

ServerLock®



Hardware Firewalling & Security Management

Secure by Design

Providing the first and last line of defense against server attacks in the data center, ServerLock® is the industry's only integrated network protection solution that adds built-in hardware firewalling with a centralized security management policy.

Hardware Firewalling on Solarflare Adapters

ServerLock is comprised of two products – an internal hardware firewall within Solarflare's XtremeScale® family of 10/25/40/50/100GbE network adapters, and the DirectorOne™ command and control center. The combined solution allows data centers to centrally manage and execute security policies inside a tamper-resistant platform, isolating compromised servers from the rest of the data center – providing significantly more robust firewall protection than is currently possible with software-based products.



Highlights

- **Hardware enforcement with nominal latency impact.** ServerLock's hardware firewall capabilities only add 200-700ns of latency -- up to 10x faster than any firewall appliance.
- **Agentless, zero attackable surface area.** ServerLock's agentless approach means that there is no server software footprint that can be compromised by attacks or malware
- **Tamper resistant.** One-third of all breaches are done by insiders. However, if a ServerLock NIC is tampered with, it will refuse to operate.
- **Invisible to attackers.** Only production ports are visible on the network. All other server connections can be configured to provide zero information to attackers.
- **Host secured.** Attackers, even those who obtain root permission on a ServerLock-protected server bound to a ServerLock Director One controller, are unable to modify or disable ServerLock.
- **Every packet, every server.** ServerLock's distributed hardware architecture is inherently high capacity and infinitely scalable. Unlike traditional firewalls, ServerLock doesn't create data chokepoints in the data center network that impact application performance.
- **No "island-hopping".** ServerLock prevents hackers by firewalling every server, and by alerting on inappropriate access attempts.

Features

Highly Scalable and Secure

- Secured by private key, stored in tamper-resistant technology
- Integrity check for information stored in flash, including executable code and configuration data

Firmware Secured

- Firmware defined NIC can be updated in field to fix issues and add features; signed updates prevent malicious code from executing on the NIC

Command and Control Secured

- Secure command and control framework utilizing the TLS1.2 protocol
- Authentication of both sides via ECDSA with ECC secp384r1 curve
- AES communication encryption
- Ensured secure remote access, disables management via local PCIe
- Role Based Access Control (RBAC) for users

Firewall Capability

- Software configurable filtering tables
- Filter transmit/receive packets, based on layer 2, 3, and 4 header fields
- Filter for IP address (and subnets), port number, and IP/Ethernet protocols
- Support for whitelist and blacklist filters
- Supports up to 5,000 firewall filters
- Separate filtering for TCP client and TCP server apps
- Isolate a server by switching to an alternative rule set

Flow Telemetry

- New network flows are discovered and automatically reported to DirectorOne
- Supports hardware measurement of up to 1,000 flows on every NIC with secured flow telemetry reporting

Supported Configurations

- Supports VLANs and multiple adapters per server
- Supported configurations include bare-metal, containers, and virtualization
- Linux, Windows, VMWare, KVM, and Hyper-V
- Compatible with Solarflare products, including Onload®, Cloud Onload®, TCPDirect, and Precision Timing Protocol (PTP) software
- Runs on SFN8522/M and all XtremeScale NICs

Complimenting XtremeScale NICs

All Solarflare X2 series 10/25/40/50/100GbE adapters accelerate, monitor and secure the network by providing:

- Dual-Port SFP+ 10G/25GbE or single-port QSFP28 40/50/100GbE
- Latency impact of filtering adds 200-700ns
- High packet rate supported
- Bidirectional PCIe Gen 3.1 – either 8 lanes allow full 2x10Gb/s, or 16 lanes allow full 1x100Gb/s

For more information please visit:

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