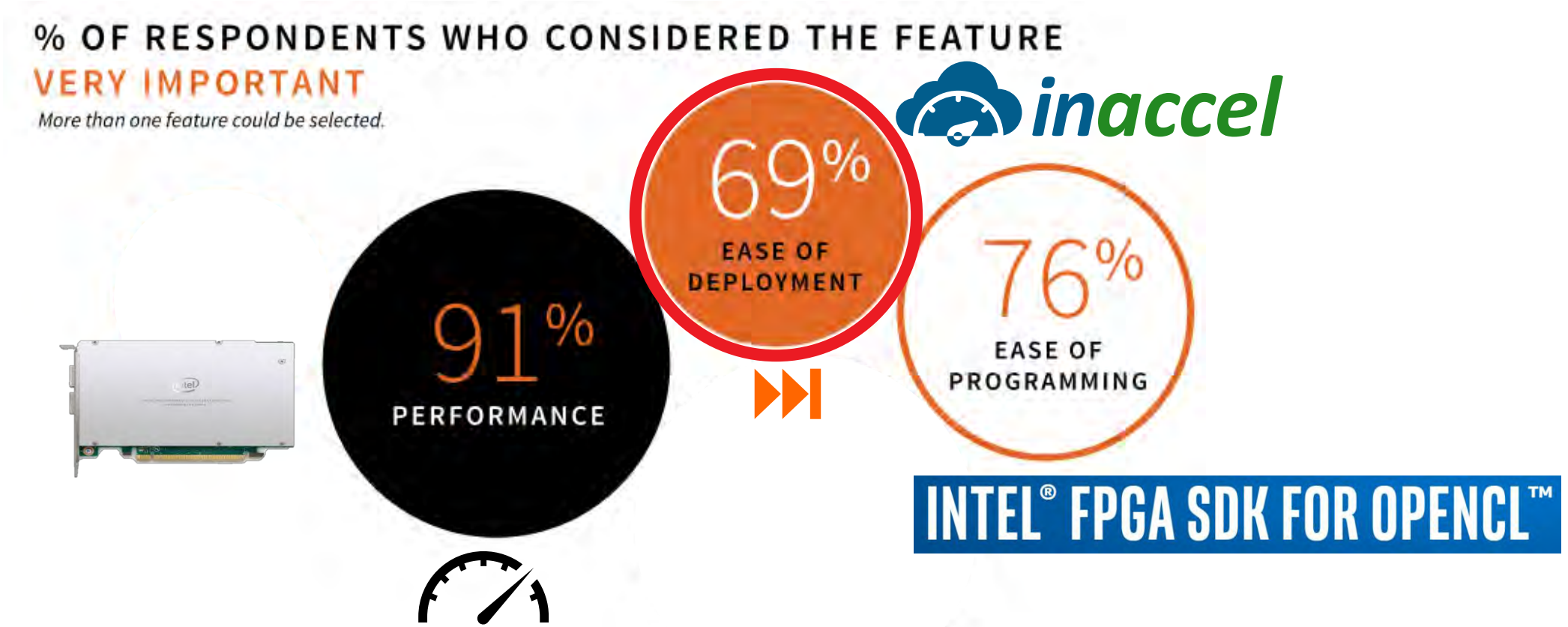
Application Acceleration made simple

www.inaccel.com

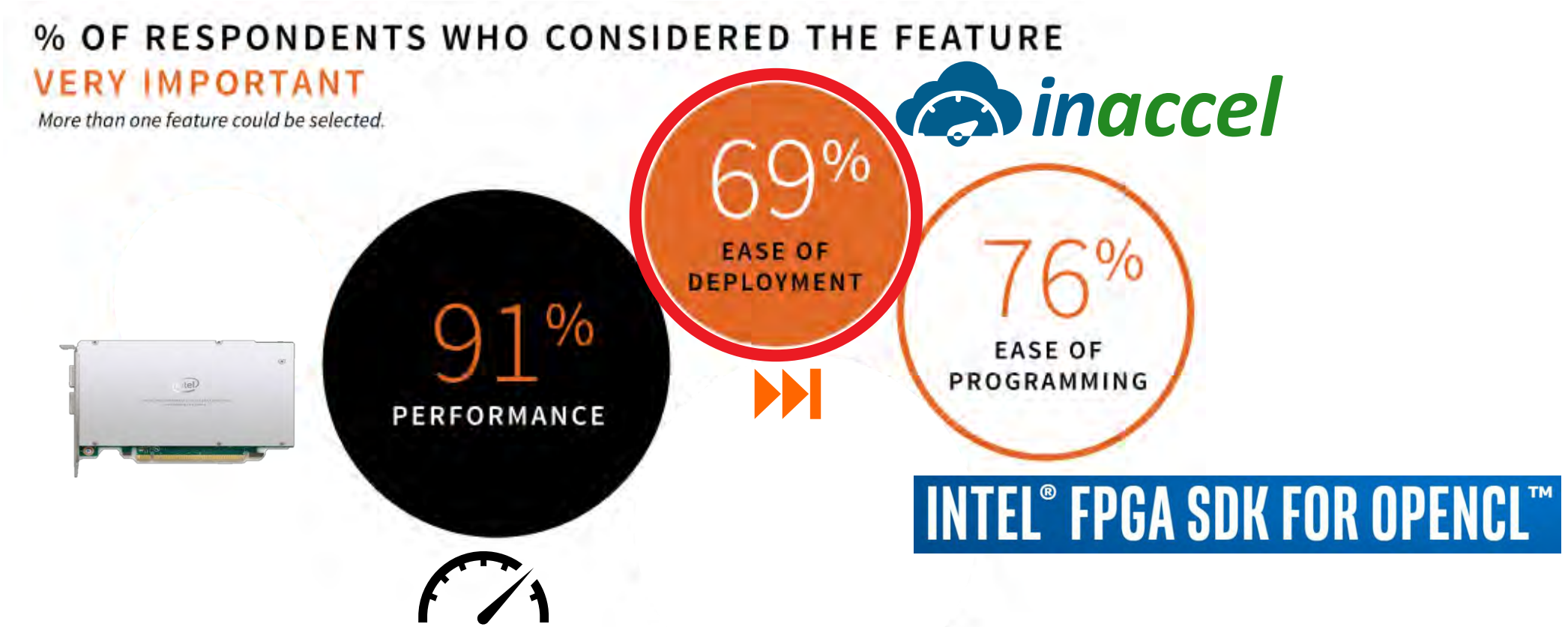
info@inaccel.com

What software developers want



Source: Databricks, Apache Spark Survey 2016, Report

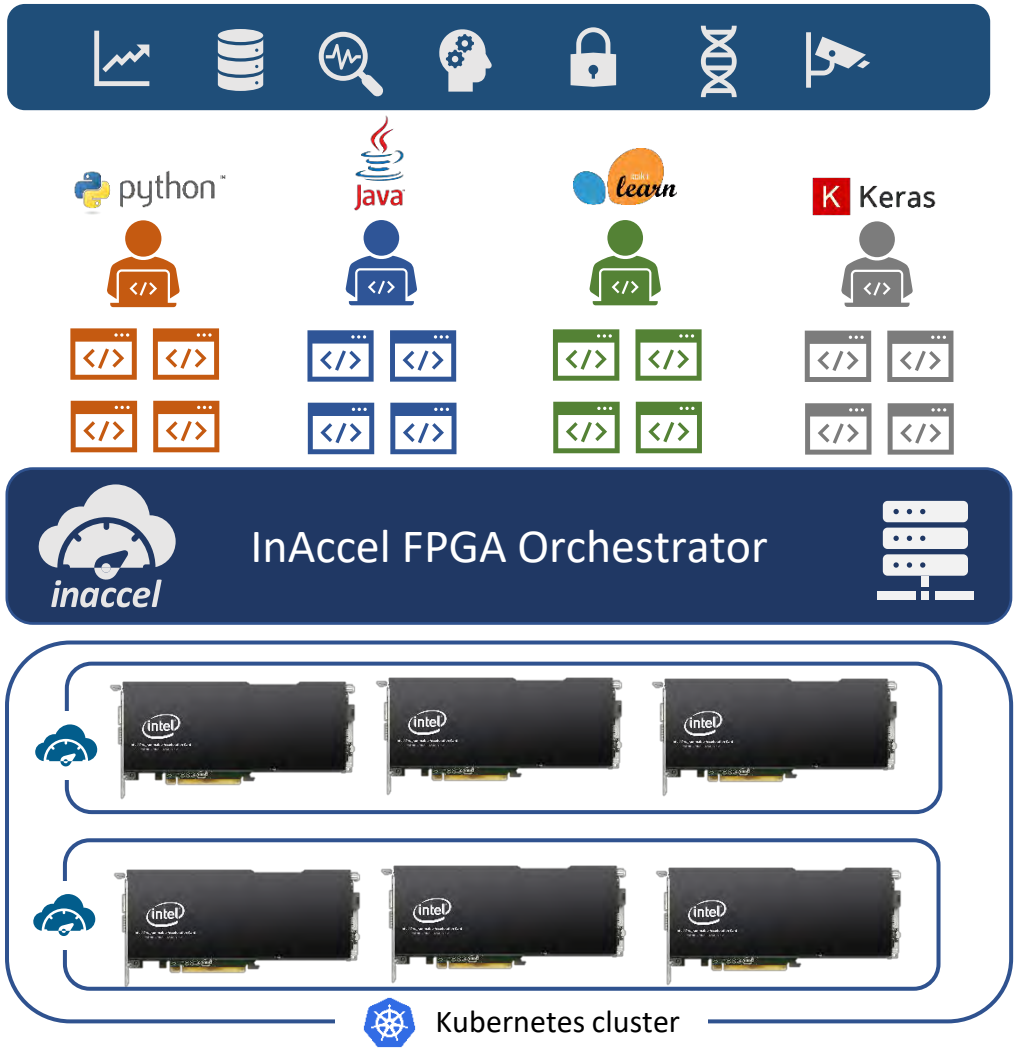
What software developers want



Source: Databricks, Apache Spark Survey 2016, Report

Easiest way to utilize the power of FPGAs

- Integration to C/C++, Python, Java
- Instant scaling to multiple FPGA
- Multi-tenant deployment
- Automatic configuration & deployment



