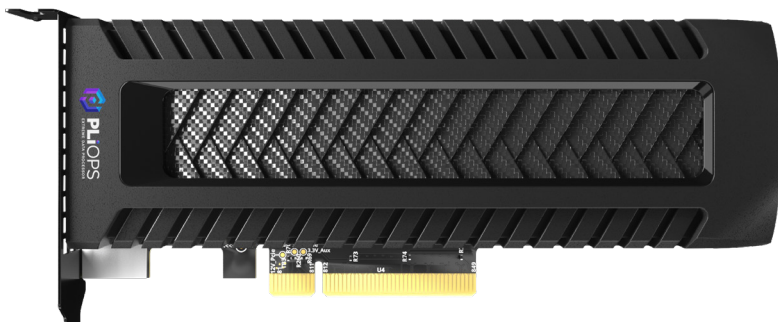**PLiOPS**
EXTREME DATA PROCESSOR

# The Power of X: Pliops Extreme Data Processor (XDP)

Overcome storage inefficiencies, massively accelerate application performance, and dramatically lower overall infrastructure costs for databases, analytics, machine learning, and more. The Pliops Extreme Data Processor (XDP) radically simplifies the way data is processed and SSD storage is managed. Delivered on an easy-to-deploy, low-profile PCIe card, Pliops XDP exponentially increasing performance, reliability, capacity, and efficiency to multiply the effectiveness of your infrastructure investments.



Pliops XDP improves **performance, capacity, efficiency, and reliability** across a wide range of applications.

## Performance

**Achieve unprecedented performance up to 10x higher for databases, analytics, AI/ML, and more.**

Pliops breakthrough data structures and algorithms deliver the equivalent of hundreds of cores of host software. Accessible via a standard block interface, XDP appears as a block device in the system and will accelerate any application. A direct Key-Value (KV) interface that uses the same APIs as existing software is an easy change to supercharge your software.  With databases like MySQL, MongoDB, and Cassandra, Pliops XDP delivers significant increases in instance density while reducing latency, enabling systems to be pushed to the max.

## Reliability

**Get data protection at the speed of flash with ZERO performance penalty.**

Traditional data protection solutions require tradeoffs in both performance and capacity. Pliops XDP eliminates these tradeoffs with advanced drive failure protection that maintains constant data availability and eliminates data loss and downtime. XDP supports multiple single drive failures, and with virtual hot capacity (VHC), there is no need for a hot spare. Because XDP manages the data, only actual data is rebuilt, unlike RAID-based solutions.

## Capacity

**Store up to 6x more data with no performance cost.**

Pliops XDP supports TLC, QLC, Intel® Optane™, including ZNS and open channel—all common flash technologies and SSDs from any vendor. XDP increases endurance by up to 10x, making it possible to take advantage of high-capacity, low-cost SSDs. Data is efficiently compressed and packed with leaving no gaps, so there is no internal fragmentation. When using the block storage API, the volume is can also be thinly provisioned, enabling the full use of all SSD capacity at maximum performance.

## Efficiency

**One easy-to-deploy solution for every workload for up to 80% better economics.**

Pliops XDP provides value across a broad range of applications with one-solution fits-all acceleration. Pliops XDP makes it valuable and easy to deploy across an entire data center. Compact yet powerful, XDP gets more out of the existing infrastructure footprint to keep up with organizational data growth and application adoption.

Pliops Extreme Data Processor unleashes the full potential of flash storage by enabling enterprise applications to access data up to **1,000 times faster,** using just a fraction of traditional computational load and power.

# Specifications

| | |
|---|---|
| **Performance** | 3.2M IOPS RR, 1.2M IOPS RW, 30GB/s SR, 6.4 GB/s SW |
| **Write Atomicity** | Support for Atomic Writes up to 64KB for explicit or transparent double write elimination |
| **Capacity** | Store up to 128TB of data on 64TB of protected SSDs |
| **Host API** | • Standard block device<br>• KV Library API |
| **Compression** | Hardware accelerated |
| **SSD Support** | • Interface: PCIe Gen 3 and Gen 4 NVMe, NVMe-oF, SAS<br>• Types: TLC SSD, QLC SSD, ZNS SSD, Intel® Optane™ |
| **Drive Vendors** | Samsung, WD, Micron, Intel, Kioxia, Hynix, Seagate and others supported |
| **Physical Dimensions** | Low Profile HHHL (6.6" X 2.536") - Tall and Short Bracket |
| **OS Support** | All Linux variants |
| **Supported Servers** | Dell, HPE, Lenovo, Supermicro, Quanta, Wywinn, Inspur, Sugon, Fujitsu, Hitachi – all standard 1U / 2U servers |
| **Power Fail Protection** | All data is protected from sudden power failure |
| **Operating Temperature** | 10-55°C @ 250 LFM |
| **Storage Temperature** | 5°C to 35°C, < 65% non-condensing |
| **Operating Voltage** | +12V, through PCIe adapter |
| **Warranty** | 3 years, free advanced technical support, advanced replacement option |
| **Regulatory Certifications** | AS/NZS CISPR 22, ICES -003, Class B, EN55022/EN55024, VCCI V-3, RRA no 2013-24 & 25, RoHS compliant, EN/IEC/UL 60950, CNS 13438, FCC 47 CFR part 15 Subpart B, class B, WEEE |
| **MTBF** | Up to 4.5M Hours |

**Part Number PLALAS1FI-000**
Pliops Extreme Data Processor PCIe Adapter Card, Low-Profile w/ Long bracket

**Part Number PLALAS1HI-000**
Pliops Extreme Data Processor PCIe Adapter Card, Low-Profile w/ Short bracket

## Pliops XDP Advanced Features:

- Standard block device with high and consistent performance

- Drive Fail Protection protects against multiple single drive failures

- PCIe Gen 3 and Gen 4 NVMe, NVMe-oF, SAS, interface support

- Supports up to 64TB physical and up to 128TB of user data

- Virtual Hot Capacity eliminates need for dedicated hot spare

- Reduced write amp due to data compression and highly efficient data compaction

- Rapid Recovery - Rebuild to allocated Virtual Hot Capacity

- Balances over-provisioning and improves performance

- User configurable rebuild rate to balance performance

- Full data & metadata protection in the event of sudden power down