PRODUCT BRIEF

AMD ALVEO™ U280

Adaptable Accelerator Cards for Data Center Workloads

OVERVIEW

AMD Alveo™ U280 Data Center accelerator cards are designed to meet the constantly changing needs of the modern Data Center. Built on the AMD 16nm UltraScale™ architecture, Alveo U280 offers 8GB of HBM2 up to 460 GB/s bandwidth to provide high-performance, adaptable acceleration for memory-bound, compute intensive applications including database, analytics, and machine learning inference.

The U280 acceleration card includes PCI Express 4.0 with CCIX support to leverage the latest server interconnect infrastructure for high-bandwidth, low latency, cache coherent shared memory access with CCIX host processors.

Alveo accelerator cards are adaptable to changing acceleration requirements and algorithms, capable of accelerating any workload without changing hardware, and reduce overall cost of ownership.

Enabling Alveo accelerator cards is an ecosystem of AMD and partner applications for common Data Center workloads. For custom solutions, Xilinx's Application Developer Tool Suite (**SDAccel™ tool**) and **Machine Learning Suite** provide the frameworks for developers to bring differentiated **applications** to market.

HIGHLIGHTS

Fast – Highest Performance

- Up to 3000X higher throughput than CPUs1 on key workloads such as Key-Value-Store
- Over 8X faster response time for database SQL TPC-H Query 5

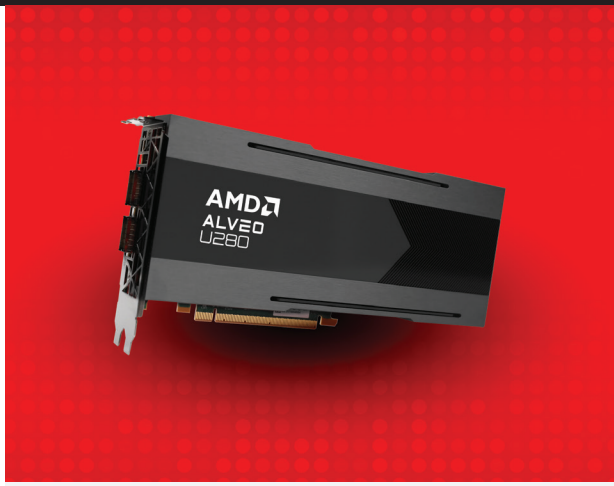
Adaptable – Accelerate Any Workload

- Database search to natural language processing to any workload using the same accelerator card
- > As workload algorithms evolve, use reconfigurable hardware to adapt faster than fixed-function accelerator card product cycles

Accessible – Cloud On-Premises Mobility

- Deploy solutions on the cloud or on-premise interchangeably, scalable to application requirements
- **Applications available** for common workloads, or build your own with the Application Developer Tool

1: Algo-Logic Key Value Store throughput on U280 vs Xeon class server

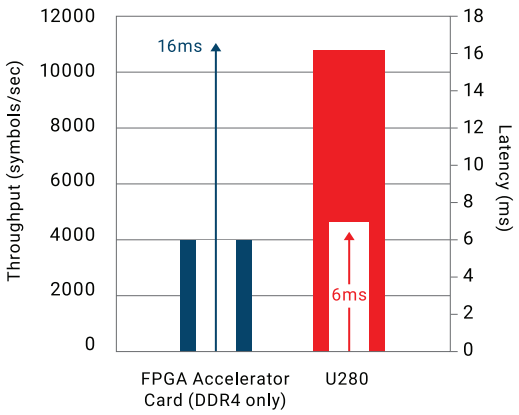


AMD ADVANTAGE

- Memory-Bound & Compute Intensive Applications
- Database Search & Analytics
- Machine Learning Inference

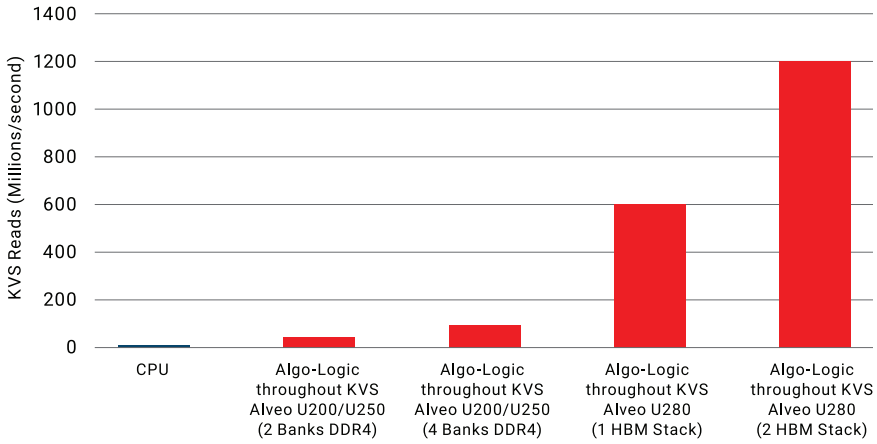
OVERVIEW

Accelerate Memory Bound Workloads (Neural Machine Translation)*



***Supercharge Your AI and Database Applications with Xilinx's HBM-Enabled UltraScale+ Devices Featuring Samsung HBM2**

Increase Database Workload Throughput by 3000X*



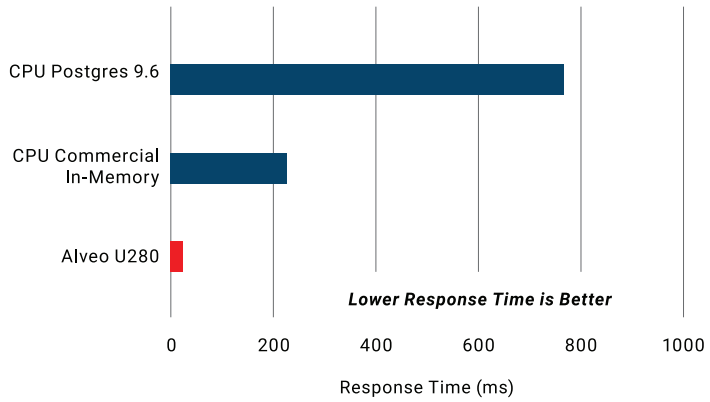
*Algo-Logic Key Value Store throughput on U280 vs Xeon Class Server

FEATURES

FEATURES	ALVEO U280
Peak INT8 TOPs	24.5
HBM2 Memory Bandwidth	460GB/s
DDR Memory Bandwidth	38GB/s
Internal SRAM Bandwidth	30TB/s
Look-Up Tables	1,079K
PCI Express	Gen4 x8 with CCIX
Thermal Options	Passive or Active*

*Passively cooled cards are production deployable.
Actively cooled cards are for development only.

Reduce Database Query Response Time by 8X*



*Measured on U280 with SQL TPC-H Query 5

TAKE THE NEXT STEP

Learn more about the **AMD Alveo™ U280**

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