

## Product Brief

# NoLoad™ Alveo™ Computational Storage Processor

## Overview

Eideticom's NoLoad Computational Storage platform on Xilinx Alveo Data Center Acceleration FPGA Cards

NoLoad's NVMe compatible interface provides seamless integration for all CPU platforms and has been validated on Intel, AMD, ARM and IBM Power8/9 CPUs

NoLoad supports high performance acceleration of storage and compute workloads on FPGA i.e. Erasure Coding, Deduplication, Compression, Analytics, etc

Compatible/validated with Broadcom®, Mellanox® and Q-Logic® RDMA NIC's

Support for Alveo U200, U250 and U280 Accelerator Cards

## Capacities

- 1.5 - 8 GB RAM Drive
- 0.5 – 8 GB NVMe Controller Memory Buffer (CMB)

## Capabilities

- GZIP/ZLIB/Deflate compliant compression core
- GUNZIP/ZLIB/Inflate decompression core
- ISA-L compliant RS Erasure Coding engine
- Deduplication - support for SHA-1, SHA-2 & SHA-3 (with hashing)
- AES-XTS encryption/decryption:
- Supports easy integration of user developed acceleration functions

## NVMe Feature Support

- NVMe 1.3 compatible interface
  - o Admin queue and 16 I/O queues
  - o Supports NVMe Scatter Gather Lists (SGLs)
  - o CMB support (all modes)

## Performance

- Available under NDA



## NoLoad Alveo RockDB Acceleration at OCP 2019

### NoLoad RocksDB Demo Platform

RocksDB



NoLoad™ Computational Storage Platform



Dell R7425 Server

6x more transactions per second

2.5x more efficient

4x reduced NAND costs

improved QoS

increased NAND lifetime

Xilinx OCP 2019 Booth A15



## FPGA Accelerator Disaggregation using NoLoad and NVMeoF

Get your FPGA's "out of the box" and shared across the datacenter

- NVMe over Fabrics ecosystem allows NoLoad NVMe accelerator namespaces to be accessed/shared across network fabrics such as Ethernet
- NoLoad™ FPGA acceleration sharing across the network fabric enables FPGA disaggregation
- Eideticom's API supports PCIe and/or Ethernet/RDMA/TCP with no changes in application code

### NoLoad Computational Storage Demo

