Introducing the Vitis Unified Software Platform

隆重介绍 Vitis 统一软件平台

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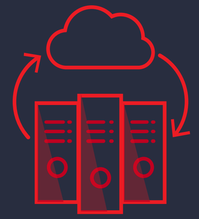
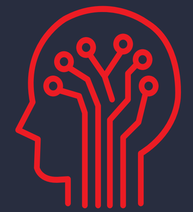
Executive Vice President 执行副总裁
& GM Data Center Group 数据中心事业部总经理


WELCOME
All Developers
拥抱所有开发者

Heterogeneous Compute
异构计算



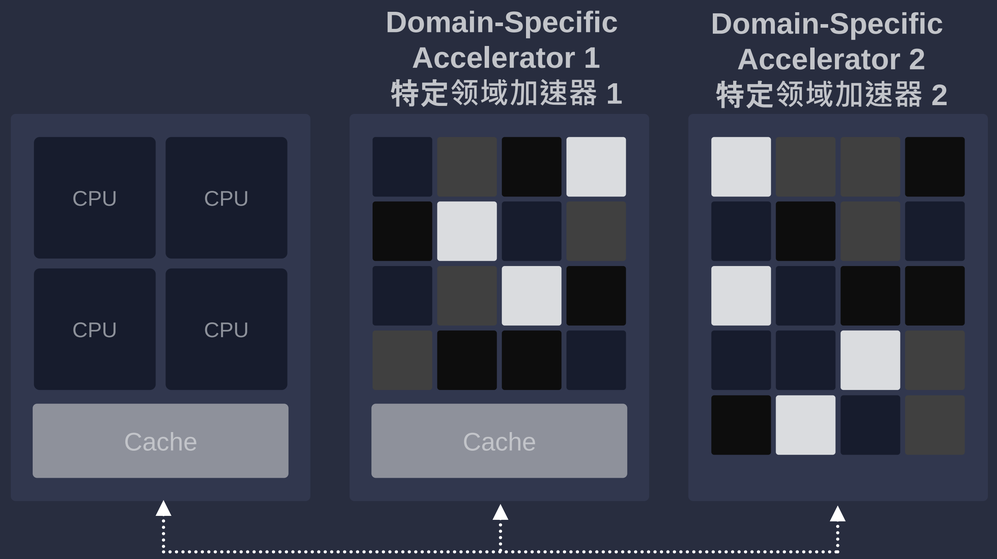
Cloud to Edge
从云到边缘



AI Proliferation
AI 激增

Industry Trend: Heterogeneous Compute
行业趋势：异构计算

Engines Customized to
Accelerate Specific Domains
定制引擎以加速特定领域应用



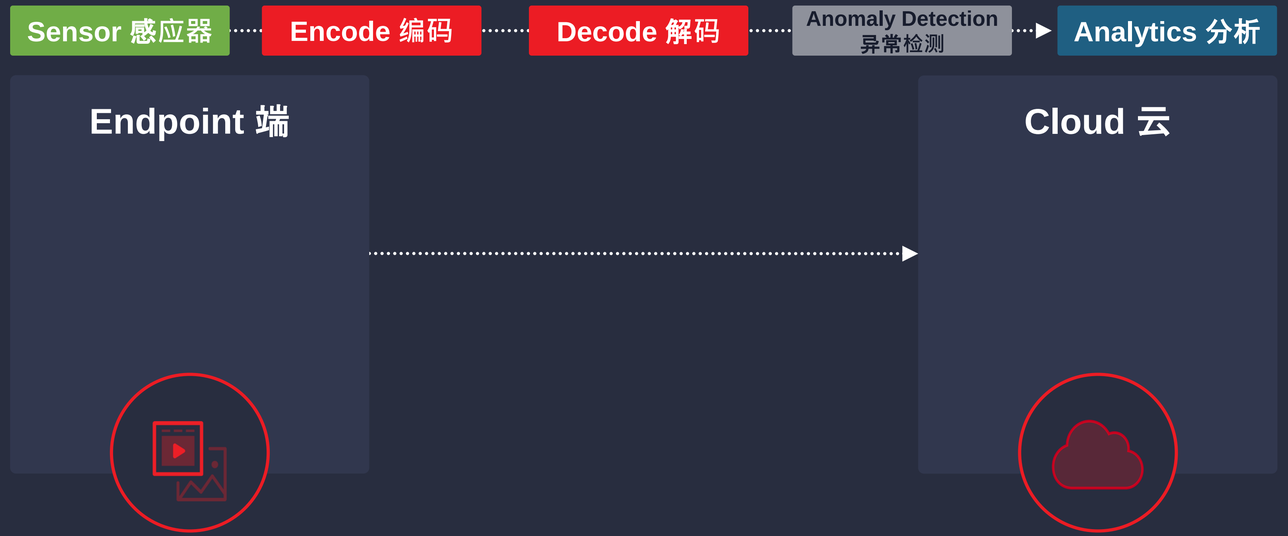
Key Challenge 主要挑战

Programming & Integration of
Adaptive Acceleration Engines
自适应加速引擎的编程与集成

Industry Trend: Cloud to Edge
行业趋势：从云到边缘

Cloud to Edge
从云到边缘

Applications are often split between cloud and edge
应用总是分隔在云和边缘



