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Stormshield, CASwell Team for Branch Office Connectivity and Cyber Security

Stormshield SN-XS-Series-170 offers SD-WAN and dozens of cyber security services including VPN and firewall to organizations; solution gets performance from CASwell network appliance powered by Intel Atom® x7000E processor series

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Branch offices and small offices face unique cybersecurity challenges due to their remote location and often limited onsite IT resources. These factors make them attractive targets for malicious actors who see them as an easy entry into larger corporate networks.

Common cybersecurity threats facing branch offices include phishing attacks, ransomware, supply chain attacks, data breaches, and denial of service (DoS) attacks. Branch offices with older fixed function networks face significant challenges in maintaining cybersecurity due to slow compute and capped network throughput.

Most recent branch office cyber security systems use network function virtualization (NFV) to deliver security along with SD-WAN capability and need lot of compute and packet processing power to support both functionalities.

One company on the cutting edge of branch office networking and cyber security is Stormshield, an Intel® Industry Solution Builders' Network Builders Community member. The company has developed advanced cyber security software for branch offices that is integrated on SD-WAN architecture servers from CASwell, an Intel® Partner Alliance Titanium partner and another Industry Solution Builders' Network Builders Community member.

Stormshield Software Delivers Networking, Cyber Security

Stormshield software offers a wide range of data security functions as well as SD-WAN services. This software is integrated into a range of SD-WAN architecture server platforms to provide a secured networking solution for remote facilities of different sizes.
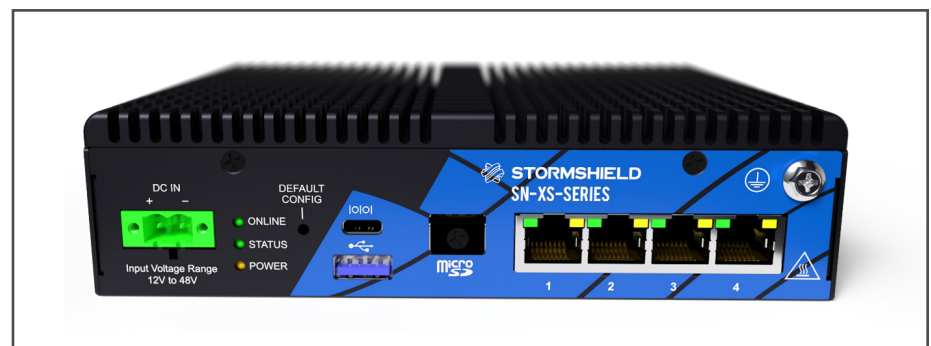
Figure 1. Front panel view of Stormshield SN-XS-Series-170.

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The SN-XS-Series-170 (Figure 1) is the latest addition to the Stormshield product line. It is designed to be an affordable solution for securing remote sites with up to 25 users and easily onboard them on a global secured SD-WAN infrastructure.

The SN-XS-Series-170 offers integrated IPsec and secure sockets layer (SSL)-based VPNs to secure data in motion between facilities. The company has built the system to achieve performance of up to 1 Gbps for the IPsec VPN and up to 200 Mbps for the SSL VPN.[1]

To protect internet connections, the SN-XS-Series-170 features a next-generation firewall with demonstrated throughput of 3 Gbps.[1]

The SN-XS-Series-170 offers dozens of other robust security functions including intrusion detection and prevention, denial of service protection, application control, antivirus, antispam, cross site scripting protection and web filtering.

The SN-XS-Series-170 also features networking functionality including carrier- and enterprise-grade layer 2 and layer 3 switching for network segmentation and WAN connection. Built-in network address translation (NAT) services simplify and extend IPv4 addressing for remote facilities.

Software Defined Network Connectivity

The SN-XS-Series-170 includes Stormshield's secured SD-WAN functionality (see Figure 2) that provides secure access to customer information resources located in either a data center or from the public cloud. Stormshield SD-WAN features automated set up of the secure connections as well as automated ongoing management of the connections to provide fast response to changing network conditions without human presence to manually react to network quality issues.

With dynamic link selection, a Stormshield-secured SD-WAN can optimize WAN connectivity through dynamic selection of the best WAN links available based on factors including security, lowest cost and lowest congestion levels. The Stormshield secured SD-WAN also offers varying levels of quality of service to ensure prioritized forwarding of selected data flows.

The SD-WAN service can be deployed alongside security functionality such as Stormshield Network Security (SNS) firewalls, a centralized Stormshield management Center (SMC) and a Stormshield Log Supervisor (SLS) solution

Compact, High-Performance Compute Platform

The hardware foundation of the SN-XS-Series-170 is the CASwell fanless desktop network appliance. This appliance measures 6.6" x 5.4" x 1.68" and is designed for branch office or small office networks.

