

## **VHDL Implementation of High Speed AXI2.0 Protocol with DDR3 Controller**

Abhinav Tiwari  
M. Tech. Scholar, Embedded System and VLSI  
Design  
Acropolis Institute of Technology and Research,  
Indore (India)  
[tiwari.abhinav21@gmail.com](mailto:tiwari.abhinav21@gmail.com)

Jagdish Nagar  
Asst. Professor,  
Acropolis Institute of Technology and Research,  
Indore (India)  
[jagdishnagar@acropolis.in](mailto:jagdishnagar@acropolis.in)

*Abstract* – This paper proposes the implementation of AXI 2.0 protocol which removes the limitation of communication architecture, which would otherwise reduce the speed of data transfer in System-on-Chip (SoC). We have also implemented DDR3 controller which was then interface with AXI 2.0 protocol. Proposed protocol was synthesized on Xilinx 13.1 and simulated using Modelsim 6.5e.

*Keywords* – AXI 2.0, DDR3, Modelsim, SoC, Xilinx.