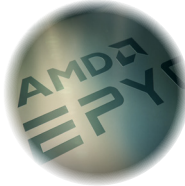# Cheetah RAID Storage

Raptor CRSAN2N12U-UM

High Performance Server

3x individual hot-pluggable Gen4 NVMe canisters in 23.4" shot depth storage server

AMD EPYC Zen4 (Bergamo) CPU Support

Individual hardware RAID for each canister (optional)

Support up to total 400Gbps with two 200GbE Network adapters

Designed for vehicles, remote/on locations, or in labs as ingest station

TCG Opal 2.0 with AES 256-bit encryption support

A high performance server can only perform as fast as its weakest link, and in many cases, the weakest link is commonly the storage as it's often overlooked. Cheetah CRSAN2N12U is specially designed to address this Achilles' heel by offering a high performance AMD EPYC (Bergamo) server that supports 3x individual Gen4 canisters. Its canisters are compatible with Cheetah CRSAN2N4U (a portable data logger) and allows the canisters to migrate data from a moving vehicle to a data center instantly.

By supporting AMD (Bergamo) CPUs, CRSAN2N12U also excels in processing prowess. With its detailed airflow considerations, this system can support AMD EPYC Bergamo's maximum 128 cores and 128x Gen5 PCIe lanes. The latest AMD EPYC cores allow the server to carry out the most demanding applications while offering low-latency access to the storage via its vast amount of Gen5 PCIe lanes.

The individual canister design allows data to be logged and processed separately. Once data is processed, the canister can hot-swap and migrate to a different location. With the canister design, data migration is no longer bound to the external network fabric. The canisters support SED drives and can be encrypted to provide maximum data security.

Each CRSAN2N12U canister can be connected via 16x PCIe Gen4 Lanes to the AMD CPU directly or via a hardware NVMe RAID controller. This offers the flexibility for customer to choose between high storage performance or hardware RAID protection. CRSAN2U3N allows each canister to connect to a dedicated hardware RAID controller to ensure adequate RAID5 read and write performance.

Media Entertainment
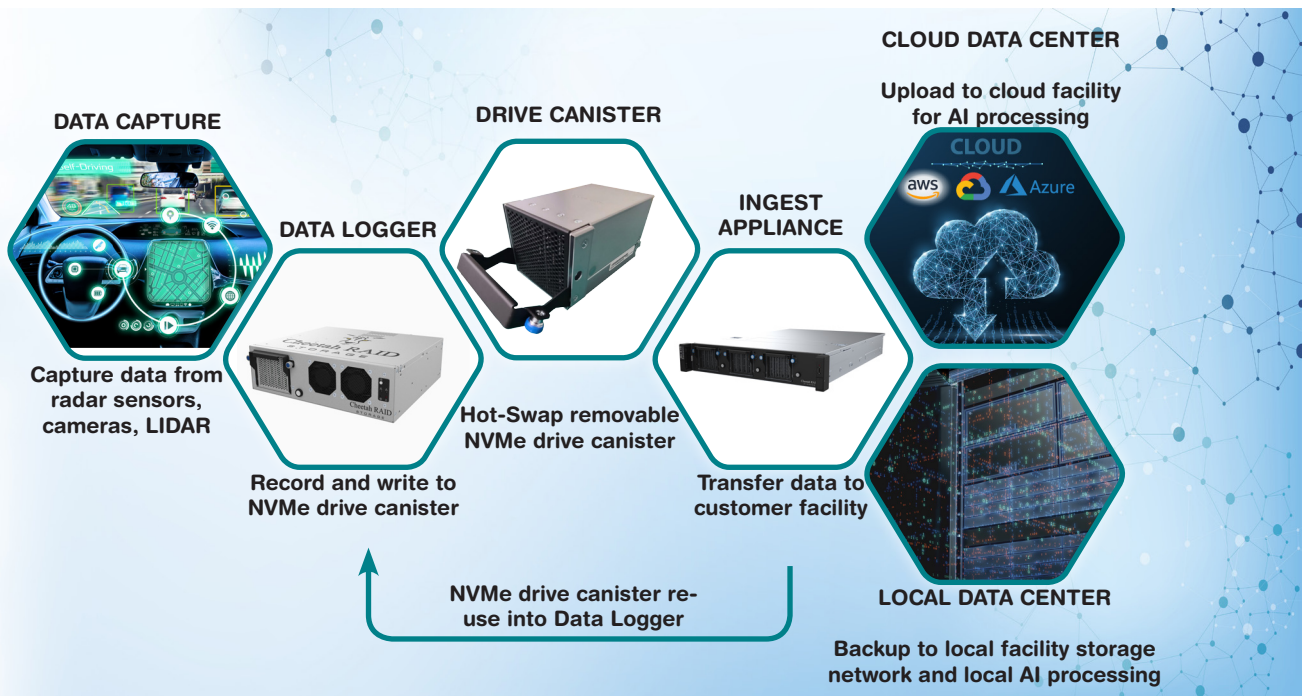
In-vehicle Data Logger

5G Communications

Military

DATA CAPTURE
Capture data from radar sensors, cameras, LIDAR

DATA LOGGER
Record and write to NVMe drive canister

DRIVE CANISTER
Hot-Swap removable NVMe drive canister

INGEST APPLIANCE
Transfer data to customer facility

CLOUD DATA CENTER
Upload to cloud facility for AI processing

CLOUD
aws Azure

LOCAL DATA CENTER
Backup to local facility storage network and local AI processing

NVMe drive canister re-use into Data Logger

CRSAN2N12U-UB	
Supported CPU	Support AMD EPYC™ 9004 Series Processors Socket Single Socket SP5 (LGA6096)
Chipset	System on Chip
Supported RAM	8 DIMM slots (1DPC) Supports up to 4TB Registered ECC DDR5 4800MHz RDIMM 8-channel memory bus
IO Interface	1x UID button w/ LED 1x VGA Port 2x Type-A (USB3.2) 2x RJ45 10GbE 1x IPMI
Expansion Slots	2 PCI-E 5.0 x16 & 2 PCI-E 5.0/CXL 1.1 x16 & 2 PCIe 5.0/CXL 1.1 x8; slot-config options: - Supports 3x Broadcom/Microchip Hardware RAID Controllers and a dual 200Gb NIC - One x8 re-timer card and One GRAID with Two dual 200Gb NICs and One AI Accelerator card
Drive Bays	12x U.2/U.3 2.5" NVMe PCIe Gen 4 SSDs via 3 Hot-Swappable NVMe canisters
Cooling	4x 80x38mm high-speed cooling fans
Front Panel	Power On/OFF with LED, reset Switch, NMI switch, Locate Switch with LED, 4x LAN LED, Warning LED
Supported OS	Microsoft® Windows: Server 2022 (64bit), Server 2019 (64bit) Linux: RedHat Enterprise Linux Server 8.6 (64bit) / 9.0 (64bit) SUSE SLES 15.4 (64 bit) UBuntu 20.04.5 (64 bit) / 22.04.2 (64 bit) Hypervisor: VMWare® ESXi 7.0 U3i / 8.0 CITRIX Hypervisor 8.2.1
Power	800W Redundant Power Supply
Environmental	Operation temperature: 10°C ~ 35°C / Non operation: -40°C ~ 70°C Non operation humidity: 20% ~ 90% (Non condensing)