

SYSTEM PACKAGING

Physical Specifications

Included in a PacStar Mini-Transit Case, with a payload of up to (9) modules, provides a transportable infrastructure for housing and operating PacStar 400-Series Smart Chassis and modules.

- Custom designed carbon fiber transit case with wheels and handle (9" x 21" x 14")
- Meets FAA carry-on size restrictions
- Holds multiple Smart Chassis with a maximum (9) module payload - e.g. (1) 4-slot and (1) 5-slot Smart Chassis
- Removable lids for operation of equipment in the transit case
- Smart Chassis are user removable and capable of operating outside the transit case; enabling physical separation as required for classified enclaves
- Overall system weight ~65 lbs.

PacStar MDC 2.0 is also available in PacStar Rack Mount Frame and other configurations ideal for ground vehicle and airframe mounted use cases including networking-on-the-move.

System Power Specifications

Total power draw up to 465 watts max (depending on variant)
Includes an integrated power system

- Worldwide AC input, 47 - 63 Hz, 85 V - 264 V
- Wide-range DC input, 10 - 35 V DC
- Includes in integrated UPS with two battery options
- DoD standard 2590 Li-Ion rechargeable battery, 200 watt-hours rated
- NiMH BB-390B/U rechargeable battery. 117 watt-hours rated
- Automatically switches to battery if prime power is interrupted
- User accessible battery compartment
- LED indicators for battery status

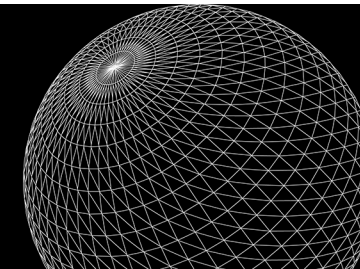


PacStar products are covered by multiple patents. Additional patent(s) pending. See www.pacstar.com/patents for details.

PACSTAR 400-SERIES MODULES

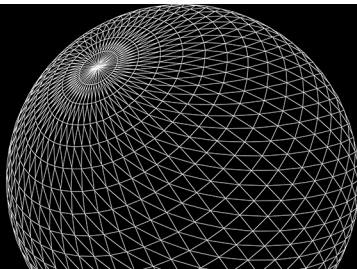
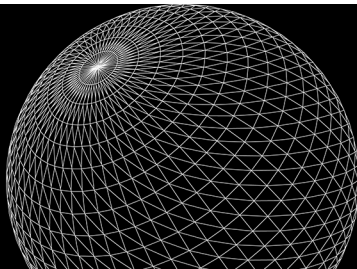
Key Features

- Dimensions: 5.3" x 7.1" x 1.6" (each PacStar 455 is 3x wide)
- Weight: ~2.5 lbs. to 6 lbs. (each, depending on model)
- Snap-together connectors provide DC pass-through for powering additional PacStar 400-Series products
- Operational temperature -20C to (50C to 70C depending on module type)
- Tested to MIL-STD 810 (contact PacStar for details)
- Battery snap-together connectors for 1 or 2 AN/PRC-148 radio batteries; hot swappable with 5+ hours runtime per battery
- Wide-range DC input, 10-35 V DC
- Worldwide AC power input (with adapter cable)
- PacStar 444 PoE power output: Up to 60 watts available PoE on AC input
- Power draw: Nominal 20 to 100 watts per module, depending on module type



PacStar Modular Data Center (MDC) 2.0





PacStar Modular Data Center (MDC) 2.0

PacStar Modular Data Center (MDC) 2.0 is a COTS-based, modular, tactical and expeditionary, rugged data center capable of hosting cloud/storage, AI, and analytics applications. PacStar MDC 2.0 uses proven small form factor modules for compute, storage, and networking functions with industry leading reduction in Size, Weight and Power (SWaP). PacStar MDC 2.0 can be deployed dismounted, in FOBs, command posts, ground vehicles, and aircraft, as well as in upper echelons – for military, intelligence, law enforcement, and Homeland Security use.

