The Ten Commandments for Effective Standards

Practical Insights for Creating Technical Standards

Karen Bartleson

Cartoons by Rick Jamison

“The Ten Commandments for Effective Standards” Book Excerpt

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By Karen Bartleson
Cartoons by Rick Jamison
Foreword by Steve Mills

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BOOK EXCERPT Table of Contents

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Foreword by Steve Mills

For many of us who have been around standards awhile, it is not difficult to cite case after case highlighting how standards have made incredible contributions politically, economically, and, perhaps most importantly, socially. From saving lives to improving the quality of life for everyone on the planet, standards are fundamentally good.

As with any good thing there is a dark side, a constant struggle between the forces of good and evil. The best standards are produced when the participants in the process come together in the spirit of cooperation with the objective of producing a mutually beneficial output, which optimizes the collective objectives of all involved. Unfortunately, efforts to develop standards can fall prey to the forces of evil, whose devilish antics serve to eliminate cooperation and skew the output to benefit the objectives of a limited few.

In *The Ten Commandments for Effective Standards*, Karen Bartleson takes a novel approach to showing us the way to salvation. For standards veterans, these "commandments" will serve as reminders of what is required to produce the best standards possible. For standards newcomers, they will help to outline the fundamentals of the standards process. For everyone, they are a useful resource to help keep us on the path of standards righteousness.

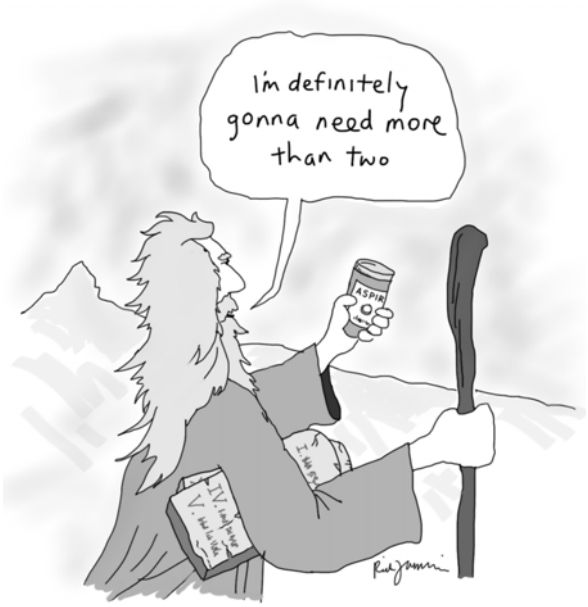
Steve Mills

Steve Mills[SM] (steve.mills@hp.com) has worked at Hewlett-Packard for twenty-eight years in research and development of products for the computer and telecommunications industries. He is currently Senior Architect in the Industry Standards Program Office. Prior to moving into the Standards Program Office, he managed R&D teams responsible for mid-range market and technology research, networking products for commercial servers, and the development of continuously available platforms for use in the telecommunications industry. He has actively contributed to the governance of standards development activities at the IEEE since 2001.

Mr. Mills is the IEEE-SA President-Elect for 2010, Past-Chair of the IEEE Standards Association Corporate Advisory Group, Past-Chair of the IEEE-SA Standards Board, Past-Chair of the IEEE Standards Education Committee, Chair of the IEEE-SA Standards Board Patent Committee, and member of the IEEE-SA Board of Governors. He has also served on the IEEE Educational Activities Board and the IEEE Communication Society Standards Board.

Introduction

There is no god or goddess of technical standards. I hope you're not disappointed. There are, however, lessons that many of us mere mortals have learned over the years as we've participated in the creation of standards. I have been involved in real activities that were either quite successful or dismal failures. Based on my experience in these activities over the past twenty years and ideas drawn from other experts, I put together what I like to call my Ten Commandments for Effective Standards. They weren't handed down to me from on high, but instead came to me through the schools of hard knocks and good fortune. I'd like to share them with you in this book.



The Ten Commandments for Effective Standards are not laws. They have no religious connotations. They're not even standardized. They're simply observations I've made as to what works and what doesn't when technical standards are developed.

