![Senao Networks logo]

Senao Networks

High Performance Computing Solution

Empowering artificial intelligence and
cloud networking for data centers

Titanium CRPS Redundant Module

SmartNIC

2U/1U DC-MHS Server

2U/1U Rackmount
Optimized for Cloud, Edge, and HPC Workloads

Features

- Dual Intel® Xeon6 Scalable Processor Family
- 32x DDR5 5200/6400 ECC RDIMM
- Supports TPM2.0(SLB9672) with PQC-protected optimized firmware update mechanism
- Supports DC-SCM (BMC and PFR4.0)
- 2x PCIe5 OCP NIC3.0
- Up to 24x 2.5" U.2 NVMe Hot-Swappable and RAID
- Up to 8x PCIe5 Slots with CXL2.0 flexible expansion based on 2U design
- Up to 2x PCIe5 Slots with CXL2.0 flexible expansion based on 1U design
- 1+1 Redundant 80-plus Titanium Grade CRPS

Powered by Intel® Xeon® 6 Processors

High Performance: Utilizes the latest Intel® Xeon® processors, providing unmatched processing power ideal for intensive applications like high-performance computing (HPC), artificial intelligence (AI) workloads, and data analytics. The multi-core architecture ensures maximum processing efficiency and speed, meeting the demands of data-intensive applications.

Modular DC-MHS Architecture

OCP-ready design allows seamless upgrades and flexible integration with modular components, enabling rapid scaling in diverse environments. Built for data centers looking to future-proof their infrastructure with open and adaptable standards.

Enhanced Networking with PCIe Gen5 Slots and SmartNIC

Offers up to 8 PCIe Gen5 slots, including options for dual 25GbE, to enable high-speed networking and connectivity. The SR710's compatibility with Senao's SX904 SmartNIC enhances low-latency and high-throughput performance, ideal for SDN, cloud, and virtualized workloads.

Efficient Power and Cooling

80 PLUS Titanium power supplies for minimized power usage and operational costs. Advanced cooling system ensures consistent, reliable performance, even in high-density and high-temperature data centers.

Advanced Security and Management

Features secure boot, IPMI, and Redfish for robust remote management, allowing secure monitoring and configuration. Built-in security protections guard data integrity, making the SR710 suitable for sensitive, compliance-focused deployments.

Technical Specifications

Feature	SR710 Technical Specification	SR610 Technical Specification
System Front View		
Processor	Dual Intel® Xeon®6 processor E-Cores (Xeon 6700E Series): Up to 144C per CPU (330W/CPU) P-Cores (Xeon 6500P/6700P Series): Up to 86C per CPU (350W/CPU)	Dual Intel® Xeon®6 processor E-Cores (Xeon 6700E Series): Up to 144C per CPU (330W/CPU) P-Cores (Xeon 6500P/6700P Series): Up to 86C per CPU (350W/CPU)
HPM	OCP M-FLW Form Factor	OCP M-FLW Form Factor
Memory	Up to 32 RDIMM Slots, 1DPC 6400MT/s, 2DPC 5200MT/s Capacity: 64G/DIMM (Maximum 2TB)	Up to 32 RDIMM Slots, 1DPC 6400MT/s, 2DPC 5200MT/s Capacity: 64G/DIMM (Maximum 2TB)
Management (DC-SCM2.1)	1 x USB Type A (Console) 1 x USB Type A 1 x RJ45 GbE Dedicated BMC LAN Port 1 x Mini Display Port	1 x USB Type A (Console) 1 x USB Type A 1 x RJ45 GbE Dedicated BMC LAN Port 1 x Mini Display Port
Expansion Slot	Option 1 6x PCIe Gen5 x8 FHFL Slots 1x PCIe Gen5 x16 FHHL Slot 1x PCIe Gen5 x8 HHHL Slot 2x PCIe Gen5 x8 OCP NIC3.0 Slots Option 2 3x PCIe Gen5 x16 FHFL Slots 1x PCIe Gen5 x16 FHHL Slot 1x PCIe Gen5 x8 HHHL Slot 2x PCIe Gen5 x8 OCP NIC3.0 Slots	1x PCIe Gen5 x16 FHHL Slot 1x PCIe Gen5 x8 HHHL Slot 2x PCIe Gen5 x8 OCP NIC3.0 Slots
Drive Bays	Up to 24x 2.5"NVMe Hot-Swap drive bays	Up to 12x 2.5"NVMe Hot-Swap drive bays
Cooling Option	Air Cooling	Air Cooling
Power Supply	1+1 Redundant 2000/2200/2400/3200W 80-plus Titanium Grade CRPS	1+1 Redundant 2000/2200/2400/3200W 80-plus Titanium Grade CRPS
Form Factor	2U Rackmount	1U Rackmount
Dimension (W x D x H)	438 x 790 x 88mm	438 x 790 x 44mm
Operating Temperature	0°C-40°C	0°C-40°C
System Rear View		

