

# *System on a Chip (SoC)*

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# Some background from you....

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Who knows about VHDL/Verilog?

Who knows about FPGA?

Who knows about SoC?

Who knows about ..... ?  
Who knows about ..... ?

Who knows about 'C'?



# System on Chip (SoC)

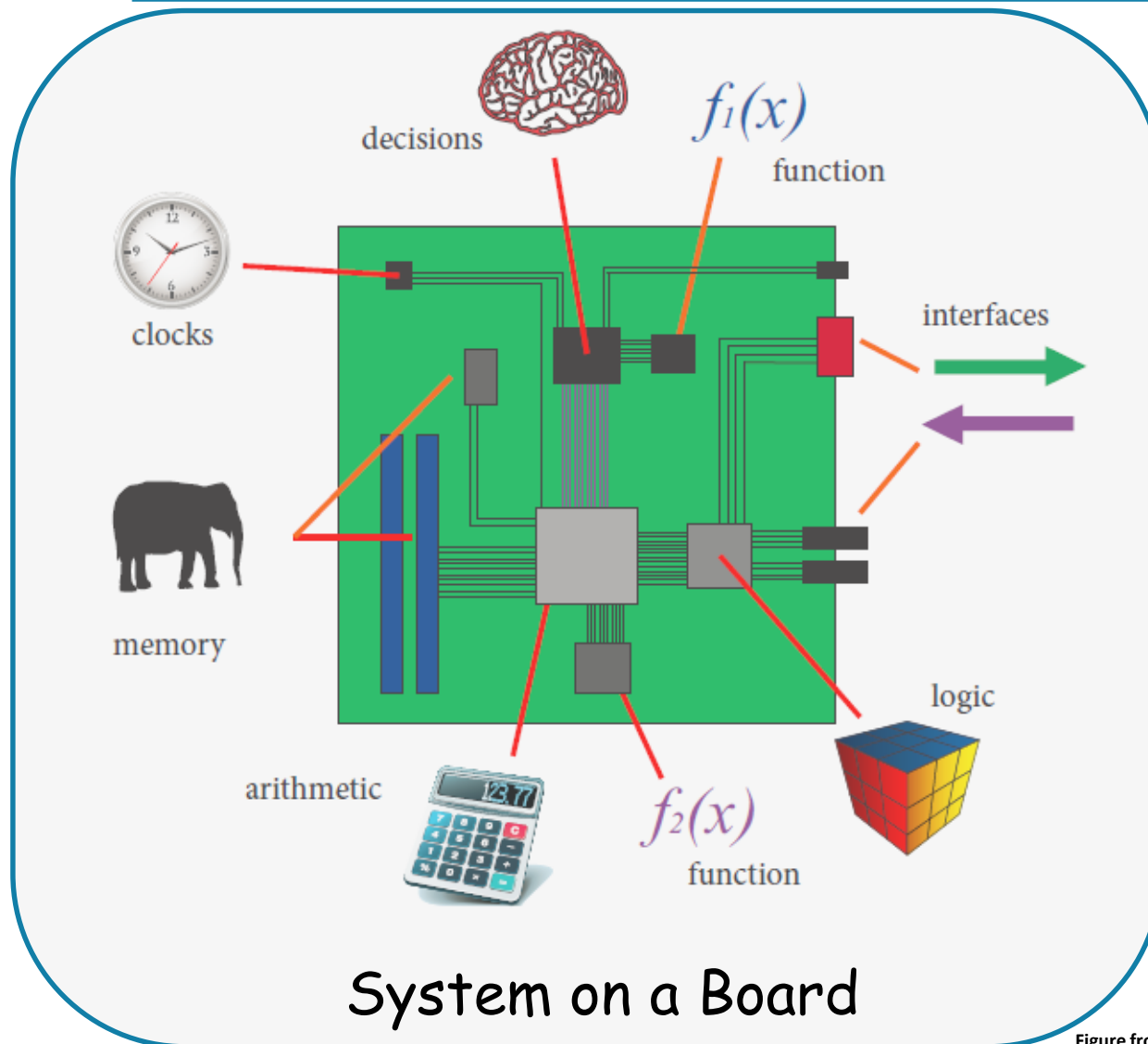


Figure from the "The Zynq Book"

