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Enriching Collaboration for Innovative Excellence
BENGALURU

REUSING VIP SEQUENCES USING CONVERTOR METHOD

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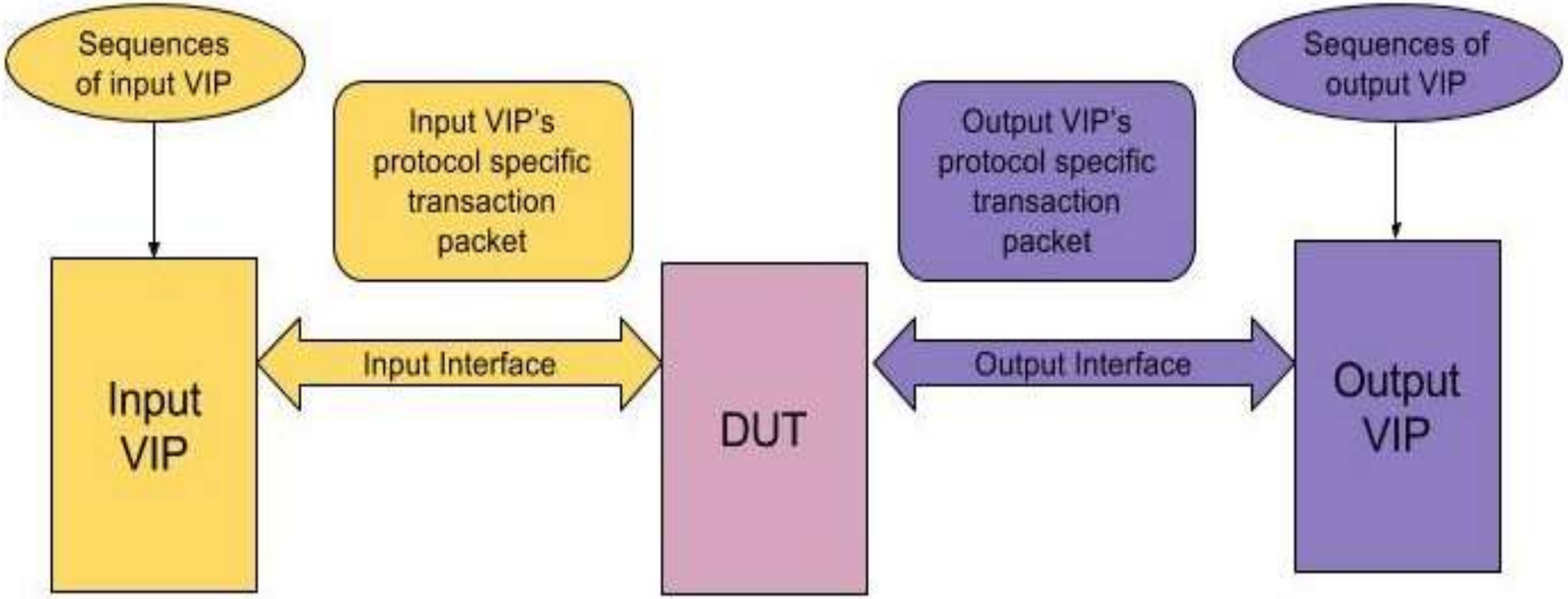
Agenda

- Introduction
- Need of the Convertor Method
- Quick Solutions
- The Convertor method
- Benefits of the Convertor method
- Convertor method Usage Example

Introduction

- VIPs have protocol specific sequences
- In certain scenarios, there might not be compatibility present in the VIP for every interface
- DUT can have different protocol interfaces at input and output
- Sequences might need to drive on a different protocol interface

Need of the Convertor Method



DUT connected to two different VIPs at the input interface and output interface

Need of the Convertor Method

- Output VIP sequences are no longer useful in this scenario
- Input VIP sequences need to be recoded in such a way that after sampling transactions from input interface Dut can generate proper transactions required on the output VIP interface
- Each sequence of output VIP has different configuration and intention
- All output VIP sequences recoding in input VIP sequences requires more resources on project, more cost and precious time
- We either need to recode the input VIP sequences or find some better solution for this situation

