Introducing the Vitis Unified Software Platform


WELCOME
All Developers

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All Developers

XDF 2019

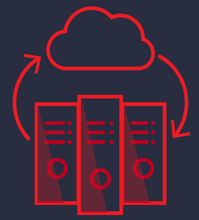
Learn Directly From Experts

76 HOURS OF TECHNICAL SESSIONS
IN 6 TRACKS

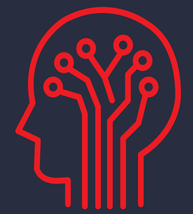
11 LABS
AVAILABLE FOR 20 HOURS

69 DEMOS
18 Xilinx Demos, 39 Partners,
12 Alveo Demos (Partners)

Heterogeneous Compute



Cloud to Edge

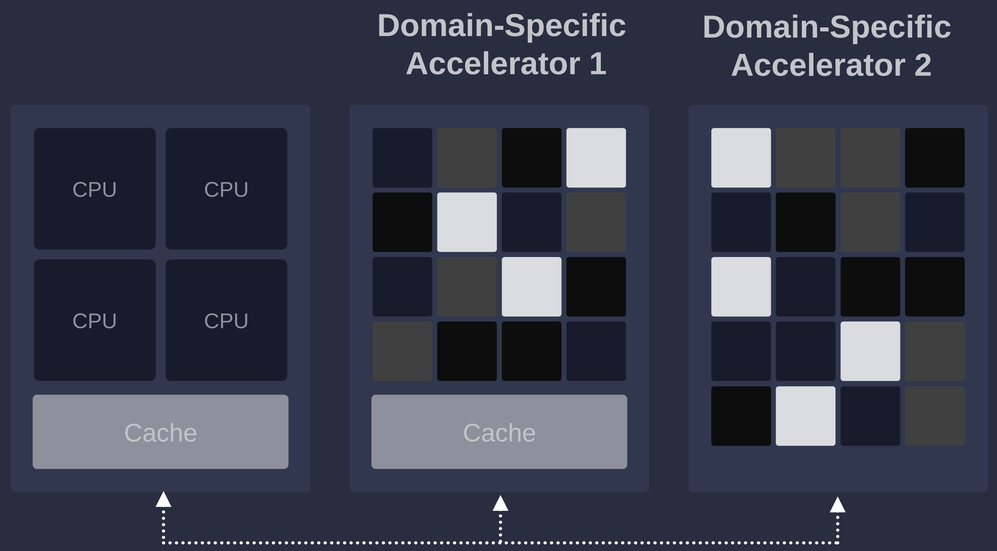


