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InAccel Coral FPGA Cluster Manager

Program against your FPGAs like it's a single pool of accelerators

Coral FPGA Manger is a framework that allows the distributed acceleration of large data sets across clusters of FPGA resources using simple programming models. It is designed to scale up from a single device to multiple FPGAs, each offering local computation and storage.

Main Features:

Cluster Management

Automatic configuration and management of the FPGA bitstreams and memory

Scheduling

Automatic distribution of multi-thread applications to the FPGA cluster
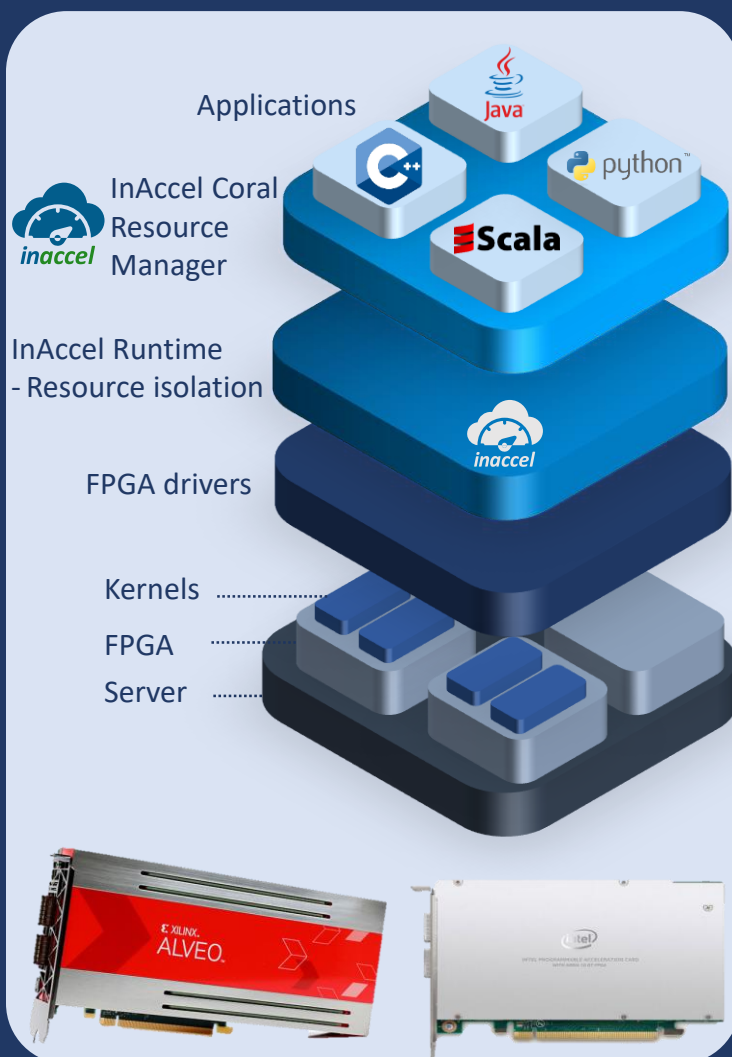
Sharing of resources

Automatic sharing of the resources from multiple applications

Fully Scalable

Allows your IP core to Scale-up (multiple FPGAs per node) and Scale-out (multiple FPGA-based servers over Spark)

Applications

Java

C++   python

InAccel Coral   Scala
Resource
Manager

InAccel Runtime
- Resource isolation

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FPGA drivers

Kernels

FPGA

Server

XILINX
ALVEO

intel

Available On Cloud or on Premise

InAccel Coral FPGA Resource Manager

Ease of Use
Write applications quickly in C/C++, Java, Scala and Python.
InAccel offers all the required high-level functions that make it easy to build and accelerate parallel apps. No need to modify your application to use an unfamiliar parallel programming language (like OpenCL).

Generality
Build your own repository of accelerators.
InAccel provides a stack of cores including ML, Financial formulas, compression and encryption. You can combine all these libraries, along with your own ones, seamlessly in the same application.

Scalability
Industry proven to easily scale to unlimited FPGA resources.

Runs Anywhere
Runs on any FPGA platform (Xilinx, Intel), giving you the freedom to take full advantage of on-premises, or public Cloud (AWS, Alibaba, Nimbix, etc.) infrastructure.

Easy to Deploy
Launch a container with InAccel's Docker image or even deploy it as a daemonset on a Kubernetes cluster and enjoy acceleration services at the drop of a hat.

Resource Management
Automatic resource configuration and task scheduling across entire FPGA clusters in private datacenters or public cloud environments.
Coral examines the state of the FPGAs and implements load-balancing policies across them, efficiently taking care of all the required device configurations and memory transfers.

Privacy / Isolation
Coral allows the secure sharing of the hardware resources among different users and multiple processes or threads.
First class isolation support for accelerator cores and FPGA memory.

Web UI
Built-in Web UI for viewing cluster state, navigating in memory objects and monitoring acceleration tasks.