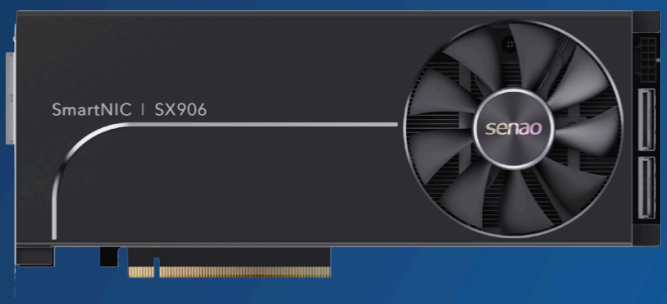
Next-Generation 100GbE SmartNIC with Intel® Xeon® 6 SoC

SX906

The SX906 brings Intel® Xeon® 6 compute and Intel® Ethernet Controller E830 together on a single PCIe card, extending the SmartNIC-as-a-Server concept for higher-bandwidth network functions. With dual 100GbE, PCIe Gen5 x 8 and up to 64 GB DDR5 ECC memory, it provides a powerful foundation for virtualized networking, security and cloud-native edge workloads.



Next-Generation SmartNIC Architecture
Combines high-performance x86 compute and Ethernet acceleration to move networking, security and infrastructure workloads closer to the network

Intel® Xeon® 6 Processor
Delivers next-generation compute capability for demanding networking, security, cloud-native and edge workloads

Intel® Ethernet Controller E830
Enables high-bandwidth Ethernet acceleration for data-intensive data center and edge networking environments

Dual 100GbE QSFP28 Interfaces
Provide high-speed connectivity for modern data center fabrics and demanding edge applications

PCIe Gen5 x 8 Host Bandwidth
Provides significantly increased host connectivity for high-volume data movement and accelerated networking workloads

High-Bandwidth DDR5 ECC Memory
Up to 64 GB four-channel DDR5-5600 ECC memory supports demanding onboard applications and high-throughput packet processing

Integrated Local Storage
Up to 128 GB eMMC provides onboard storage for operating systems, applications and platform services

Advanced Remote Management
AST2600-based OpenBMC/BIOS management enables remote monitoring, control and platform lifecycle operations

Hardware-Rooted Platform Security
TPM 2.0, AST1060 and Intel® Platform Firmware Resilience provide a strong security foundation for trusted infrastructure

High-Speed Expansion
Dual Gen5 x 8 MCIO connectors extend the platform with additional PCIe-connected functions and application-specific capabilities

Active Thermal Design
Dual-slot active cooling supports the higher performance envelope of the next-generation processor platform

Ready for Emerging Workloads
Designed for SD-WAN/SD-LAN, NGFW, UTM, ZTNA, AI edge and cloud-native security applications

Technical Specifications

SmartNIC	
Model Name	100G SmartNIC
Model Number	SX906
Processor	Intel® Xeon® 6523P-B 24C 2.5 GHz Intel® Xeon® 6553P-B 36C 2.6 GHz Intel® Xeon® 6563P-B 38C 2.4 GHz
Memory	Up to 64 GB, 4-channel DDR5-5600 ECC
Storage	Up to 128 GB eMMC
Network Interfaces	2 x 100GbE QSFP28. Up to 200 Gbps aggregate bandwidth
I/O / Management	1 x MiniDP, 1 x USB 3.0 Type-C, 1 x USB 3.0 Type-C console, 1 x 1GbE RJ45 management
Expansion / Architecture	2 x MCIO Gen5 x 8 PCIe add-in SmartNIC architecture
Management / Software	AST2600 OpenBMC/BIOS; IPMI 2.0; Redfish
Security	TPM 2.0 Secure Boot; AST1060 with Intel® PFR
Power	PCIe edge finger + PCIe AUX Power
Cooling	Dual-slot active cooling
Environmental	Operating 0–40°C; storage -40–70°C; humidity up to 85% non-condensing
Mechanical (W x D x H)	Dual Slot, FH3/4L+ 266 x 40.6 x 98.4 mm Weight: 1.0 kg
Primary Applications	Data center, cloud, network appliance, edge computing, SD-WAN/security acceleration
Host Interface	PCIe Gen5 x 8

Hardware Overview

SX906 (100G SmartNIC)

Senao Networks

Product specifications, configurations, certifications, and availability are subject to change without notice and may vary by region and customer program. Final commitments are governed by the applicable quotation, statement of work, or executed agreement.