AI Proliferation

Industry Trend: Heterogeneous Compute

Heterogeneous Compute

Engines Customized to Accelerate Specific Domains

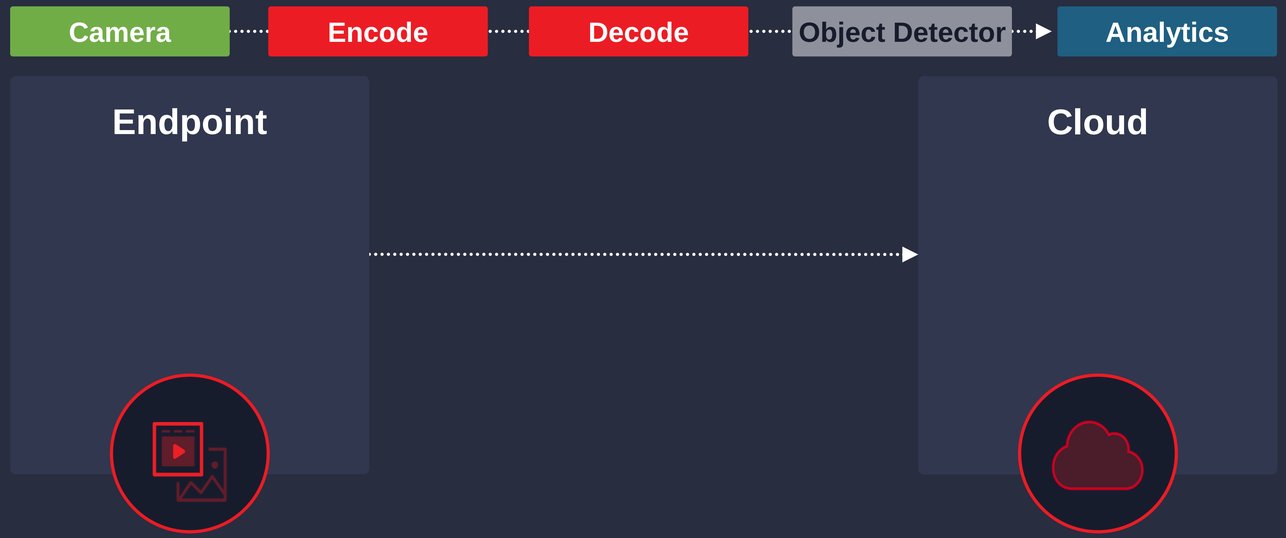


Key Challenge

Programming & integration of Adaptive Acceleration Engines

Industry Trend: Cloud to Edge

Applications are often split between cloud and edge



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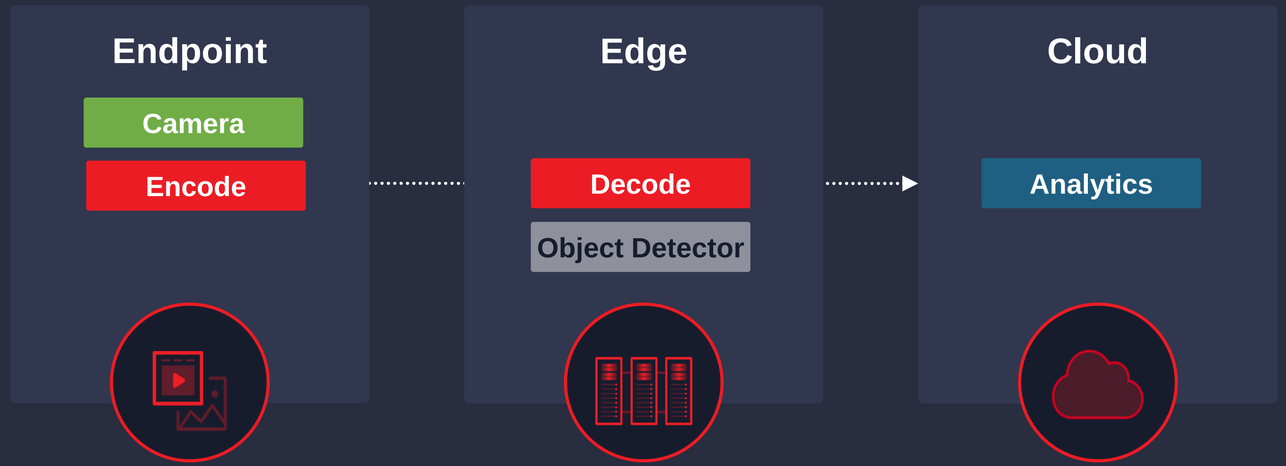
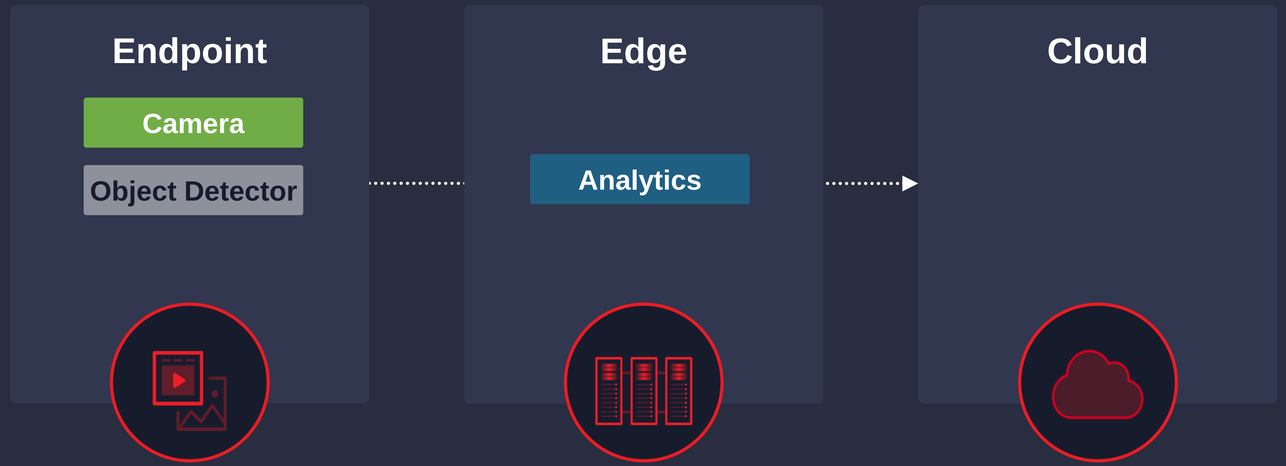