AC-DC 1U Titanium
Server CRPS Redundant Module

Features

- 80 PLUS High Efficiency
- Active Power Factor PF≥0.99
- PSU for N+1 Redundant Application
- PMBus Communication
- Fan Reverse Option
- Protections: OVP/OCP/SCP/OTP/UVP
- MTBF>200,000 Hours at 25°C Typical Load
- Operation Altitude: 5000 Meters
- Surge: 2KV(L/N-PE)&1KV(L-N)
- Application: Data Center Server, AI Server, HPC, Networking

Technical Specifications

Form Factor	Model	Output Voltage / Load (max)		Output Power	80Plus	Operating Temperature	Dimension (L x W x H mm)	Digital Power	Fan Reverse Option
		+12V	+12VSB						
Titanium CRPS Module	ERAB0-CTA-BF	166A	3A	2000W	Titanium	0~55°C	185 x 73.5 x 40	●	-
	ERAB2-CTA-BF	183A	3A	2200W	Titanium	0~55°C	185 x 73.5 x 40	●	-
	ERAB4-CTA-BF	200A	3A	2400W	Titanium	0~50°C	185 x 73.5 x 40	●	-
	ERAC2-CTA-BF	266A	3A	3200W	Titanium	0~50°C	185 x 73.5 x 40	●	-
Platinum CRPS Module	ERA55-CPA-BF	46A	3A	550W	Platinum	0~55°C	185 x 73.5 x 40	-	●
	ERA85-CPA-BF	70.8A	3A	850W	Platinum	0~55°C	185 x 73.5 x 40	-	●
	ERAA6-CPA-BF	133.3A	3A	1600W	Platinum	0~55°C	185 x 73.5 x 40	-	-

1U Short Depth Edge Server

Features

- Intel® Xeon® 6 SoC Granite Rapids-D HCC Processor
- 8x DDR5 5200/6400MT/s ECC RDIMM
- TPM 2.0 (SLB9672) with PQC-protected firmware updates
- Supports BMC and PFR 2.0
- Up to dual 2.5" U.2 NVMe Hot-Swappable drives with RAID
- Up to 2x PCIe Gen5 slots with CXL 2.0 expansion
- 1+1 redundant 80 PLUS Platinum Grade Power Supplies

Powered by Intel® Xeon 6 SoC Processors

Powered by Intel® Xeon® 6 SoC Granite Rapids-D processors, SE210 delivers exceptional performance for data-intensive applications such as high-performance computing (HPC), artificial intelligence (AI), and data analytics. Featuring up to 32 PCIe Gen5 lanes, integrated 200GbE connectivity, and support for high-speed DDR5 memory configurations, it ensures seamless connectivity, memory bandwidth, and advanced networking capabilities.

With Intel® QuickAssist Technology (QAT) for data compression/encryption and Intel® Advanced Matrix Extensions (AMX) for AI optimization, the processor enhances performance, making it a reliable solution for demanding modern workloads.