I've worked in the field of standards for quite a while. My perspectives are specific to technical standards, particularly those for integrated circuit design. I'm part of the industry known as electronic design automation (EDA), which is fundamentally computer-aided-design for chips (computer chips, not potato chips). The technical standards that we produce for the electronics industry are primarily formats, application programming interfaces, databases, methods, and electrical and mechanical interfaces.

There are countless standards in domains that are beyond my area of expertise—medicine, food, transportation, safety, and many others. In these diverse arenas, though, I strongly suspect that the principles and behaviors of standardization in my field are strikingly similar to those in other fields as well. I've spoken with people who participate in technical standards activities beyond EDA, and they seem to share the same challenges I've faced in my own industry.

In addition to working with standards, I've become a proponent of social media and online networking for business. I have included a few thoughts about its emerging presence in standards, particularly in the fourth commandment for effective standards: be truly open.

In November 2007, I started blogging about standards. My blog is called The Standards Game[1] and is hosted by my employer, Synopsys, a leading supplier of EDA products and solutions.

As I posted short versions of each of the Ten Commandments for Effective Standards on my blog, I received some insightful comments from readers. I wish to thank them, and I've incorporated many of their concepts in this book.

It's critically important that I state: I am not a lawyer nor do I play one on TV. For those of you who like initials, that's IANALNDIPOOTV. In the second commandment for effective standards—use caution when mixing patents and standards—you must know that I am not providing any legal advice. If you find yourself in a standards activity that involves intellectual property, the second commandment can give you my opinion only. The best direction to take is straight into your legal department for their advice.

The examples I've chosen to include in this book are to help illustrate the concepts covered. Most are from the EDA industry with additional examples from other technology industries that I'm familiar with. By no means am I singling out any company, organization, or individual. Instances of success, failure, good behavior, and bad behavior abound throughout the history of technical standards development.

I realized that writing a book about how to create effective standards is like writing a book on parenting. There are many ways to raise children successfully, and no two parents completely agree on a single way to do it. What's more, no two children are the same, so the same parenting techniques that worked on the first child may need to be adjusted for a second child. Producing standards is similar, so I expect you'll take exception to some of the concepts I present in this book. I welcome the conversation because there's always something more I can learn, and I

find other people's viewpoints interesting and stimulating. Feel free to post comments about this book and the individual commandments on my blog in the Community section at http://www.synopsys.com/community.

I hope you enjoy *The Ten Commandments for Effective Standards*.

Chapter

1 Why Standards?

Technical standards play an important role in business as well as everyday living. They provide opportunities for market growth and competition. They enable interoperability. They make consumers happier. They bring order out of chaos. Existing technical standards are being updated constantly, and new ones are being produced in increasingly greater numbers.

The current definition of a technical standard from Wikipedia states: "A technical standard is an established norm or requirement. It is usually a formal document that establishes uniform engineering or technical criteria, methods, processes and practices." In other words, it's everyone doing something the same way.

Governmental bodies and international collaborative efforts recognize that standards should facilitate interoperability, support fair trade and fair competition, increase user, consumer and government confidence, and stimulate innovation.[2,3,4] These and other aspects of technical standards bring value to companies, organizations, governments, and individuals around the world.

- Interoperability means things can work together. Products from different suppliers can plug together. Data can flow from one computer application to another. Gadgets can be connected to each other without special adapters. It is the standard interfaces, agreed to and supported by different manufacturers, which make this possible.

- Standards can make markets grow. When a common interface is made available for use, competitors can develop new products around it. A standard can prevent a monopoly by giving more than one company the opportunity to create compatible products.

- Product development costs can be reduced by standards. Eliminating the work required to create an interface because a standard one is already available means a new product can be designed in less time, and in just about every business, time is money.

- Standards can fuel innovation by providing a common starting point. Shared protocols for communicating data make the Internet phenomenal. Universal audio and video formats give rise to a myriad of music, games, and movies—and products that play them.

- Consumer product purchases can be made in confidence when a standard is part of a product. Knowing that a new electronic component will connect into an existing entertainment system makes consumers more likely to buy it.

- Tasks are simpler and less error prone when standards are used. Designing a computer chip is an enormous undertaking. Writing the description of the design in standard formats instead of rewriting it in a variety of them not only saves time but also prevents errors from being introduced during rewrites.