# ASIC SoC –System on Programmable Chip

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## ASIC SoC

- Development Time
- Cost
- Lack of flexibility

## SoPC

- Great flexibility
- Fast time-to-market
- upgrade-ability
- Availability of IP cores
- Cheap and easy to use development tools

Zynq (Xilinx)

Stratix (Intel)

Ultra Scale(Xilinx)

SmartFusion2 (MicroSemi)

# A Simple View of an Embedded SoC

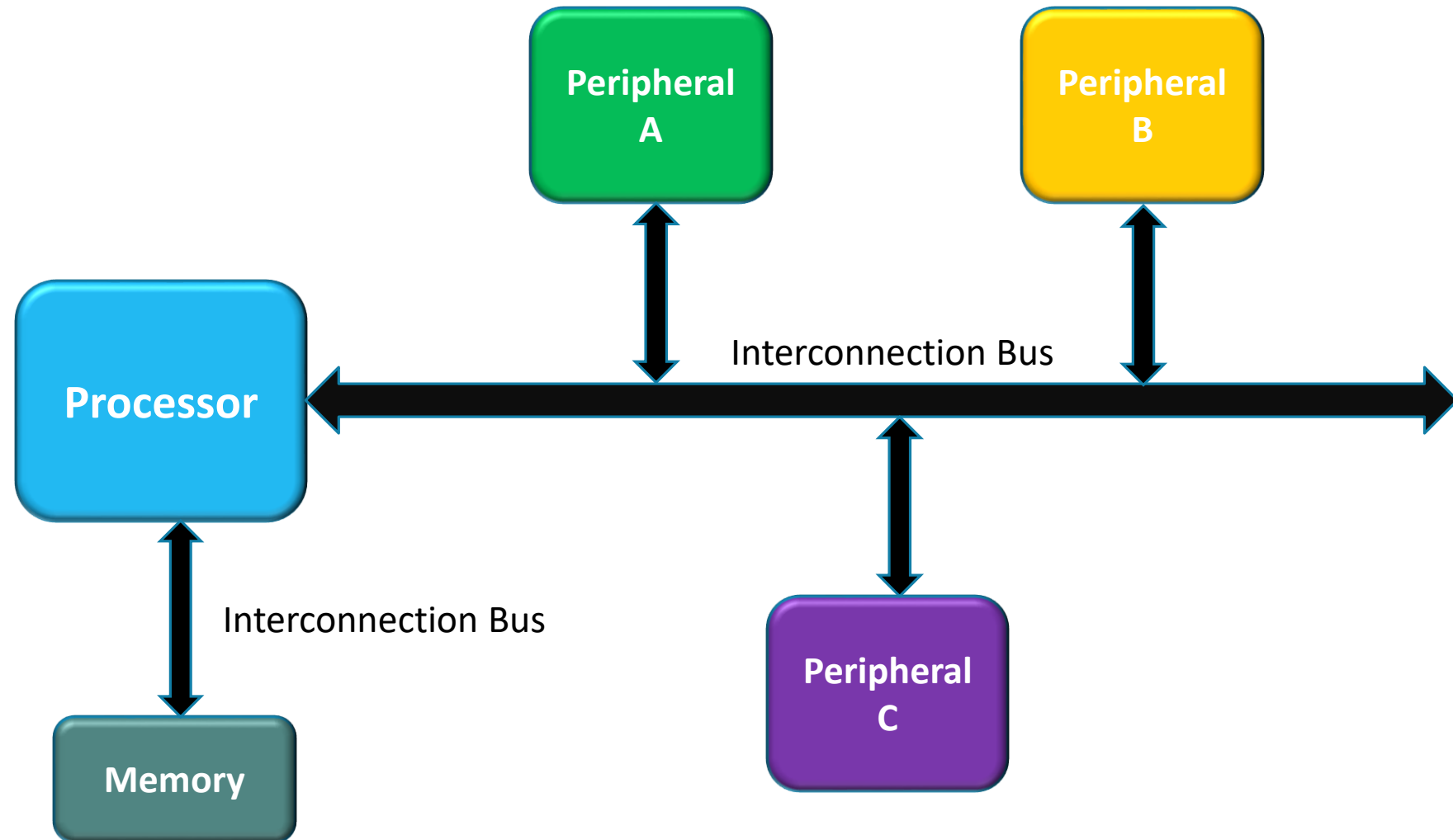


Figure from the "The Zynq Book"

