

WARP 4100I Matrix Series Ultra-Dense HPC Storage

Looking for competitive advantage, all industries are seeking improvement through data science and analytics, requiring storage systems on the backend that can keep up with these new demands in performance and scale. Using Lustre, HPC architects have built parallel file systems support the world's fastest, most scalable storage systems in the world. Unfortunately, teams of PhD-holding administrators were required to implement and maintain such environments, a luxury that even large enterprise business often do not have.

The **WARP Mechanics 4100I Matrix Series** open storage appliances deliver the power, scale, and cost-model needed to support data science and analytics efforts to give businesses the edge they need to stay competitive.

WARP Mechanics has simplified Lustre deployment into a turnkey, scalable storage *appliance*, while retaining the flexibility of a customized solution. The WARP 4100I series of appliances combine storage servers and targets into a tightly-integrated package making it easy to deploy in a modular fashion. These appliances can be rolled out in a turnkey manner and then tailored as needed to meet customer-specific requirements.

WARP Mechanics has adopted Open Storage as more than a marketing term; it's a philosophy that uses best-of-breed industry-leading hardware and open source software to create an architecture that doesn't sacrifice performance, reliability, or manageability.

Starting with components taken from the supercomputing realm, the 4100I Matrix Series integrates the scale and throughput of Lustre with the integrity of ZFS into appliances designed for ultimate reliability, performance and scalability.

- High-Availability
- 10/40 Gbps Ethernet, FDR/EDR IB, and Omni-Path interfaces
- Native Linux ZFS with Lustre fully integrated
- Self-healing, adaptive RAID with check-sums & transactional copy-on-write
- De-duplication, Thin Provisioning, & Compression
- Unlimited File Size & Storage Capacity
- Unlimited Snapshots & Clones
- Sync or Async Replication
- Web GUI, CLI, and full access to RHEL-style OS



WARP 4100I-S Storage Matrix:

- ~7.2PB/rack raw HDD capacity
- Up to 90x HDDs per enclosure
- Standard 64GB RAM/controller
- >20K IOPS per shelf

WARP 4100I-H Hybrid Matrix:

- ~7.2PB/rack raw HDD capacity
- Up to 90x HDDs per enclosure
- Up to 96TB high bandwidth SSD
- Standard 128GB RAM/controller
- 1M IOPS (cache hits) per shelf

WARP 4100I-M Memory Matrix:

- Up to 3PB/rack w/ high-cap SSDs
- 24x SSD modules per enclosure
- Up to 1.5TB RAM per controller
- >2M IOPS per shelf

WARP Mechanics has enhanced and simplified these elements to remove the deployment and management complexity: customers only need to configure site-specific parameters before going live. Yet all the power remains inside, so the appliances are tunable for customers' applications.

In short, these products are denser, faster, more reliable, and run at a lower power-per-gigabyte metric than any competing system. Yet they come in at a lower cost compared to outdated storage from legacy OEMs.

Whichever Matrix solution you choose, WARP Mechanics provides the optimal approach for your data storage needs.