

# Overview



## asureVIP™

*Proven, Flexible and Configurable Verification IP*

asureVIP™ is a highly flexible and configurable verification portfolio which can be easily integrated into any complex digital SOC verification environment. Written natively in System Verilog or the e language for optimum performance, all of our VIP components are OVM/UVM or eRM compliant.

The standard asureVIP portfolio covers five major verticals and can be provided as source code under our Flexible Licensing Model. TVS is also able to undertake bespoke VIP development.

- **ARM-based:** All our ARM-based VIPs are highly optimized and proven to help customers exhaustively verify bus interconnects.
- **Hi-Speed:** The TVS High-Speed VIP is well positioned to address the burgeoning verification needs of the mobile SoC market.
- **MIPI:** The asureVIP portfolio for MIPI is well positioned to address the burgeoning verification needs of the mobile SoC market.
- **Memory and Storage:** With devices increasingly containing higher amounts of embedded/storage memory their verification has become crucial in SoC design.
- **Universal Serial IO:** TVS specializes in providing highly flexible, independent and configurable VIP solutions for Serial IO protocols. Our customers have used our VIPs extensively to verify communications with low-speed devices.

### The Advantages of Using asureVIP

- Highly flexible and configurable
- Reusable sequences and scoreboards
- Structured and reusable
- Easily integrated into complex SoC environments
- Quick TAT for customer to build SoC verification environments
- Compliant with IEEE and OVM standards
- Simulator independent
- Proven against silicon proven DUTs
- Proven in different development environments
- Multiple customer wins
- Easily customizable to meet customer requirements
- Available in encrypted and open source code formats



*“We use open OVM so needed the verification IP to be OVM-compliant. We also wanted to own the verification IP long-term so we could reuse it for future chips and we did not want any license restrictions on how many simulations we could run in parallel. TVS delivered all this and more.”*

Icera

*“The TVS staff have worked on numerous IP and SoC verification projects and understand the necessity of measuring progress through metrics. Combining this with their extensive knowledge of both OVM and the protocol allows them to deliver VIP that supports the metrics used by their customers.”*

Dialog

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## The VIP Business Model

- Licensing Model
- Bespoke VIP Development
- VIP Co-Development
- VIP Enabled Services

To help our customers evaluate the quality of the asureVIP solutions, we are pleased to make some unit-level code samples and documentation available as a **VIP Evaluation Package**.

## Methodologies Supported

- OVM / UVM
- eRM 1.1

## Languages Supported

- System Verilog
- e language

## Simulator Independent

- Cadence Incisive
- Mentor Questa
- Aldec Riviera-PRO

## Deliverables

- VIP user Guide
- Sample Testbenches
- Sample Scoreboards
- Sample Virtual Sequencer

## Proven Implementations

Use asureVIP with the confidence of knowing that they have been successfully deployed by leading SoC companies around the world, including but not limited to:

- ICERA
- LG
- MICRON
- NVIDIA
- ST

## Verification IP Portfolio

### ARM VIP

- AXI
- APB
- AMBA ACE and CHI

## Hi-Speed Interfaces

- Ethernet (10/100/1000MB & 10GB)
- PCIe RC and EP
- USB 3.0 Host and Device
- CSIX
- SPI 4.2

## MIPI VIP

- DPHY
- DSI
- LPDDR
- MPHY
- SMBUS
- RFFE
- Unipro

## Memory and Storage VIP

- SDCARD 4.0
- DDR 4/3
- LPDDR 4/3
- ONFI

## Universal Serial I/O VIP

- CAN Bus
- GPIO
- I2C (Master and Slave, inc. Audio)
- I2S (Master and Slave)
- SMBUS
- SPI Master and Slave
- SPDIF
- TDM
- UART

## 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 and the USA, and a network of international partners.

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