Key Challenge

Need for Retargetability

Industry Trend: Cloud to Edge

Applications are often split between cloud and edge



Key Challenge

Need for Retargetability

Industry Trend: AI Proliferation

AI is being used in many applications

Smart City

Smart Retail

Autonomous Driving

Security

Genomics

Video Analytics

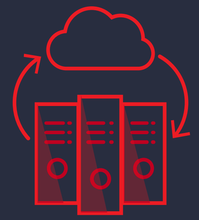
Healthcare

Finance

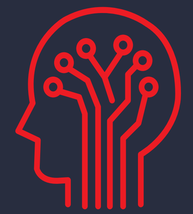
Key Challenge

Acceleration and Integration of the Whole Application

Heterogeneous Compute



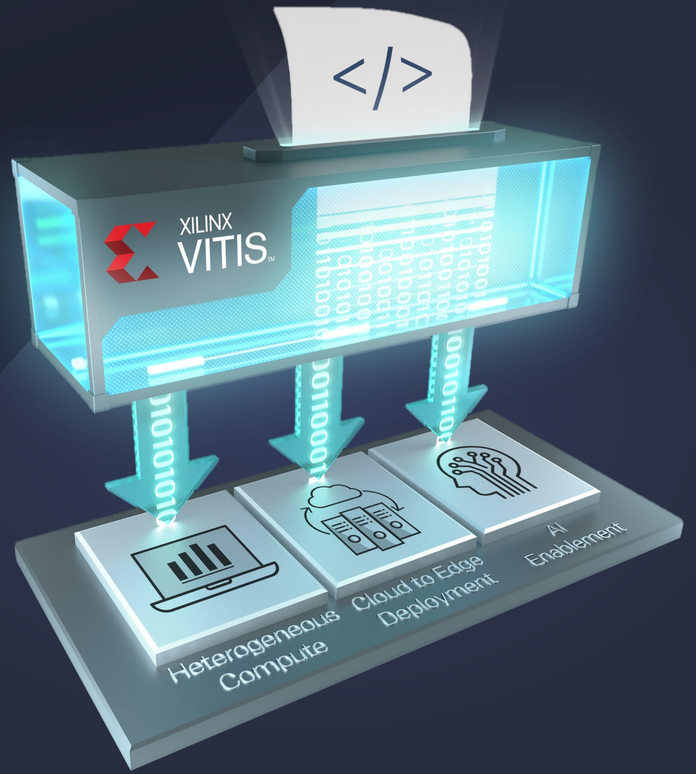
Cloud to Edge



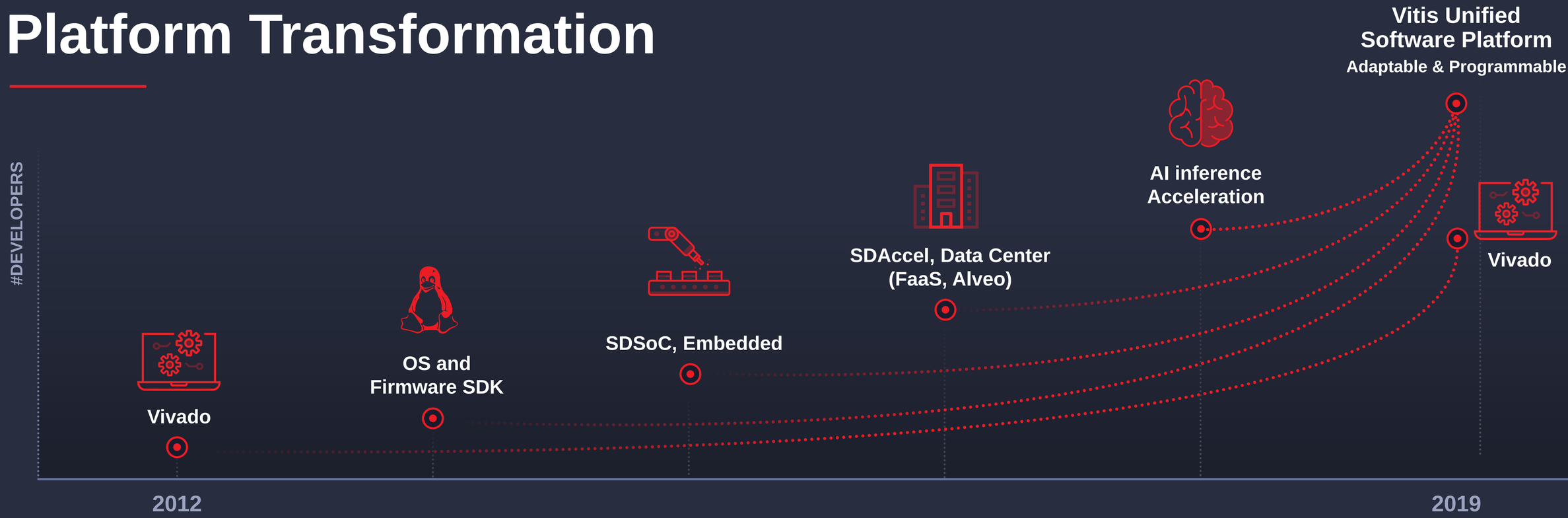
AI Proliferation


Heterogeneous Compute
Cloud to Edge
AI Proliferation

