



# The Datacenter as a Computer: An Introduction to the Design of Warehouse-Scale Machines, Second Edition

*Luiz André Barroso, Jimmy Clidaras, Urs Hölzle*

Download now

[Click here](#) if your download doesn't start automatically

# The Datacenter as a Computer: An Introduction to the Design of Warehouse-Scale Machines, Second Edition

*Luiz André Barroso, Jimmy Clidaras, Urs Hölzle*

## **The Datacenter as a Computer: An Introduction to the Design of Warehouse-Scale Machines, Second Edition** Luiz André Barroso, Jimmy Clidaras, Urs Hölzle

As computation continues to move into the cloud, the computing platform of interest no longer resembles a pizza box or a refrigerator, but a warehouse full of computers. These new large datacenters are quite different from traditional hosting facilities of earlier times and cannot be viewed simply as a collection of co-located servers. Large portions of the hardware and software resources in these facilities must work in concert to efficiently deliver good levels of Internet service performance, something that can only be achieved by a holistic approach to their design and deployment. In other words, we must treat the datacenter itself as one massive warehouse-scale computer (WSC). We describe the architecture of WSCs, the main factors influencing their design, operation, and cost structure, and the characteristics of their software base. We hope it will be useful to architects and programmers of today's WSCs, as well as those of future many-core platforms which may one day implement the equivalent of today's WSCs on a single board.

### **Notes for the Second Edition**

After nearly four years of substantial academic and industrial developments in warehouse-scale computing, we are delighted to present our first major update to this lecture. The increased popularity of public clouds has made WSC software techniques relevant to a larger pool of programmers since our first edition. Therefore, we expanded Chapter 2 to reflect our better understanding of WSC software systems and the toolbox of software techniques for WSC programming. In Chapter 3, we added to our coverage of the evolving landscape of wimpy vs. brawny server trade-offs, and we now present an overview of WSC interconnects and storage systems that was promised but lacking in the original edition. Thanks largely to the help of our new co-author, Google Distinguished Engineer Jimmy Clidaras, the material on facility mechanical and power distribution design has been updated and greatly extended (see Chapters 4 and 5). Chapters 6 and 7 have also been revamped significantly. We hope this revised edition continues to meet the needs of educators and professionals in this area.

Table of Contents: Acknowledgments / Note to the Reader / Introduction / Workloads and Software Infrastructure / Hardware Building Blocks / Datacenter Basics / Energy and Power Efficiency / Modeling Costs / Dealing with Failures / Closing Remarks / Bibliography / Author Biographies

 [Download The Datacenter as a Computer: An Introduction to t ...pdf](#)

 [Read Online The Datacenter as a Computer: An Introduction to ...pdf](#)

## **Download and Read Free Online The Datacenter as a Computer: An Introduction to the Design of Warehouse-Scale Machines, Second Edition Luiz André Barroso, Jimmy Clidaras, Urs Hölzle**

---

### **From reader reviews:**

#### **Carlos Pollard:**

The book *The Datacenter as a Computer: An Introduction to the Design of Warehouse-Scale Machines, Second Edition* gives you the sense of being enjoy for your spare time. You can use to make your capable a lot more increase. Book can to become your best friend when you getting strain or having big problem along with your subject. If you can make studying a book *The Datacenter as a Computer: An Introduction to the Design of Warehouse-Scale Machines, Second Edition* to become your habit, you can get more advantages, like add your personal capable, increase your knowledge about a number of or all subjects. You are able to know everything if you like wide open and read a guide *The Datacenter as a Computer: An Introduction to the Design of Warehouse-Scale Machines, Second Edition*. Kinds of book are a lot of. It means that, science e-book or encyclopedia or some others. So , how do you think about this reserve?

#### **Rebecca Dryden:**

The reason why? Because this *The Datacenter as a Computer: An Introduction to the Design of Warehouse-Scale Machines, Second Edition* is an unordinary book that the inside of the guide waiting for you to snap that but latter it will surprise you with the secret it inside. Reading this book beside it was fantastic author who have write the book in such amazing way makes the content within easier to understand, entertaining approach but still convey the meaning completely. So , it is good for you because of not hesitating having this nowadays or you going to regret it. This amazing book will give you a lot of gains than the other book possess such as help improving your talent and your critical thinking method. So , still want to hold up having that book? If I have been you I will go to the book store hurriedly.

#### **Steven Murray:**

Do you have something that you like such as book? The e-book lovers usually prefer to choose book like comic, small story and the biggest you are novel. Now, why not striving *The Datacenter as a Computer: An Introduction to the Design of Warehouse-Scale Machines, Second Edition* that give your pleasure preference will be satisfied through reading this book. Reading routine all over the world can be said as the means for people to know world considerably better then how they react toward the world. It can't be said constantly that reading behavior only for the geeky person but for all of you who wants to end up being success person. So , for all of you who want to start reading through as your good habit, you could pick *The Datacenter as a Computer: An Introduction to the Design of Warehouse-Scale Machines, Second Edition* become your own personal starter.

#### **Robert Barker:**

Would you one of the book lovers? If so, do you ever feeling doubt if you find yourself in the book store? Try and pick one book that you never know the inside because don't assess book by its include may doesn't work is difficult job because you are scared that the inside maybe not seeing that fantastic as in the outside

appearance likes. Maybe your answer could be *The Datacenter as a Computer: An Introduction to the Design of Warehouse-Scale Machines, Second Edition* why because the excellent cover that makes you consider concerning the content will not disappoint an individual. The inside or content is usually fantastic as the outside or even cover. Your reading sixth sense will directly show you to pick up this book.

**Download and Read Online *The Datacenter as a Computer: An Introduction to the Design of Warehouse-Scale Machines, Second Edition* Luiz André Barroso, Jimmy Clidaras, Urs Hölzle  
#YVTH7B0D8I4**

## **Read The Datacenter as a Computer: An Introduction to the Design of Warehouse-Scale Machines, Second Edition by Luiz André Barroso, Jimmy Clidaras, Urs Hölzle for online ebook**

The Datacenter as a Computer: An Introduction to the Design of Warehouse-Scale Machines, Second Edition by Luiz André Barroso, Jimmy Clidaras, Urs Hölzle 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 The Datacenter as a Computer: An Introduction to the Design of Warehouse-Scale Machines, Second Edition by Luiz André Barroso, Jimmy Clidaras, Urs Hölzle books to read online.

### **Online The Datacenter as a Computer: An Introduction to the Design of Warehouse-Scale Machines, Second Edition by Luiz André Barroso, Jimmy Clidaras, Urs Hölzle ebook PDF download**

**The Datacenter as a Computer: An Introduction to the Design of Warehouse-Scale Machines, Second Edition by Luiz André Barroso, Jimmy Clidaras, Urs Hölzle Doc**

**The Datacenter as a Computer: An Introduction to the Design of Warehouse-Scale Machines, Second Edition by Luiz André Barroso, Jimmy Clidaras, Urs Hölzle Mobipocket**

**The Datacenter as a Computer: An Introduction to the Design of Warehouse-Scale Machines, Second Edition by Luiz André Barroso, Jimmy Clidaras, Urs Hölzle EPub**