Industry Trend: Cloud to Edge
行业趋势：从云到边缘

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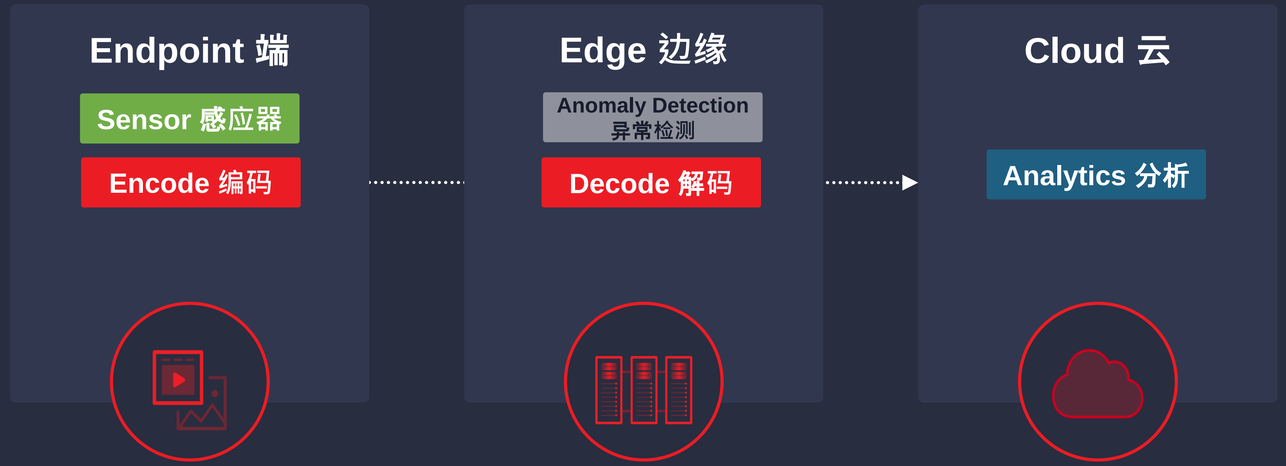


Industry Trend: Cloud to Edge
行业趋势：从云到边缘

Applications are often split between cloud and edge
应用总是分隔在云和边缘

Key Challenge
主要挑战

Need for Retargetability
需要可重定目标的能力

Industry Trend: AI Proliferation
行业趋势：AI 激增

AI is being used in many applications
AI 正被用于众多应用

Smart City
智慧城市

Smart Retail
智慧零售

Autonomous Driving
自动驾驶

Security
安全

Genomics
基因组分析

Video Analytics
视频分析

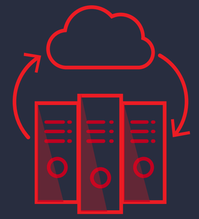
Healthcare
医疗

Finance
金融

Key Challenge
主要挑战

Acceleration and Integration of the Whole Application
整体应用的加速与集成

Heterogeneous Compute
异构计算



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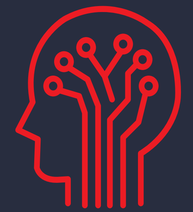
从云到边缘