BMC and PFR Architecture

Equipped with Baseboard Management Controller (BMC) and Platform Firmware Resilience (PFR 2.0), the system ensures advanced management, robust security, and reliability to meet the demands of modern server environments.

Enhanced Networking with PCIe Gen5 Slots and SmartNIC

The SE210 features 8-port 25GbE SFP28 and offers up to 2 PCIe Gen5 FHFL slots, providing high-speed networking and connectivity. Its compatibility with Senao's SX904 SmartNIC enhances low-latency, high-throughput performance, making it ideal for SDN, cloud computing, and virtualized workloads or offloads.

Efficient Power and Cooling

80 Plus Platinum-grade redundant power supplies for minimized power usage and operational costs. Advanced cooling system ensures consistent, reliable performance, even in high-density and high-temperature data centers.
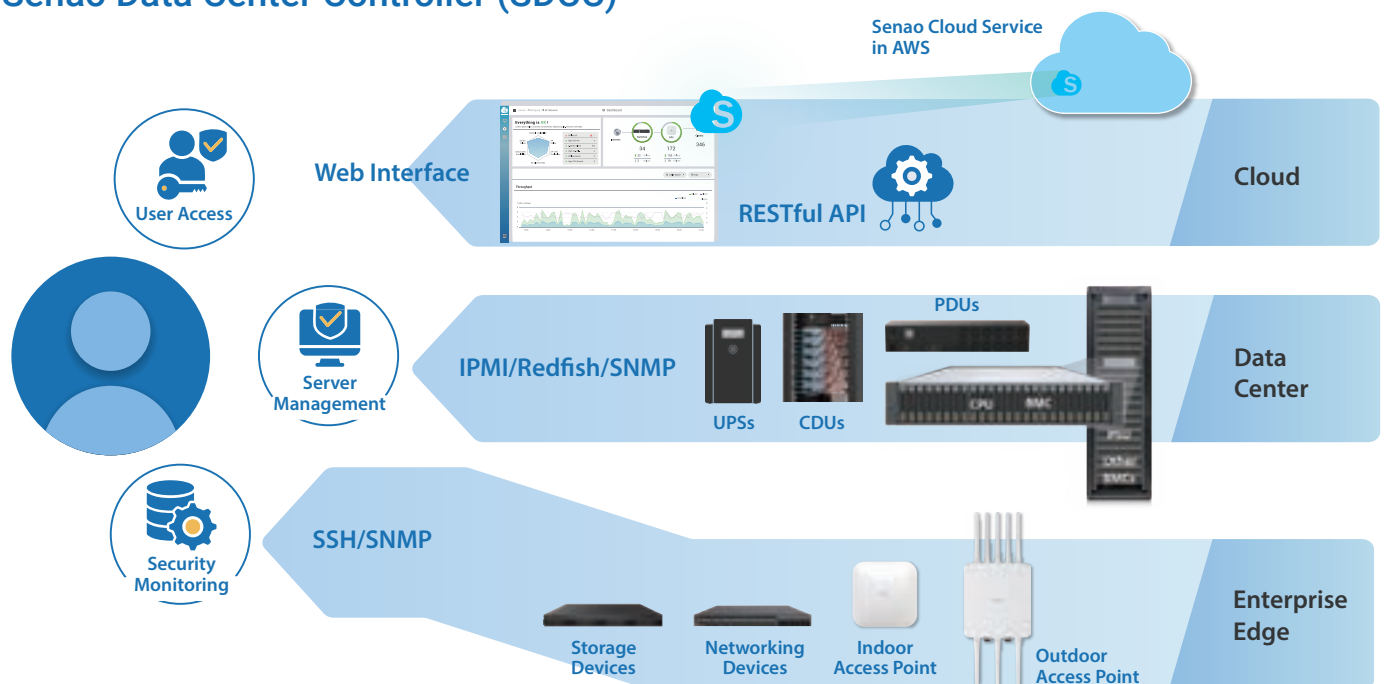
Advanced Security and Management

Features secure boot, IPMI, and Redfish for robust remote management, allowing secure monitoring and configuration. Built-in security protections guard data integrity, making the SE210 suitable for sensitive, compliance-focused deployments.

