

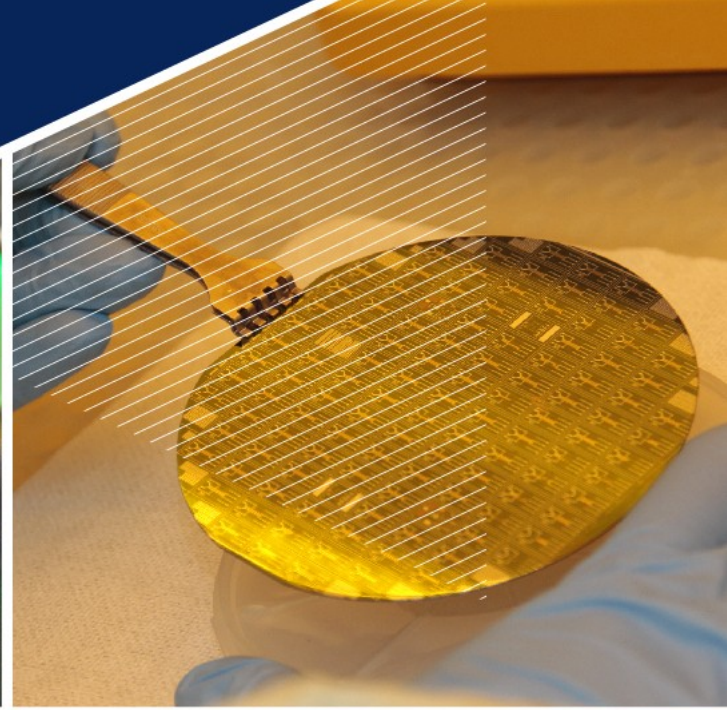


Accessing the RVI CommBlock from the PC

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Outline

Accessing the CommBlock from PC

- Standardize packets
- Hardware reusability
- Communication protocols
- Multiplatform and multivendor software