AI Proliferation
AI 激增


Heterogeneous
Compute
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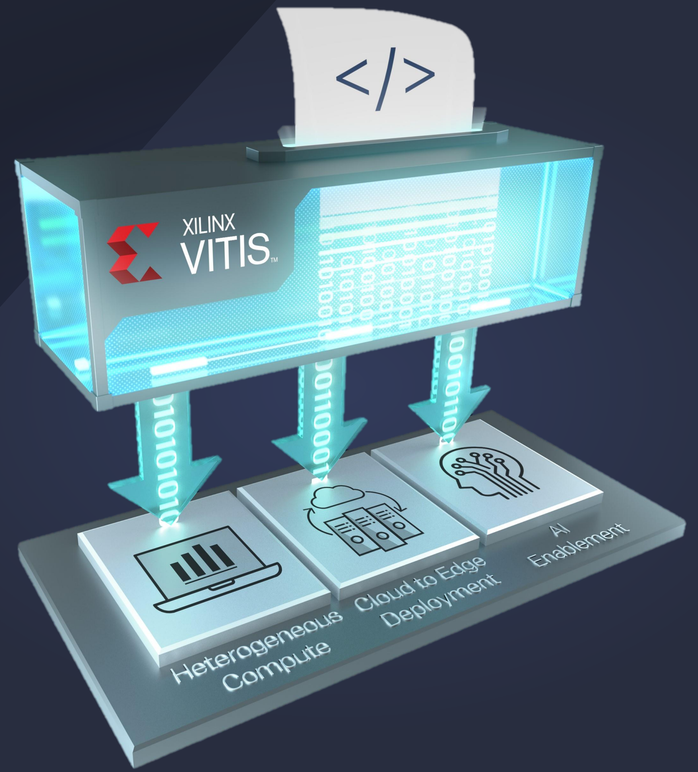
Vitis Unified Software Platform
Vitis 统一软件平台



Platform Transformation
平台转型之路

#DEVELOPERS
#开发者

Vivado

OS and
Firmware SDK
操作系统和固件SDK

SDSoC, Embedded
SDSoC、嵌入式

SDAccel, Data Center
(FaaS, Alveo)
SDAccel、数据中心
（FaaS、Alveo）

AI inference
Acceleration
AI 推断加速

Vitis Unified
Software Platform
Vitis统一软件平台
Adaptable & Programmable
灵活应变 & 可编程

Vivado

2012

2019

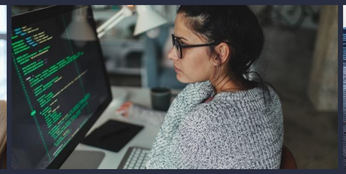
Enables All Developers to Build and Deploy to All Platforms

支持所有开发者构建和部署各种平台

Build
构建

Deploy
部署

Embedded Developers
嵌入式开发者



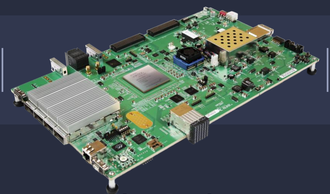
Enterprise Application Developers
企业应用开发者

