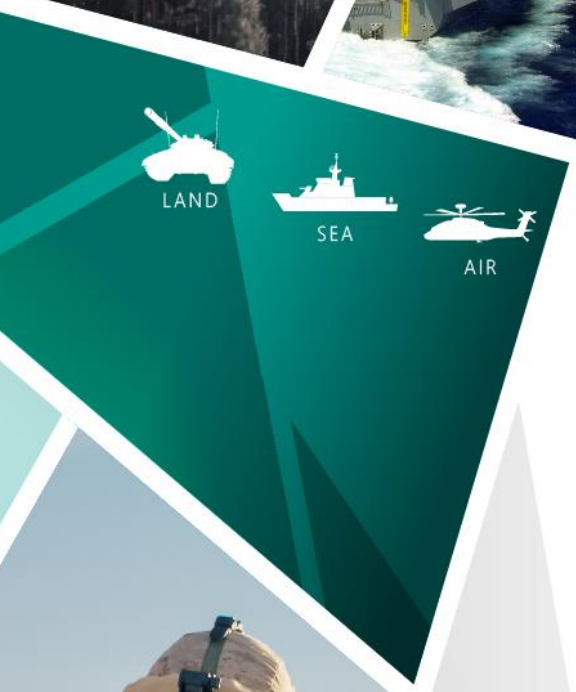


THOR11-D27

Military Virtualization Supercomputer

- Intel® Xeon® ICELAKE-D HCC D-2796NT, 20Cores 2.0 GHz Processor
- MIL-STD 810, Vibration, Shock, Thermal
- NVIDIA MXM RTX A2000 Module or PEG RTX A4000
- 4x NVMe Gen 4.0 U.2
- 6x Removable Anti-Drop Storages Tray
- Up to 512GB LRDIMM/256GB RDIMM
- MIL-STD-461 EMI DC-IN 18-36V
- Dual 25GbE SFP, Dual 10Gbase-T, Quad 1Gbase-T
- Extreme Temperature Support -20°C to +60°C
- 1U Rackmount Short Depth lightweight chassis

1. INTRODUCTION

The THOR11-D27 shipboard server packs high-performance multi-core processing into an ultra-low profile rack space. With 1 PCIe add-on expansion slot and NVIDIA MXM module the 1U server can support RAID, x16 graphics, or other technologies for specific workstation requirements. The THOR11-D27 shipboard server is the ideal powerhouse workstation for optimizing rack space and performance.

NVIDIA Quadro RTX A2000 MXM or PEG RTX A4000

THOR11-D27 supports 1x NVIDIA Quadro RTX A2000 MXM Module or PEG RTX A4000; can power the planets most reliable mainstream workstations. Designed into a 140-watt package, RTX A2000 or RTX A4000 is powered by NVIDIA Ampere architecture, supplying innovative multi-precision performance to accelerate a vast range of modern applications. THOR11-D27 w/ Quadro RTX A2000 or RTX A4000 GPU accelerates diverse cloud workloads. These include high-performance computing, data analytics, deep learning training and inference, graphics and machine learning. RTX A2000 MXM or PEG RTX A4000 features multi-precision Turing Tensor Cores. It comes in a very compact MXM form factor, helping THOR11-D27 deliver ground-breaking performance at scale.