# A Simple View of the Xilinx Zynq SoPC

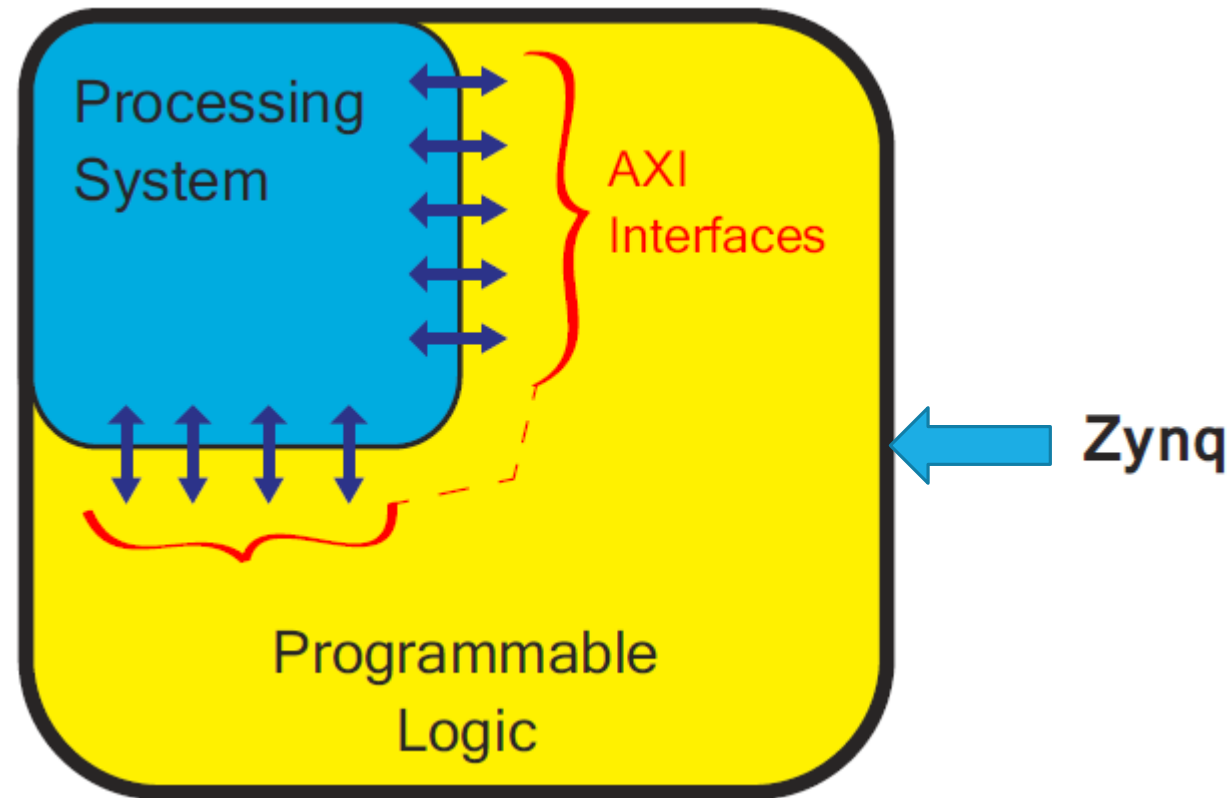
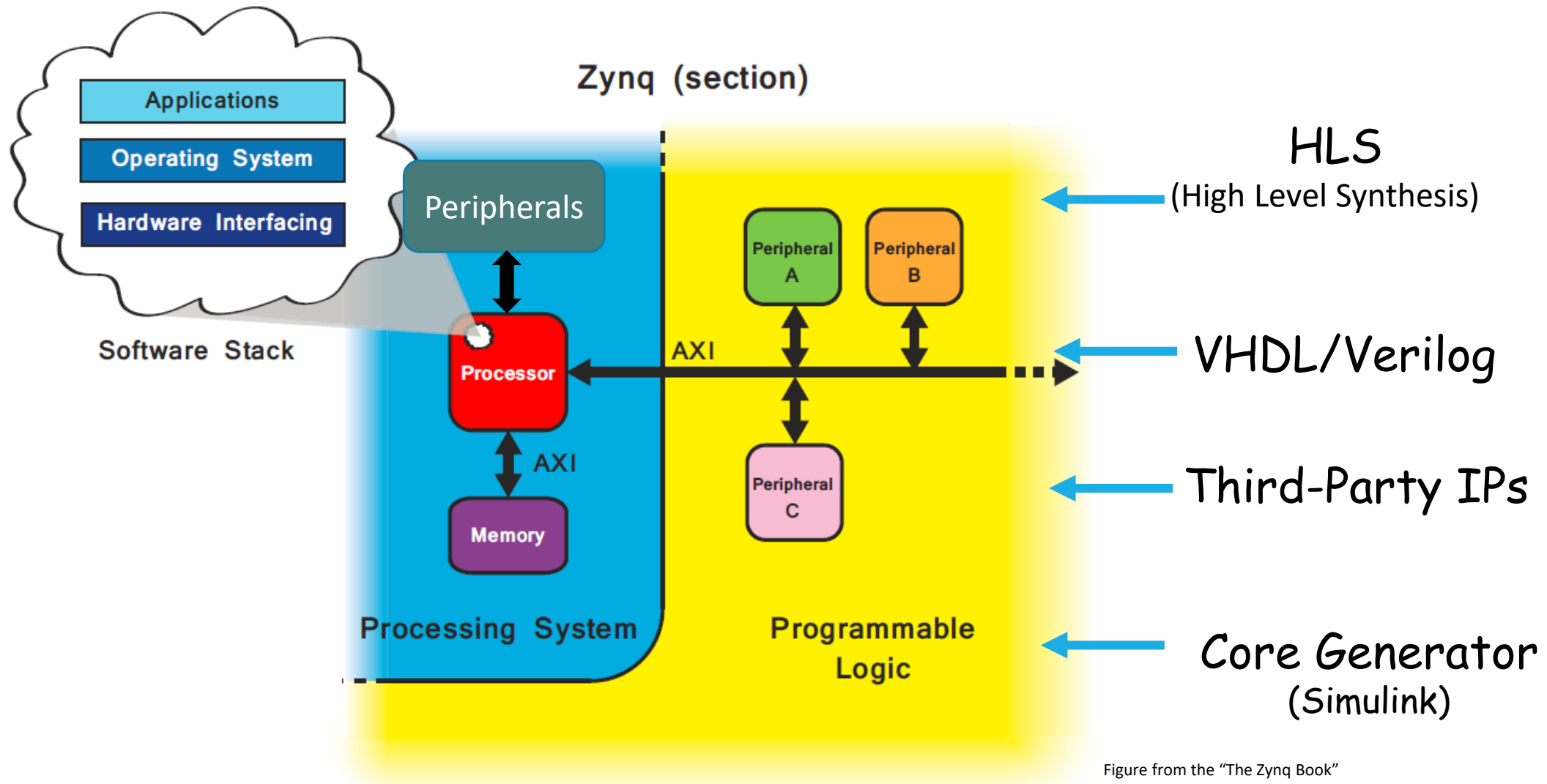