Enterprise Infrastructure Developers
企业基础设施开发者

Data & AI Scientists
数据和 AI 科学家

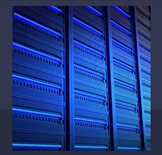
XILINX VITIS™

Zynq



UltraScale

Alveo

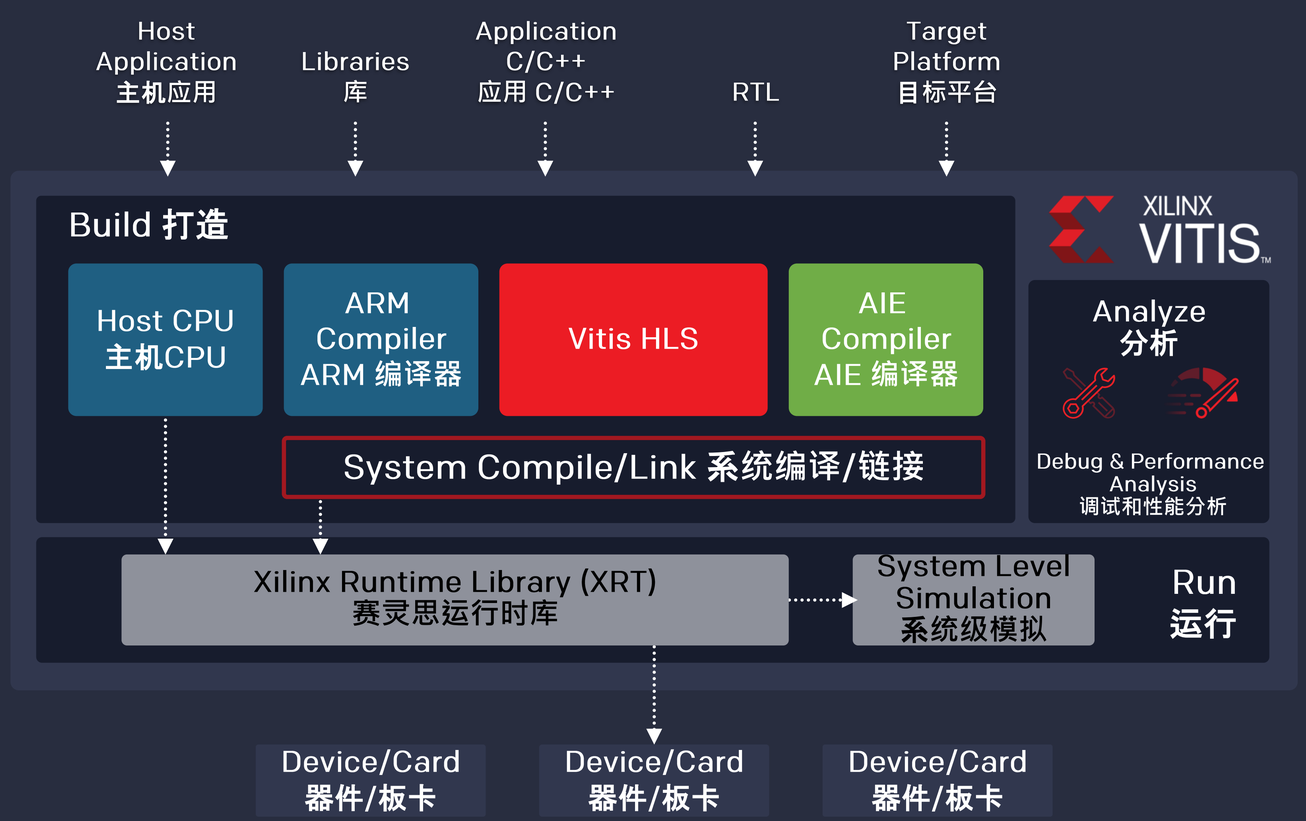


Data Center Rack
数据中心机架

Build

Comprehensive Development Tool Suite

打造丰富的开发工具套件



Build

Comprehensive Development Tool Suite

打造丰富的开发工具套件

GitHub

400+ functions across multiple libraries 多种库提供 400 多项功能