Vitis Unified Software Platform



Platform Transformation



Enables all Developers to Build and Deploy to All Platforms

Build

Embedded Developers

Enterprise Application Developers

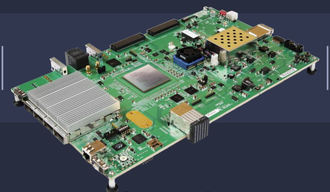
Enterprise Infrastructure Developers

Data & AI Scientists

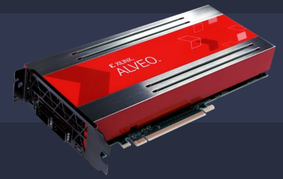
XILINX VITIS™

Deploy

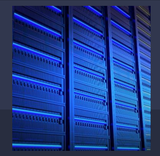
Zynq



Ultrascale



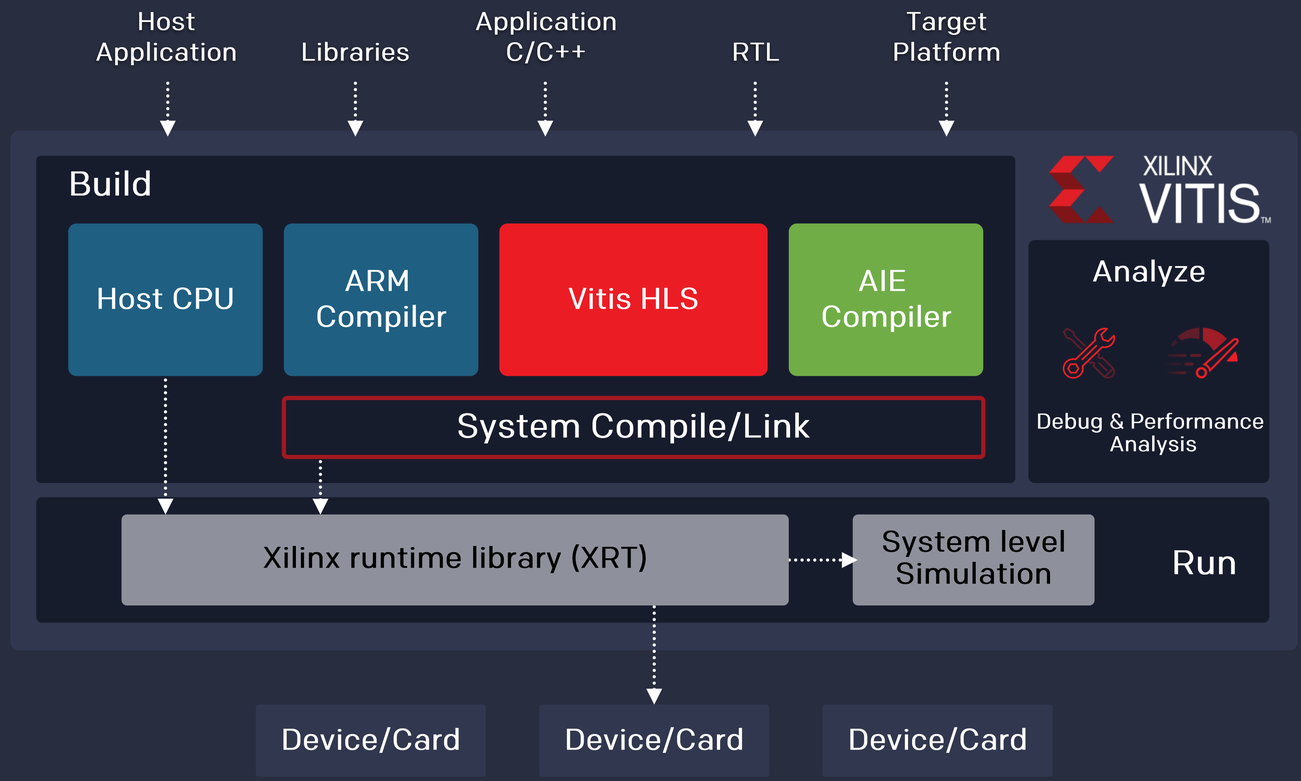
Alveo



Data Center Rack

Build

Comprehensive Development Tool Suite



Build

Comprehensive Development Tool Suite

GitHub

400+ functions across multiple libraries
Open-Source, performance-optimized out-of-the-box acceleration

