

10 Gigabit Ethernet Server Adapter Product Guide



Application-Intelligent Networking

Solarflare develops network interface

software and hardware to transform

the way applications use networks,

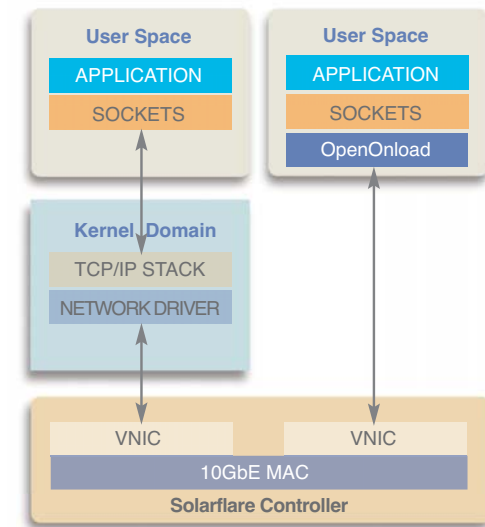
providing industry-leading application

acceleration for the most demanding

scale-out compute environments.

EnterpriseOnload® and OpenOnload® Application Acceleration Middleware Further Lowers Latency

Solarflare server adapters deliver the lowest kernel latency performance in the marketplace – across large message sizes and high message rates. EnterpriseOnload and OpenOnload user space middleware further improve this latency advantage.



Low latency requires more than just receiving data into host memory at tremendous speed. It necessitates delivering data through the network stack to the application in the shortest time possible. When combined with Solarflare's application accelerator middleware, our server adapters deliver best-in-class TCP/UDP application-to-application latencies with the lowest latency jitter at industry-leading message rates – all while providing 100% application compatibility.



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Solarflare's Leading 10GbE Server Adapter Technology

Solarflare server adapters demonstrate technology leadership by providing the highest line-rate performance and the most scalable architecture for today's demanding applications. Solarflare server adapters accelerate NFS and iSCSI storage to optimize compute clusters and virtualized servers.

Featuring kernel bypass and hypervisor bypass (SR-IOV), Solarflare server adapters alleviate I/O bottlenecks and provide network managers the ability to allocate server I/O resources directly to both physical and virtualized applications.

Data Center Applications Benefit from 10GbE

- :: High Performance Computing (HPC) requiring low latency interconnect and high-bandwidth storage
- :: High Frequency Trading – financial services requiring high message rates plus ultra-low latency and jitter
- :: Network Infrastructure for Social Networking and Big Data, accelerating Web 2.0 data access and enterprise analytics
- :: Cloud/Virtualization – enabling high VM density by accelerating network I/O directly to the guest application (SR-IOV) while maintaining full hypervisor management services
- :: NAS and iSCSI Storage requiring high bandwidth to prevent data accesses from stalling, while improving run times and backup performance

Solarflare 10GbE Server Adapter Features

- :: LSO, LRO, GSO large packet offloads
- :: TCP/UDP/IP data integrity offloads
- :: Line rate packet filtering
- :: Receive Side Scaling (RSS)
- :: Accelerated Receive Flow Steering (RFS)
- :: 256 Multicast filters
- :: Jumbo Frames (9KB)
- :: 4096 VLANs/port
- :: PXE, iSCSI boot
- :: IEEE 802.3ae – 10 Gigabit Ethernet
- :: IEEE 802.3an – 10BASE-T
- :: IEEE 802.3ad – Link Aggregation and Failover
- :: IEEE 802.1Q, 802.1p – VLAN tags, priority
- :: IEEE 802.3x – Pause



ENTERPRISE

	SFN6122F	SFN5814H	SFN5812H	SFN5802K	SFN5322F	SFN5122F	SFN5121T
Number of Ports	2	4	2	2	2	2	2
PCIe x8 Performance	5.0GT/s (Gen2*)	2x 5.0GT/s (Gen2*)	5.0GT/s (Gen2*)	5.0GT/s (Gen2*)	5.0GT/s (Gen2*)	5.0GT/s (Gen2*)	5.0GT/s (Gen2*)
Connector	SFP+	IBM Mezzanine	IBM Mezzanine	HP Mezzanine	SFP+	SFP+	RJ45
Cabling	DA, MMF	—	—	—	DA, MMF	DA, MMF	Cat 5E, 6, 6A
Power (Typ.)	5.9W	7.9W	3.9W	7.8W	5.2W	4.9W	12.9W
IEEE 1588 Support	—	—	—	—	✓	—	—
OpenOnload Support	✓	✓	✓	✓	✓	✓	✓
SR-IOV Support	✓	✓	✓	✓	—	✓	✓
Number of VFs	254	508	254	254	254	254	254
Number of vNICs	2048	4096	2048	2048	2048	2048	2048

MIDRANGE

	SFN5162F	SFN5161T	SFN5152F	SFN5151T
Number of Ports	2	2	1	1
PCIe x8 Performance	5.0GT/s (Gen2*)	5.0GT/s (Gen2*)	5.0GT/s (Gen2*)	5.0GT/s (Gen2*)
Connector	SFP+	RJ45	SFP+	RJ45
Cabling	DA, MMF	Cat 5E, 6, 6A	DA, MMF	Cat 5E, 6, 6A
Power (Typ.)	4.9W	12.9W	4.0W	7.9W
IEEE 1588 Support	—	—	—	—
OpenOnload Support	—	—	—	—
SR-IOV Support	✓	✓	✓	✓
Number of VFs	254	254	127	127
Number of vNICs	2048	2048	1024	1024

Operating Systems — RHEL 5, 6; MRG; SLES 10, 11; SLERT; other Linux; Windows Server 2003, 2008, 2008 R2; OS X v10.6.x, v10.7; Solaris 10 (x86); ESX3.5, vSphere 4.x, 5.0; Hyper-V; XenServer 5.x, 6.0; KVM; NetQueue; VMQ; SR-IOV

* PCIe Gen3 Compatible

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