Flareon Ultra SFN8522-Onload Server Adapter
Dual-Port 10GbE SFP+

The Onload™ variant of the Flareon Ultra SFN8522 Dual-Port 10GbE SFP+ Server I/O Adapter adds a suite of enabled software capabilities that provide out-of-the box support for ultra-low-latency Onload-accelerated sockets. These features make the SFN8522-Onload the ultra-low-latency Ethernet adapter of choice to deploy as a key component throughout Financial Trading infrastructures where two ports of 10GbE are required.

Accelerate

CPU-Efficient Networking

The Flareon Ultra SFN8522-Onload dual-port 10GbE Ethernet SFP+ server adapter delivers faster, more efficient processing of network traffic to accelerate a wide range of applications. The SFN8522-Onload has 8 lanes of PCIe 3.1 minimizing latency and maximizing bus throughput between the adapter and the host.

Flexibility in Operation

In a virtualized environment the adapter supports hypervisor bypass via SR-IOV providing virtualized guests with near bare-metal network performance. Onload adds the option of kernel bypass in Linux guests, providing virtualized applications the lowest possible network latency even while virtualized. Multiple physical functions are also available enabling the ports to be partitioned when connected to 802.1Q trunked switch ports with a logical interface per VLAN being presented to the operating system.*

The SFN8522-Onload Enables Licensed Features

Ultra-Low Latency

The Flareon Ultra SFN8522-Onload offers fast and efficient hardware that optimizes packet flow to and from the user application. The SFN8522-Onload unlocks unrivaled sub-microsecond latency both at Layer 2 and TCP and UDP via Onload.

Onload

Onload is Solarflare's industry's leading fully RFC-compliant kernel-bypass user-space TCP/IP stack. Unrivaled application-to-application TCP and UDP latency is available with no modification to the applications being accelerated. Applications may communicate via Onload to any other RFC-compliant TCP/IP stack with seamless interoperability.

*For more information on Solarflare Onload, visit Solarflare.com/openonload-enterpriseonload

Accelerate

Advanced Features & Benefits

Stable Precision Oscillator
- Stratum 3 compliant

I/O Virtualization
- 2048 guest OS protected vNICs; SR-IOV; 240 virtual functions;
- 16 physical functions; 16 NIC partitions

PCI Express
- PCIe 3.1 x8 @ 8.0 GT/s

SFC9240 10G Ethernet Controller
- Supports high-performance 10GbE

SFP+ Support
- Supports optical SFP+ modules including Solarflare SFM10G-SR, Direct-Attach Copper, Active Optical Cables

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

Low Latency
- Cut-through architecture/intelligent interrupt coalescing

Packet Rate
- 30Mpps TX & RX sustained line rate with all packet sizes (15Mpps per port)

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

Hardware Offloads
- TSO, LRO, GSO, IPv4/IPv6 and TCP/UDP checksums

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

Advanced Packet Filtering
- 4096 multicast filters; 4096 VLANs/port; adaptive TCP/UDP/IP, MAC, VLAN, RSS, RFS filtering; Accelerated RFS

Remote Boot
- PXE; unattended installation; UEFI; Solarflare Secure Boot

Management
- SNMP, ACPI v3.0

Overlay Network Acceleration
- VXLAN, NVGRE, GENEVE

Switching Support
- Integrated Layer 2 Ethernet switch, VEB/ Virtual switch

Virtualization Support
- VMware ESXi 5.x,6.0; Microsoft Hyper-V; Linux KVM

Operating Systems
- RHEL 6, 7, MRG; SLES 11, 12, SLERT; Debian 7.x, 8.x; Ubuntu 14.04 LTS, 14.10, 15.04; other Linux; Windows Server 2008 R2, 2012, 2012 R2

Specifications

Standards & Compliance
- IEEE802.3-2012 Ethernet Base Standard, including 802.3bx, 802.3bd, 802.3x
- 802.3ae (10 Gigabit Ethernet over fiber)
- 802.3z (1000BASE-X Gbit/s Ethernet over Fiber-Optic at 1Gbit/s (125 MB/s)
- 1000BASE-X
- 10GBASE-CR -SR -LR
- Dual SFP+ (SFF-8431 Rev 4.1) Connectors
- RoHS Compliant

Power
- 7.3W (typical)

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

Physical Dimensions
- L: 13.4 cm (5.3 in)
- W: 6.9 cm (2.7 in)
- End bracket height:
- PCI Express standard
- 12.0 cm (4.725 in)
- PCI Express low-profile
- 7.92 cm (3.12 in)

Ordering Information
- SFN8522-Onload