SPECIFICATIONS

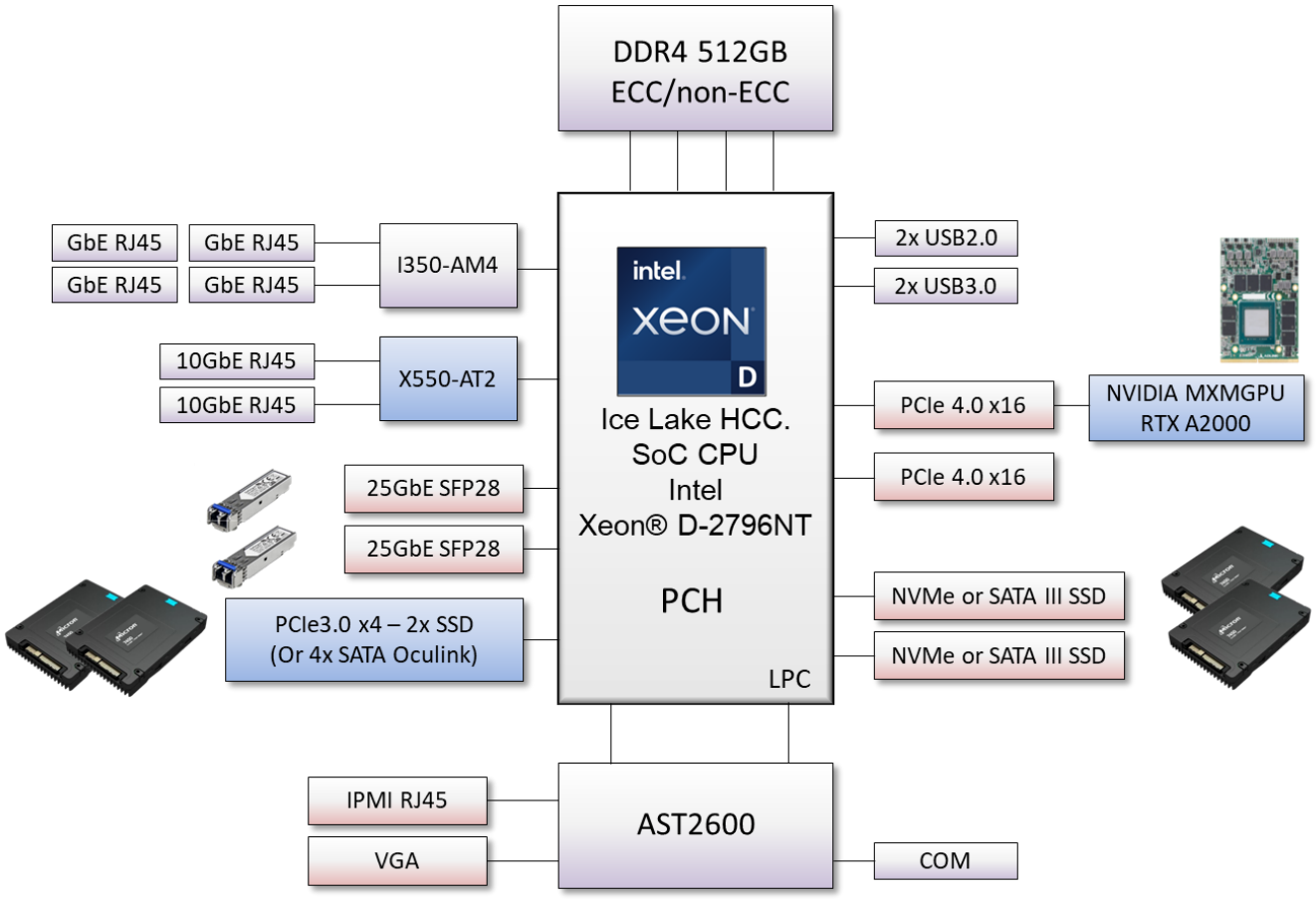
GPU memory	**16 GB GDDR6**
Memory interface	**256-bit**
Memory bandwidth	**448 GB/s**
Error-correcting code (ECC)	**Yes**
NVIDIA Ampere architecture-based CUDA Cores	**6,144**
NVIDIA third-generation Tensor Cores	**192**
NVIDIA second-generation RT Cores	**48**
Single-precision performance	**19.2 TFLOPS[3]**
RT Core performance	**37.4 TFLOPS[3]**
Tensor performance	**153.4 TFLOPS[4]**
System interface	**PCI Express 4.0 x16**
Power consumption	**Total board power: 140 W**
Thermal solution	**Active**

