

Solution Brief

Accelerating Data Transfer Efficiency with Next Generation Cyber Security Appliance



NSA 5190 is a modular and flexible network solution

The Trend

The world goes digital. This statement is no news anymore but a way of life. We are seeing big data generated every second online in exponential volume and speed. According to the forecast, just in a few years from now the total volume of information will be more than doubled: from 75 zettabytes (ZB) in 2021 to 175ZB in 2025^[1].

Gadgets of personal use (cell phones, laptops, PCs) are hitting a record high for their storage and memory capacity, together with more cloud services available on the market. The same growing demand has been seen in the commercial sector as well, as evidenced by hybrid clouds of different scales which are being built by enterprises and institutional organizations large and small, either on their own or commissioned by service providers.

Data continuously evolve with technology. Pure analog has given way to digital signals decades ago. To transport its sheer volume nowadays is in itself a formidable task, and critical data must be shielded with another layer of security during transport. Cyber security, therefore, becomes an indispensable part before data reach the final destination, even more so nowadays when daily activities go online.

The Challenge

How to integrate a new solution into an existing legacy network infrastructure has always been a big headache for IT professionals. A painless upgrade is ideal but not always realistic. More often than not, partial downtime is necessary. As a result, organizations have only one question on their plate: whether they are ready to move further aligned with the latest tendencies or to step aside.

For those who want to stay rock-solid, it is important to find the appliance that can enable more effective and secure network management. By effectiveness here, fast transfer, analysis, store a bigger quantity of data are meant. And with proper network management tools, enhanced network security and accessibility can be provided.

NEXCOM Solution

NEXCOM proudly introduces a new appliance to enhance its cyber security product line – NSA 5190. It is a new generation 1U rackmount appliance with the newest Intel® Core™ processor and the latest PCIe 4.0 interface. NSA 5190 is a modular, flexible network solution, which will ideally fit into SD-WAN, web monitoring, load balancing, and network virtualization deployments.

12th Gen Intel® Core™ processor (former code-named, Alder Lake S) brings additional computing power to proceed with bigger volumes and heavier workloads. It became possible due to a combination of performance- and efficient-cores in a single CPU, or P cores and E cores respectively^[2]. The hybrid architecture achieves higher performance with less power consumption. The CPU also offers large caches to store data so that requests for data can be carried out faster.

Another important capability to highlight is the Intel® 600 series chipset that brings additional expansion options and value-added features. Several examples include, integrated MAC, Intel® Rapid Storage Technology, Intel® Trusted Execution Technology, and more.

Intel® Rapid Storage Technology provides enhanced data protection and

NSA 5190 features increased memory capacity and data transfer speeds

expandability. Regardless of the system operating with one or multiple hard drives, users can experience the benefits of both enhanced performance and lower power consumption. Moreover, under the condition that more than one drive is used, additional protection against data loss in the event of hard drive failure is available.

Besides new capabilities brought by the processor, when compared with previous generation appliances of the same product line there is a key advantage in memory speed and capacity. NSA 5190 supports four DDR4 2666/3200 DIMM, with a maximum memory of 128GB, which is twice its predecessor.

NSA 5190 also features an upgrade in the LAN connector interface from PCIe 3.0 to PCIe 4.0. The greatest advantage of PCIe 4 over PCIe 3 is in its speed, it doubles the per-lane bandwidth to 2 gigabytes per second and is backward and forward compatible. By adopting dedicated LAN modules, NSA 5190 proves itself as a highly configurable networking appliance.

Finally yet importantly, flexibility. With decades of RD experience, NEXCOM mastered designing scalable multi-functional appliances for different application scenarios. NSA 5190 is not an exception. The mainboard is designed with an edge connector for an add-on card. The choice of card to be installed depends on customers' requirements; it could be either FPGA, AI, or smart NIC card. Each provides its additional capabilities and serves its purpose.

Conclusion

The evolution of technologies brings new possibilities yet new challenges, and NEXCOM's newly released 1U rackmount - NSA 5190 - is ready for both. Its futureproof design, with significantly increased memory capacity, data transfer speeds, and a set of optional features, makes NSA 5190 a perfect appliance for various use cases in businesses of all scales. NSA 5190 can manage heavy workloads without wearing out the CPU and is able to proceed with big data volumes in a shorter time.

NSA 5190

1U Rackmount Appliance with 12th Gen Intel® Core™ Processor, 2 x 1GbE RJ45 ports, and 4 x LAN Module Slots

- 12th Gen Intel® Core™ processor
- PCH: R680E
- 4 x DDR4 2666/3200 non-ECC/ECC UDIMM, up to 128GB
- 1 x M.2 2280 Key M (SATA)
- 1 x TPM module
- 1 x PCIe4 x4 connector for low profile riser card
- 2 x 1GbE RJ45 ports
- 4 x LAN module slots

References

[1] IDC White Paper. Data Age 2025. Sponsored by Seagate with data from IDC Global DataSphere, November 2018: <https://www.seagate.com/files/www-content/our-story/trends/files/idc-seagate-dataage-whitepaper.pdf>

[2] 12th Gen Intel® Core™ Processor Family: <https://www.intel.com/content/www/us/en/products/docs/processors/core/12th-gen-processors.html>



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