



PacStar 453

GPU-Accelerated Server Module

Key Features

- Intel Xeon D processing platform with up to 128 GB memory
- NVIDIA RTX Pro 2000 Blackwell GPU
- (2) SFP+ 10 GbE ports
- TPM 2.0 security with IPMI management
- Part of PacStar 400-Series ecosystem: build mission-tailored solutions with PacStar 453 + modular edge compute, route, switch, communications modules, chassis, and cases
- (2) Removable high-speed NVMe SSDs
- Compact design for flexible packing and transport
- Small, but powerful: only 5.4 in x 7.4 in x 3.4 in and 3.5 lb
- A wide variety of supported software options available including technologies including Aruba Networks, Cisco, NVIDIA, Red Hat, VMware, and Microsoft

Applications

- Edge AI / tactical cloud infrastructure
- Vehicle-mounted mission deployments
- Tactical command posts with high-speed sensor ingest and network connectivity
- Real-time, multi-sensor data analytics and decision making

PacStar® 453 GPU-accelerated server provides a high-performance virtualization and compute platform for hosting intensive applications such as graphics, video processing, and artificial intelligence in a compact, quick setup, rugged form factor.

Optimized for demanding edge compute and AI deployments, PacStar 453 is ideal for applications that need high performance computation in remote or distributed locations. PacStar 453 meets size, weight, and power (SWaP) requirements unmatched by other COTS appliances.

PacStar 453 is the optimal platform for tactical and distributed deployment of video and AI applications performing:

- Video: encoding, decoding, transcoding, analytics, object detection
- Natural language understanding and translation
- Cybersecurity: threat analytics, vulnerability detection, and defensive adversarial ML
- Sensor fusion, health monitoring, EW signal processing, augmented reality
- Autonomous systems operations, navigation, predictive maintenance
- Decision support
- Virtual desktop infrastructure

PacStar 453 is based on the powerful and proven PacStar 451 platform that features Intel® Xeon® D processing with 128 GB RAM, high-speed NVMe® storage, and 10 GbE SFP+ ports, combining high-performance, general-purpose computing with a PCIe® -connected NVIDIA® Blackwell RTX™ Pro 2000 GPU with 3,328 CUDA™ cores.

Specifications

Performance Specifications

- 10-core Intel Xeon D (Ice Lake D-1746TER)
- Up to 128 GB DDR4 RAM memory
- NVIDIA RTX Pro 2000 Blackwell Generation GPU (128-bit 8 GB GDDR7 @ 384Gbps memory bandwidth, 3328 CUDA Cores, 104 Gen5 Tensor Cores, 13.8 TFLOPS peak FP32)
- Removable Flash Storage: two (2) removable E1.S NVMe SSDs (up to 8 TB each, total 16 TB) and optional CFexpress boot drive; contact sales for higher capacities and FIPS 140/SED options

Physical Specifications

- Dimensions (WxDxH): 5.4 in x 7.4 in x 3.5 in (fits in 2-slots of PacStar 400-Series chassis)
- Weight 3.5 lb (approx)
- Environmental: MIL-STD-810
- EMI/EMC: MIL-STD-461

Power Specifications

- Wide range DC input, 11-35 V
- World-wide AC power input (with adapter cable)
- Power draw: estimated at 110 W (max load), GPU TGP dependent

Connectors

- (2) 10 Gbps SFP+
- (2) 1 Gbps RJ45
- (1) RS-232 RJ45
- (1) USB 3.0 (Type-A)
- (1) USB 3.0 (Type C, locking connector)
- (1) DisplayPort (BMC video)
- (3) DisplayPort (GPU video)
- (1) IPMI management RJ45



PacStar 453 is part of the PacStar 400-Series family of small communications modules. It is designed for maximum compute and networking capabilities in the smallest rugged form factor on the market. PacStar 400-Series includes routing, switching, and advanced network services with built-in configuration flexibility and robust power options for austere environments. These solutions are driven by IQ-Core® Software to simplify setup and operation.



PacStar 453 is utilized in the industry-leading PacStar Modular Data Center (MDC).



PacStar 453

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