

## EIDETICOM NOLOAD® TRANSPARENT COMPRESSION

Powered by Xilinx ALVEO™ U50 Data Center Accelerator Cards

### OVERVIEW

The NoLoad Alveo U50 Data Center Accelerator Card integrates NoLoad Computational Storage technology built on Xilinx UltraScale+™ architecture and is designed for deployment in any server. This solution provides computational services in a Add-In-Card (AIC) form factor and is considered a Computational Storage Processor (CSP).

The NoLoad Alveo U50 Transparent Compression solution requires no application changes, ties directly into any File System and achieves line-rate compression while using 70% less CPU.

Eideticom's Alveo U50 supports a range of Computational Accelerators for both Storage and Compute applications, namely:

- > **Storage Accelerators:** Compression, Encryption, Erasure Coding, Deduplication
- > **Compute Accelerators:** Data Analytics & Video Codecs

The NoLoad Alveo U50 Transparent Compression solution leverages the NoLoad software framework that was developed to allow applications such as Databases (Hadoop, RocksDB, Cassandra and MySQL) to offload critical storage tasks. This offloading leads to improved performance, efficiency, and reduced costs for the storage system.

NoLoad's NVMe compliant interface provides seamless integration and has been validated on Intel, AMD, ARM and IBM Power CPUs.



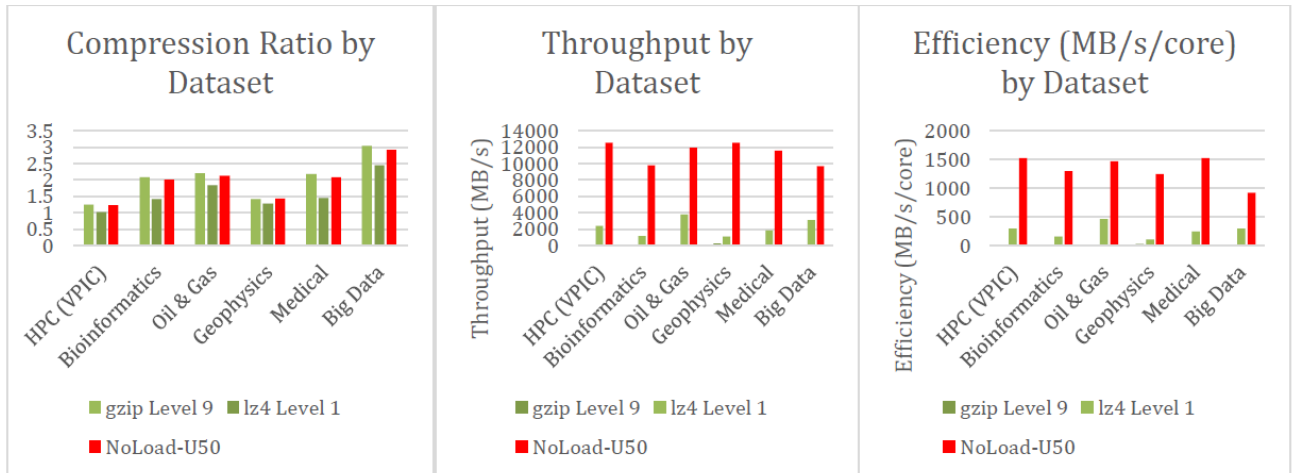
### BENEFITS

- > Up to 10x more Storage Capacity
- > Works with every Application
- > Line-Rate Compression Performance

### CAPABILITIES

- > PCIe Gen 3x16 or dual Gen 4x8
- > HHHL single slot Low-Profile
- > 8GB HBM2 Memory
- > 1 x QSFP28(100 GbE)
- > 75W Power (TDP)
- > NVMe 1.3 compliant (validated by UNH) including CMB support

# END SOLUTIONS - TRANSPARENT COMPRESSION



**Bottomline: The NoLoad Alveo U50 provides significant Compression Ratio advantages (lower \$/TB) and CPU utilization, while also achieving better than Line-Rate Throughput**

## COST-BENEFIT ANALYSIS

- > **Storage Capacity Costs:** NoLoad compression reduces the effective \$/TB of the system by increasing the amount of data stored on SSDs.
- > **Storage Lifetime Costs:** NoLoad's higher Compression Ratio extends the lifetime of an SSD, since for a given compression input throughput it reduces the Drive Writes Per Day (DWPD).
- > **Power Consumption:** NoLoad compression is dramatically more CPU efficient than both lz4-1 and gzip-9, therefore allowing a given CPU to run cooler and consume less power since less cores are fully loaded.
- > **Throughput Performance Costs:** NoLoad compression is 3-6 more CPU efficient than lz4-1 and over 100 times more CPU efficient than gzip-9. This permits a smaller CPU with less cores to be used to achieve the same throughput, also leading to fewer servers being deployed in the final system.
- > **NoLoad Transparent Compression:** Zero application changes and transparent to applications with no userspace modifications required. Ties directly into existing production filesystems with the ability to layer on more computation over time i.e. encryption, analytics, etc

## TAKE THE NEXT STEP

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