

PacStar 452

High-speed storage server module



Key Features

- Intel® Xeon® D-1700 (Ice Lake-D) processor with 128 GB RAM for general purpose or dedicated compute tasks
- 10 GbE SFP+ ports for high performance data replication and networking including on-board virtual network functions
- IPMI management with Redfish Support
- Up to 32 TB storage with four removable E1.S NVMe drives
- Integrated smart power supply with wide range DC input and worldwide AC input
- KG-250X/XS compatible power output
- Extensively tested to MIL-STD-810/461
- Small, but powerful: only 5.7 in x 7.1 in x 3.4 in and 5.4 lb
- Microsoft Azure Local-certified solution (for distributed edge cloud computing)
- A wide variety of appliance options are available including networking technologies from Aruba Networks, Cisco, Haivision, Information Security Corp, Juniper, Palo Alto Networks, and more

PacStar® 452 high-speed storage server includes support for enterprise-class NVMe® storage and Intelligent Platform Management Interface (IPMI®) for remote management. It provides a high-performance computing and virtualization platform for hosting one or more software applications or virtual appliances in a compact, quick setup, rugged form factor.

PacStar 452 is designed for in-theater computing, executive communications, vehicle-mount, early entry, forward operating base or remote deployments for military, Homeland Security, first responders, and commercial/enterprise users. It meets size, weight, and power (SWaP) requirements unmatched by other COTS appliances of its kind. PacStar 452 is available with a wide variety of pre-loaded, pre-secured, and pre-qualified software applications or virtualized appliances appropriate for use in tactical C5ISR/EW applications. These include, but are not limited to:

- Virtualized and software defined networking and WAN routing, switching
- VPN, TLS encryption, PKI
- Cybersecurity: firewalls, IDS, threat analytics, SIEM, NetFlow
- Unified communications
- Video encoding, transcoding and analytics
- Tactical cloud deployment
- Mobile device and wireless network management
- Hyper convergence and storage
- General-purpose application hosting

PacStar 452 is available in a variety of configurations with Xeon processors in 4-core, 8-core and 10-core variants. High-performance E1.S NVMe SSD storage (6x faster than legacy SATA storage), and IPMI for remote and out-of-band management. PacStar 452 module footprint offers the best in small size, flexible power, and environmental ruggedness.

PacStar offers a wide array of system packaging options for the PacStar 400-Series, including briefcase style, transit case style, 19 inch rack mount, vehicle-mount, and backpack style transport options.

Specifications

Processor Specifications

- Intel Xeon-D (Ice Lake D-1700 Series)
- Up to 128 GB DDR-ECC memory
- TPM 2.0 security

Physical Specifications

- Dimensions (WxDxH) 5.7 in x 7.1 in x 3.4 in (fits in 2 slots of PacStar 400-Series chassis)
- Weight 5.4 lb
- Offering maximum performance using forced air cooling with sealed electronics
- Operational temperature range (-20 °C to 50 °C)
- Extensively tested to MIL-STD-810/461

Storage Specifications

- Four (4) removable 1.3 in EDSFF E.1S form factor NVMe SSD cartridges
- Up to ~8 TB capacity per SSD (~32 TB total); contact Sales for higher capacities or FIPS 140/SED options
- NVMe provides up to 6X faster performance than SATA SSDs

Power Specifications

- Wide range DC input, 10-35 V
- World-wide AC power input (with adapter cable)
- Regulated clean 12 V DC output, 20 W (KG-250X/XS HAIPE support)
- Power Draw: ~60 W idle, ~120 W typical, ~140 W peak

Interfaces

- (2) 10 Gbps SFP+
- (2) 1 Gbps RJ45 Ethernet
- (1) 1 Gbps RJ45 Ethernet (dedicated IPMI with KVM over IP display and Serial over LAN support)
- (2) USB 3.2 (Type-A)
- (1) USB 3.0 (Type-C)
- (1) DisplayPort (BMC video)



PacStar 452 is part of the PacStar 400-Series family of small tactical 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 452 is utilized in the industry-leading PacStar Modular Data Center (MDC).

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Example Supported Software Appliances

Network Function Virtualization: Providing Routing, Switching, Network Optimization	IP-Based Unified Communications: Voice, Video and Conferencing
Cisco Cloud Services Router 1000 V and Catalyst 8000 V	Cisco Unified Communications Manager - Complete UC suite
Aruba Virtual Mobility Controller (Wireless Infrastructure Controller)	REDCOM Sigma® - Complete UC suite
Cisco Enterprise Network Function Virtualization Infrastructure Software (NFVIS) Hypervisor	Haivision Kraken - Video transport/transcoding and optimization
Riverbed Virtual SteelHead (SATCOM/WAN performance optimization)	
Viasat NETAGILITY™ NVR-1000	
Cybersecurity: Firewall, VPN, Network Intrusion Detection, Threat Analytics, and Network Defense	General Purpose Application Hosting
Aruba ClearPass – Authentication	VMware ESXi, KVM, and Hyper-V Hypervisors
Cisco ASA and Firepower – Firewall, IDS, analytics, VPN	General-purpose Windows servers - can host a nearly unlimited array of applications (Exchange, SQL Server, Sharepoint, etc.)
Cisco Stealthwatch - Cyber Analytics	Linux Services - Can host a nearly unlimited array of applications
Elastic - SIEM	DOD-specific mission command applications
Everfox NGFW – Firewall, IDS, VPN	
Juniper vSRX – Firewall, IDS and VPN	
IQ-Core Crypto Manager – PKI, Crypto and SIEM	
Palo Alto Networks – Firewall, IDS and VPN	
Red Hat Enterprise Linux with Certificate Services - PKI	
Information Security Corp CertAgent - PKI	
Microsoft Windows Server – Domain Control, Authentication, PKI	



PacStar products are covered by multiple patents. Additional patent(s) pending.

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