NSFOCUS Builds a New Generation High-Performance Data-plane Processing Engine for Network Security using FD.io VPP

While enterprises are accelerating digital transformation, their IT architectures need far greater optimization to better support operations, business innovations, application deployments, hybrid work models, and more.

With increasing CPU power consumption, explosive device connectivity and high concurrent data transaction demands, traditional network security solutions struggle to meet necessary data processing needs. Cloud-based deployment and built-in data analytics features make enterprise applications even more sensitive to end-to-end processing, performance and latency. IT departments face the double-edged sword of pressure for increased network bandwidth and faster discovery and response to network security threats. With a tight economy and harsh budget pressure, enterprise IT departments are between a rock and a hard place. A fundamental change in packet processing for transport speed and security inspection is needed. This leads directly to a need for high efficiency data-plane processing.

NSFOCUS Technologies, Inc. (NSFOCUS) has closely collaborated with Intel on technology innovations, with a focus on solving key challenges of the existing security architecture and identifying the right direction for next generation solution – specifically leveraging FD.io Vector Packet Processing (VPP), NSFOCUS has independently developed a new generation of data-plane processing engine (NSFOCUS Data-plane Engine) for all network security products.
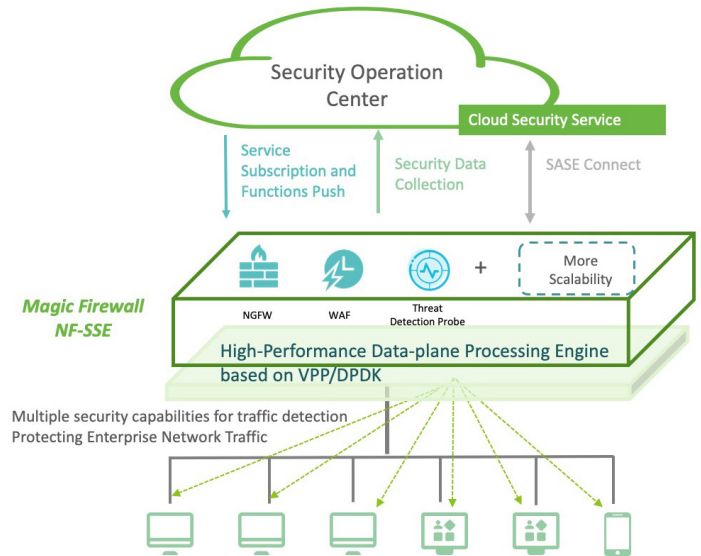
The NSFOCUS Data-Plane Engine has the following advantages:

High performance: NSFOCUS Data-plane Engine fully utilizes Intel hardware to further optimize performance. With Intel AVX2/AVX512 and other acceleration technologies, data processing performance can improve 4X-8X. Overall packet processing performance improves 100%, reaching 10 Gbps with a single core on average. Using optimized detection engine, application detection performance improves 70%. Leveraging VPP's high performance and other advantages, NSFOCUS has built a unified data processing engine which not only delivers excellent packet processing performance, but also successfully integrates with UTS, IDS and WAF security products to help improve their security performance.

Improved platform TCO and efficiency: The NSFOCUS Data-plane Engine integrates NSFOCUS proprietary Single-Node-Multiple-NUMA technology, which consolidates multiple security capabilities – previously requiring multiple appliances - onto a single security server. This consolidation saves significant operating costs across power consumption, data center space, hardware purchases and maintenance.

High scalability: NSFOCUS data-plane engine supports integrating with NSFOCUS's rich atomic security functions. Multiple atomic security functions can be automatedly combined as security service based on the template and support modularized feature enablement, which facilitates security service customization and expandability for end customers.

Based on the latest NSFOCUS Data-plane engine and other technologies, NSFOCUS has released a successful new generation edge security product: NSFOCUS Magic Firewall (NF-SSE). NF-SSE is innovatively designed with an agile architecture. It supports on-demand security services after connecting to a T-ONE CLOUD, which dynamically pushes security functions to on-premises NF-SSE devices based on a subscription model. NF-SSE offers elastic security function expandability and on-demand service model, and all security capabilities are powered by NSFOCUS atomic security functions. Enterprise customers can now invoke desired security functions - both on-demand and instantly.

NSFOCUS Data-plane Engine has been successfully integrated with NSFOCUS security products including UTS, IDPS, WAF, etc. As the processor core technology improves, the NSFOCUS Data-plane Engine and NSFOCUS security solutions and products will realize additional performance, power utilization, expandability, and reliability gains, and protect enterprise customers' data.

About NSFOCUS

Founded in April 2000, NSFOCUS Technologies Group Co., Ltd. (NSFOCUS) was headquartered in Beijing, China. NSFOCUS started trading its shares at China's Nasdaq-style market, ChiNext, in Shenzhen on January 29, 2014, with the name of NSFOCUS and the code of 300369.

With more than 50 branches, the company provides most competitive security products and solutions for governments, carriers, and financial services, energy, Internet, education, and medical sectors, ensuring customers' business continuity. The company established offices worldwide in Santa Clara US, Tokyo Japan, London UK, Singapore, and Brazil.

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