Quick Solutions

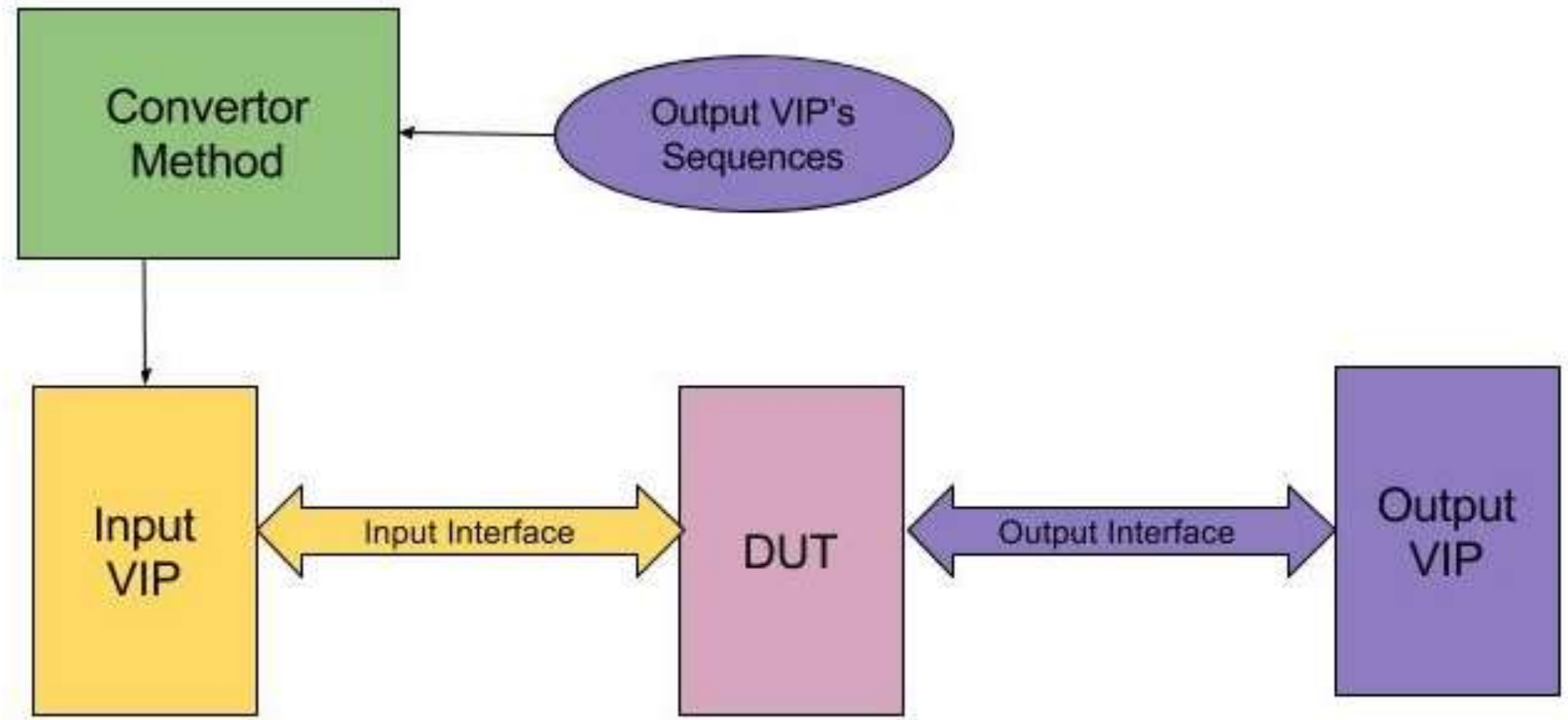
Some quick solutions to overcome challenges:

- Use of Scripting
- Change Input VIP's BFM functionality

The Convertor Method

- We developed a conversion method to reuse the existing sequences
- It converts Sequences of one VIP to the Sequence packets of another VIP of a different protocol
- User just needs to start the VIP Sequences without re-coding them

