Mentor Questa VIP

Mentor Questa® Verification IP (VIP) integrates seamlessly into advanced verification environments including testbenches built using UVM, Verilog, and VHDL. Mentor, a Siemens Business supports the leading industry-standard bus families, such as PCIe, USB, and Ethernet, as well as thousands of DRAM and FLASH memory models. Questa VIP is the industry’s only VIP with a native SystemVerilog UVM architecture across all protocols, ensuring maximum productivity and flexibility.

Questa VIP for Automotive

Automotive Questa VIP provides a comprehensive solution for exhaustive verification of automotive protocol-based IP and SoC products, providing the flexibility to create and cover all possible verification scenarios. Automotive Questa VIP includes ready-to-use verification components and exhaustive stimuli to increase productivity and accelerate verification signoff.

Questa VIP Benefits
- Architected for ease-of-use and consistency across all protocols
- Comprehensive stimulus and standard-based test suites
- Exhaustive protocol coverage and protocol checks
- UVM based testbench with ready-to-use components like monitors, loggers, and scoreboards
- Intuitive debug with transaction viewing and tracker files at various levels

Automotive Questa VIP Features
- Updated to latest protocol specification
- Built-in analysis components
  - Protocol checkers
  - Transaction loggers
  - Functional coverage
- Extensive sequence library for discrete protocol features
- Constraint-randomized stimulus with support for error injection

Supported Specifications
- CAN Specification version 2.0 by Bosch, September 1991
- CAN-FD Specification version 1.0 by Bosch, April 17, 2012
- CAN conformance test plan, ISO 16845-1:2016(E), November 1, 2016
- LIN Specification Package Revision 2.2A by the LIN Consortium 2010
Automotive Questa VIP Use Models

**Questa VIP as Active Node**

- Supports all node types
- Supports all protocol features
- Supports full duplex bus operation and unidirectional bus
- Extensive set of sequences in sequence library
- Exhaustive feature support for:
  - All frame types
  - All frame formats
  - Arbitration
  - Bit time synchronization
- Error injection and detection

**Questa VIP as Passive Node**

- Supports all node types
- Supports all protocol features
- Supports full duplex bus operation and unidirectional bus
- Exhaustive feature support for:
  - All frame types
  - All frame formats
  - Arbitration
  - Bit time synchronization
- **Error detection**
Automotive Questa VIP Verification Capabilities

Protocol Assertions
Built-in assertions analyze traffic for protocol adherence

Coverage
Ready-to-use cover groups
- Frame types
- Frame formats
- Protocol features

Out-of-the-Box Stimulus
- Achieves full Questa VIP coverage without modifications
- Extensive sequence library for discrete protocol features
- Stimulus to cover protocol features
- Error injection

Loggers
Analysis ports for all frame types
Questa Verification IP Library

Questa VIP Testbench Architecture

For the latest product information, call us or visit: www.mentor.com/fv