PacStar MDC 2.0 provides converged compute/storage/networking at the edge of the network, supporting a diverse array of use cases in disconnected, intermittent and limited (DIL) environments including:

- Hosting situational awareness, mission command and C2 applications
- Supporting SIGINT, HUMINT and IMINT data gathering and analytics workloads
- Supporting emerging IoT and sensor fusion-based applications
- Unifying access to data and applications from enterprise to the tactical edge
- Hosting compute and storage-intensive networking, cybersecurity and VDI solutions
- Accelerating artificial intelligence/machine learning-based and other applications that benefit from GPU support

PacStar MDC 2.0 uses PacStar 400-Series modular platform designed to maximize capabilities with the smallest SWaP possible – enabling high amounts of storage at the edge without sacrificing mobility. The modular nature of PacStar MDC 2.0 enables programs to optimize the CPU, RAM, storage and GPU capabilities, depending on the specific use case. PacStar MDC 2.0 configurations can include a mix of small servers, hyper-convergence modules, and GPU enabled servers, along with PacStar 400-Series switching/routing modules.

PacStar MDC 2.0 core components have been tested with a vast array of applications and virtualized network functions and are ideally suited to provide a platform for any cloud infrastructure, management, or storage software compatible with Intel and NVIDIA-based processors.

PacStar ensures compatibility with major software infrastructure providers, working with and testing solutions to provide extensive options for our customers. PacStar MDC 2.0 (2-Node vSAN™ Cluster) is VMware® Ready - Storage certified, see PacStar MDC 2-Node vSAN™ Cluster datasheet for more details.

PacStar 400-Series platform is widely deployed in the U.S. Army and U.S. Marine Corps.








Key Features

- **High density compute, storage and networking infrastructure** capable of handling large loads with industry-leading SWaP reduction
- **Modular system can be optimized for program needs**, maximizing number of CPU cores, GPU cores or size of solid-state storage, depending on program needs
- **Based on Intel and NVIDIA processors** and compatible with a wide variety of applications, can meet the needs of a vast array of C5ISR use cases including data gathering, analytics/AI, and situational awareness
- **Supports popular storage/replication and hyper-convergence infrastructure software** including VMware vSAN, NetApp ONTAP edge, Riverbed SteelFusion, Cisco NFVIS, FreeNAS
- **Expandable/modular system** may be customized with added networking or alternative component technologies
- **Based on rugged PacStar 400-Series modules and packages** ideal for fly-away, command post, ground vehicle and aircraft deployment
- **Managed by PacStar IQ-Core® Network Communications Manager**, providing network and server management capabilities for the tactical communicator

SOLUTION CONTENTS

PacStar MDC 2.0 core components include: PacStar 451 Xeon D-based servers with a single SSD; PacStar 455 Hyper Convergence Modules with up to 8 RAID-protected SSDs, providing up to 64 TB of storage; PacStar NVIDIA 453 GPU Enhanced Servers, and PacStar 444 GigE switches. These components are typically mounted in the user's choice of PacStar Smart Chassis with UPS, or a 19" rack mount with a PacStar Mini-Transit Case, or a Vehicle Rugged Rack.

Components of PacStar MDC 2.0 can be mixed and matched with the entire family of PacStar 400-Series modules, in thousands of combinations. For ease-of-configuration, PacStar has assembled five popular variants for reference, as shown below.

Variant	Compute Components	CPU Cores (Physical)	RAM (GB)	NVIDIA CUDA Cores	SSD Storage (TB)
 VARIANT 1	8x PacStar 451 Xeon D servers	96	1024	0	64
 VARIANT 2	5x PacStar 451 Xeon D servers, 1x PacStar 455 Hyper Convergence	72	768	0	104
 VARIANT 3	2x PacStar 451 Xeon D servers, 2x PacStar 455 Hyper Convergence	48	512	0	144
 VARIANT 4	1x PacStar 451 Xeon D servers, 1x PacStar 455 Hyper Convergence, 2x PacStar 453 GPU Enhanced Servers	60	640	512	104
 VARIANT 5	4x PacStar 453 GPU Enhanced Servers	48	512	2048	64

Each variant above includes a PacStar 444 GigE switch for interconnect