Domain-Specific Libraries

Vision & Image

Finance

Data Analytics & Database

Data Compression

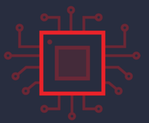
Data Security

Common Libraries

Math

Linear Algebra

Statistics

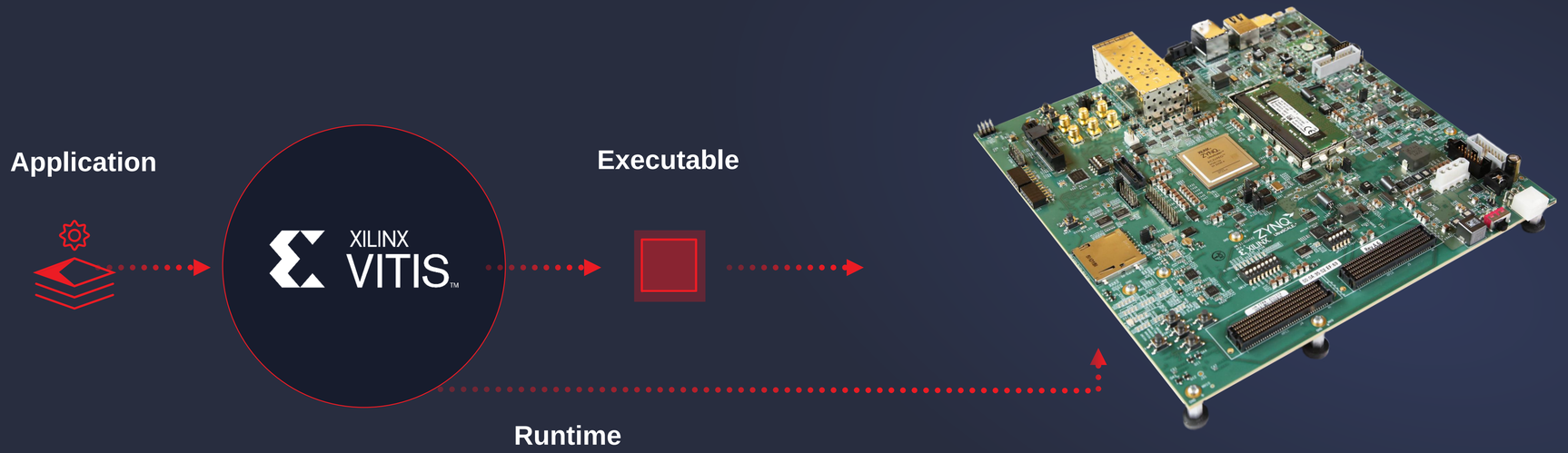


DSP

Data Management

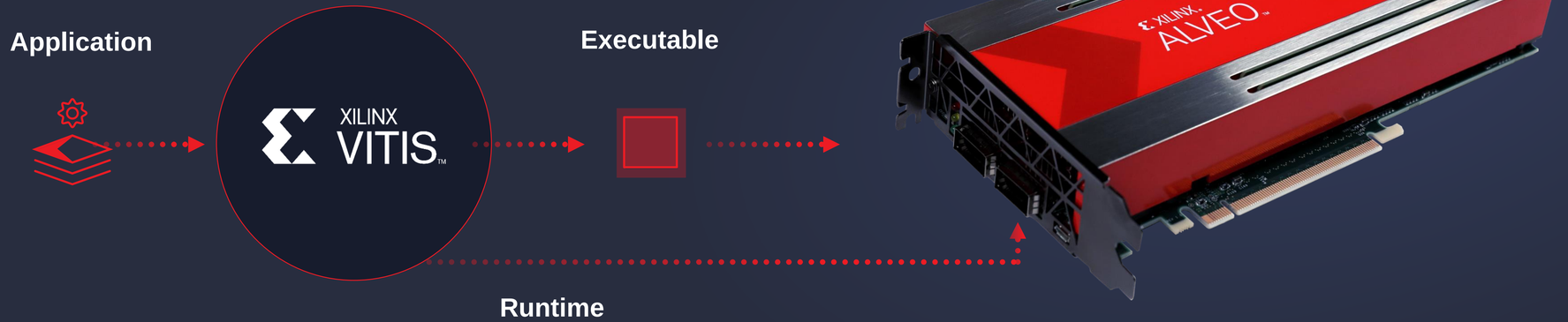
Deploy

Embedded Deployment



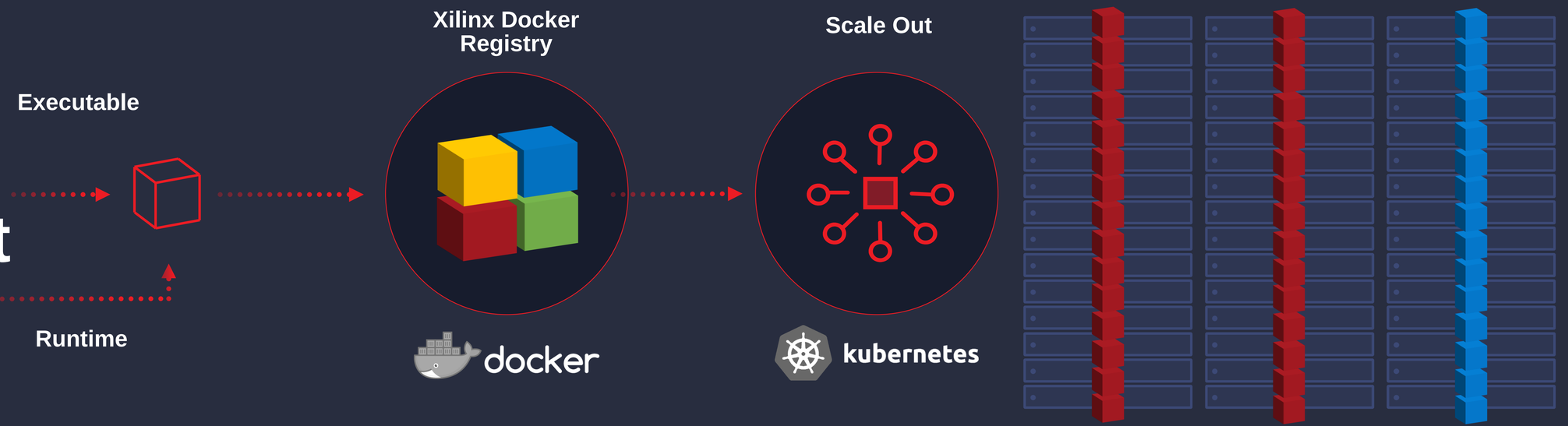
Deploy

Single Server Deployment



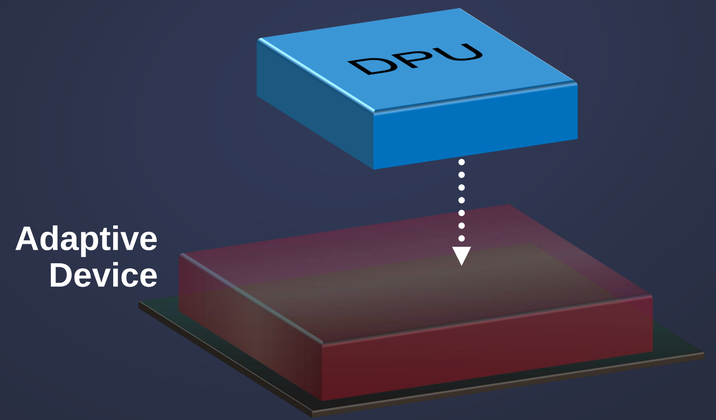
Deploy

Scale Out Deployment



Vitis AI: From TensorFlow to Implementation in Minutes

- DNN Processing Unit (DPU)
- Direct Framework Compilation
- Minutes of Compile Times



