

Product Brief

OpenOnload

Solarflare OpenOnload Application Acceleration Middleware

Solarflare® OpenOnload® is a Linux-based, high-performance network stack that provides acceleration of TCP and UDP-based applications. OpenOnload is ideal for applications that benefit from low latency or high-message rates, including financial services, geosciences, biosciences, weather and other HPC applications.

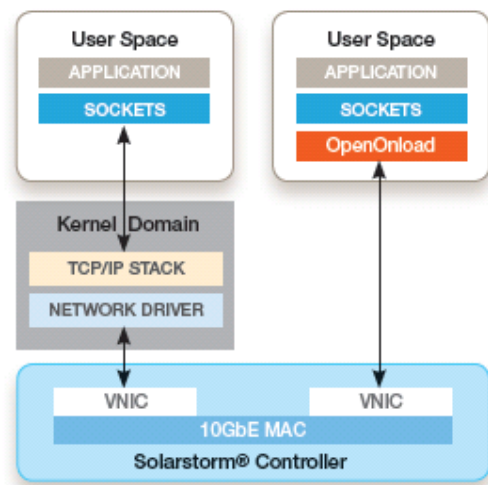
APPLICATION ACCELERATION

OpenOnload is an open-sourced network stack for Linux that was created by Solarflare. OpenOnload comprises a user-level shared library that implements the protocol stack, and a supporting kernel module. By operating in user space, OpenOnload dramatically reduces CPU interrupts, data copies and context switching, resulting in reduced latency and higher message rates.

BINARY COMPATIBLE WITH EXISTING APPLICATIONS

OpenOnload is binary compatible with the industry standard BSD Sockets API, thereby providing acceleration of TCP/UDP applications with no need to modify applications or to run a new protocol on the wire. In contrast, RDMA, iWARP, and Infiniband protocols require modifications to user applications and support for new protocols on the wire. Both the Linux kernel stack and OpenOnload can co-exist on a server, allowing different applications to be optimized for bandwidth or low-latency simultaneously. Applications can choose at run-time to run either OpenOnload or the standard Linux kernel stack.

Applications using OpenOnload typically see latency reduced to sub-4 microseconds and a 4x improvement in message rates. Equally important, OpenOnload reduces latency jitter, bringing a greater level of predictability to



message processing latency. Many applications will see performance benefit from OpenOnload, in particular applications that demand low latency or high-message rate processing, including financial services, biosciences, and geosciences.

A PERFECT MATCH FOR SOLARFLARE SERVER ADAPTERS

10G Ethernet Solarflare server adapters support contain several unique hardware optimizations that support OpenOnload such as dedicated vNICs and protected memory. By taking advantage of specialized features within the Solarflare server adapter hardware, OpenOnload delivers the lowest latency and most bounded jitter possible.