Based on Intel Atom x7211E processor, which features power-saving Efficient-cores (E-cores) for low energy consumption along with integrated GPU functionality that provides additional processing power for deep packet inspection that is essential to cyber security.
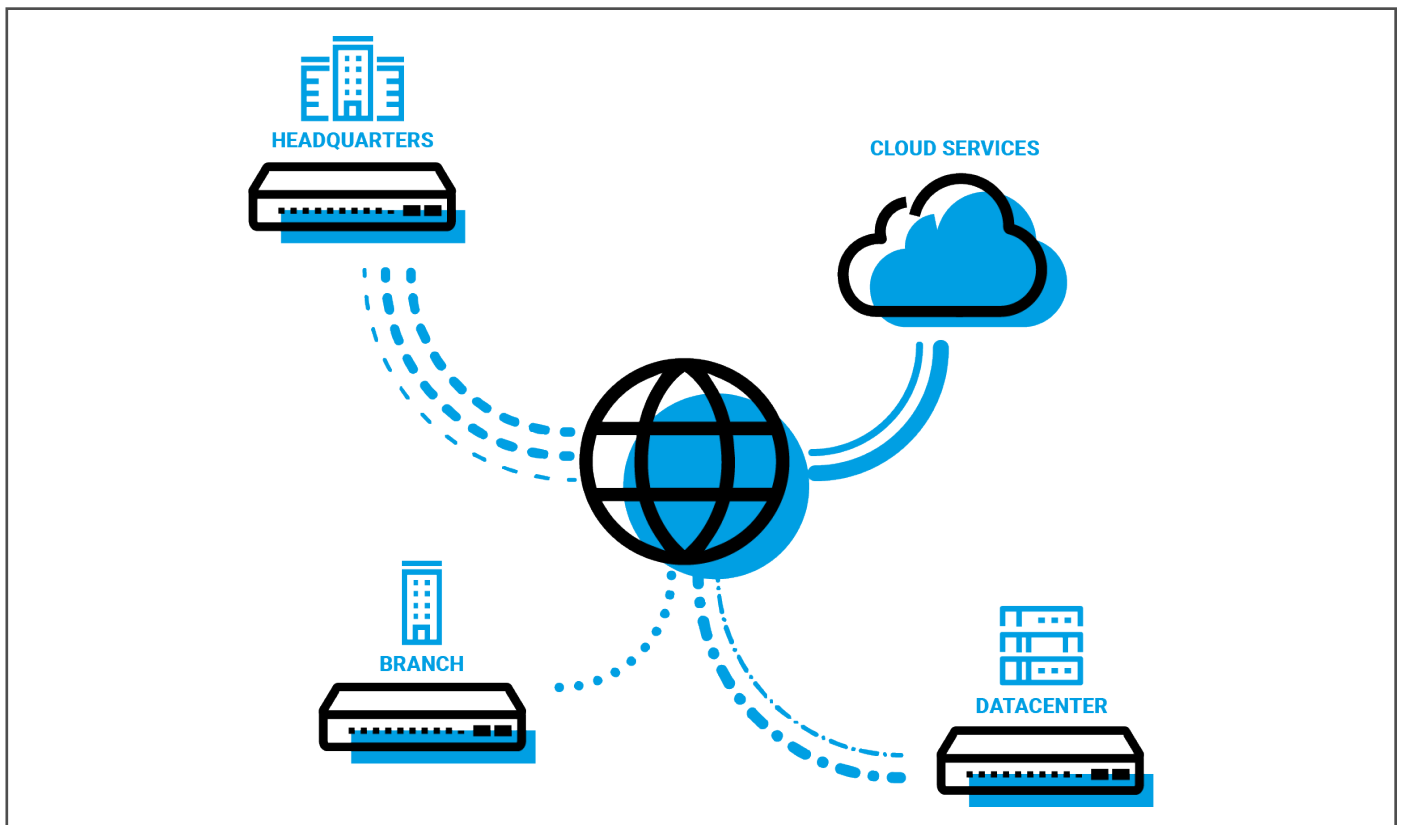
[1]Intel does not control or audit third-party data. You should consult other sources to evaluate accuracy.

Figure 2. SD-WAN services connect branch offices to data centers, headquarters and cloud services securely.

Intel Atom® x7000E processor series

The Intel Atom x7000E processor series is a three-model product family that offers either two or four Efficiency-cores (E-cores) for low power consumption of either six watts, 10 watts or 12 watts.

For performance, the Intel Atom x7000E processor series with E-cores has a clock speed ranging from 1.0 GHz to 1.7 GHz depending upon the SKU choice. The products also feature integrated Intel® UHD Graphics based on the Xe architecture with up to 24 execution units (EUs) for accelerating compute-centric cyber security functionality. The processors support Intel® AES-NI, Intel® SHA-NI, Intel® AVX2, and Intel® SSE4.2 accelerators for improved VPN and IPSec processing performance. The processors support LPDDR5 and DDR5 memory and expanded I/O connections.

Because of the integrated GPUs in the dual-core Intel Atom x7211E processor, the SN-XS-Series-170 supports light artificial intelligence (AI) workloads. The use of AI both enhances threat protection and can also improve the management and efficiency of these security solutions, with AI-driven detection and automated cyber threat management capabilities.

With four 2.5 Gigabit Ethernet ports, the SN-XS-Series-170 provides fast network connections for small office use cases. The fanless design ensures quiet operation, especially important when used inside an office workplace. The server also supports an expanded operating temperature (from -4°F to 140°F).

