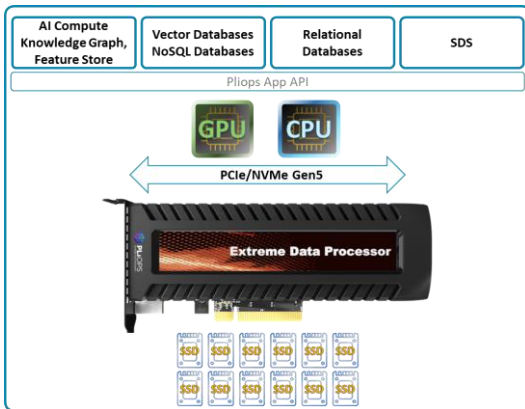


Extreme Data Processor (XDP)

Accelerating AI Storage



Overcome storage inefficiencies, massively accelerate application performance, and dramatically lower overall infrastructure costs for AI, databases, analytics, 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 Accelerator Card enhances CPU and GPU storage processing speeds using AccelKV Data Shaping technology and PCIe Gen5, achieving new performance heights

Performance

Unprecedented performance up to 10x higher for AI, databases, analytics, and more.

Pliops' AccelKV technology enhances data processing by leveraging hundreds of CPU cores through innovative data structures and algorithms. It introduces the XDP-CoreKV Key-Value interface, fully compatible with existing software APIs. Seamless integration with RocksDB and MongoDB is possible via XDP-Rocks and XDP-WiredTiger interfaces. Pliops XDP boosts instance density for databases and AI applications, reducing latency and improving system efficiency.

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-RAIDplus eliminates these tradeoffs with advanced drive failure protection that maintains constant data availability and eliminates data loss and downtime. XDP-RAIDplus supports multiple single drive failures, and with virtual hot capacity (VHC), there is no need for a hot spare. Because XDP-RAIDplus 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, including ZNS –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 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.



**Data Resiliency
Capacity Expansion
Media Enhancement**





Pliops XDP AccelKV Data Storage Acceleration Engine

Pliops AccelKV, Best-In-Class Line-Rate Data Shaping

The novel AccelKV Dispersive-Hash-Table combines all the benefits of KV stores with a shallow DRAM footprint. An innovative hybrid between a hash table and an LSM tree, AccelKV reaches the theoretical limits of a perfect hash table with static & dynamic data. AccelKV is Fully offloaded to XDP hardware, minimizing host CPU footprint. It significantly improves all drawbacks of existing solutions. Examples of AccelKV acceleration tasks include: Sampling, Random Shuffle, Parquet file parsing, Accelerated Compression, Accelerated Encryption, Accelerated Data protection.

Specifications

Performance	RR:7M IOPS, RW:3.2M IOPS, SR:56GB/s, SW:13 GB/s
Capacity	2PB RAW/Physical disk capacity; 4PB w/ Compression
RAID support	Pliops XDP-RAIDplus
Compression	Hardware accelerated LZ4
SSD Vendors	All drive vendors including Samsung, WD, Micron, Solidigm, Kioxia, Hynix, Dapustor, Seagate
SSD Support	Interface: PCIe Gen 3/4/5 NVMe & NVMe-oF, SAS, SATA - Types: TLC SSD, QLC SSD, ZNS SSD
Supported Servers	All standard servers including Dell, HPE, Lenovo, Supermicro, Quanta, Wywinn, Inspur, Sugon, Fujitsu, Hitachi, Tyan, MiTac, Intel, Cisco, AIC
OS Support	All Linux variants including RHEL, Ubuntu and Debian
Host API	Standard block device – plus - KV Library API, XDP-Rocks (RocksDB compatible API), XDP-WiredTiger (for MongoDB)
Physical Dimensions	Low Profile HHHL (6.6" X 2.536") - Tall and Short Bracket
Host Bus Type	8-lane, PCIe Gen 5 Compliant
Power Fail Protection	All data is protected from sudden power failure protection using onboard Supercapacitors
Operating Temp.	10-50°C @ 450 LFM
Storage Temp.	5°C to 35°C, < 90% non-condensing
Power	Typical <25W, Max 45W, +12Vdc through PCIe slot
Operating Voltage	+12V dc, through PCIe edge connector
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

Up to
10X
RocksDB
Accelerated

Up to
6X
MongoDB
Accelerated

Up to
6X
More
Capacity

Up to
5X
Faster RAID
Rebuild

Pliops XDP SSD Enhancements:

- 6x more capacity than traditional RAID allows for data growth challenges
- Rapid Recovery - Enable strict availability SLAs
- Extend SSD useful life beyond hardware refresh cycles
- Greater Resiliency with protection against 2 sequential single drive failures
- Eliminate need for dedicated hot spare with built in Virtual Hot Capacity feature
- Significant write amplification reduction
- Ultra fast rebuild rate for large capacity drives
- Full data & metadata protection in the event of sudden power down