2. MIL-STD Environment

- **Operating Temperature High:** 50°C, MIL-STD-810G, Method 501.5, Procedure I
- **Operating Temp Low:** 0°C, MIL-STD-810G, Method 502.5, Procedure I
- **Non-Operating Temperature High:** 70°C, MIL-STD-810G, Method 501.5, Procedure II
- **Non-Operating Temperature Low:** -40°C, MIL-STD-810G, Method 502.5, Procedure II
- **Operating Altitude:** Up to 15,000 ft., MIL-STD-810G, Method 500.5
- **Non-Operating Altitude:** Up to 45,000 ft., MIL-STD-810G, Method 500.5
- **Humidity:** MIL-STD-810G, Method 507.5, Procedure Ib (Natural Cycle B3)
- **Shock:** MIL-STD-810G, Method 516.6, 30 g's, Saw-tooth, 11ms & MIL-DTL-901E, Grade A, Class II; Type B

- **Vibration:** MIL-STD-167, Type I, Deck Mounted Equipment
- **EMI/EMC:** MIL-STD-461F, RE101, RE102 (Shipboard Level 1), RS103, CE101, CE102, CS101, CS114, CS116
- **Airborne Noise:** MIL-STD-740-1 compliance: 43.7dBA (Idle), 52.5dBA (50%), 54.6dBA (80%).

3. Block Diagram



4. Specifications

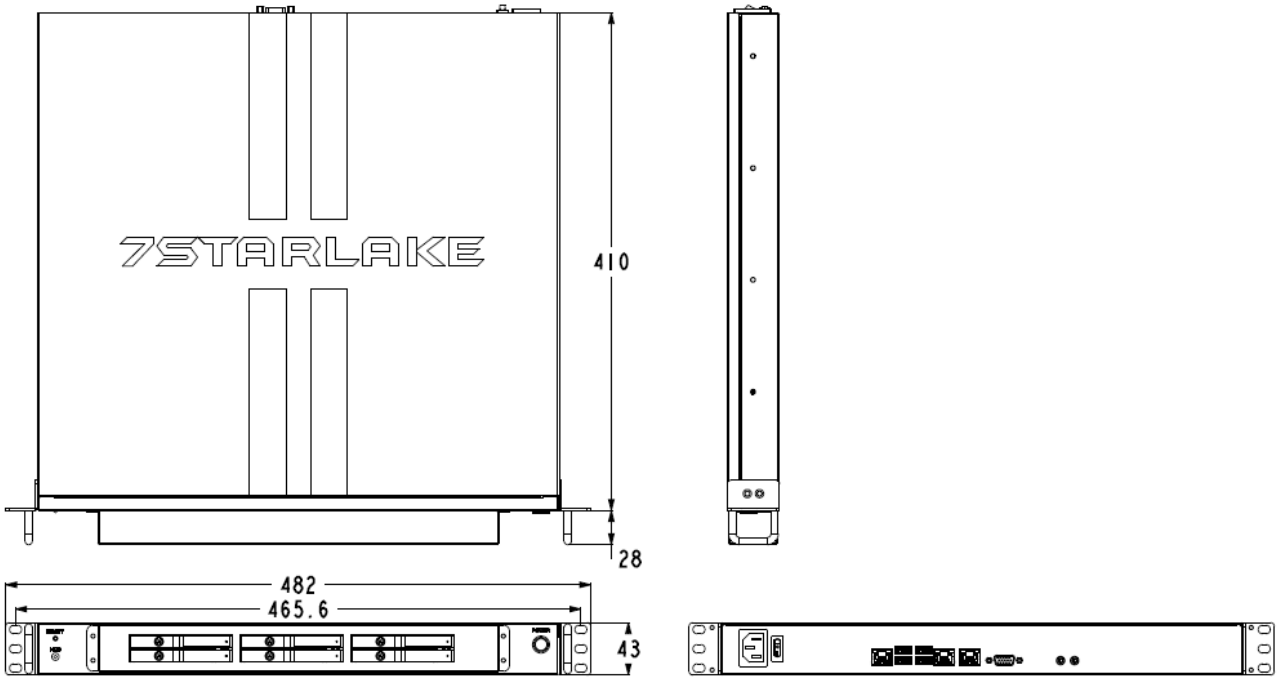
System	
CPU	Intel Ice Lake-D SoC, High Core Count 4/8/16/20 Cores, up to 120 W
Memory type	Up to 512GB LRDIMM/256GB RDIMM, 4CH DDR4 3200MHz in 4 Slots
Chipset	SoC
GPU	NVIDIA RTX A2000 MXM or PEG RTX A4000
Storage	
HDD/SSD	4x NVMe or SATA III SSD with Hot-Swap Tray
Ethernet	
Ethernet	Dual 25GbE SFP28 (SoC) Dual 10GBase-T (Intel X550-AT2) Quad 1GBase-T (Intel i350-AM4)
RAID	
RAID	Support RAID 0,1,5,10
OS	
OS	Windows 10 64 bit
Power	
Power	MIL-STD-461 EMI DC-IN 18~36V
Dimension	465 x 410 x 43 mm (W x D x H)
Weight	≦ 12 KG
Front I/O	
LED	1x HDD LED (Red)
	1x Power on LED (Green)
SSD	4x Hot Swap SSD tray
Switch	1x Power On Switch

