SolarCapture

SolarCapture is a flexible, powerful suite of systems that enables network and application performance management, data visibility and real time monitoring. It achieves this through its high performance, software-based lossless packet and flow capture and storage platform, supporting data rates of up to 40 GbE. With its open and disaggregated architecture, available in a cloud-ready variety of server-based (SolarCapture Appliance) and software and adapter bundles (SolarCapture System), users have complete flexibility and control over the solution deployment, from real time data analysis through to feeding third party analytics and security applications. Optimized for fast data retrieval and rapid querying, SolarCapture provides a future-proof option for a range of data-intensive applications, with a unique cost model that combines maximum flexibility with minimal return on investment time.

Users and Applications

Banks and Financial Institutions, Government and Defense, Internet Service Providers, Telecommunications Operators, and Manufacturing and Retail organizations are just some of the industries that need data monitoring to fuel their business. SolarCapture is used for a range of applications with highly demanding needs for data visibility, including network troubleshooting, regulatory compliance, monitoring service level agreements, security requirements, network forensics, record keeping, and performance monitoring and tuning.

Key Performance Benefits

SolarCapture helps organizations deliver on a wide range of network performance, application visibility, monitoring and compliance requirements via a powerful combination of benefits, including:

High Performance

Lossless packet capture and persistence can be achieved at line rates of up to 40 GbE, supporting both today and tomorrow's network requirements with a future-proof approach that is cloud-ready as virtual environments continue to expand. A comprehensive range of product options means that SolarCapture infrastructure can be cost-effectively deployed anywhere needed in the network, whether as server-based turnkey hardware solutions or stand-alone capture on existing industry-standard servers, for a truly distributed capture architecture.

Flexible Deployment

SolarCapture Appliance and SolarCapture System installations, in a combination of capacities from 4 x 1 GbE to 2 x 40 GbE, can be easily and quickly deployed according to business and IT network requirements. The end result is an easy to manage, cost-optimized solution that makes the best use of rack space and provides both breadth and depth of capture to drive analytics and improve network performance.

Open Platform

With its open architecture, SolarCapture can interface with third party analytics and security applications, either locally or remotely, with streams being delivered from buffers in memory or as an uninterrupted packet stream from disk if the application cannot keep up with the capture rate. Additionally, other applications can be run alongside SolarCapture, leveraging existing infrastructure and maximizing flexibility.

Optimized Search Capability

With hardware time-stamped Ethernet packet capture, persisted storage and powerful indexing for fast data retrieval, SolarCapture enables rapid and accurate troubleshooting and network monitoring through its easy to use web-based GUI, essential for business intelligence and performance improvement.

Key Technical Features

SolarCapture combines a number of key technical features, building upon Solarflare's industry-leading software and hardware pedigree, with proven network controller chips, firmware and software, to maximize performance. These include:

- Lossless capture, focused on getting raw frames from the wire to disk without loss, with deep burst buffering
- Optimization for simultaneous packet capture and query, with data available to third party applications via either the SolarCapture Libpcap or SolarCapture C API
- Heavily optimized network capture path from multiple ports at all valid frame sizes, with hardware time-stamping of Ethernet packets for maximum precision and accuracy
- Detailed flow and conversation statistics, with flow indices created and maintained through parsing Layer 2, 3 and 4 headers, with information displayed in sortable tabular form
- Selection of query outputs from charts, tables or raw PCAP records, with error and event overlays displayed on charts
- Configurable Syslog and SNMP alerts on frame errors, frame drops, microbursts, transceiver light levels and link statistics, with alert conditions and reporting
- Management capability with start/stop capture per port, rotation of capture files and application of filters

Configuration Options

The SolarCapture Appliance options comprise a complete rack-installable server-based solution, with a range of options available according to throughput and storage requirements. The SolarCapture System options provide the SolarCapture software together with a Solarflare adapter card, for installation on existing industry-standard servers, with a range of capacity options.

SolarCapture Appliance Options

Series	Interface	Storage	Size
1000	4 x 1 GbE / 2 x 10 GbE	7.2 TB	1U
2000	2 x 10 GbE / 4 x 10 GbE	72 TB	2U
3000	4 x 10 GbE / 2 x 40 GbE	28.8 TB	2U
4000	4 x 10 GbE / 2 x 40 GbE	216 TB	4U

SolarCapture System Options

Capacities and Adapters	Reference Server Configurations*
4 x 1 GbE and the Flareon Ultra SFN7124F adapter	HP DL380 Gen9 Dell R730xd
2 x 10 GbE and the Flareon Ultra SFN7124F adapter	
2 x 10 GbE and the Flareon Ultra SFN7142Q adapter	
2 x 40 GbE and the AOE FPGA SFA7942Q adapter	

*Solarflare can work with customers to ascertain the suitability of other server infrastructure