Open-Source, performance-optimized out-of-the-box acceleration 开源、性能优化的开箱即用加速

Domain-Specific Libraries 特定领域库

Vision & Image
视觉与图像

Finance
金融

Data Analytics & Database
数据分析和数据库

Data Compression
数据压缩

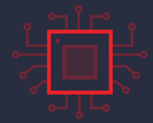
Data Security
数据安全性

Common Libraries 通用库

Math
数学

Linear Algebra
线性代数

Statistics
统计

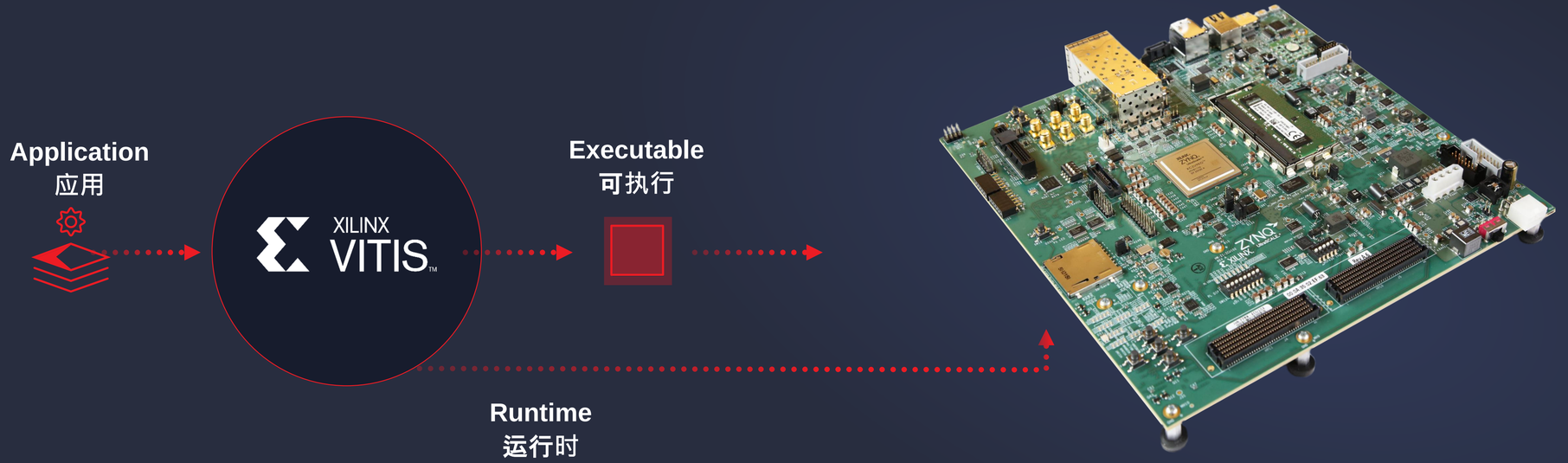


DSP
数字信号处理器

Data Management
数据管理

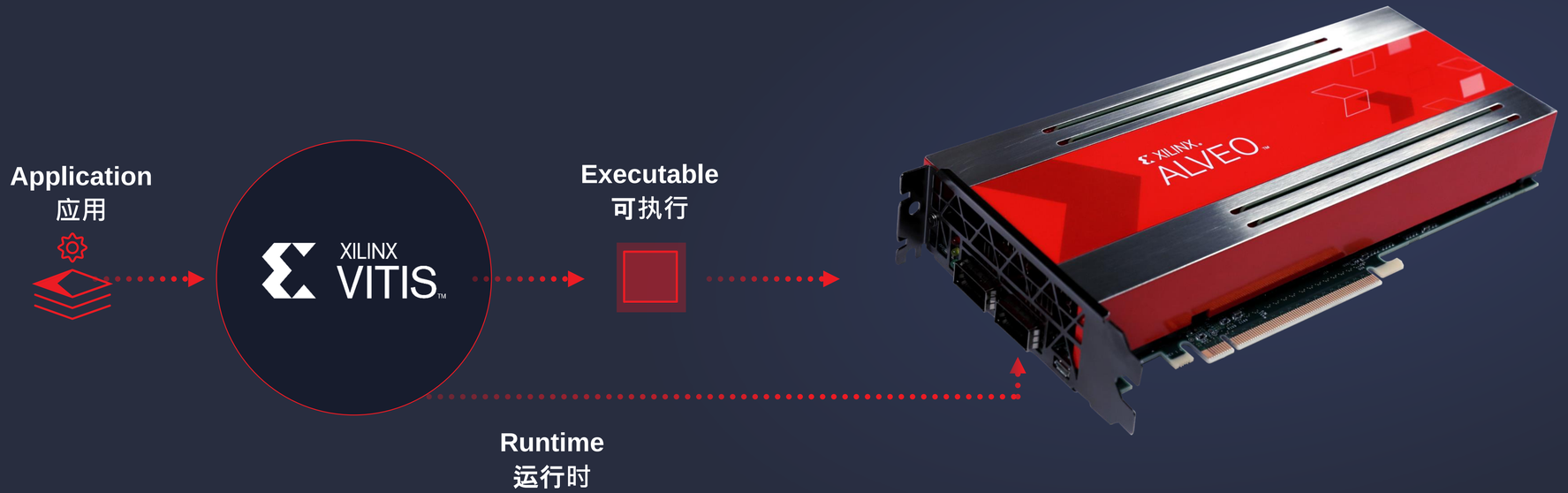
Deploy

Embedded Deployment
嵌入式部署