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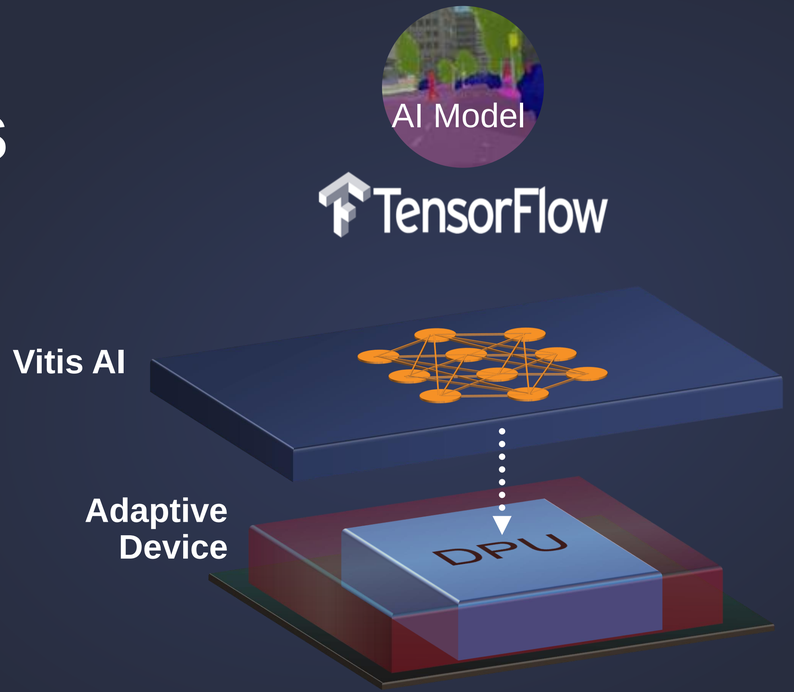

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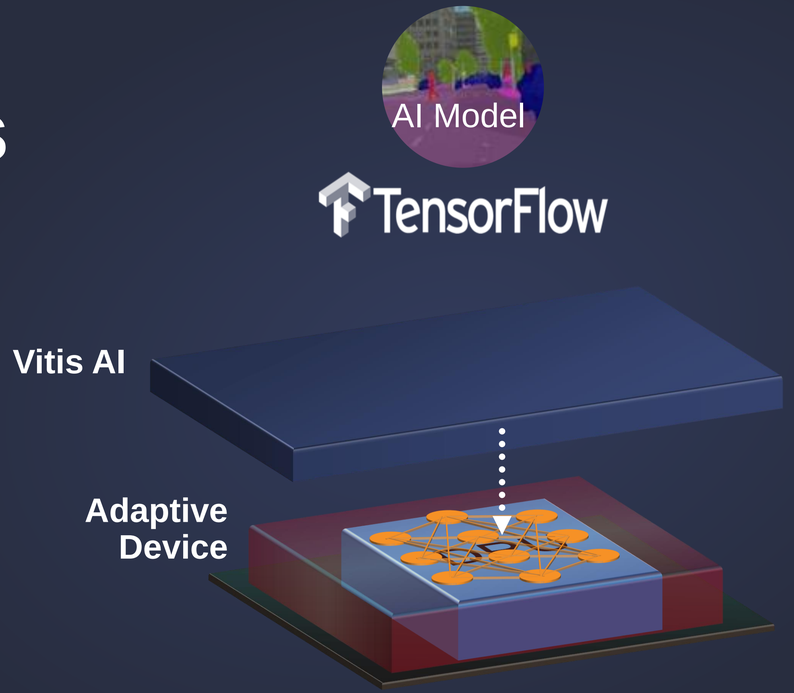


Enabling AI

Frameworks

TensorFlow Caffe PyTorch

Vitis AI Models

Vitis AI Development Kit

AI Optimizer | AI Quantizer | AI Compiler | AI Profiler

Vitis drivers & runtime (XRT)

DSA

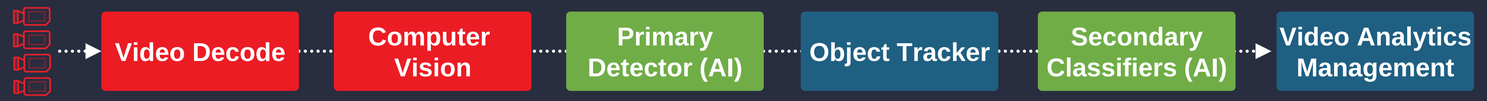
CNN DPU | LSTM DPU | MLP DPU

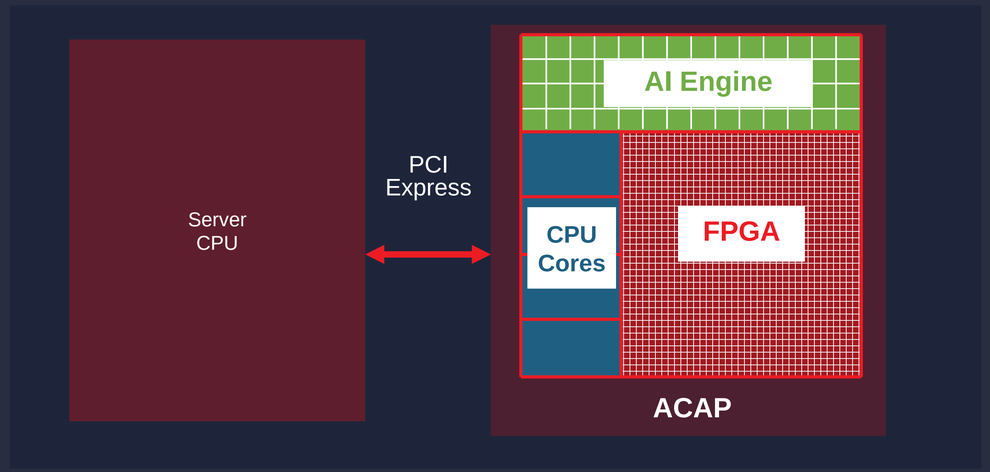
30+ pretrained, optimized reference models

