
# PowerPC books; authoring systems

**Richard Mateosian**

*2919 Forest Avenue*

*Berkeley, CA*

*94705-1310*

*srm@c2.org*

In editing this issue of *IEEE Micro*, I eagerly read everything I could about the PowerPC. I received three books on the subject. Two are scholarly and deeply technical. If you are going to work with PowerPC systems, you'll want them for your library. The third is journalistic and superficially technical, but accurate. I found it helpful, and I think you will too.

Morgan Kaufmann publishes a small line of extremely high quality books on computer science. I think most *Micro* readers would treasure most Morgan Kaufmann books.

***The PowerPC Architecture—A Specification of a New Family of RISC Processors***, 2nd ed., IBM, Cathy May, Ed Silha, Rick Simpson, and Hank Warren, eds. (Morgan Kaufmann, San Francisco, (800) 745-7232, morgan@unix.sri.com, 1994, ISBN 1-55860-316-6, 552 pp.; $54.95)

This is IBM's official technical description of the PowerPC architecture.

As readers of *Micro* know, the PowerPC architecture has four levels, described in four "books." IBM's book discusses books one, two, and three. Book one defines requirements for all PowerPC implementations. Books two and three describe architectural support for the virtual and operating environments. All of the current IBM/Motorola PowerPC implementations adhere to books two and three, but future processors may implement subsets. Book four concerns implementation details and is specific to each PowerPC implementation.

The creators of this book wanted to pass on the rationale behind some of the design decisions. They did this by setting the book with wide margins—approximately 25 percent of the text area of each page. In these margins, alongside precise, dry architectural specifications, they placed programming notes. These notes tell you how to use the features described and what pitfalls to watch for.

The book uses the third person, passive voice style of the 19th century. Many of us use this style almost instinctively in technical communication, since our teachers drummed it into us, and all of our role models reinforced it. Nonetheless, the authors did slip in one tiny indication that they are human and that they are enthusiastic about their subject. In their preface, with their tongues protruding only slightly into their cheeks, they write:

> Some of us wanted to send this book to every household in America, or even in the world, so that everyone who might potentially be interested in PowerPC would easily be able to learn about it. But saner heads prevailed, realizing that some few households might not welcome such a gift, so the book is offered in the normal manner.

I suggest that you rush right out and buy this book in the normal manner.

***Power and PowerPC—Principles, Architecture, Implementation***, Shlomo Weiss and James E. Smith (Morgan Kaufmann, 1994, ISBN 1-55860-279-8, 424 pp.; $54.95)

This book's authors are academics with significant commercial experience. Their concern is with the interplay of architecture and implementation that leads to high performance. While they use the POWER and PowerPC architectures to make their discussions concrete, their interest is in the principles and techniques that these architectures illustrate. To reinforce this generality, they include a discussion of the DEC Alpha



0740-7475/94/$04.00 © 1994 IEEE