SOLARFLARE®

Dual-Port 10GbE SFP+ Onload Server Adapter

The Solarflare® SFN5122F dual-port 10G Ethernet SFP+ Onload server adapter delivers the industry's best application performance, lowest power consumption, and most scalable virtualization, enabling unmatched performance and scalability for enterprise data centers.

The SFN5122F is designed to address issues facing data center managers today. Equipped to handle the application loads of the latest multi-core processors, it delivers unmatched performance scaling for high-density server deployments, while utilizing a single driver across all Solarflare server adapter products. The SFN5122F supports data networking with concurrent support of iSCSI and NAS traffic – while remaining true to the need for cost effective, power-efficient and high-performance network I/O.

Application Performance Leadership

SFN5122F delivers the industry's lowest latency at the highest message rates to customers with leading edge enterprise data center deployments. SFN5122F also delivers the industry's highest message rate and lowest latency jitter, with full 40 Gbps bidirectional line-rate performance. Featuring a rich set of stateless offloads, it provides efficient acceleration of the most demanding network protocol tasks.

SFN5122F supports Solarflare's OpenOnload® application accelerator, a full-featured, high-performance user-level network stack for Linux. OpenOnload provides unprecedented performance with application compatibility and protocol compliance, bypassing kernel and networking overheads, while featuring binary compatibility with standard APIs and applications.

Scalable, Hardware-Assisted Virtualization

The SFN5122F is designed to optimize virtualized application performance and maximize the use of network resources. With 10x the number of vNICs and virtual PCIe functions than the competition, I/O performance scales as the number of CPU cores and virtual machines increase resulting in enhanced application performance supporting more applications per physical server.

The SFN5122F accelerates guest applications in leading hypervisors, supporting NetQueue and VMQ in VMware and Hyper-V, and SR-IOV in KVM and XenServer. SFN5122F relieves network I/O bottlenecks hidden in virtualized environments, allowing IT managers to allocate full network resources directly to virtualized applications. SFN5122F enables the highest performance and lowest CPU utilization in virtualized servers.

Lowest Power

At less than 5 Watts, the SFN5122F consumes less than half the power of the leading competitors' products, and delivers 5-10x the efficiency of 1G Ethernet (Gbps/Watt). This not only makes a power efficient 10G network possible, it can save thousands of dollars of operating costs for a typical data center. The SFN5122F is also compatible with the Energy Star® guideline for power consumption.

SolarflareSFN5122F

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SolarflareSFN5122F

Specifications

Product Number
SFN5122F
Dual-Port SFP+

Standards & Compliance
IEEE 802.3ae
IEEE 802.3ad
IEEE 802.1Q
IEEE 802.1p
IEEE 802.3x
RoHS Compliant

Power (typical)
SFN5122F: 4.9W

Operating Range
0º to 55º C
0 LFM, Min.

Physical Dimensions
L: 16.74 cm (6.59 in)
W: 6.89 cm (2.71 in)
End bracket height:
PCI Express standard
12 cm (4.725 in)
PCI Express low-profile
7.92 cm (3.12 in)

Advanced Features

I/O Virtualization
2048 guest OS protected vNICs; 254 Virtual Functions

PCI Express
PCIe x8 Gen 2.0 compliant @ 5.0 GT/s for full, 40 Gbps bi-directional bandwidth

10 Gigabit Ethernet
Supports high-performance 10GbE

SFP+ Support
Supports optical & copper SFP/SFP+ modules; Direct-Attach, Fiber (10G or 1G), 1G/10G combo, 1000BASE-T SFP

1000BASE-T SFP Support
Supports 1G 1000BASE-T SFP modules

Low Latency
Cut-through architecture/intelligent interrupt coalescing

Receive Side Scaling (RSS)
Distributes IPv4/IPv6 loads across CPU cores; MSI-X minimizes interrupt overhead

Hardware Offloads
LSO, LRO, GSO; IPv4/IPv6; TCP, UDP checksums

Adapter Teaming/Link Aggregation
LACP, MLAG for redundant links & increased bandwidth

Jumbo Frames
9000 byte MTU for performance

IP Flow Filtering
Hardware directs packets based on IP, TCP, UDP headers

Advanced Packet Filtering
256 multicast filters; 4096 VLANs/port; adaptive TCP/UDP/IP, MAC, VLAN, RSS, RPS, RFS filtering; Accelerated Receive Flow Steering (RFS)

Intel QuickData™
Uses host DMA engines to accelerate I/O

Remote Boot
PXE, iSCSI boot; unattended installation

Management
ACPI v3.0, SNMP, SMBus, IPMI

Virtualization Support
ESX 3.5, vSphere 4.x, 5.0; Hyper-V; XenServer 5.6, 6.0; KVM; NetQueue; VMQ; SR-IOV

Operating Systems
RHEL 5, 6; MRG; SLES 10, 11; SLERT; other Linux; Windows Server 2003, 2008, 2008R2; OS X v10.6.x, v10.7; Solaris 10 (x86)

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