Performance improvement up to 10-20x

Tensor based ISA for true software programmability

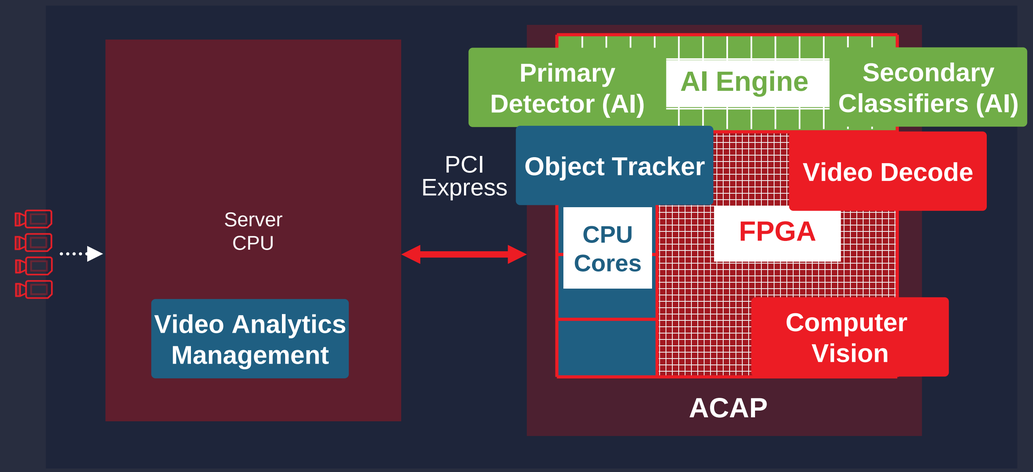
Vitis Enables Whole App Acceleration





Smart City Example

Vitis Enables Whole App Acceleration



Smart City Example

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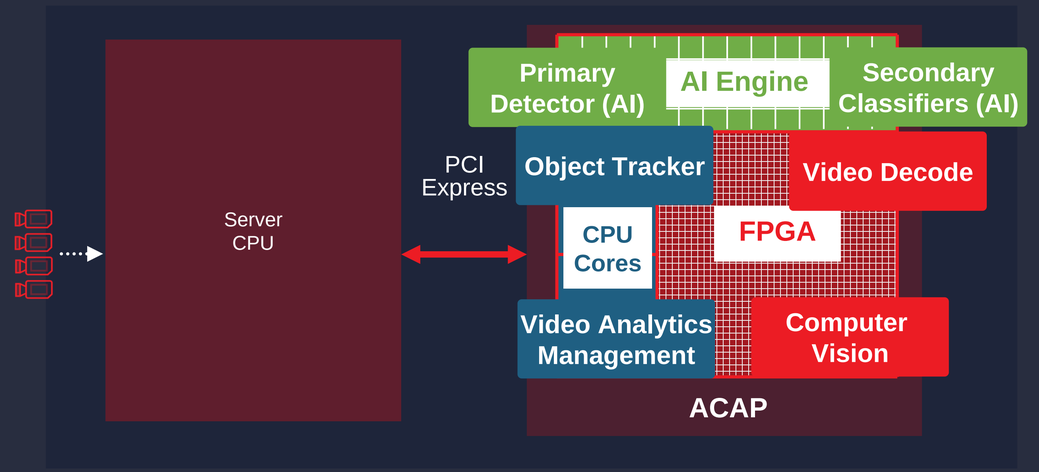

Smart City Example

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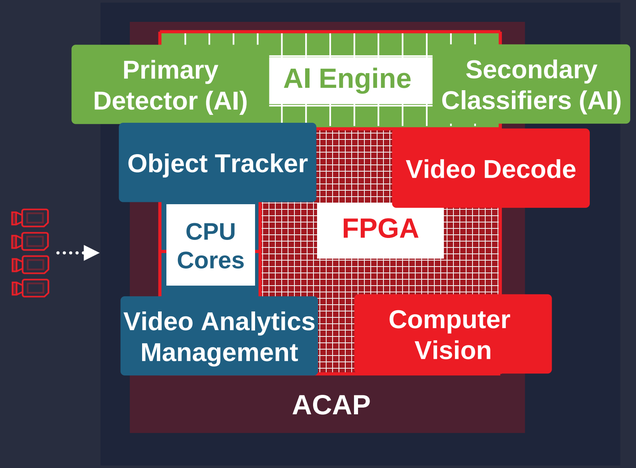
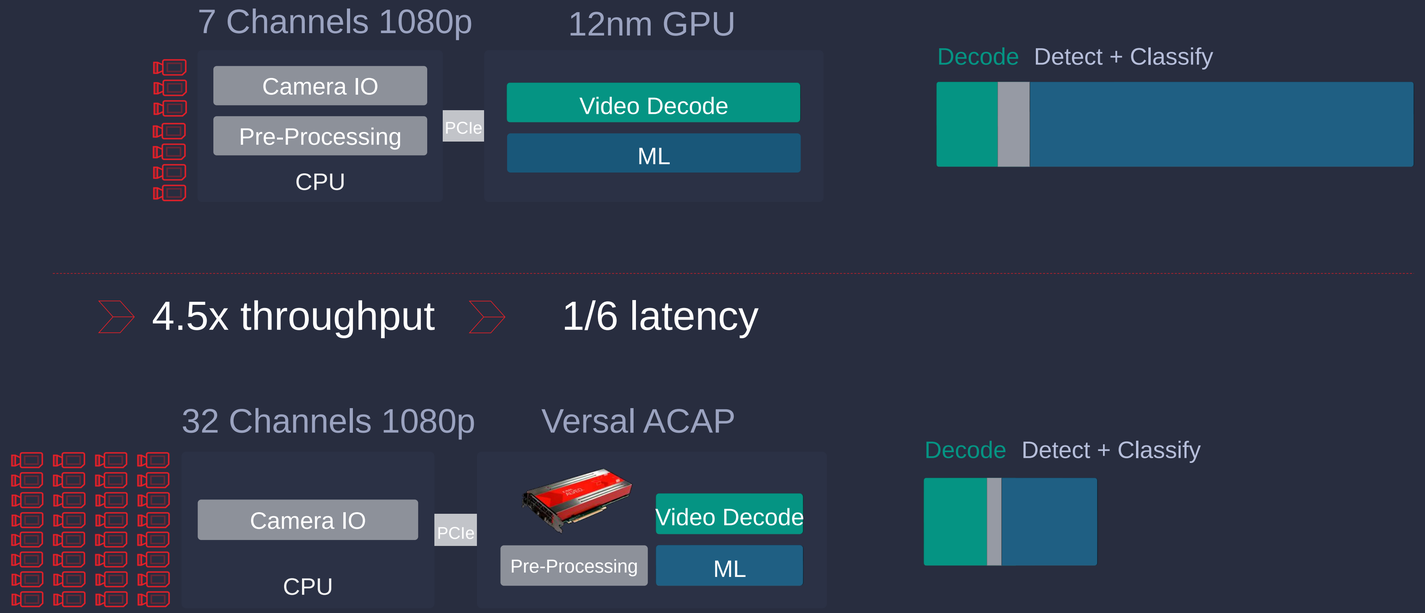