Easiest way to utilize the power of FPGAs

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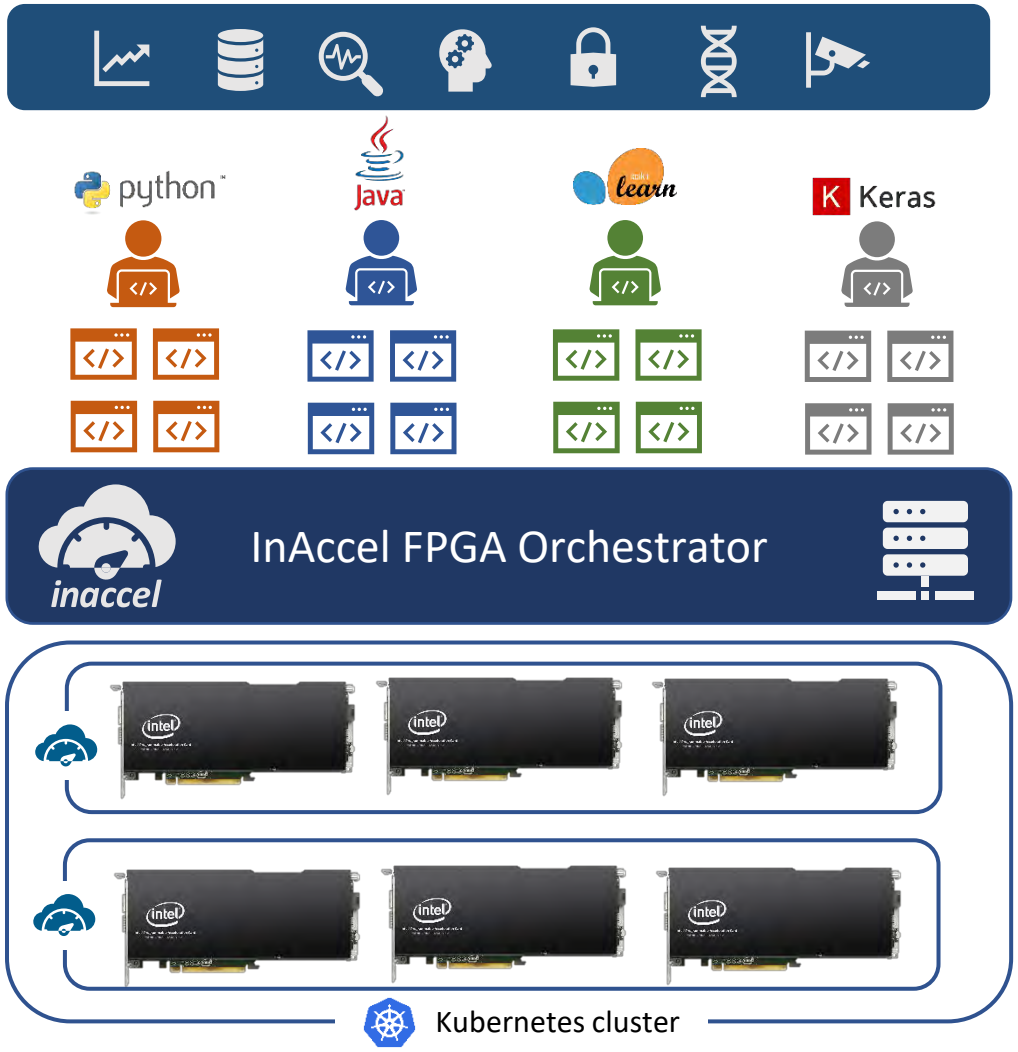
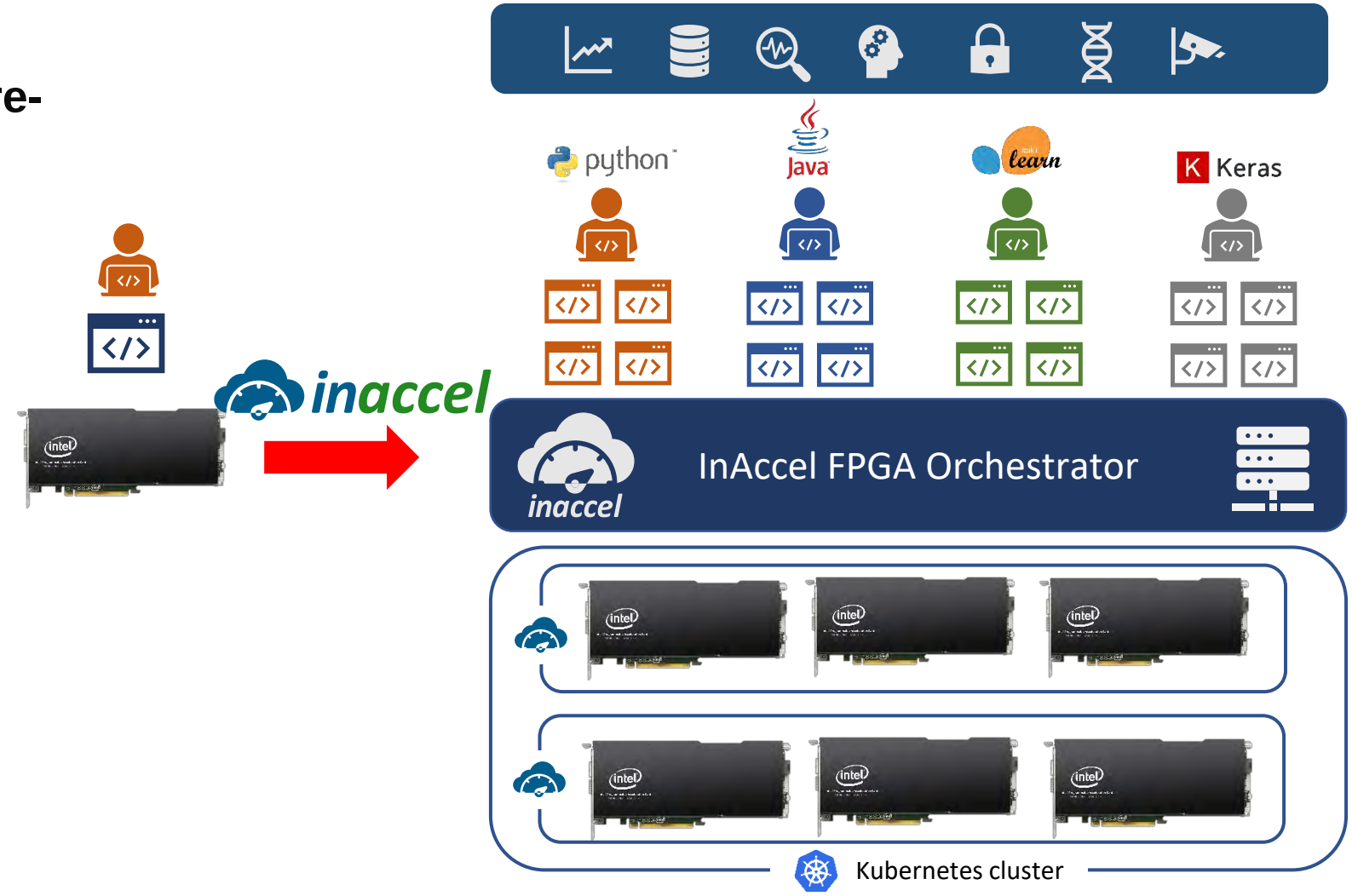


From single instance to data centers

- Easy deployment (software-alike function invoking)
- Instant scaling
- Seamless sharing
- Multi-tenant deployment
- Multiple applications
- Isolation
- Privacy
- Fault-tolerant



