

CI Express 协议事务层设计与仿真

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摘要: PCI Express 协议是一种高速的的串行总线协议, 事务层是整个协议中重要的部分. 针对海量数据实时传输的实现问题, 本文对该协议事务层进行系统结构设计, 主要实现事务层的数据发送, 数据接收和信用流控制, 以及对应用层接口和数据链路层接口的逻辑设计. 采用 Verilog HDL 语言实现. 使用 Modelsim 进行仿真. 验证了本设计的正确性.

关键词: PCI Express; 事务层; Verilog HDL

The Design and Simulation of Transaction Layer of PCI Express Protocol

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Abstract: The PCI Express protocol is a high-speed serial bus protocol. The transaction layer is an important part of the entire protocol. In the real-time transmission of mass data, the system structure of the protocol transaction layer is designed in this paper. The main functions are: to achieve the affairs of the data transmission, data reception and credit flow control, as well as the logic design of the application layer interface and data link layer interface. These features are implemented in Verilog HDL language and simulated by Modelsim. The simulation of the transaction layer system verifies the correctness of the design.

Key words: PCI Express; transaction layer; Verilog HDL

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