Smart City Example

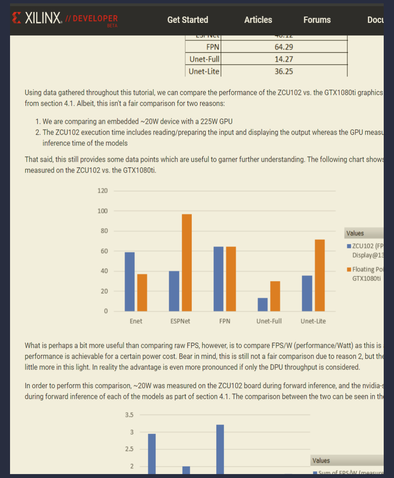
Impact of Whole Application Acceleration

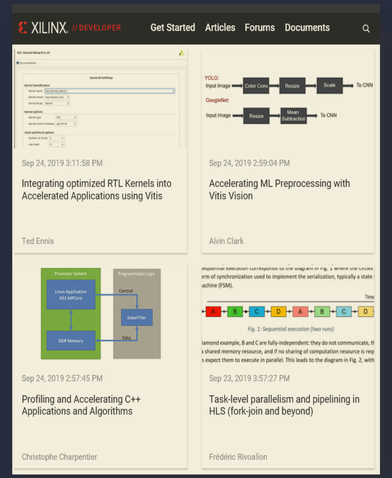


Source: Xilinx Analysis GPU – Nvidia T4. DeepStream 4.0 running on T4 in GCP

Launching *developer.xilinx.com*

- Beta Site Now Available
- Tutorials, Articles & Projects
- Accessible from a Single Location
- Learn Directly from Vitis Experts





30+ expert articles & projects (and growing)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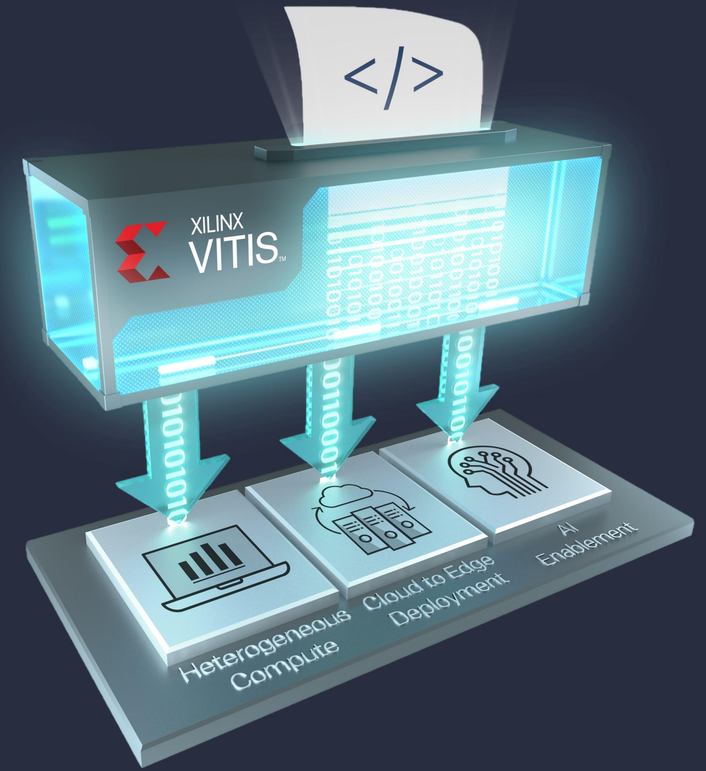
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XILINX
VITIS
Heterogeneous Compute
Cloud to Edge Deployment
AI Enablement

Sumit Gupta

Vice President of Product
AI/ML & HPC

Tom Eby

SVP & GM, Compute & Networking Business Unit,
Micron Technology

Development Platforms for ALL Developers

- Unified
- Open Source Libraries

Free!