EIDETICOM

RocksDB Acceleration using NoLoad® CSP

Eideticom's NoLoad® CSP deployed on Alveo

- **6x more transactions per sec**
- **2.5x more efficient**
- **4x reduced NAND costs**
- **Improved QoS**

INTRODUCTION

Exploding Data Demands

The recent trend of using high performance PCIe devices to move, manipulate and store data in compute and storage servers is creating new bottlenecks. High performance Network Interface Cards (NICs), NAND based NVM Express (NVMe) SSDs and GPGPUs are all capable of generating multiple-GB/s of PCIe traffic.

This volume of PCIe traffic can be problematic and chokes the CPU in multiple places. Some of which include the internal CPU bus, Last Level Cache (LLC), Memory and Integrated Memory Controllers (IMCs). All of which lead to additional latency and poorer quality of service for applications.

Eideticom's NoLoad® Computational Storage Processor (CSP) with Xilinx® Alveo™ accelerator cards can overcome all of the issues noted above.

PRODUCT OVERVIEW

Eideticom's NoLoad® CSP

Eideticom's NoLoad® CSP is built for acceleration of storage and compute intensive workloads. Eideticom's NoLoad CSP is deployed on the Xilinx® Alveo™ accelerator cards. The product uses inbox NVMe drivers with no changes to the OS. Field programmable accelerators can adapt to new application demands, making this a very agile solution.

SOLUTION OVERVIEW

RocksDB Acceleration using NoLoad Alveo

Eideticom's NoLoad® Computational Storage Processor (CSP) with the Xilinx® Alveo™ card was used to accelerate the production key-value store RocksDB. The NoLoad CSP Alveo was used for compression offload. The solution resulted in significant improvements in performance and efficiency when compared to a software-only solution.

NoLoad Alveo RocksDB Acceleration
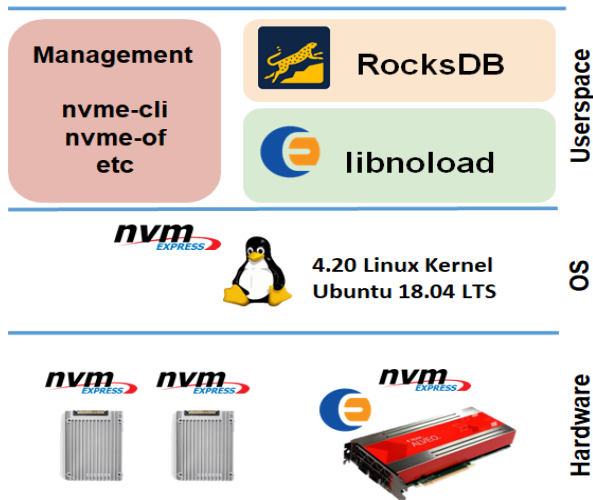
- **6x** more transactions per second
- **2.5x** more efficient
- **4x** reduced NAND costs
- improved QoS
- increased NAND lifetime

NoLoad® CSP Alveo – Software

NVM Express Compatibility
In-box drivers for all major operating systems

Easy Integration
Standards-based with no OS changes

NoLoad Accelerator Namespaces
Gets your accelerators out-of-the-box

CONCLUSION

Eideticom NoLoad® CSP Alveo
Eideticom's NoLoad® Computational Storage Processor (CSP) with Xilinx® Alveo™ can be used to eliminate data center and application bottlenecks caused by exploding storage demands. The Eideticom NoLoad CSP Alveo card results in accelerating data center infrastructure, ensuring affordable scaling and dramatically lowering cost.

TAKE THE NEXT STEP

For more information about Eideticom and Xilinx acceleration solutions, please visit www.xilinx.com. Contact us today and ask us how we can accelerate your needs – Sales@eideticom.com

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