VIVIDSPARKS

Application Specific Amazon Web Services (AWS) cloud Soft IP Cores

HPC Co-Processor

Provides server-class performance that is also unmatched in it's efficiency and size

- Designed for HPC applications undertaking complex computing tasks

- Provides support for high end mathematical functions

- Provides more accurate results than Floating Point number system

Graphics Co-Processor

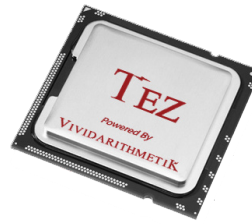Premium co-processor for GPU architecture

- Flexible architecture with parameterization of different POSIT configurations

- More POSIT operations per watt

- Supports Floating Point equivalent POSIT instructions

AI Co-Processor

Smallest, low-cost co-processor for 16-bit

- Very light weight arithmetic units best suited for AI applications

- Support for matrix multiplications and additions for Neural Network

- Flexible architecture with parameterization of processing elements

RISC-V + Posit Co-processor Unit

Cost efficient RISV + PCU that doesn't compromise performance

- Best suited for automotive applications

- Compatible for all RISC-V instructions

- Supported with VividSparks POSIT compiler

What is AWS?

AWS is cloud based infrastructure services which can be accessed any where in the word such as CPU cluster services, storage services, FPGA acceleration based services etc.
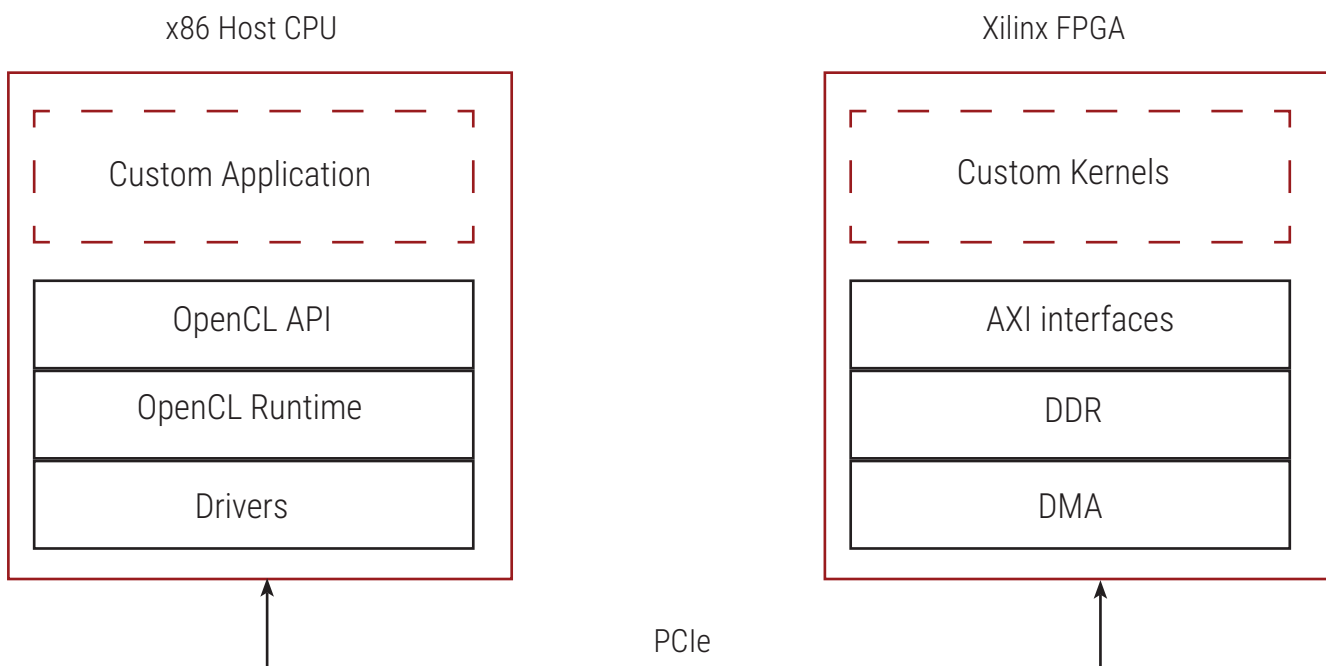
Usage of AWS service

Register at: https://aws.amazon.com/, obtain permission from AWS team for using F1 FPGA based instance, launch instance in AWS console and connect F1 instance using ssh or putty.

Benefits of AWS

- Easy to use

- No infrastructure required and no FPGA boards required

- Provides dedicated and large amount of FPGA logic with elasticity to scale to multiple FPGAs

- Simplifies development process by providing cloud based FPGA development tools

- Provides marketplace for FPGA applications, giving more choice, secure and easy access to millions of AWS users

AWS F1 Platform Model

x86 Host CPU   Xilinx FPGA

| Custom Application |
| OpenCL API |
| OpenCL Runtime |
| Drivers |

| Custom Kernels |
| AXI interfaces |
| DDR |
| DMA |

PCIe

Pricing

Just US $ 200 per month per IP core.