

Webinar Description

This webinar explains what Versal™ ACAP platform is, provides overview of Versal ACAP architecture, introduces the architecture of the AI Engine.

The emphasis of this course is on:

- Introduction to Versal ACAP platform (Premium/HBM/Prime/AI Edge/AI Core).
- Describe Versal ACAP architecture
- Describing different engines and resources available in the Versal architecture
- Introduces the features and capabilities of the PCIe® and Cache Coherent Interconnect blocks in the Versal™ architecture
- Illustrate AI Engine architecture
- Analyze single kernel performance between scalar data type and vector data type.
- Introduce K26, KV260 and KR260 (SOMs)

Level – ACAP 1

Course Details

- Two ½ day online webinar
- 7 lectures
- 2 Demos

Price – FREE / \$0.00

Date – August 17 and 18 2022 ([REGISTER HERE](#))

Pacific: 9:00 AM to 1:00 PM

Mountain: 10:00 AM to 2:00 PM

Central: 11:00 AM to 3:00 PM

Eastern: 12:00 PM to 4:00 PM

Course Part Number – ACAP-INTRO

Who Should Attend? – Software and hardware developers, system architects, and anyone who needs to accelerate their software applications using Xilinx devices

Prerequisites

- Comfort with the C/C++ programming language
- Software development flow

Software Tools

- Vitis unified software platform 2022.1

Hardware

- Architecture: Xilinx Versal ACAPs

After completing this comprehensive training, you will have the necessary skills to:

- Describe what an Adaptive Compute Acceleration Platform (ACAP) is
- Describe the significance of using Versal™ ACAPs
- Identify the various engines in a Versal ACAP device
- Describe the different available Versal families
- Describe the Versal™ ACAP architecture at a high level
- Identify the various engines in the Versal ACAP device
- Describe the Kria K26 SOM and its advantages
- Describe the features and capabilities of the KV260 Vision AI Starter Kit carrier card
- How to estimate power consumption using XPE for Versal ACAP
- Describe the architecture of the AI Engine

- Explain data types, intrinsic functions APIs used by AI Engine
- Learn how AI Engine can accelerate computation

Webinar Outline

- **Versal ACAP: Introduction**
Describe what an Adaptive Compute Acceleration Platform (ACAP) and how users can benefit from using versal ACAPs. Identify the various engines in a versal ACAP device and different available versal families.
- **Overview of the Versal ACAP Architecture**
Provides an overview of the Versal architecture at a high level and describes the various engines in the Versal ACAP, such as the Scalar Engines, Adaptable Engines, and Intelligent Engines. Also describes how the AI Engine in the Versal ACAP meets many dynamic market needs.
- **Application Partitioning**
Covers what application partitioning is and how the mapping of resources based on the models of computation can be performed.
- **Xilinx Kria System-on-Module (SOM) Overview**
Introduces the Xilinx Kria K26 SOM and describes its advantages. Also outlines the features, functional interfaces, mechanical, and thermal aspects of the SOM.
- **Xilinx Kria KV260 Vision AI Starter Kit Overview**
Provides an overview of the Xilinx Kria KV260 Vision AI Starter Kit, its features, and interfaces. The boot devices, heat sink, firmware, and power-on sequence for the kit are also described.
- **Demo: Running Demo Application in Kira AI Starter Kit**
- **Introduction to the Versal AI Engine Architecture**
Introduces the architecture of the AI Engine and describes the AI Engine interfaces that are available, including the memory, lock, core debug, cascaded stream, and AXI-Stream interfaces.
- **Versal ACAP Tool Flow**
Reviews the Vitis tool flow for the AI Engine and demonstrates the full application acceleration flow for the Vitis platform.
- **Demo: Analyzing single kernel performance between scalar data type and vector data type**

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Morgan Advanced Programmable Systems, Inc. (Morgan A.P.S.) delivers public and private courses in locations throughout the central US region; including Iowa, Illinois, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota and Wisconsin.

Visit morgan-aps.com/training, for full course schedule and training information.



- You must have your tuition payment information available when you enroll. We accept credit cards (Visa, MasterCard, or American Express) as well as purchase orders and Xilinx training credits.

Student Cancellation Policy

- Students cancellations received more than 7 days before the first day of class are entitled to a 100% refund. Refunds will be processed within 14 days.
- Student cancellations received less than 7 days before the first day of class are entitled to a 100% credit toward a future class.
- Student cancellations must be sent [here](#).

Morgan A.P.S. Course Cancellation Policy

- We regret from time-to-time classes will need to be rescheduled or cancelled.
- In the event of cancellation, live on-line training may be offered as a substitute.
- Morgan A.P.S. may cancel a class up to 7 days before the scheduled start date of the class; all students will be entitled to a 100% refund.
- Under no circumstances is Morgan A.P.S. responsible or liable for travel, lodging or other incidental costs. Please be aware of this cancellation policy when making your arrangements.
- For additional information or to schedule a private class contact us [here](#).

Online training with real hardware

- During the Covid-19 period, some companies do not allow their staff to participate in live in-person training.
- Consequently, Morgan Advanced Programmable Systems, Inc. has set up a training VPN where engineer participants can take classes online using the same computers and devCards used during in-person training for those courses that use devCards.
- Even better, and upon request, you can use these computers after hours on training days to experiment with labs. This is not possible for in-person training.
- Additionally, just like in-person training, the laptops and devCards, tools, OS, and licensing are setup in advance.
- In some ways, live online-training is better than in-person...for example, you can grant the instructor permission to look at your Vivado, PetaLinux terminal, or Vitis for extended periods of time if your lab is not going exactly as planned to a missed step.
- This is often more comfortable than two engineers crowding around a laptop screen.
- Taking remote training also allows you to learn some tips and tricks for working remote. Whether your devCard is in the lab down the hall, or across the world via VPN, you can control your Xilinx based device quickly and efficiently.