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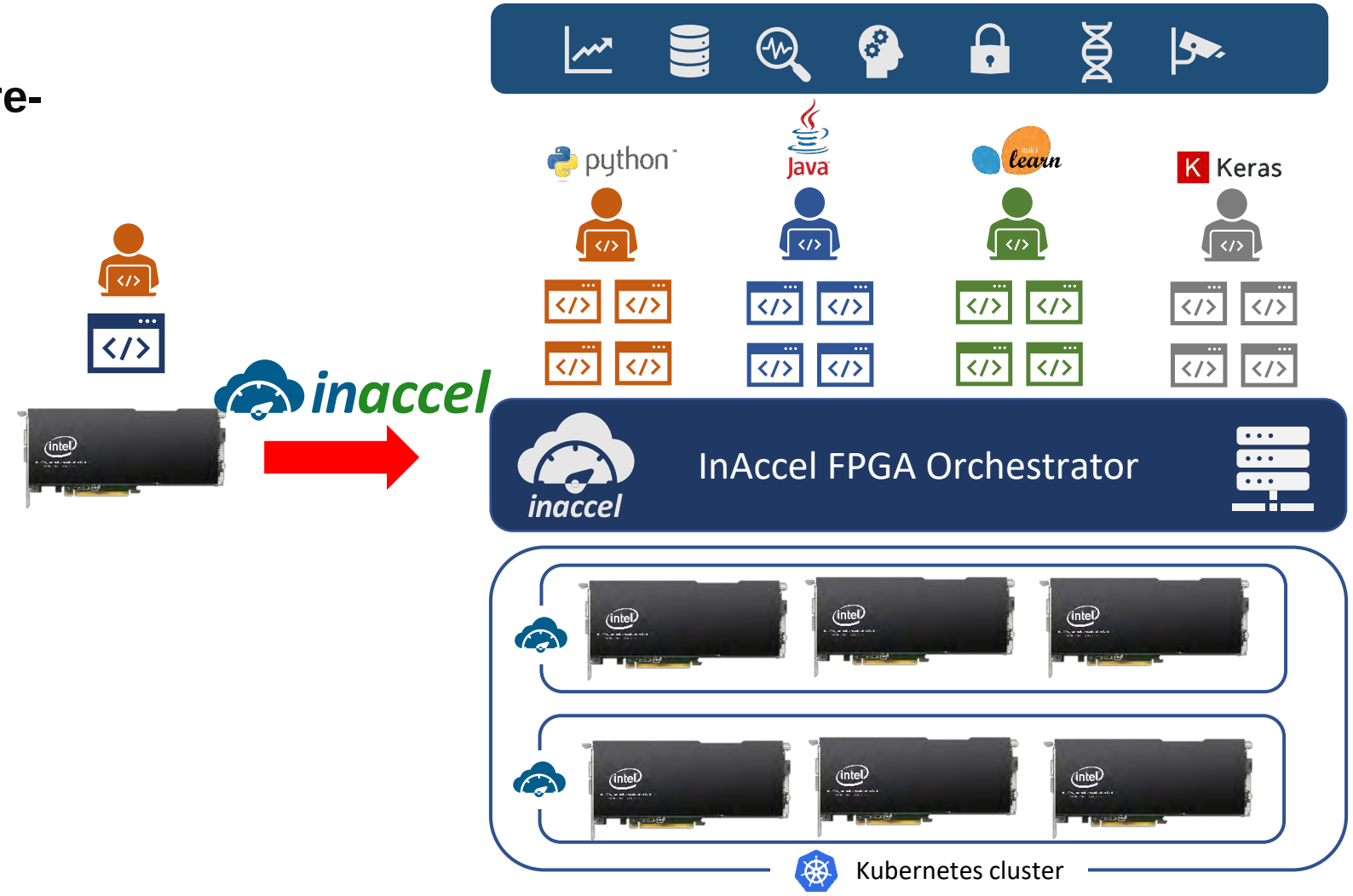
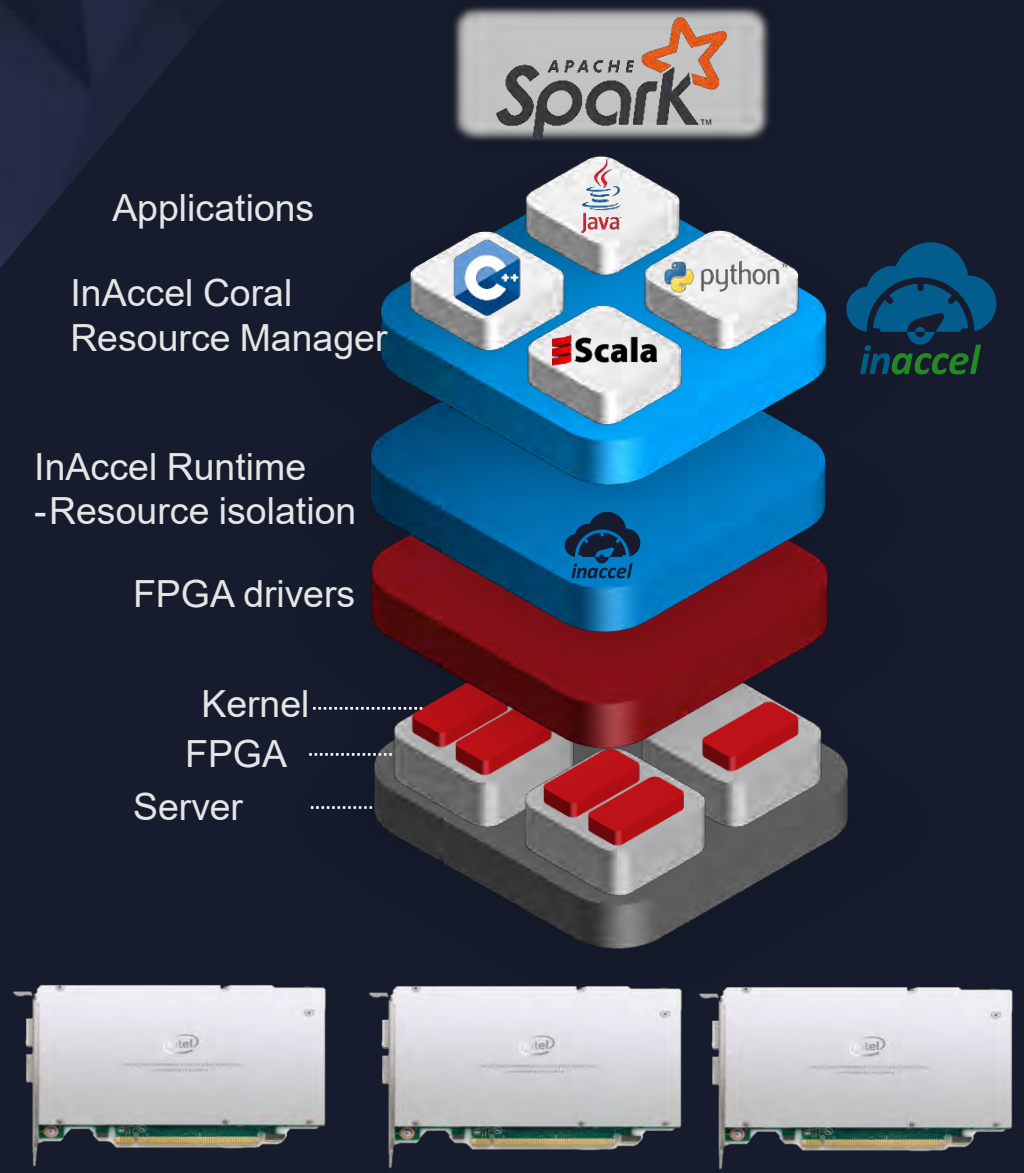


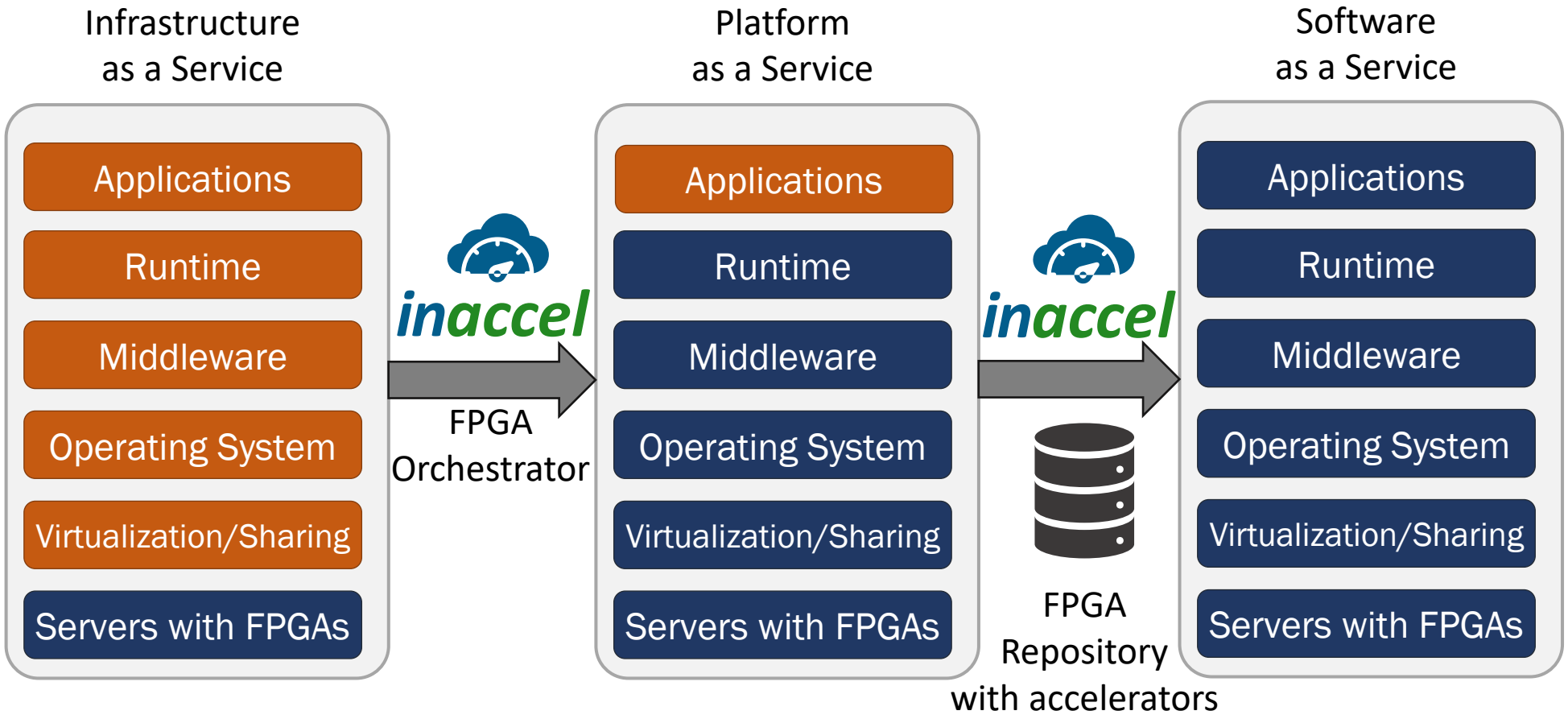
Scalable Orchestrator for FPGA clusters



Automated Deployment, Scaling and Management of FPGA clusters

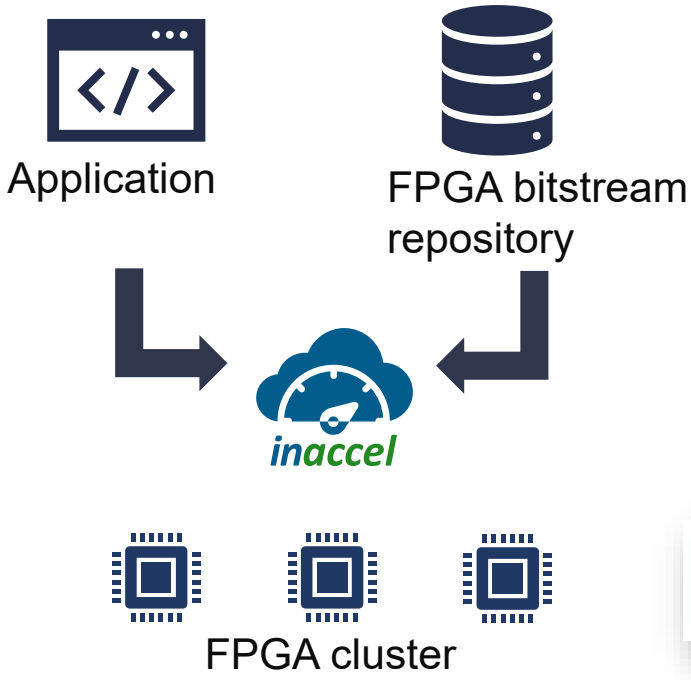
- Seamless invoking from C/C++, Python, Java and Scala. No need for OpenCL
- Automatic configuration and management of the FPGA **bitstreams** and memory
- Seamless **resource management** of the FPGA cluster from multiple threads/processes/applications/users
- Fully **scalable**: Scale-up (multiple FPGAs per node) and Scale-out (multiple FPGA-based servers over Spark)

