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NA870 from Axiomtek Accelerates Deployment of Network Functions Virtualization (NFV) Workloads

NA870 is a verified Intel® Select Solutions for NFVI v3 workload-optimized server solution, based on Canonical Ubuntu, that eases interoperability and speeds deployment.

Communications service providers (CoSPs) are actively virtualizing their service platforms to gain flexibility, agility, and scale. To serve this market, Axiomtek has chosen to partner with Intel to develop and launch its NA870 as a verified Intel Select Solution for NFVI v3 system.

Virtualization offers many benefits to network services, but it can be challenging and complex to deploy. Because NA870 is based on Intel® Select Solutions for NFVI reference designs, it provides consistent performance with virtual network function (VNF) interoperability—both of which help speed deployment.

The NA870 is Axiomtek's first PCIe Gen 4.0 ready platform. Benefiting from the 3rd Gen Intel® Xeon® scalable processors, the dual-processor-based 2U rackmount network appliance provides the foundation for a powerful data center platform that creates a tremendous leap in agility, scalability, and security.

Keeping with the trend of SDN, a variety of networking appliances can be virtualized and hosted on the system, helping administrators to easily manage and deploy virtualized network functions remotely. The NA870 NFVi is designed to fulfill the demand of agile and flexible networking equipment. It comes with eight to forty powerful cores and a wide range of frequency, features, and power levels to support diverse network environments, optimizing many workload types and performance levels. It features two Gigabit Ethernet ports and eight expandable NIC modules with 1GbE/10GbE/25GbE/40GbE/100GbE/Fiber/Copper/Bypass support for a maximum of sixty-six LAN ports. Moreover, the NA870 is equipped with twenty DDR4-3200 R-DIMM slots with a memory capacity of up to 1280GB. The server-grade network appliance platform also has two hot-swappable 2.5-inch SATA HDD trays at the front of the system and two M.2 Key M 2242/2280 supporting PCIe and SATA signal for storage expansions. Two PCIe x16 slots are available for add-in riser cards. These bays offer a flexible way to custom tailor the system to meet your specific requirements.

Optimized for Virtualization

This reference design is defined in collaboration with CoSP and ecosystem partners to expose the value of an I/O balanced architecture based on a foundation of 3rd generation Intel® Xeon® Scalable processors, Intel® Ethernet 800 Series Network Adapters, Intel® QuickAssist Technology (Intel® QAT), and Intel® Optane™ persistent memory. Axiomtek's NA870 is powered by the 3rd gen Intel® Xeon® Gold 5318N processor.

Design Features

The NA870 solution contains a cloud node for network function delivery and a controller node for clustered node deployments. Together, these configurations help realize an efficient balance of function to meet many deployment needs.

Tables 1 and 2 shows system specifications for the cloud node and controller node.

Item	Ingredient
Server Name	NA870
Processor	Intel® Xeon® Platinum 8352S Processor @ 2.20GHz x 2
Memory	16 x DDR4 RDIMM-3200 32GB
Network Controller	AX93332-25FI Dual-port 25GbE (Intel® Ethernet Controller XXV710) AX93357-HFI 2X100G NIC (Intel® Ethernet Controller E810-CAM2) AX93358-HFI 2X100G (Intel® Ethernet Controller E810-CAM2)
LAN on Motherboard	2 x 1GbE (Intel® Ethernet Controller I210AT)
Storage (NVMe)	Intel® SSD DC P5510 3.84TB
Storage (SATA)	Intel® SATA Solid State Drive D3 S4510 480 GB
Intel QAT	Intel® QuickAssist Adapter 8970
Operating System	Canonical Ubuntu 20.04.1 LTS
Hypervisor	KVM

Table 1: Detailed configuration and specifications for cloud node.

Item	Ingredient
Server Name	NA870
Processor	Intel® Xeon® 5318N Processor @ 2.0 GHz x 2
Memory	16 x DDR4 RDIMM-2666 16GB
Network Controller	AX93332-25FI Dual-port 25GbE (Intel® Ethernet Controller XXV710) AX93357-HFI 2X100G NIC (Intel® Ethernet Controller E810-CAM2) AX93358-HFI 2X100G (Intel® Ethernet Controller E810-CAM2)
LAN on Motherboard	2 x 1GbE (Intel® Ethernet Controller I210AT)
Storage (NVMe)	Intel® SSD DC P5510 3.84TB
Storage (SATA)	Intel® SATA Solid State Drive D3 S4510 480 GB
Intel QAT	Intel® QuickAssist Adapter 8970
Operating System	Ubuntu 20.04.1 LTS
Hypervisor	KVM

Table 2: Detailed configuration and specifications for controller node.

Key Benefits

Virtualization is a growing service delivery paradigm that relies on high-performance standard servers like the NA870. Because it is a verified Intel Select Solution for NFVI, customers can expect additional benefits, including:

- **Faster evaluation:** The tight hardware and software specifications of Intel Select Solutions for NFVI eliminate guesswork and speed decision making. Network managers can focus their search on key value-added elements and select an optimal solution quickly.
- **Fast and easy deployment:** Intel Select Solutions for NFVI feature pre-defined settings and rigorous system-wide tuning for efficient pre-deployment testing. This helps speeds time to service delivery and network staff can have increased confidence in solution performance.
- **Workload-optimized performance:** Verified Intel Select Solutions for NFVI, like NA870, are designed by Intel and Axiomtek to deliver to a performance threshold for the workload and are built on the latest Intel architecture technology.

Conclusion

With the NA870 verified as an Intel Select Solutions for NFVI, Axiomtek is delivering a differentiated platform that can simplify and accelerate the process of selecting and deploying the hardware and software needed for today's workloads and applications. Intel Select Solutions for NFVI represent the latest technology that will accelerate the transformation of the network from end to end.

About Axiomtek

Axiomtek has experienced extraordinary growth in the past 30 years because of our people, our years of learning which resulted in our tremendous industry experience, and our desire to deliver well-rounded, easy-to-integrate solutions to our customers. These factors have influenced us to invest in a growing team of engineers including software, hardware, firmware, and application engineers. For the next few decades, our success will be determined by our ability to lead with unique technologies for AIoT and serve our key markets with innovatively-designed solution packages of hardware and software – coupled with unmatched engineering and value-added services that will help lessen the challenges faced by our systems integrator, OEM and ODM customers and prospects alike. We will continue to enlist more technology partners and increase collaborations with our growing ecosystem who are leaders in their fields. With such alliances, we will create synergy and better deliver solutions, value, and the expertise our customers need.

Learn More

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