Rear I/O	
DC-IN	1x D38999
IPMI	1x IPMI
USB	2x USB 3.0
LAN1, 2	2x 25GbE SFP 28
LAN3, 4	2x 10G Base-T
LAN5, 6, 7, 8	4x 1G Base-T
Display	1x VGA
Environment	
Operating Temp.	-20°C to 60°C
Storage Temp.	-40°C to 85°C
Relative Humidity	5% to 95%, non-condensing
RoHS	RoHS Compliant

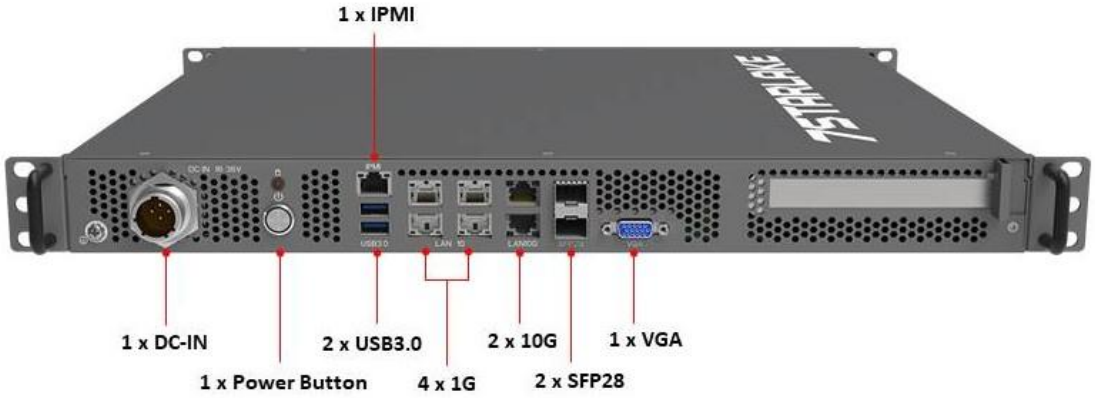
5. Ordering Information

Model	CPU	MXM or PEG	SFP	10GbE	1GbE	U.2	SATA	PSU	Temp.
THOR11-D27-M-20C-18V	D-2796NT	RTXA2000	2 x 25G SFP28	2	4	4	2	18~36V DC-in	-20~+50 °C
THOR11-D27-M-16C-18V	D-2775TE	RTXA2000	2 x 25G SFP28	2	4	4	2	18~36V DC-in	-20~+50 °C
THOR11-D27-P-20C-18V	D-2796NT	RTXA4000	2 x 25G SFP28	2	4	4	2	18~36V DC-in	-20~+50 °C
THOR11-D27-P-16C-18V	D-2775TE	RTXA4000	2 x 25G SFP28	2	4	4	2	18~36V DC-in	-20~+50 °C

6. DIMENSION



7. Appearance



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