Emulex OCe14101-NM OneConnect 10Gb Single-port, 10GBASE-SR SFP+ Adapter

Kod producenta: OCe14101-NM

Architektura	10GbE
Złącze	LC (MM)
Okablowanie	MMF do 300m
Ilość portów	1
Typ złącza magistrali	PCI Express 3.0 x8
Format	Low Profile
Chipset	XE100
Technologie	SR-IOV
iSCSI HW offload	Nie
FCoE	Nie
RoCE	1.0

As the fourth generation of the Emulex OneConnect® product line, the OCe14000 family of Ethernet network adapters provides high performance 10Gb Ethernet (10GbE) and 40GbE connectivity delivering multiple benefits for the enterprise cloud, including:

- Increasing data center IT agility and scalability through deployment of a secure multi-tenant cloud
- Optimizing server hardware utilization by scaling high density virtualization
- Delivering user-controlled bandwidth partitioning across workloads and management services
- Choice of single-port, dual-port or quad-port 10GbE SFP+ or single-port 40GbE QSFP+ PCIe adapters

The OCe14000 family of 10GbE and 40GbE network adapters is designed for the high bandwidth and scalability demands of enterprise applications, more scalable virtualization with support for RDMA traffic over Converged Ethernet (RoCE), enhanced Single-Root I/O Virtualization (SR-IOV) and NIC port partitioning, and next-generation overlay network technologies that address the requirements virtual machine (VM) mobility and massive scaling of Layer 2 subnets inside private or hybrid cloud infrastructures.

Emulex Virtual Network Exceleration (VNeX™) overlay network offloads for multi-tenant cloud networking
Scaling existing technologies for private or public multi-tenant infrastructures requires networking solutions that can enable VM-to-VM communication and virtual workload migration across Layer 2 and Layer 3 boundaries without impacting connectivity or performance.

At the same time, these solutions need to ensure isolation and security for thousands or millions of tenant networks. However, with existing technology, the available 4094 VLAN IDs are insufficient to isolate/secure each tenant in a data center (private cloud) or hybrid cloud environment.

Virtual Extensible Local Area Network (VXLAN) supported by VMware and Linux, and Network Virtualization using Generic Routing Encapsulation (NVGRE) ('supported by Microsoft') are next-generation overlay networking solutions that address these requirements. These solutions are a frame-in-frame data encapsulation scheme enabling the creation of virtualized Layer 2 subnets

that can span physical L3 IP networks. Traffic from each VM is tunneled to a specific virtual network; the packets are then routed transparently over the existing physical infrastructure.

Emulex VNeX offload technology powered by a multi-core adapter ASIC engine accelerates the performance of network virtualization by preserving legacy stateless TCP offloads and scaling methods on encapsulated packets, providing full native network performance in a virtual network environment.

Remote Direct Memory Access (RDMA) Support
The OCe14000 adapters leverage RoCE enabling server to server data movement directly between application memory without any CPU involvement providing high throughput and data acceleration on a standard Ethernet fabric without the need for any specialized infrastructure or management.

Optimized host virtualization density with SR-IOV support
SR-IOV optimizes I/O for VMs, enabling higher host server virtualization ratios to deliver maximum server return on investment (ROI). SR-IOV provides a more costeffective solution than multiple, physical adapter ports. SR-IOV enables multiple VMs to directly access the OCe14000's I/O resources, thus allowing VM networking I/O to bypass the host and take a path directly between the VM and the adapter, eliminating redundant I/O processing in the hypervisor. This, in turn, allows higher I/O performance, lower CPU utilization and significantly reduced latency as compared to the alternative of software-emulated Network Interface Card (NIC) devices that are implemented in the hypervisor.

Optimized bandwidth allocation with Emulex Universal Multi-Channel port partitioning
Emulex Universal Multi-Channel (UMC) is ideal for virtualized server environments because bandwidth allocation can be optimized to support virtual machine migration, management and I/O intensive applications. UMC allows multiple Peripheral Component Interconnect (PCI) physical functions to be created on each adapter port. Each OCe14000 adapter can be configured with up to 16 functions.

Available Quad-port 10GbE SFP+
Use cases such as Content Delivery Network (CDN) and hosting providers have standardized on 10GbE and often are looking for more bandwidth per server for the services they provide.

The Emulex quad-port 10GbE model (OCe14104) delivers 40GbE full-duplex bandwidth using a single PCIe slot. An additional benefit of this configuration is utilization of existing 10GbE SFP+ switch connections versus buying new 40GbE QSFP+ switches.

Simplified management Emulex OneCommand Manager application
Emulex OneCommand Manager provides centralized management of Emulex OneConnect Converged Network Adapters (CNAs) and LightPulse® Host Bus Adapters (HBAs) throughout the data center from a single management console. The OneCommand Manager application provides a graphical user interface (GUI) and a scriptable command line user interface (CLI). OneCommand Manager for VMware is fully integrated with VMware vCenter to simplify management for virtual server deployments.

Fourth generation platform delivers enterprise-class reliability and performance
Leveraging generations of advanced, field-proven controller and adapter technology, OCe14000 adapters meet the robust interoperability and reliability requirements of enterprise and scale-out data centers.

Key benefits

- Maximizes server hardware ROI with high virtual machine density
- Simplifies deployment of secure, scalable multitenant cloud infrastructures
- Accelerates applications performance
- Quad-port 10GbE SFP+ to single-port 40GbE QSFP+ Ethernet adapters for applications requiring

40GbE full-duplex bandwidth using a single PCIe for slot constrained server platforms
- Reduces complexity through the deployment of a common network platform
- Reduces management, infrastructure and energy costs

Key features

- Superior network scalability—10GbE or 40GbE bandwidth on common software platform
- SR-IOV
- Data acceleration with RoCE support
- Powerful hardware offload for:
  - ○ Overlay networks (NVGRE and VXLAN)
  - ○ Stateless TCP n Greater bandwidth with PCIe 3.0
- VMware vSphere NetQueue with RSS support
- Microsoft Windows Server VMQ, Dynamic VMQ, RSS and vRSS support

Strona firmowa produktu:
https://www.superstorage.pl/emulex-oce14101-nm-oneconnect-10gb-single-port-10gbase-sr-sfp-adapter-p-2097.html