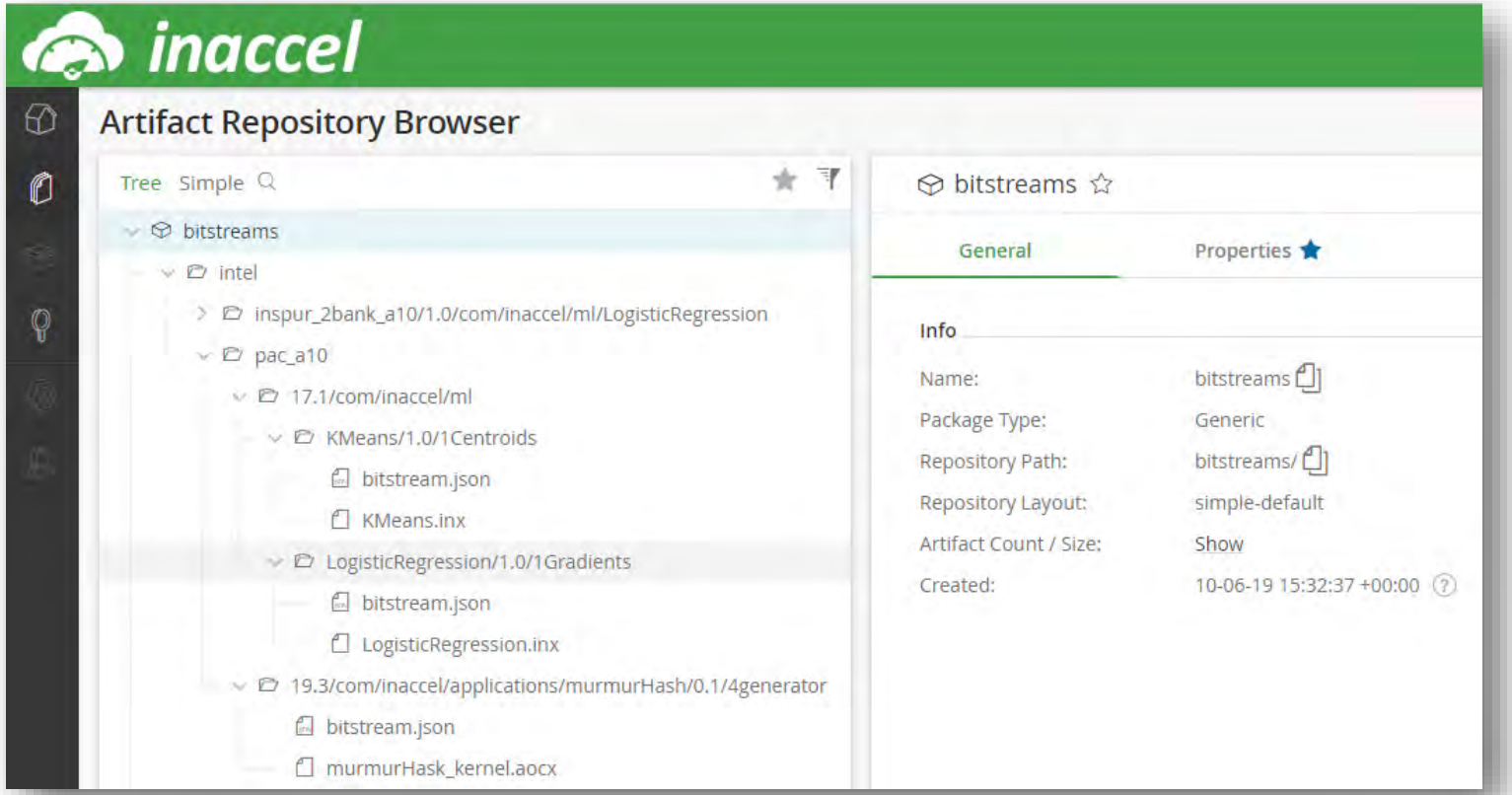
PaaS and SaaS for FPGA clusters



Bitstream repository

- **FPGA Resource Manager is integrated with Jfrog bitstream repository that is used to store FPGA bitstreams**



