Computer Architecture: A Quantitative Approach

John L. Hennessy

Computer Architecture: A Quantitative Approach

John L. Hennessy

Computer Architecture: A Quantitative Approach John L. Hennessy

This best-selling title, considered for over a decade to be essential reading for every serious student and practitioner of computer design, has been updated throughout to address the most important trends facing computer designers today. In this edition, the authors bring their trademark method of quantitative analysis not only to high performance desktop machine design, but also to the design of embedded and server systems. They have illustrated their principles with designs from all three of these domains, including examples from consumer electronics, multimedia and web technologies, and high performance computing.

The book retains its highly rated features: Fallacies and Pitfalls, which share the hard-won lessons of real designers; Historical Perspectives, which provide a deeper look at computer design history; Putting it all Together, which present a design example that illustrates the principles of the chapter; Worked Examples, which challenge the reader to apply the concepts, theories and methods in smaller scale problems; and Cross-Cutting Issues, which show how the ideas covered in one chapter interact with those presented in others. In addition, a new feature, Another View, presents brief design examples in one of the three domains other than the one chosen for Putting It All Together.

The authors present a new organization of the material as well, reducing the overlap with their other text, Computer Organization and Design: A Hardware/Software Approach 2/e, and offering more in-depth treatment of advanced topics in multithreading, instruction level parallelism, VLIW architectures, memory hierarchies, storage devices and network technologies.

Also new to this edition, is the adoption of the MIPS 64 as the instruction set architecture. In addition to several online appendixes, two new appendixes will be printed in the book: one contains a complete review of the basic concepts of pipelining, the other provides solutions a selection of the exercises. Both will be invaluable to the student or professional learning on her own or in the classroom.

Hennessy and Patterson continue to focus on fundamental techniques for designing real machines and for maximizing their cost/performance.

* Presents state-of-the-art design examples including:
* IA-64 architecture and its first implementation, the Itanium
* Pipeline designs for Pentium III and Pentium IV
* The cluster that runs the Google search engine
* EMC storage systems and their performance
* Sony Playstation 2
* Infiniband, a new storage area and system area network
* SunFire 6800 multiprocessor server and its processor the UltraSPARC III
* Trimedia TM32 media processor and the Transmeta Crusoe processor

* Examines quantitative performance analysis in the commercial server market and the embedded market, as

well as the traditional desktop market.

Updates all the examples and figures with the most recent benchmarks, such as SPEC 2000.

* Expands coverage of instruction sets to include descriptions of digital signal processors, media processors, and multimedia extensions to desktop processors.

* Analyzes capacity, cost, and performance of disks over two decades.

Surveys the role of clusters in scientific computing and commercial computing.

* Presents a survey, taxonomy, and the benchmarks of errors and failures in computer systems.

* Presents detailed descriptions of the design of storage systems and of clusters.

* Surveys memory hierarchies in modern microprocessors and the key parameters of modern disks.

* Presents a glossary of networking terms.

Download and Read Free Online Computer Architecture: A Quantitative Approach John L. Hennessy

From reader reviews:

Delbert Storey:

With other case, little men and women like to read book Computer Architecture: A Quantitative Approach. You can choose the best book if you appreciate reading a book. Given that we know about how is important any book Computer Architecture: A Quantitative Approach. You can add expertise and of course you can around the world by the book. Absolutely right, since from book you can recognize everything! From your country until foreign or abroad you may be known. About simple thing until wonderful thing you could know that. In this era, you can open a book or searching by internet unit. It is called e-book. You may use it when you feel uninterested to go to the library. Let's read.

Curt Stewart:

Reading a reserve can be one of a lot of activity that everyone in the world really likes. Do you like reading book so. There are a lot of reasons why people like it. First reading a reserve will give you a lot of new details. When you read a book you will get new information mainly because book is one of several ways to share the information as well as their idea. Second, examining a book will make you more imaginative. When you reading a book especially fictional book the author will bring one to imagine the story how the people do it anything. Third, you are able to share your knowledge to some others. When you read this Computer Architecture: A Quantitative Approach, you could tells your family, friends and soon about yours e-book. Your knowledge can inspire different ones, make them reading a book.

Francis Lopez:

Computer Architecture: A Quantitative Approach can be one of your starter books that are good idea. Most of us recommend that straight away because this guide has good vocabulary that may increase your knowledge in words, easy to understand, bit entertaining but delivering the information. The article writer giving his/her effort to put every word into joy arrangement in writing Computer Architecture: A Quantitative Approach but doesn't forget the main stage, giving the reader the hottest and based confirm resource information that maybe you can be one among it. This great information could drawn you into brand-new stage of crucial contemplating.

Dona Henry:

As a pupil exactly feel bored to be able to reading. If their teacher questioned them to go to the library in order to make summary for some e-book, they are complained. Just little students that has reading's internal or real their pastime. They just do what the educator want, like asked to the library. They go to presently there but nothing reading seriously. Any students feel that reading is not important, boring as well as can't see colorful photographs on there. Yeah, it is to become complicated. Book is very important for yourself. As we know that on this period, many ways to get whatever we want. Likewise word says, ways to reach Chinese's country. Therefore this Computer Architecture: A Quantitative Approach can make you really feel more interested to read.

Download and Read Online Computer Architecture: A Quantitative Approach John L. Hennessy #2UJKTPM9684

Read Computer Architecture: A Quantitative Approach by John L. Hennessy for online ebook

Computer Architecture: A Quantitative Approach by John L. Hennessy Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Computer Architecture: A Quantitative Approach by John L. Hennessy books to read online.

Online Computer Architecture: A Quantitative Approach by John L. Hennessy ebook PDF download

Computer Architecture: A Quantitative Approach by John L. Hennessy Doc

Computer Architecture: A Quantitative Approach by John L. Hennessy Mobipocket

Computer Architecture: A Quantitative Approach by John L. Hennessy EPub