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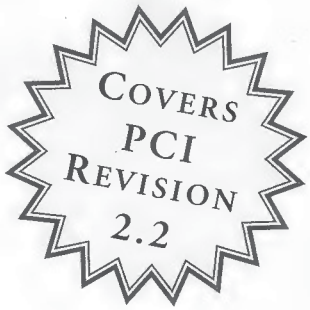
PCI System Architecture



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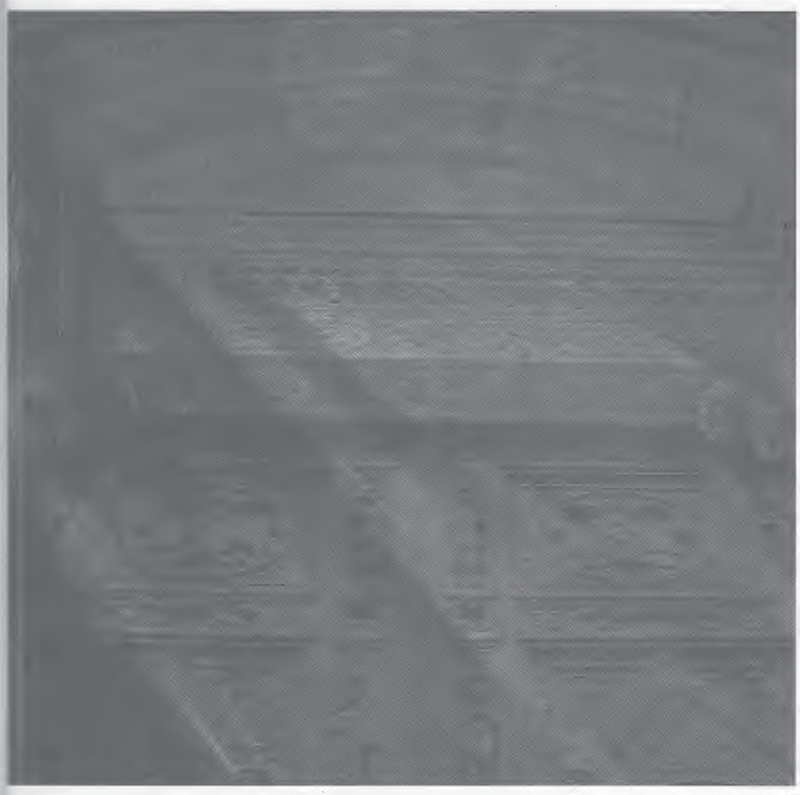

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Contents

1 Intro To PCI

This Chapter

This chapter provides a brief history of PCI, introduces its major feature set, the concept of a PCI device versus a PCI function, and identifies the specifications that this book is based upon.

The Next Chapter

The next chapter provides an introduction to the PCI transfer mechanism, including a definition of the following basic concepts: burst transfers, the initiator, targets, agents, single and multi-function devices, the PCI bus clock, the address phase, claiming the transaction, the data phase, transaction completion and the return of the bus to the idle state. It defines how a device must respond if the device that it is transferring data with exhibits a protocol violation. Finally, it introduces the "green" nature of PCI—power conservation is stressed in the spec.

PCI Bus History

Intel made the decision not to back the VESA VL standard because the emerging standard did not take a sufficiently long-term approach towards the problems presented at that time and those to be faced in the coming five years. In addition, the VL bus had very limited support for burst transfers, thereby limiting the achievable throughput.

Intel defined the PCI bus to ensure that the marketplace would not become crowded with various permutations of local bus architectures peculiar to a specific processor bus. The first release of the specification, version 1.0, became available on 6/22/92. Revision 2.0 became available in April of 1993. Revision 2.1 was issued in Q1 of 1995. The latest version, 2.2, was completed on December 18, 1998, and became available in February of 1999.

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