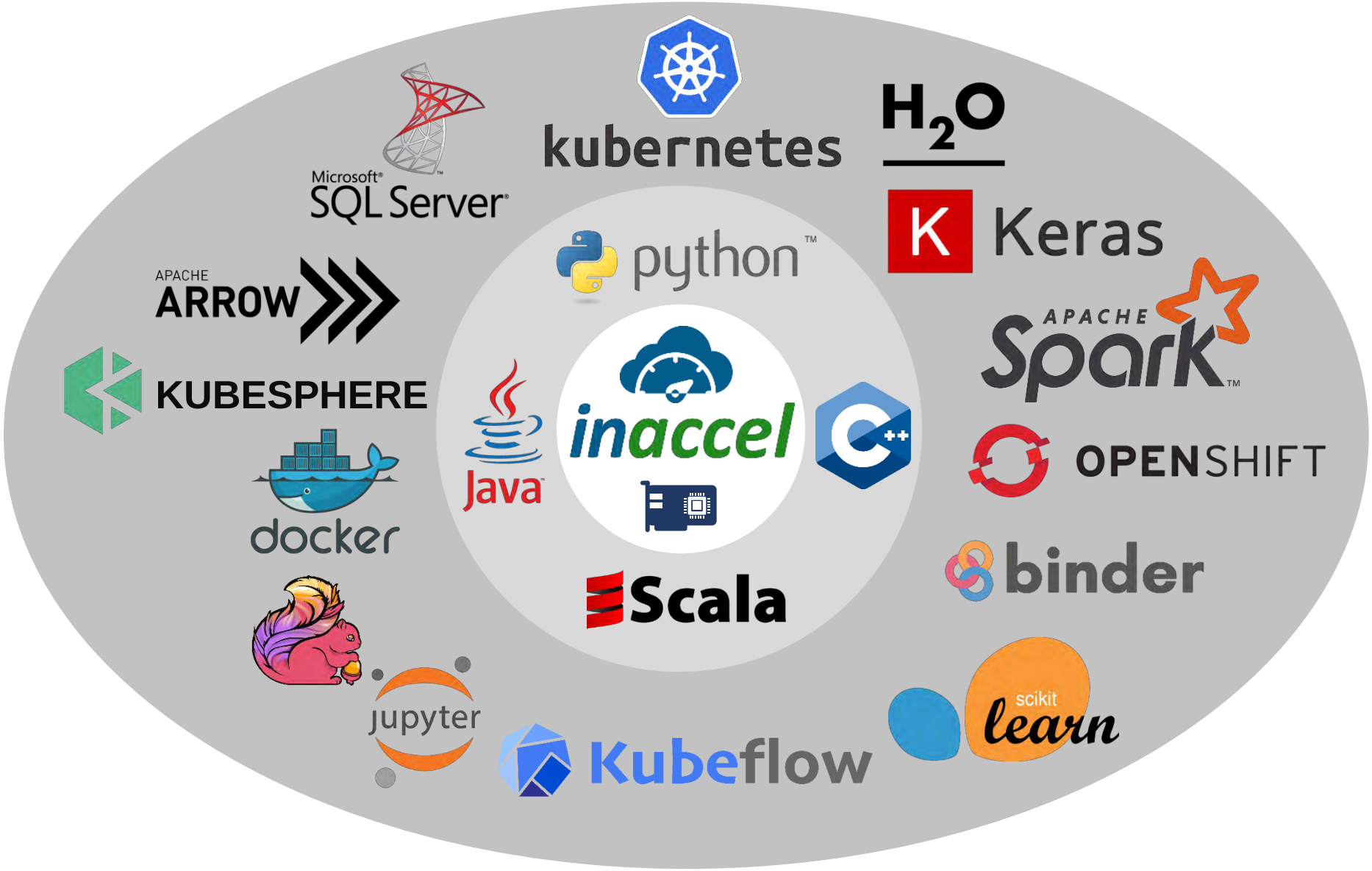


https://store.inaccel.com

```
inaccel bitstream install [command options]
```

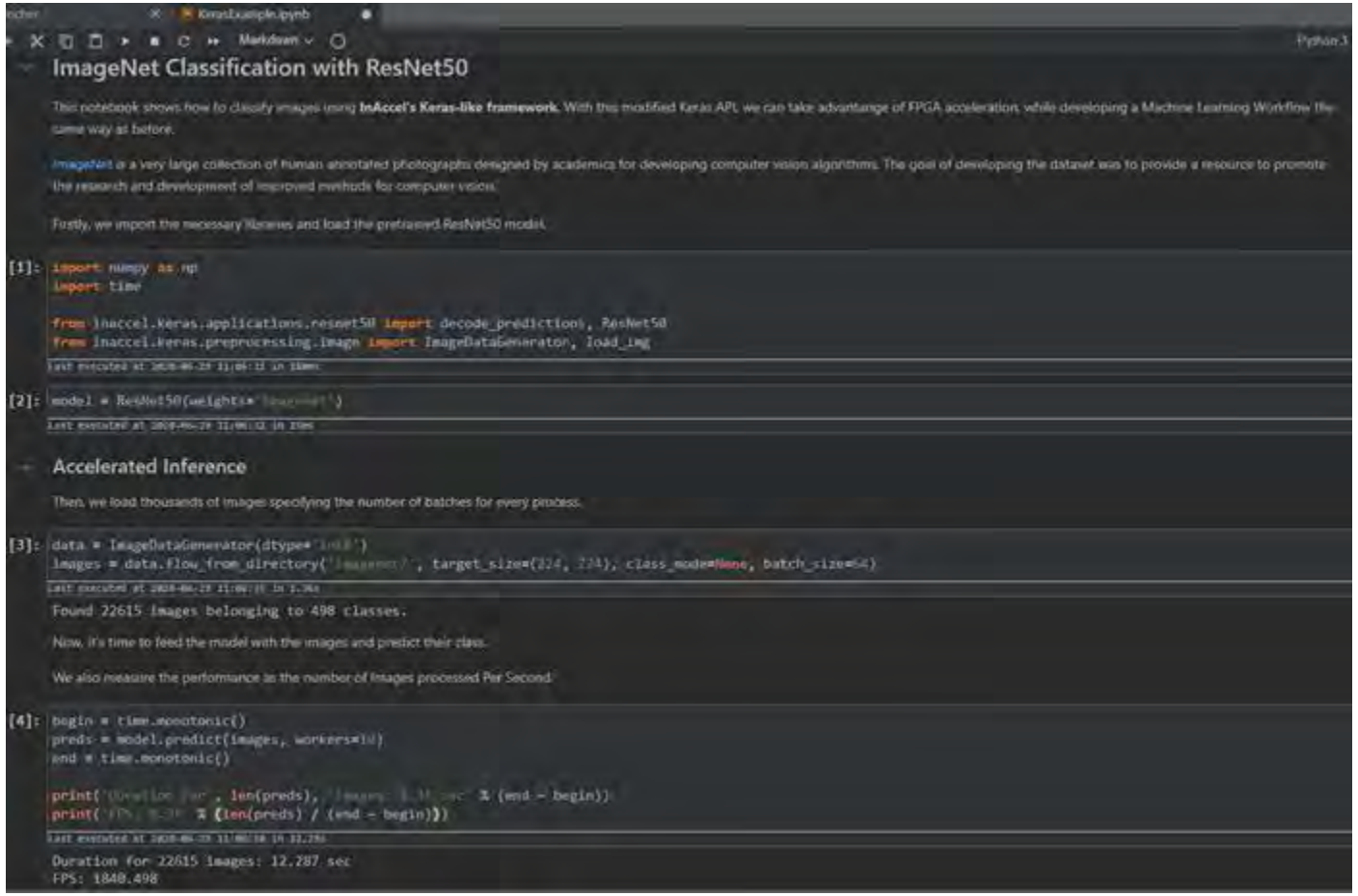
Single command

Instant Integration with any framework



InAccel ML studio

InAccel portal for Accelerated Machine learning

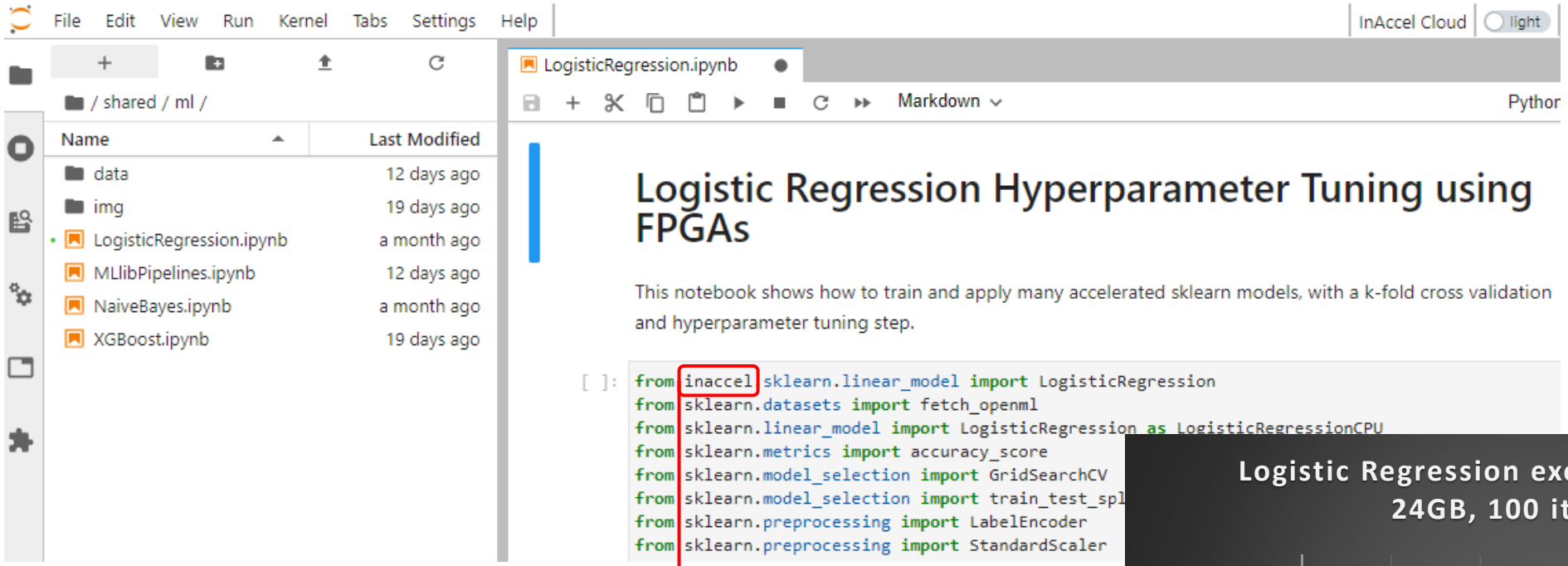


https://inaccel.com/accelerated-machine-learning/

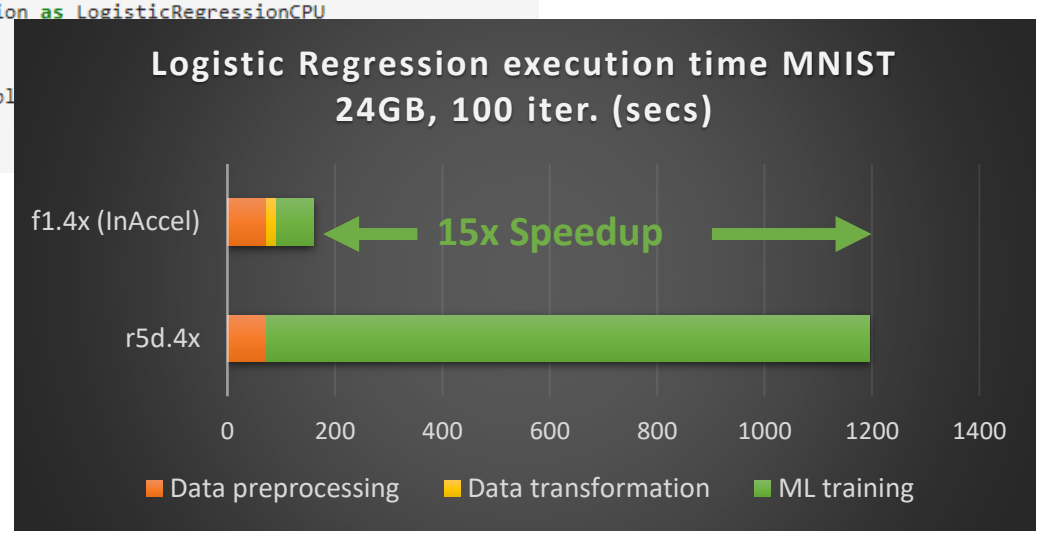
- **Familiar tools**
  - Keras
  - jupyter
  - python™
- **Faster results**
  - 10x faster
  - Zero code changes