Outline

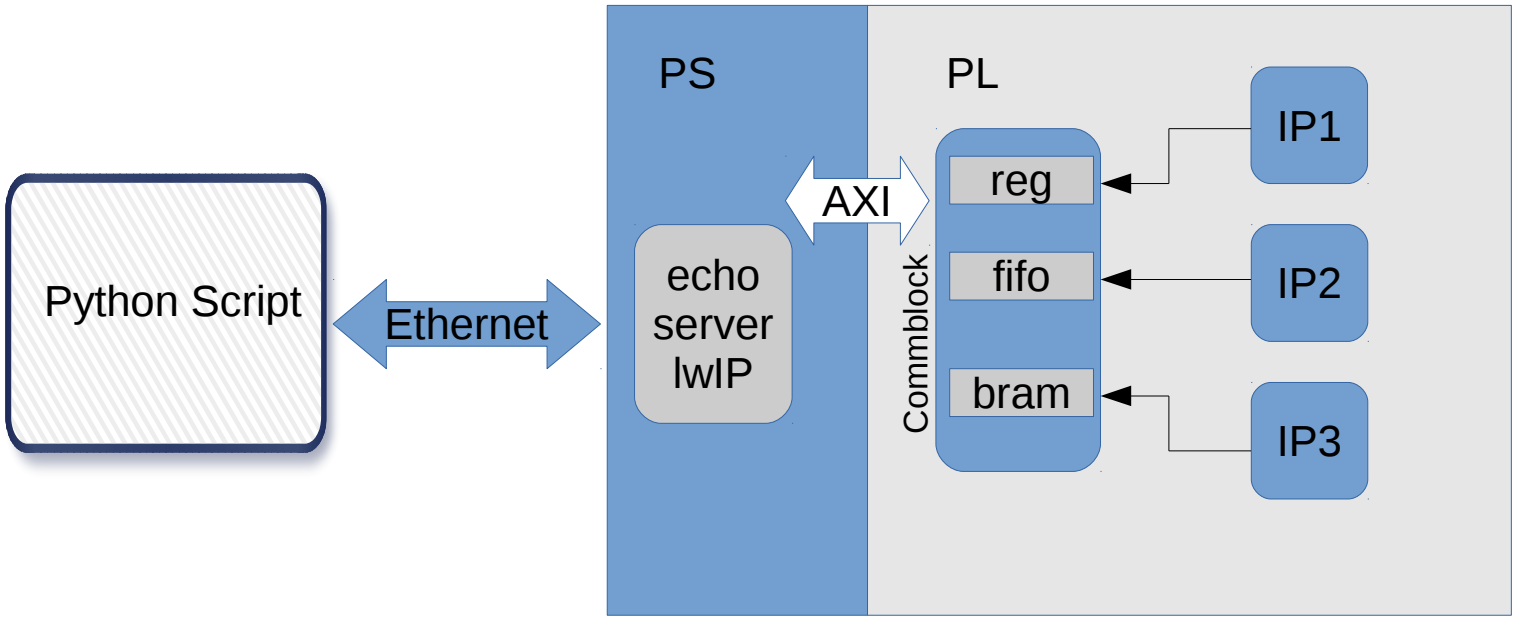
Introduction

Reconfigurable Virtual Instrument

Zynq-7000 PL-PS Commblock Interface

RVI System

In this lab we will see a system like this



PC to PS communication method

- Protocol definition
  Ethernet, PCIe, USB, etc..
- Package standard
  Standardization of the way the data is build inside the packets
- Basic functionalities
  Read data, move data between the different hardware resources, write data, general resets, etc..

Read from CommBlock

- Read basic function

  x_read $< addr > [-r][< outputformat >]$

- Not limited to CommBlock
- Read from general memory resources

  x_read_mem $< addr >< N >< inc > [-r][< outputformat >]$

Where address is in hexadecimal format as 0x0001, **N** the number of words, **inc** the increment after each word read.

Write to CommBlock

- Write basic function

  x_write $<$ *addr* $><$ *data* $>$

- Not limited to CommBlock
- Write from general memory resources

  x_write_mem $<$ *addr* $><$ *N* $><$ *inc* $>$ $[-r][<$ *inputfile* $>]$

Commands format

COMMAND_TYPE COMMAND_SPECIFIC DATA

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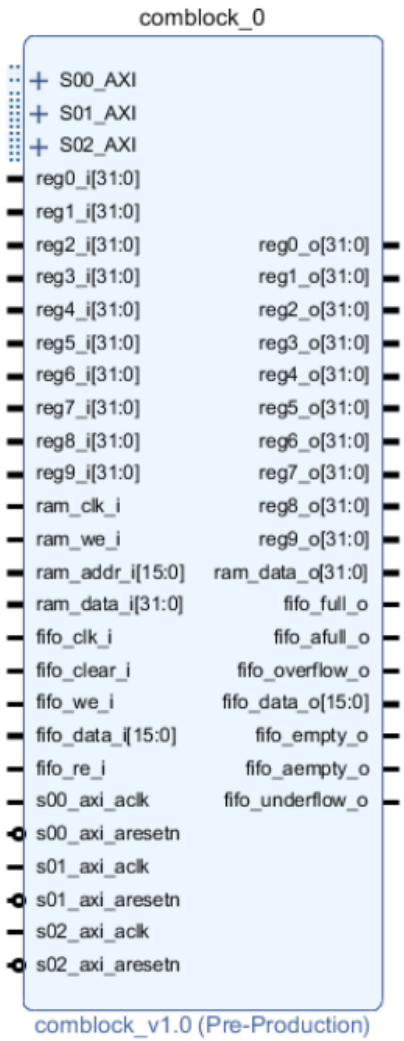
CommBlock



- 3 AXI interfaces
- Set of registers for read only or write only
- Two FIFOs
- A true dual port memory

INTI-CMNB-FPGA

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Thanks!