Technical Specifications

Feature	SE210 Technical Specification
System Front View	
Processor	Intel® Granite Rapids D HCC
NIC Controller	2x Intel® E610-XAT2 (Dual port 10G)
Memory	8 x Gen5 RDIMM ECC 1DPC 6400MT/s , 2DPC 5200MT/s
Ethernet Ports	8x 25G SFP28 + 4x 10G BaseT
Management and Security	BMC AST2600, PFR AST1060, TPM SLB9672
Expansion Slot	2x PCIe Gen5 x16 FHFL Slot w/ CXL2.0, supporting up to 225W
Drive Bays	Up to 2x 2.5"NVMe SSD with RAID1 and Hot-plug
Cooling Option	Air Cooling
Power Supply	1+1 Redundant 1100W 80-plus Platinum Grade Slim-type Power Supply
Form Factor	1U Rackmount
Dimension (W x D x H)	440 x 430 x 44mm
Operating Temperature	0°C-40°C
System Rear View	

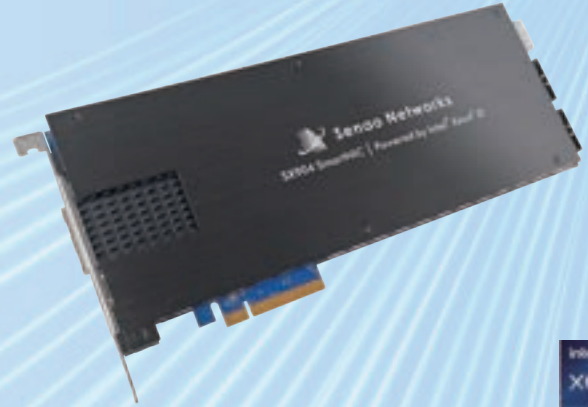# Senao Data Center Controller (SDCC)

SmartNIC
SX904

Features

SX904 is based on Intel® Xeon D® processor to offload x86 applications with zero changes. SX904 enables these applications without additional infrastructure footprint.

- SD-WAN/SD-LAN
- Next-Gen Firewall (NGFW)
- Unified Threat Management (UTM)
- Zero-Trust Network Access (ZTNA)

SX904 supports the latest Intel® Platform Firmware Resilience (Intel® PFR), BMC and TPM2.0.

Key Features

- Intel® Xeon® D-1700 Series processor
- Intel® Ethernet Controller E810 for 50GbE PCIe connection to Host CPU
- Dual 25G SFP28
- Dual DDR4 memory channels
- TPM2.0 support for Secure Boot
- OpenBMC, Intel® Platform Firmware Resilience (Intel® PFR)
- Single Slot Passive Cooling
- MCIO Connectors for function expansion

Physical

- Form Factor: FH3/4L+ (266mm)
- Dimensions: W266xH98.4xD20.4mm
- Weight: < 2.3kg

Power

Power delivered through an 8-pin PCIe AUX Power connector (+12VDC) or through PCIe Edge Connector

I/O Configuration

- 2 x SFP28 or SFP+
- 1 x UART (mini-USB)
- 1 x USB3.0 Type-C
- 1 x RJ45 1GbE

Key Components

- Intel® Xeon® D-1700 Series
- Intel® Ethernet Controller E810
- Aspeed AST2600/ AST1060