The Convertor Method



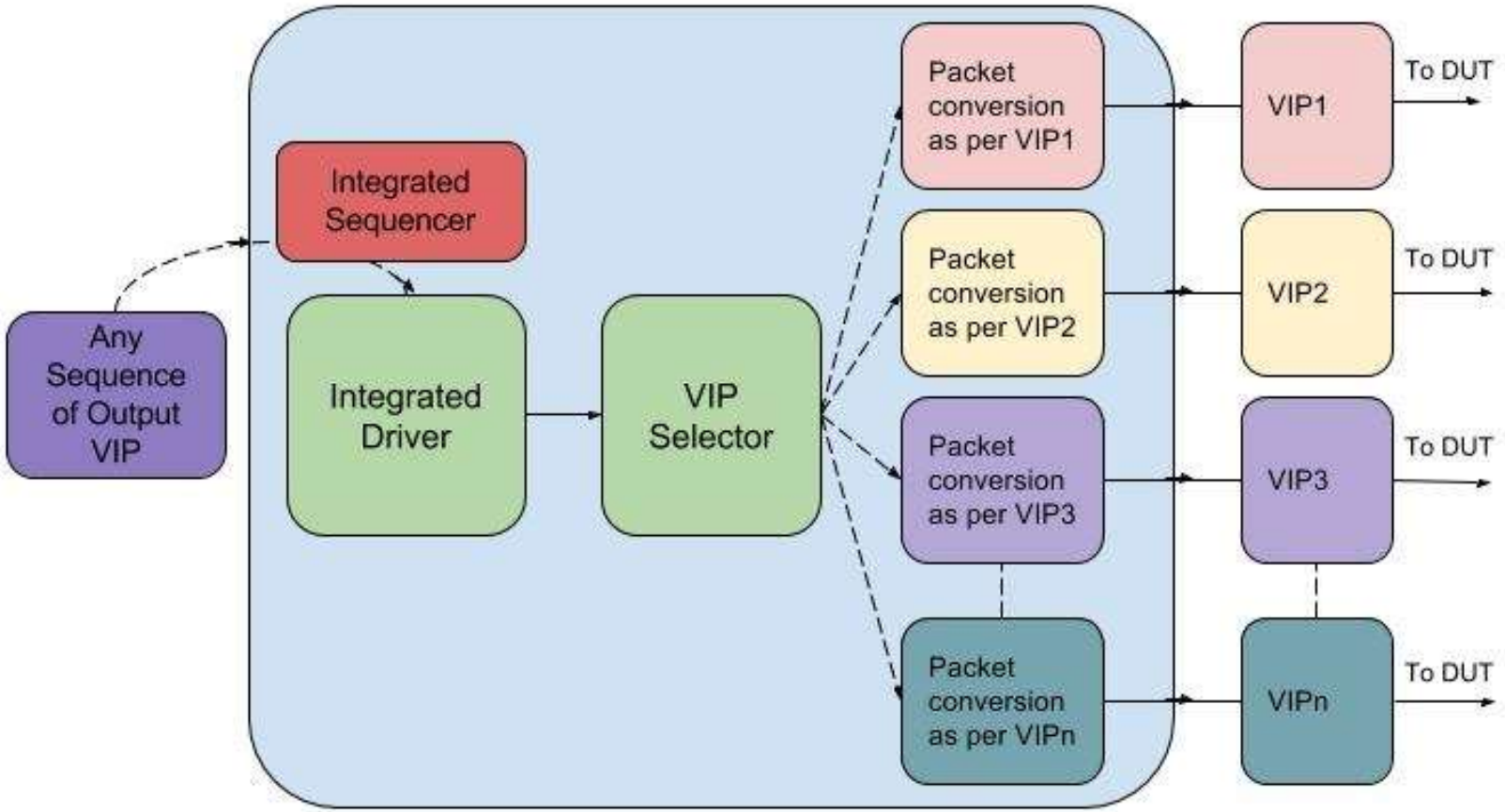
Convertor Method

Convertor Method – Main Components

Main Components

- Integrated Driver
- Integrated Sequencer
- VIP Selector
- Packet Convertor

Convertor Method - Block Level



Convertor Method - Block Level

Benefits of the Convertor Method

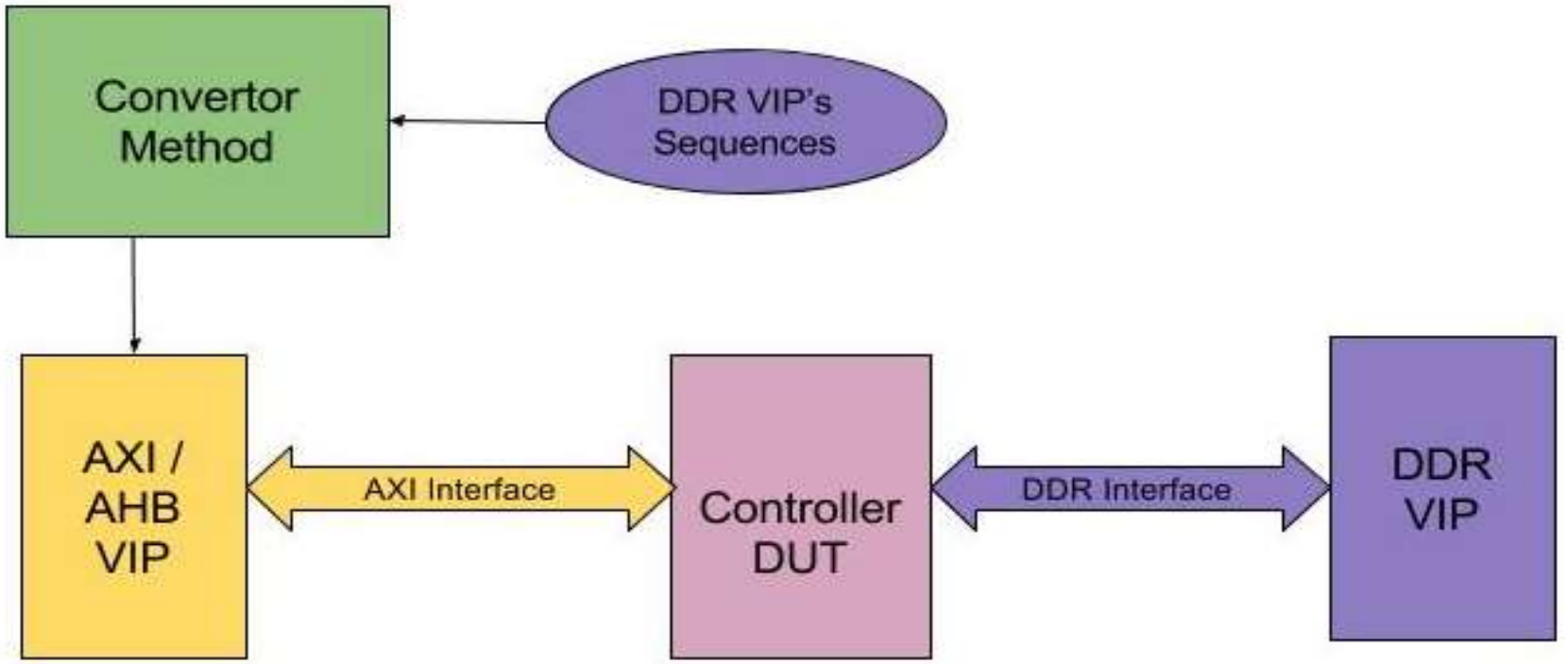
- We can save time, cost and resources by avoiding Sequence / BFM re-coding
- No need to study Input VIP functionality or its protocol if a person does not have knowledge of the input VIP protocol
- We can directly initiate the VIP sequences on a different VIP following a different protocol interface
- It is possible to initiate the VIP sequences on multiple and different types of VIPs
- Independent of VIP as it reduces the inter-VIP (or inter-protocol) dependencies

Benefits of the Convertor Method (continue)

- It increases plug and play mechanism for VIPs from either the same or different vendors
- Not much changes required if any of the VIPs is replaced

Convertor method Usage Example

- DUT has AXI / AHB interface at input side and DDR interface at output side
- DUT is the DDR Controller which accepts packet from AXI/AHB
- Using Converter Method, the entire sequence library of DDR VIP is reusable



Thank you…

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