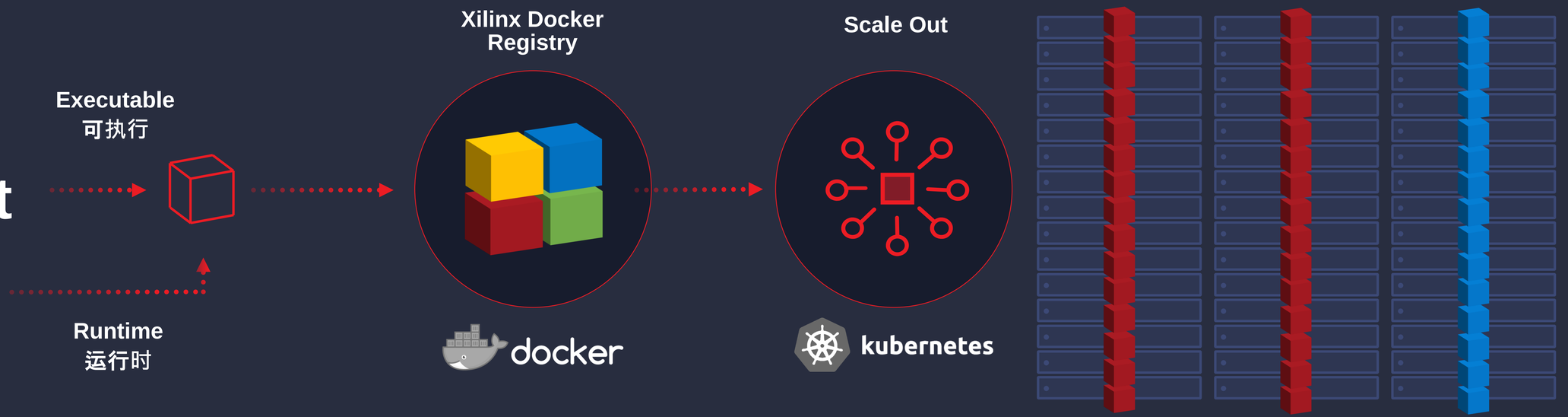
Deploy

Single Server Deployment
单服务器部署



Deploy

Scale Out Deployment
扩展部署

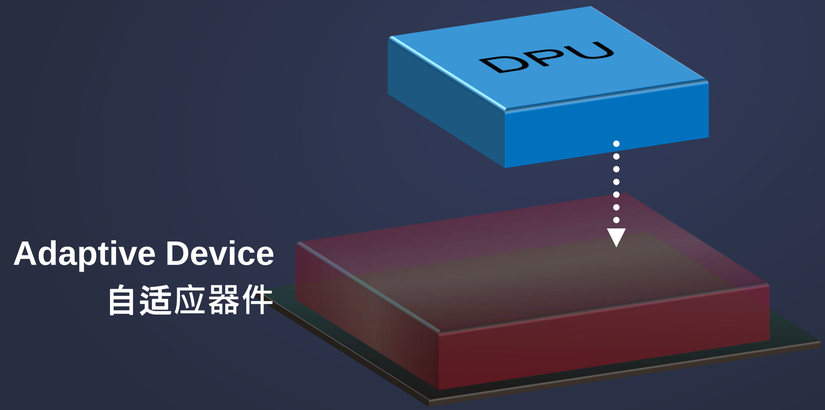


Vitis AI: From TensorFlow to Implementation in Minutes
Vitis AI：几分钟实现 TensorFlow 部署

DNN Processing Unit (DPU)
DNN 处理器（DPU）

Direct Framework Compilation
直接框架编译

Minutes of Compile Times
编译时间



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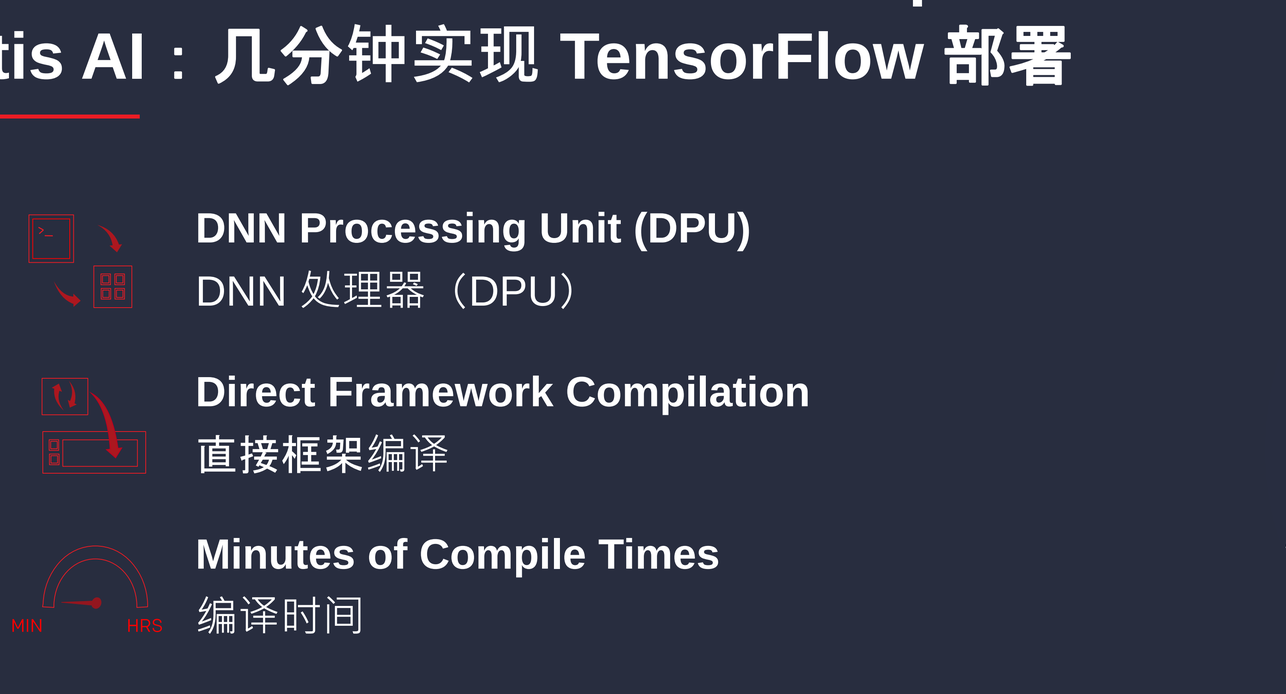