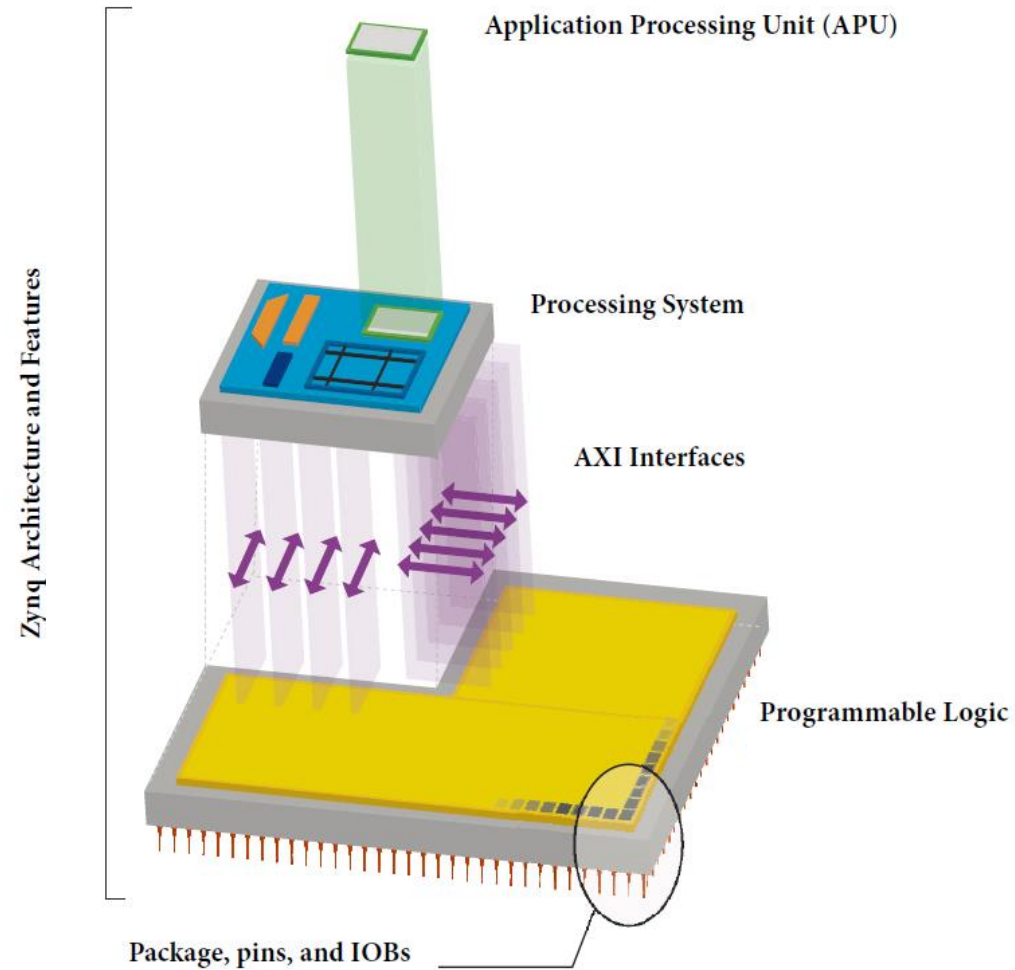