Environmental

- Operating Temperature: 0°C to 50°C
- Storage Temperature: -40°C to 70°C
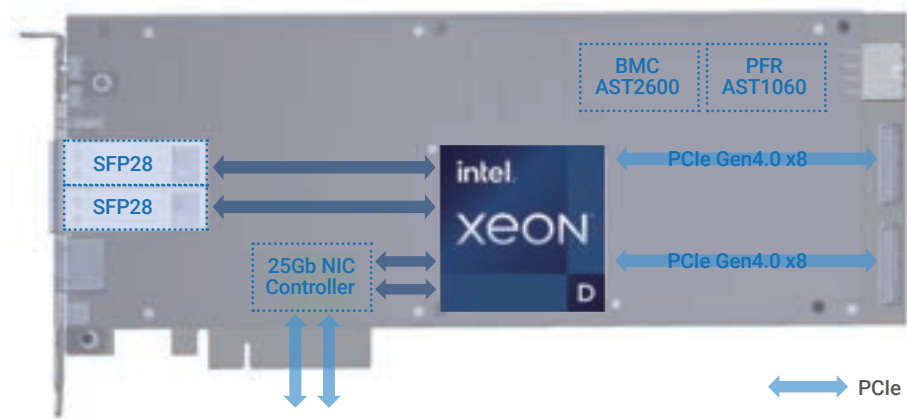- Operating Humidity: up to 85% noncondensing

Operation System

- Ubuntu 22.04 (Pre-installed)
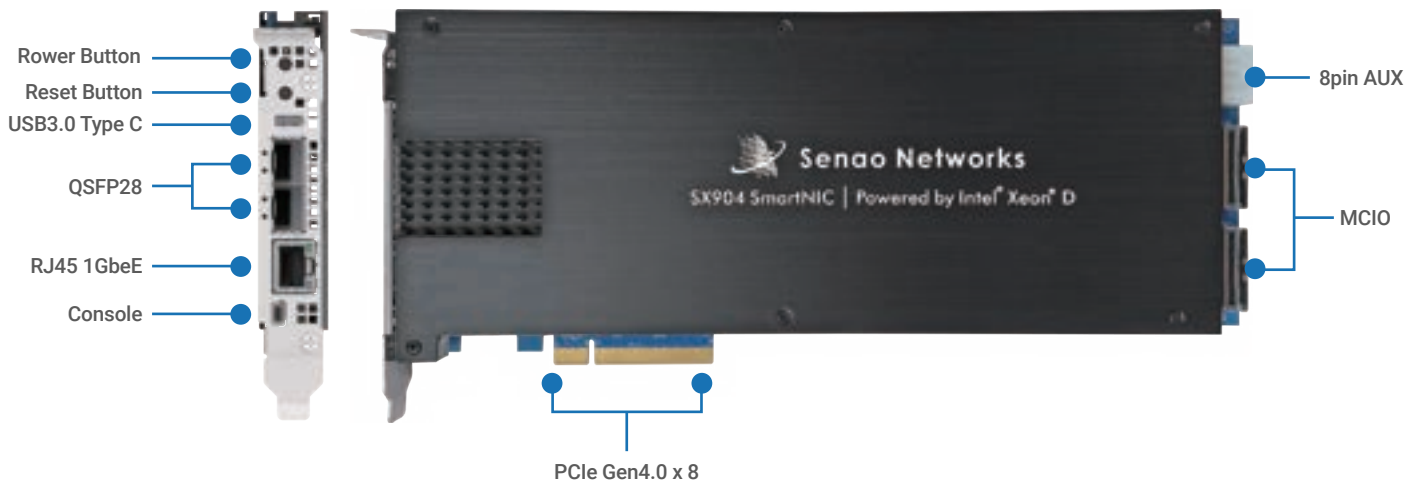- Ubuntu 24.04
- RHEL 9.4 (Certified)

Model	CPU Cores	Power Consumption	Networking	Host Interface	Memory Support	Storage Capacity	BMC FPR
Xeon® D-1713NT	4C	75W	2x10GbE SFP+	PCIe Gen4 x8	Up to 32GB, Dual-channel DDR4-2933 ECC	Up to 128GB eMMC	AST1060 (Intel® PFR) AST2600 (OpenBMC/ BIOS)
Xeon® D-1733NT	8C	83W	2x10GbE SFP+				
Xeon® D-1747NTE	10C	110W	2x25GbE SFP28				

SX904 Architecture and Interface

The following figure shows the major components connection within a Senao SX904

I/O Interfaces