Instant acceleration

Just add **inaccel** and enjoy **15x faster** execution

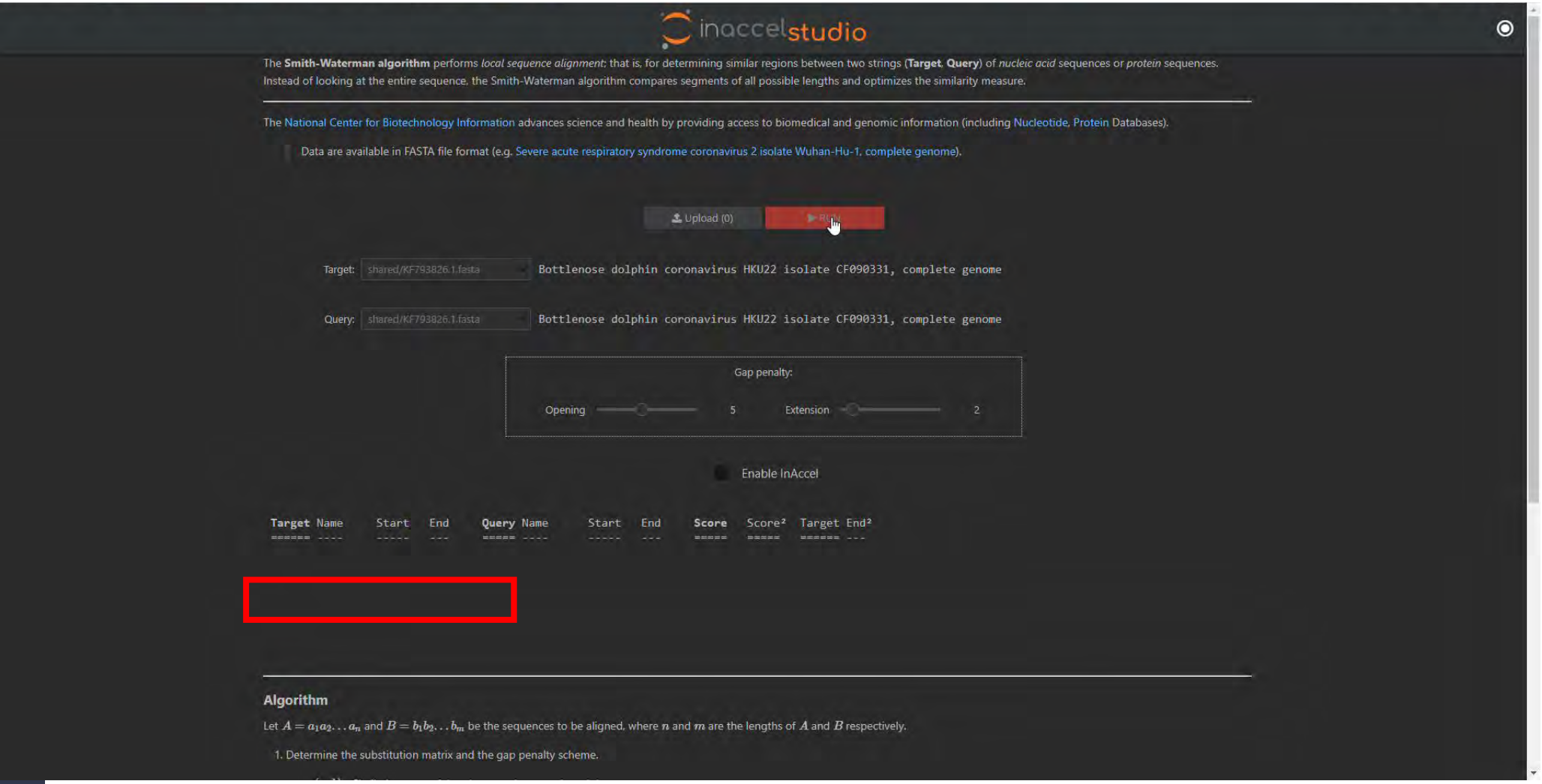


15x faster ML training



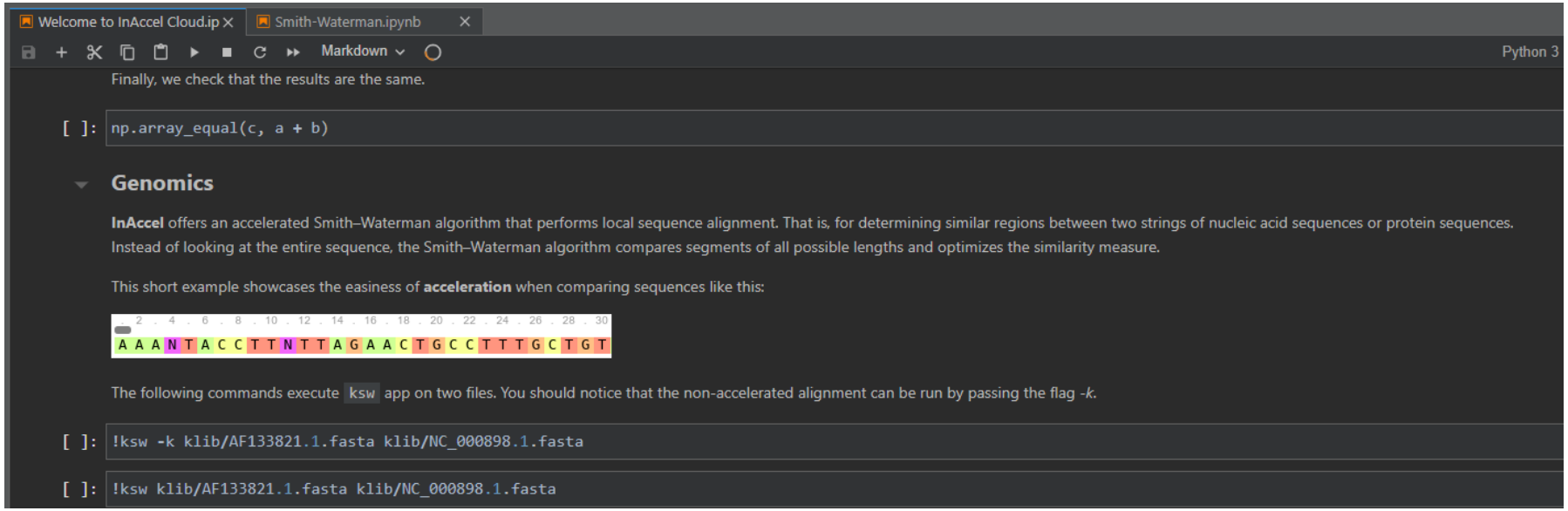
User-friendly platform for Genomics

http://genomics.inaccel.com

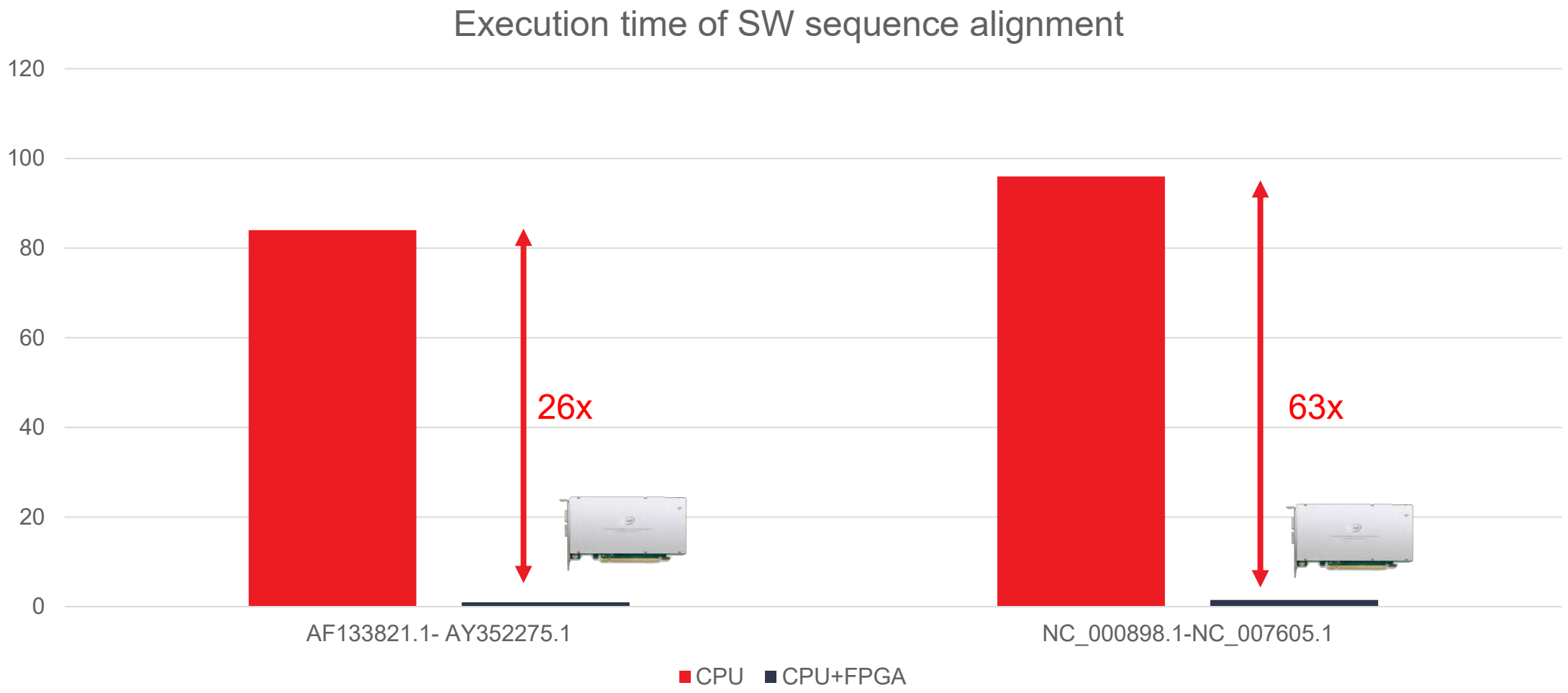


Seamless integration with any framework

Python/terminal based execution



Seamless Speedup



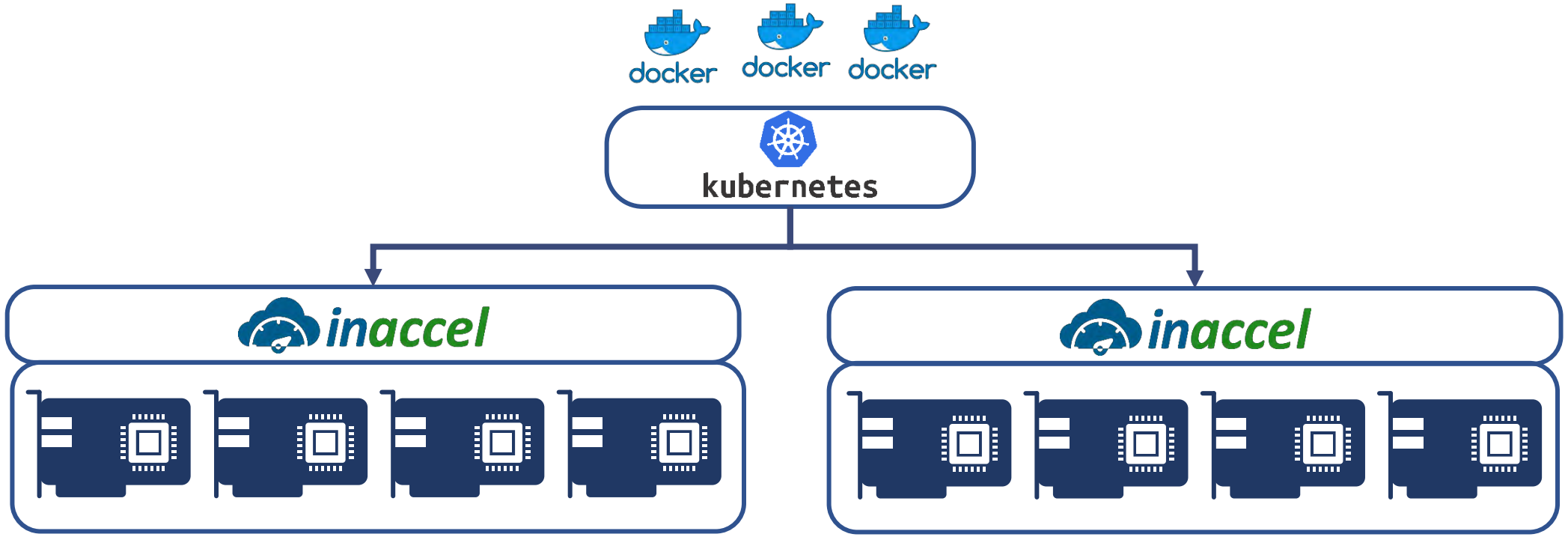
Reference CPU server: Dell PowerEdge T640 server, Intel® Xeon® Silver processor 4208 2.1 GHz, 8C/16T, 9.6GT/s, 11M cache, RAM: 64 GB DDR, 480 GB SSD SATA
FPGA server: Dell PowerEdge T640 server, Intel Xeon Silver processor 4208 2.1 GHz, 8C/16T, 9.6GT/s, 11M cache, RAM: 64 GB DDR, 480 GB SSD SATA with 1x PAC Intel® Arria® 10 FPGA

Applications

- Machine Learning
- Deep Learning
- Genomics
- Quantitative Finance
- Video processing
- Image processing