Even though the Intel Atom x7211E processor has a very low thermal design power of 6 watts, CASwell has developed a thermoelectric module (TEM), to better move the heat from one side of the module to the other for optimal heat dissipation. As the TEM can also be used for heating, it makes the SN-XS-Series-170 highly suitable for precise temperature control applications, while also supporting a wider temperature range during operation.

Thai Health Promotion Foundation Chooses Stormshield

The Thai Health Promotion Foundation is responsible for promoting the healthcare system throughout Thailand with a goal of ensuring the best possible care for the country's population. The organization's 250-person team was growing and that was affecting its IT services by adding more devices, applications and data. In addition, the Foundation needed to expand its branch office network to connect to doctor's offices, laboratories and to its recently opened regional offices.

To meet the new IT needs of these workers and offices, the Foundation's IT team determined it needed IPsec VPNs between its headquarters and its remote locations – both the data center and the regional offices.

After a rigorous evaluation of its functionality, attack prevention methodologies, management and associated reports, the Foundation chose Stormshield and deployed the IPsec VPN module, intrusion prevention system and access management policy functionality.

The solution was deployed on the Intel-based CASwell platform which provided high speed throughput on the IPsec VPN tunnels and handled a huge amount of internet traffic with deep packet analysis to detect threats. The solution enabled the Foundation's IT team to quickly implement security policy, including the log and report search systems.

Conclusion

Branch offices are facing new cyber security challenges and need to ensure the use of best cyber security protection available. Many offices are using fixed-function networking and cyber security appliances that are not easily upgradable which impacts performance and feature set.

The Stormshield SN-XS-Series-170 is designed to meet these needs for very small offices with up to 25 employees. Stormshield's software brings secured SD-WAN, and networking functionality combined with a wide range of cyber security services such as VPNs, firewalls, IPS/IDS, DOS protection and others. The company works with CASwell to provide a cost-effective solution, based on the Intel Atom x7000E processor series, that delivers the compute performance needed for line rate deep packet inspection.
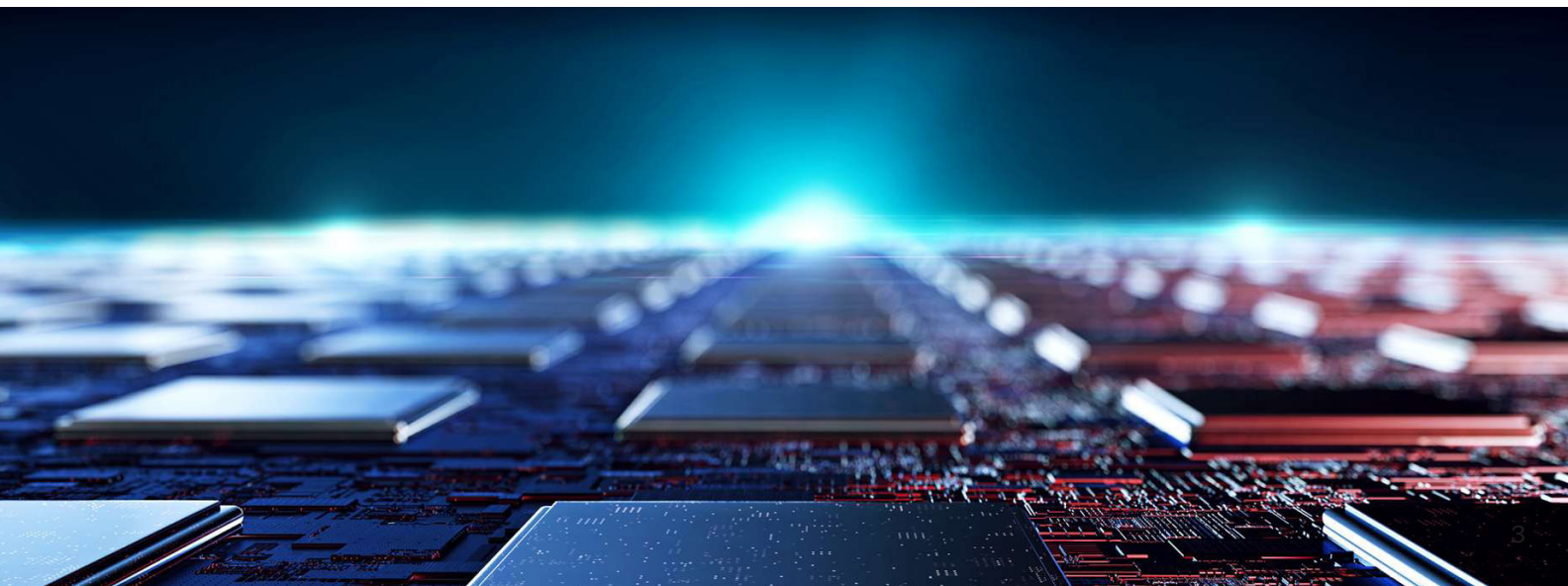
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[Case Study: How Thai Health Promotion Foundation ensures secure network exchanges](#)

[Intel Atom® x7000E processor series](#)

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