

## Functional Verification of an NVMe 1.3 Bridge FPGA code

### BUSINESS REQUIREMENTS



Develop a verification plan for functional verification of an NVMe 1.3 bridge FPGA



Develop a testbench in UVM, integrate third party VIP, scripts and test cases for verification



Execution and maintenance of test cases, help design team to debug RTL issues

### OUR SOLUTIONS



System Verilog and UVM based test bench, test cases with auto verification of 90% of the test cases



Shell scripting for independent test case simulation and regression



Parameterized execution for scalability and reusability

### TOOLS /TECHNOLOGIES



Mentor Questasim, Intel Arria 10, Linux, git, Shell script



System Verilog, UVM, Verilog and VIP integration



PCIe, NVMe 1.3 and AXI4 protocols, DDR4 memory models, NIOS II soft processor IP

### BUSINESS IMPACT



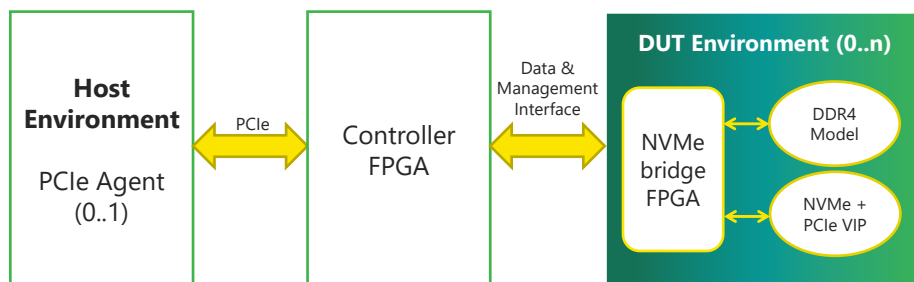
Full RAID group simulation reduced system level issues



Proactive debugging realized faster time to market



Improved functional coverage minimized field issues



### About Happiest Minds Technologies

Happiest Minds, the Mindful IT Company, applies agile methodologies to enable digital transformation for enterprises and technology providers by delivering seamless customer experience, business efficiency and actionable insights. We leverage a spectrum of disruptive technologies such as: Big Data Analytics, AI & Cognitive Computing, Internet of Things, Cloud, Security, SDN-NFV, RPA, Blockchain, etc. Positioned as "Born Digital . Born Agile", our capabilities spans across product engineering, digital business solutions, infrastructure management and security services. We deliver these services across industry sectors such as retail, consumer packaged goods, edutech, e-commerce, banking, insurance, hi-tech, engineering R&D, manufacturing, automotive and travel/transportation/hospitality.

Headquartered in Bangalore, India; Happiest Minds has operations in the U.S., UK, The Netherlands, Australia and Middle East.

[business@happiestminds.com](mailto:business@happiestminds.com)