InAccel Coral manager - Kubernetes

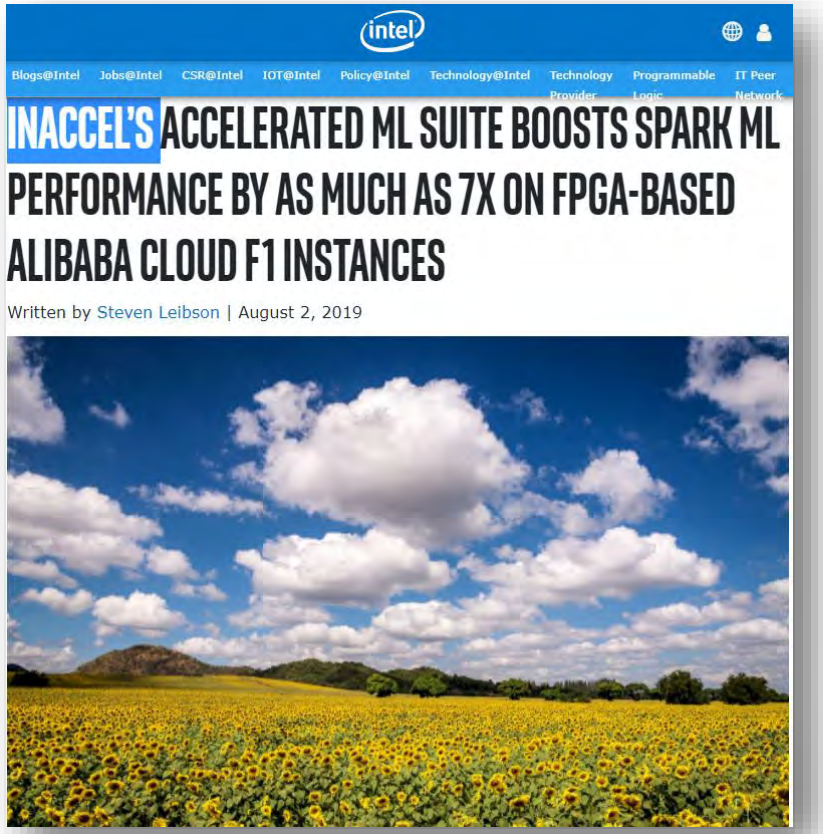
- **Integrated solution that allows**
  - Scale Up (1, 2, or 8 FPGAs per server)
  - Scale Out to multiple servers



Graphical monitoring tool

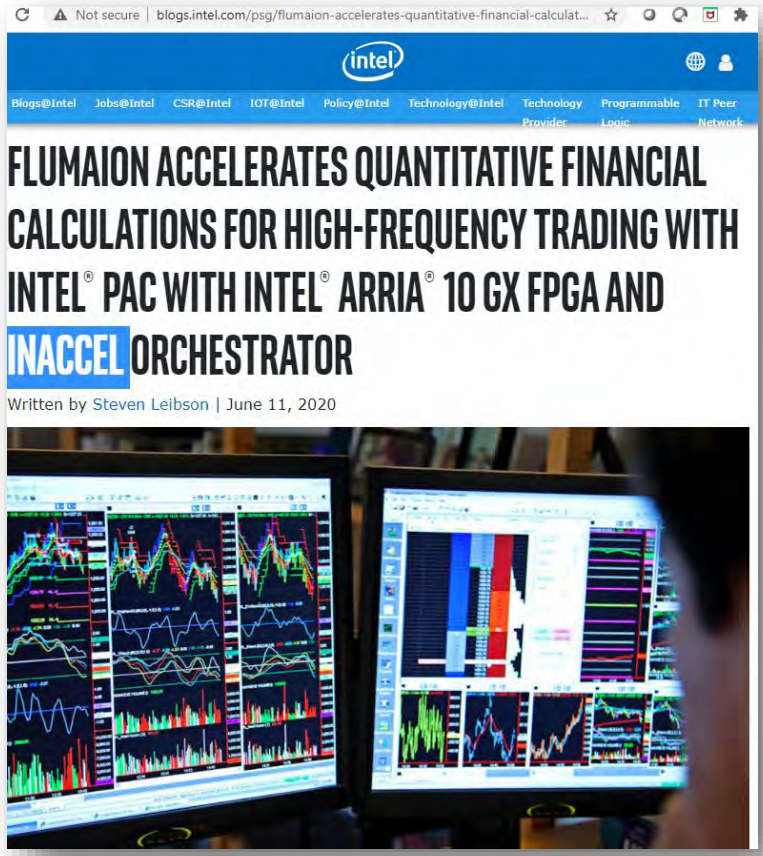
Use cases

Machine Learning



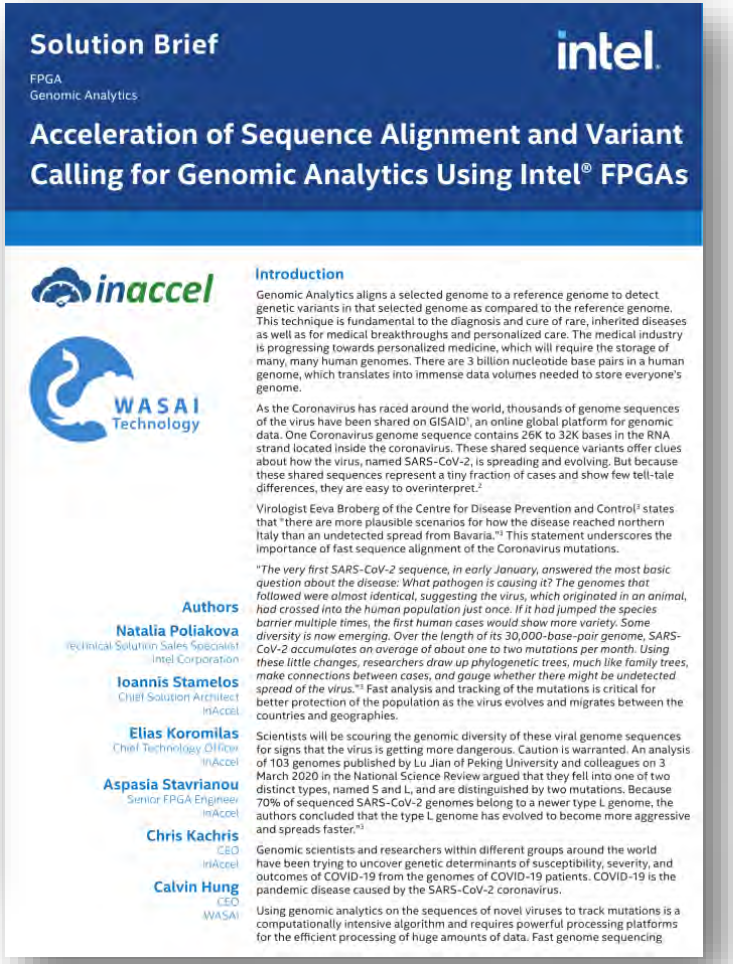
https://blogs.intel.com/psg/inaccels-accelerated-ml-suite-boosts-spark-ml-performance-by-as-much-as-7x-on-fpga-based-alibaba-cloud-f1-instances/

Quantitative Finance

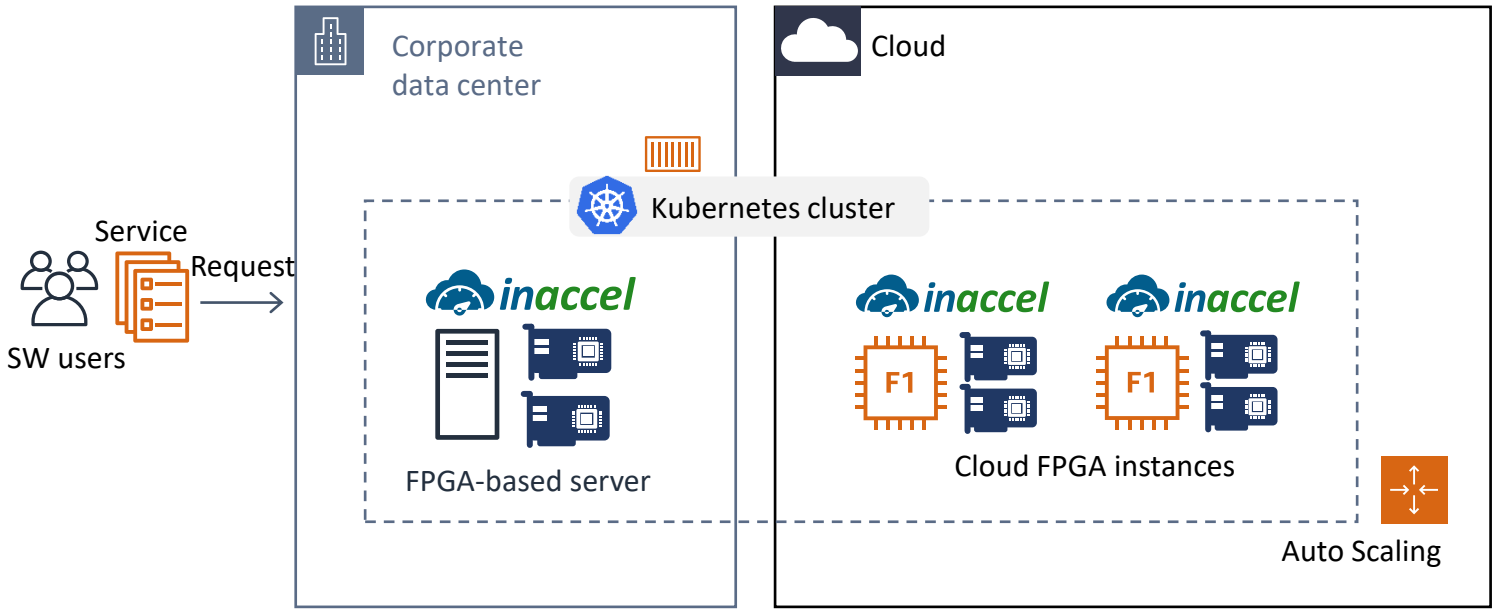


https://blogs.intel.com/psg/flumaion-accelerates-quantitative-financial-calculations/

