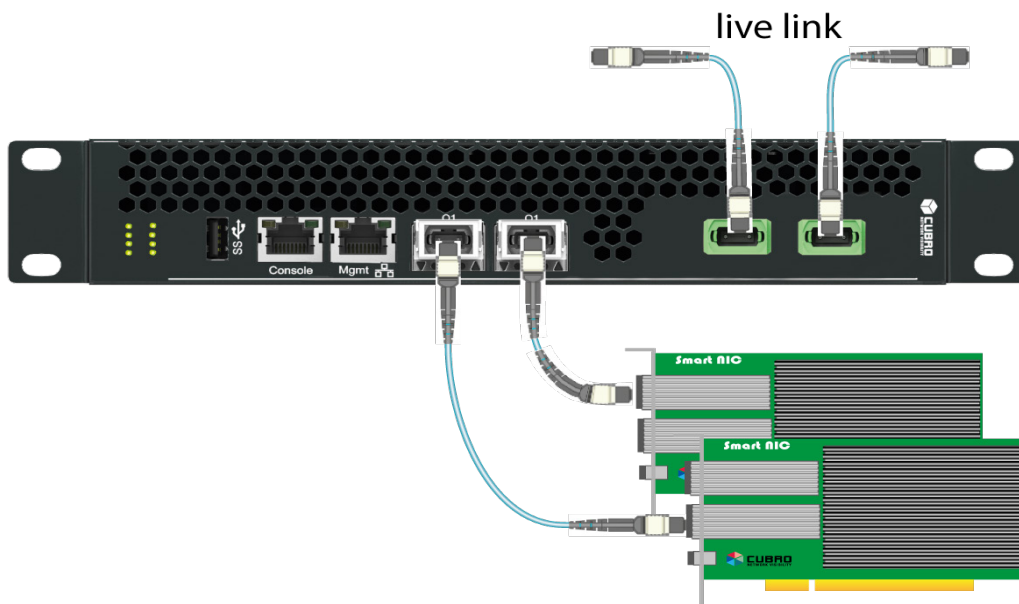
Core CPU	Architecture	DPU
	Part Number	CN96XX
	Number of Processor Cores	24
	Core Clock Frequency	1.8GHz
	Number of CPU Part	1
	Cache Capacity (MB)	L2 5MB, L3 14MB
Memory & Storage	Memory Capacity	Single memory 8GB, 16GB or 32GB, configurable up to 2
	Memory Type	DDR4 ECC SODIMM
	Memory Capacity Expansion	64GB
	Flash Storage (GB)	32GB/64GB EMMC 5.1

Application Scenarios

- For Cloud Data Center Applications
 - OVS Offload
 - OVS Offload + 3rd-Party Applications
 - VxLAN (VTEP) Offload
 - ECN/QCN/DCTCP/NVMeoF(TCP) Offload
 - Virtual NPB for VM/Container
 - Virtual Inband Network Telemetry
- For MEC & Gateway Applications
 - 5G UPF Offload
 - eBPF Offload
 - SSL Offload
 - Gateway NFV(vLB/vFW/vR) Offload
 - User-Defined ACL Rules for Enhanced Network Security

Network Services	Storage Services	Computer Services
Packet Processing SDN/NFV 	NVMe Raid/EC De-Dupe Key Value Pair  	    

Cubro provides a complete development kits support, customers can flexibly combine functions according to the actual functional requirements of their own networks to meet the deployment needs in different environments, just like people install various APPs on their mobile phones according to their own preferences.



In combination with the Cubro EX400 bypass, two Omnia NICs can be used to produce an inline 100 Gbit solution - Firewall, Analytics, traffic control application.



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Ordering Information

CUB.OMNIC-425-MAU	Omnisc 425 NIC Card 4x25G including Mobile application User plane license
CUB.OMNIC-425-CU	Omnisc 425 NIC Card 4x25G including Custos license
CUB.OMNIC-425-IF	Omnisc 425 NIC Card 4x25G including IPFIX + DPI enriched license
CUB.OMNIC-2100-MAU	Omnisc 2100 NIC Card 2x100G including Mobile application User plane license
CUB.OMNIC-2100-CU	Omnisc 2100 NIC Card 2x100G including Custos license
CUB.OMNIC-2100-IF	Omnisc 2100 NIC Card 2x100G including IPFIX + DPI enriched license