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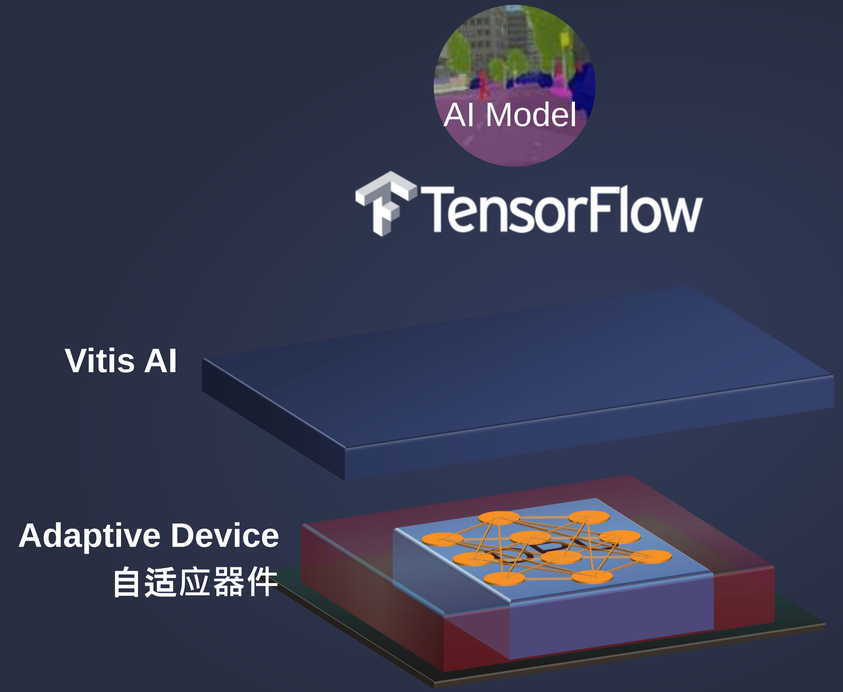
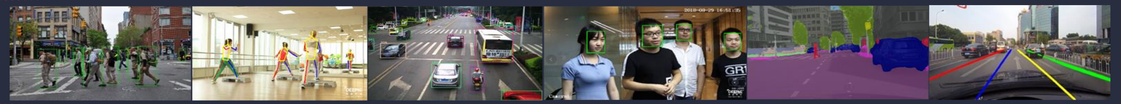


Enabling AI
加速 AI 实现

Frameworks
框架

TensorFlow Caffe PyTorch

Vitis AI
Models
Vitis AI 模型



Vitis AI
Development Kit
Vitis AI 开发套件

AI Optimizer AI 优化器	AI Quantizer AI 量化器	AI Compiler AI 编译器	AI Profiler AI 分析器

Vitis Drivers & Runtime (XRT)
Vitis 驱动及运行时（XRT）

DSA

CNN DPU 卷积神经网络 DPU	LSTM DPU 长短期记忆 DPU	MLP DPU 机器学习处理器 DPU

60+ pretrained, optimized reference models
60 多个预训练、优化的参考模型

Performance improvement up to 10-20x
性能提升高达 10-20 倍

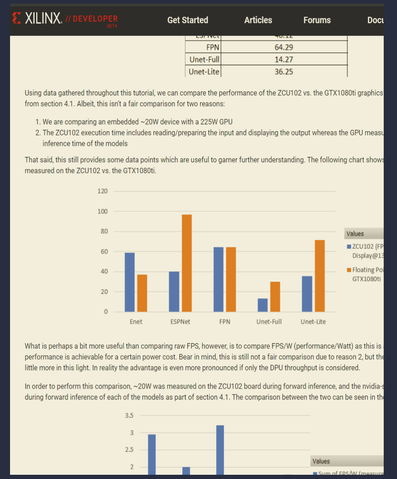
Tensor based ISA for true software programmability
基于 Tensor 的指令集架构（ISA）实现真正的软件可编程