Figure from the "The Zynq Book"

# Software System, Hardware System and Zynq



# Architectural View of the Zynq



# SoC Design Flow

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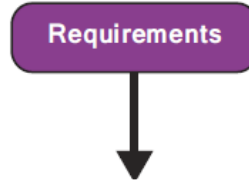


Figure from the "The Zynq Book"

# Hardware and Software Layers in a SoC

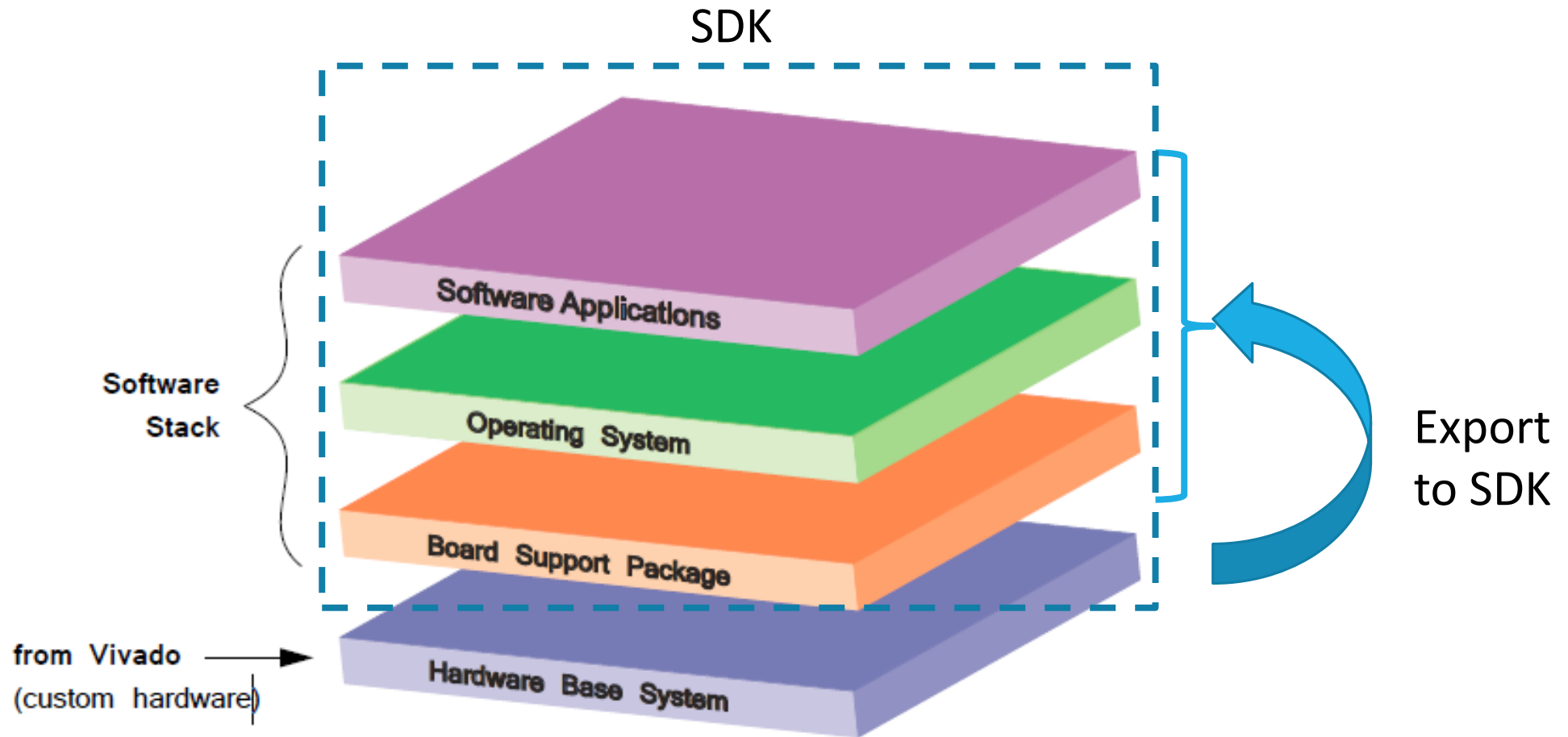


Figure from the "The Zynq Book"

# IP Availability for SoC Designs