Genomics



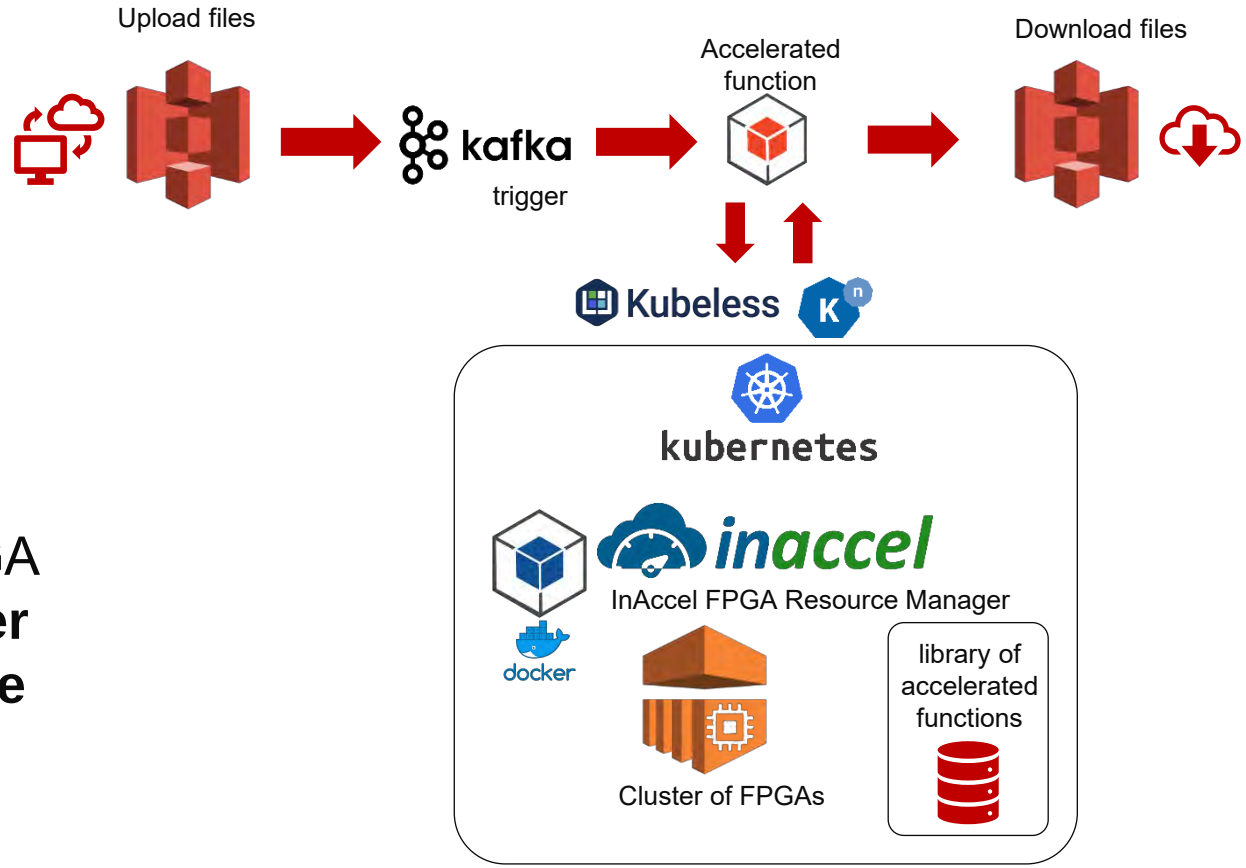
Auto-scaling on cloud and on-prem



InAccel allows to auto-scale your cluster based on the workload requirement

Serverless deployment

- **Integrated framework for serverless deployment**
- **Compatible with Kubernetes**
- **Compatible with Kubeless, Knative**

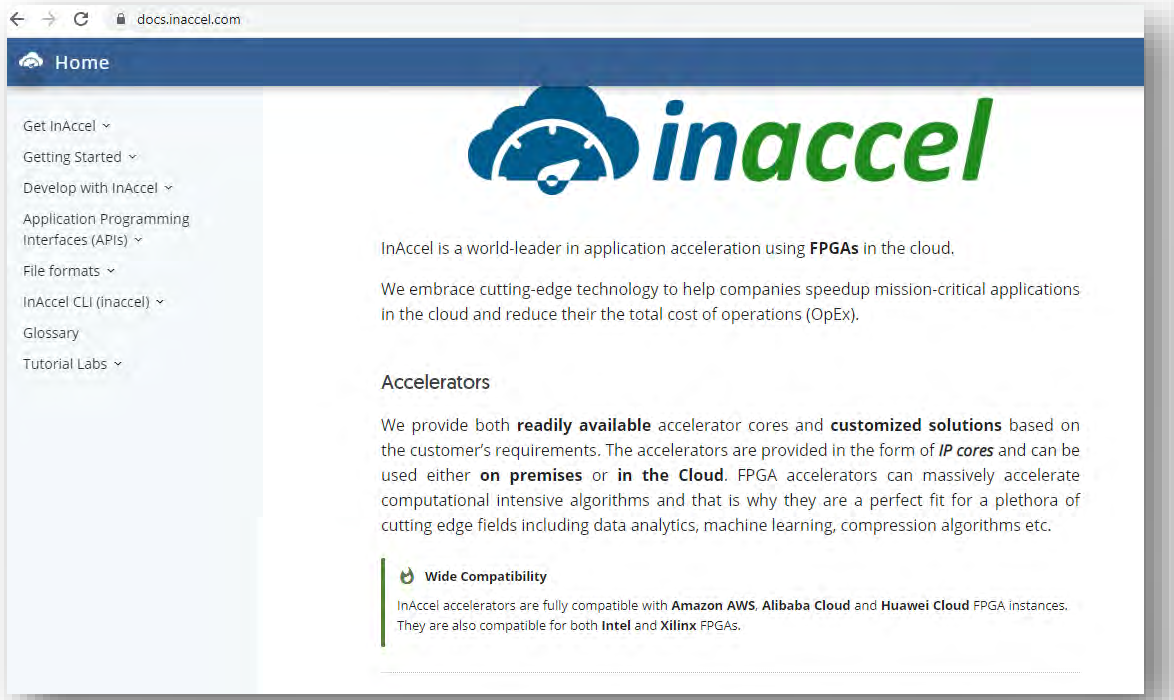


- Users only have to **upload the images** on the storage bucket and then InAccel's FPGA Manager **automatically deploy the cluster of FPGAs**, process the data and then **store back the results** on the storage bucket.
- Users do not have to know anything about the FPGA execution.

https://medium.com/@inaccel/fpgas-goes-serverless-on-kubernetes-55c1d39c5e30

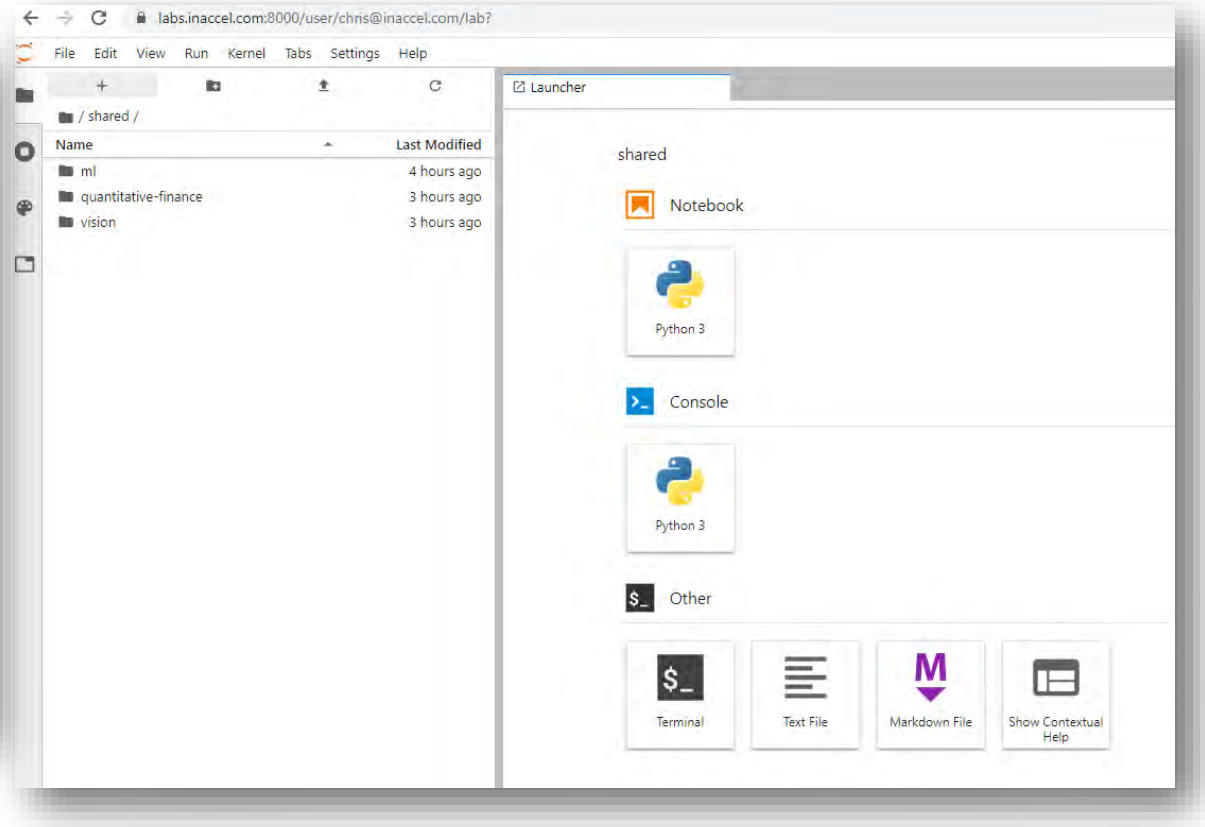
Test it on your prem or on your browser

On-prem



https://docs.inaccel.com/

Online - Browser



https://labs.inaccel.com:8000/

InAccel, Inc. Corporate overview

> **Founded in January 2018**

> **Membership:**

XILINX ALLIANCE PROGRAM MEMBER

amazon web services Partner Network ADVANCED TECHNOLOGY PARTNER

Alibaba Cloud Partner Network

Registered Technology Partner

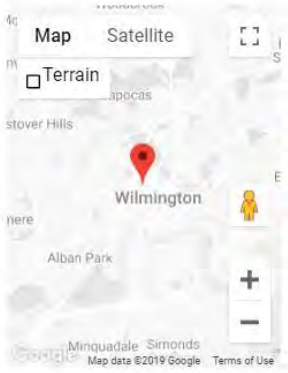
NIMBIX supercomputing made super human™

HUAWEI

Tencent Cloud

Azure

Microsoft for Startups



Headquarters

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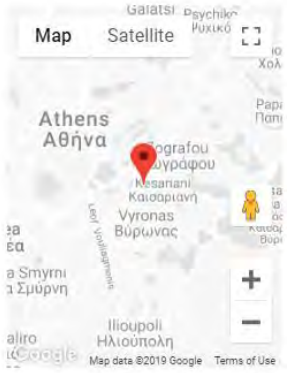

Design Center

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MORPHEMIC

EUROPEAN COMMISSION

MORPHEMIC is newly funded EU Horizon 2020 project. Start date: 01/01/2020, end date: 31.12.2022. Grant agreement ID: 87164312

inaccel

Application Acceleration, seamlessly

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