Announcing:
Vitis AI Now Available For Download

今日新闻：
Vitis AI 现可免费下载了！

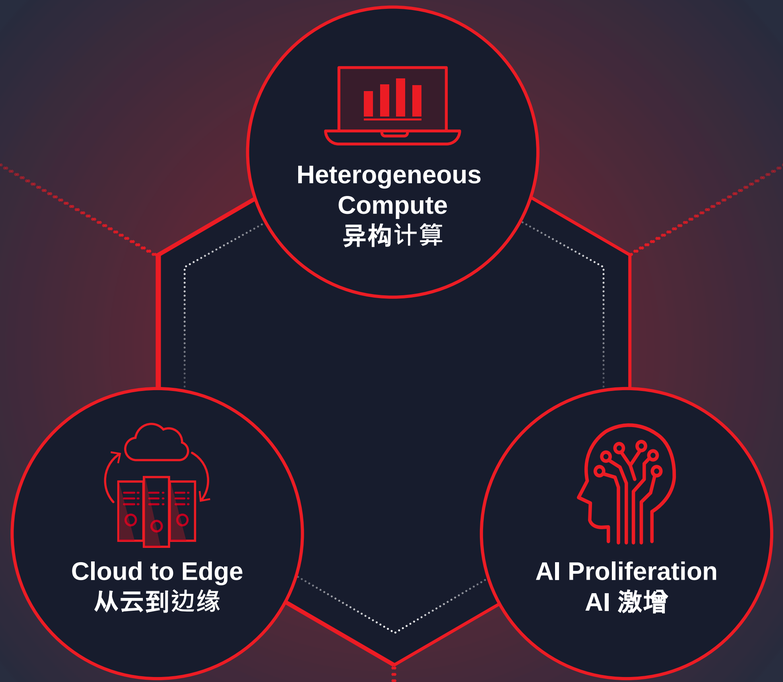
developer.xilinx.com
赛灵思开发者社区

- Beta Site Now Available 网站公测版现已推出
- Tutorials, Articles & Projects 教程、文章和项目
- Accessible from a Single Location 一站式获得所有内容
- Learn Directly from Vitis Experts 直接向 Vitis 专家学习



50+ expert articles & projects (and growing)

50 多篇/个专家文章与项目（且持续增加中）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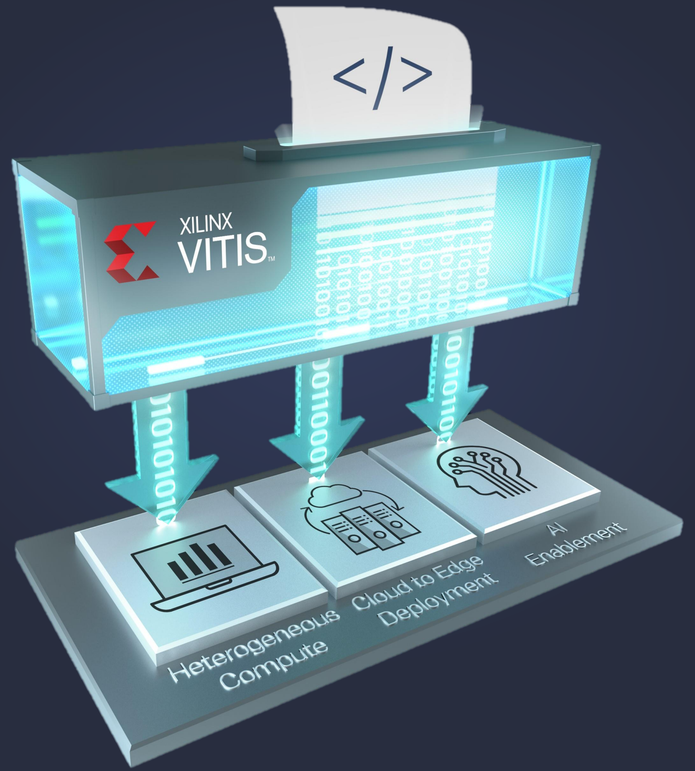
XILINX
VITIS
Heterogeneous
Compute
Cloud to Edge
Deployment
AI
Enablement

Alibaba Cloud
阿里云

Jeff Zhang 张振祥

Alibaba Cloud and Intelligent FPGA
Heterogeneous Computing Leader
阿里云和智能 FPGA 异构计算负责人

中泰证券
ZHONGTAI SECURITIES

Jackie Cheng 程龙

Zhongtai Securities, CIO
中泰证券， CIO

百度大脑EdgeBoard加速产业智能化升级

Hongguang Zhang 张红光
Technical Manager 技术经理
Baidu 百度

Development Platforms for ALL Developers

适合所有开发者的开发平台