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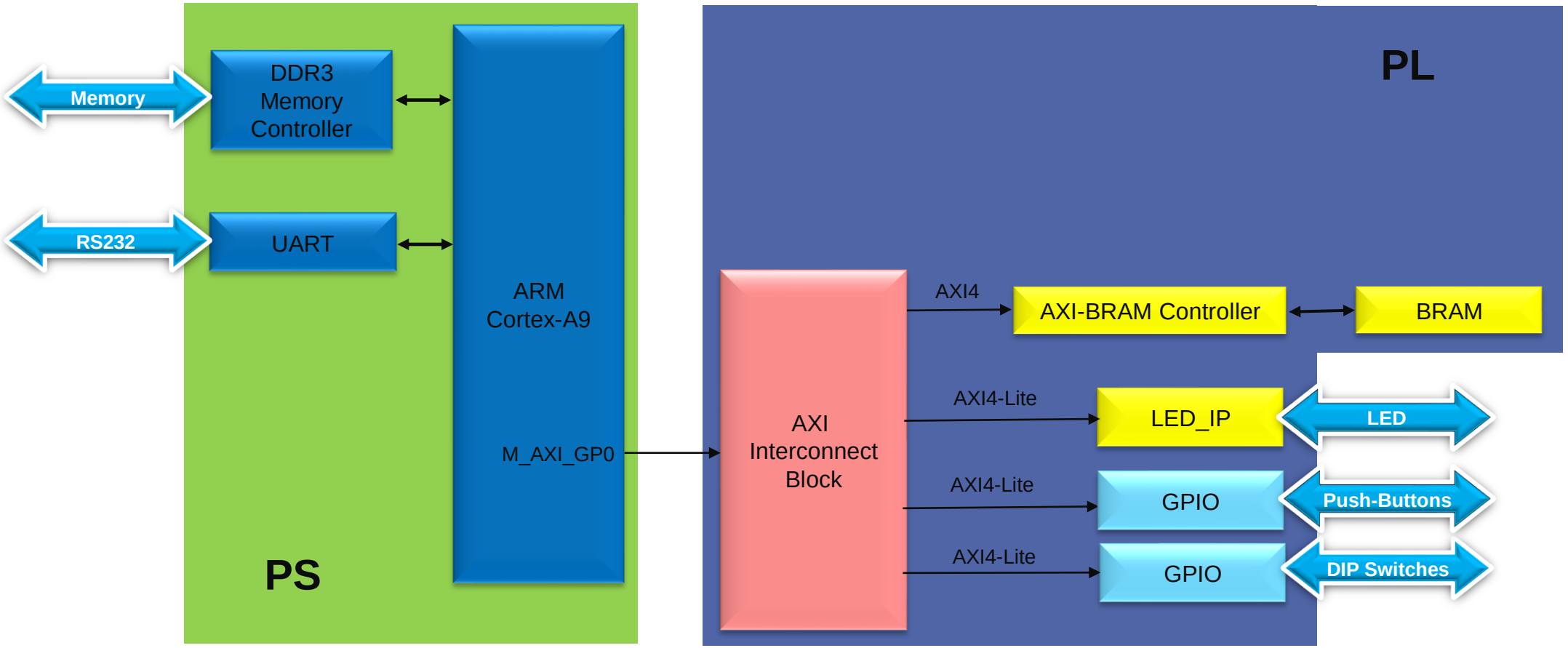
Lab4 Intro
Writing Basic Software Application

2021.2

Introduction

- This lab guides you through the process of writing a basic software application. You will add AXI BRAM controller and a BRAM memory.
- Then you will create a software project in Vitis IDE and develop a software that will monitor dip switches and write to the LED_IP device to which LEDs are connected.
- You will also modify a linker script file and view its effect on the section location.
- Finally, you will download the bit file and verify the functionality

ARM Cortex-A9 based Embedded System Design
Lab4: Add BRAM and develop software



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Procedure

- Open project in Vivado
- Add an internal BRAM
- Generate bitstream and invoke Vitis IDE
- Create a software project
- Analyze assembled object files
- Verify the design in hardware

Summary

- Use Vitis IDE to define, develop, and integrate the software components of the embedded system.
- You can define a device driver interface for each of the peripherals and the processor.
- Vitis imports an xml file and lets you update the settings so you can develop the software side of the processor system.
- You can then develop and compile peripheral-specific functional software and generate the executable file from the compiled object codes and libraries. If needed, you can also use a linker script to target various segments in various memories.

Thank You

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