



# asureVIP™

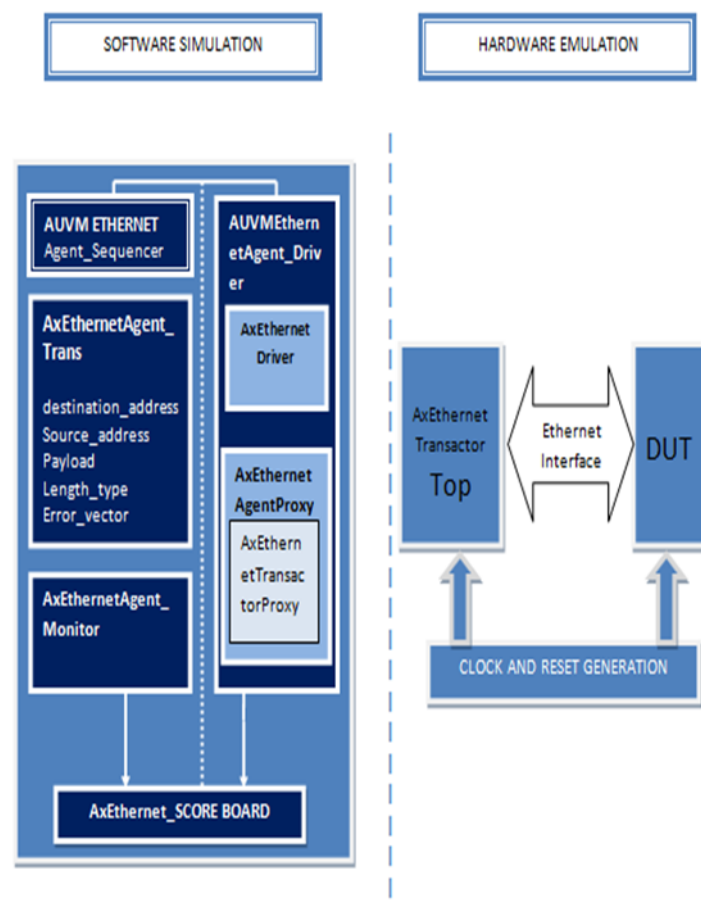
## Ethernet 10/100/1000Mbps UVM/eRM VIP

Test and Verification Solutions offers ETHERNET UVM/eRM VIP as a part of asureVIP series of offerings. This is a highly flexible and configurable verification IP, which can be easily integrated into any verification environment and can be used for both functional verification and as an emulator.

The TVS ETHERNET UVM/eRM VIP encompasses several modes for different signal transmission rates, including 10Mbps, 100Mbps and 1000Mbps. It is programmed in System Verilog and supports the UVM/eRM Testbenches.

The VIP comes with a UVM/eRM Monitor for checking the conformance of the design with the technical specifications. The monitor performs the protocol checks and reports errors for noncompliance of features with IEEE 802.3.

### Block Diagram



## Overview

VIP:	ETHERNET
Compliance:	IEEE 802.3TM, 2008
Language:	System Verilog
Methodology:	UVM/eRM 1.1
Simulators:	Cadence Incisive, Mentor Questa, Aldec Riviera-PRO

## Deliverables

- Ethernet VIP
- Sample Testbench integrated with proven XILINK Ethernet core
- Sample Scoreboard
- Sample Virtual Sequencer
- VIP User Guide

## Key Benefits

- Highly Flexible, Independent and Configurable Ethernet VIP
- Excellent product support

## Technical Specifications

- Compatible with both Full and Half duplex modes & Speed of 10 , 100 & 1000 Mbps
- Supports various interfaces like GMII, MII, RGMII and SGMII for allowing maximum flexibility when communicating between PHY and DTE
- C++ transactor is integrated to provide Flow control , RXFIFO , WRFIFO Ethernet packet generation
- Supports flow control by allowing programmable inter-frame gap and collision detection Techniques.
- Programmable error injection and detection
- Programmable IFG , pause frame , Receiver Extract type , Payload data , preamble size , fake collision
- Supports the following packet types:
  - Standard Ethernet Frame
  - Ethernet magic frame
  - Ethernet VLAN Frame
  - Ethernet Jumbo Frame
  - Ethernet pause frame

## Other VIPs Available

- **ARM:** AXI, APB, AMBA ACE and CHI
- **Hi-Speed Interface:** Ethernet (10/100/1000MB & 10GB), PCIe RC and EP, USB 3.0 Host and Device, CSIX and SPI
- **Memory and Storage:** SDCARD 4.0, DDR 4/3, LPDDR 4/3 and ONFI
- **MIPI:** DPHY, DSI, LPDDR, MPHY, SMBUS, RFFE and Unipro
- **Universal Serial I/O:** CAN, GPIO, I2C, UART, SPDIF, I2S, SMBUS, SPI and TDM

## Independent Verification Service

TVS can deliver an independent verification service that not only reduces development costs and time-to-market, but also improves product quality.

## Proven Implementations

Use asureVIP with the confidence of knowing that they have been successfully deployed by leading SoC companies around the world.

## About TVS

Test and Verification Solutions Ltd (TVS) provides services and products to organisations developing complex products in the microelectronics and embedded software and systems industries.

TVS operates globally with offices in the UK, France, Germany, India, Singapore the USA plus a network of international partners.

**asureVIP**<sup>TM</sup> Download the FREE "Sample VIP Code"  
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