- Finally, standards can improve communication. When everyone speaks the same language, a better understanding can result, and people can work together more easily and effectively.


Anything good on the menu?
Just the standard fare
IEEE CAFE

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About the Author

Karen Bartleson has three decades' experience in the computer chip industry. She is known for her work in the area of standards for electronic design automation and continues to serve on several committees that develop technical standards. She is the author of The Standards Game, a blog focused on the standards arena. Karen holds a BSEE from California Polytechnic State University, San Luis Obispo, California, and was the recipient of the Marie R. Pistilli Women in Design Automation Achievement Award in 2002.

About the Cartoonist

Rick Jamison is a rare entity in the corporate world. By day, he's disguised as the mild-mannered Social Media Strategist at Synopsys (as well as Executive Editor of Synopsys Press Business Series). But at sundown, he reveals his real superpower as a corporate cartoonist. Part illustrator, part subject clarifier, and part Big Business underbelly tickler, his cartoons enlighten, enliven, enrich, and entertain.

About Synopsys Press

Synopsys Press offers leading-edge educational publications written by industry experts for the business and technical communities associated with electronic product design. The Business Series offers concise, focused publications, such as *The Ten Commandments for Effective Standards* and *The Synopsys Journal*, a quarterly publication for management dedicated to covering the issues facing electronic system designers. The Technical Series publications provide immediately applicable information on technical topics for electronic system designers, with a special focus on proven industry-best practices to enable the mainstream design community to adopt leading-edge technology and methodology. The Technical Series includes the *Verification Methodology Manual for Low Power* (VMM-LP). A hallmark of both Series is the extensive peer review and input process, which leads to trusted, from-the-trenches information. Additional titles are nearing publication in both the Business and Technical series.

In addition to providing up-to-the-minute information for design professionals, Synopsys Press publications serve as textbooks for university courses, including those in the Synopsys University Program (http://www.synopsys.com/Community/UniversityProgram), which provides full undergraduate and graduate level curricula in electronic design.

For more information about Synopsys Press, to contribute feedback on any of our publications, or to submit ideas, please navigate to http://www.synopsys.com/synopsys_press.

A Note from the Publisher

We're excited to introduce *The Ten Commandments for Effective Standards* as the first book in the Synopsys Press Business Series. Author Karen Bartleson brings to this practical guide not only extensive professional experience delivered in an easy-to-read style, but also the experience of many other industry experts through significant peer review and input. You can follow Karen's blog, The Standards Game, at http://www.synopsys.com/blogs/thestandardsgame. Rick Jamison serves as Executive Editor for this series and has more books in progress. Rick's blog on geek-to-geek marketing, The Listening Post, is at http://www.synopsys.com/blogs/listeningG2G.

Thank you for your purchase of this Synopsys Press book. It is available online at http://happyabout.com/synopsyspress or at other online and physical bookstores.

Phil Dworsky
Publisher, Synopsys Press
May 2010

"Standards open the road for a community to remove barriers and progress more rapidly. Karen provides a vivid insider view of the world of EDA standards creation, capturing this complex process with clear narrative, often punctuated with humor. She supports her writing with real industry examples. While many potential views and perspectives may be argued on particular cases, we should welcome the discourse on standards and their effective construction."

-- Gadi Singer,
Vice President & General Manager,
System-on-Chip Enabling Group, Intel Corporation

"If you, as a business or individual, are trying to understand whether to participate in standards or understand their value, you will undoubtedly be struggling with many questions. The experience and insight woven into this book will help kick start your adventure. *The Ten Commandments for Effective Standards* is simply missing one important commandment: 'Thou shalt read this book before engaging in standards.'"

-- Jeff Green,
Senior Vice President, McAfee Labs, McAfee

"I truly wish that anyone involved in the creation of standards in any field reads Karen's book very carefully. Based on her experience in the field of electronic design automation, Karen has synthesized a clear and transparent set of guidelines on what it takes to create 'good standards.' I couldn't agree more with her insights. My only wish is that the book should have been available many years earlier. It would have avoided a lot of wasted time and misguided efforts."

-- Jan Rabaey,
Donald O. Pederson Distinguished Professor, Electrical Engineering and Computer Science, University of California at Berkeley

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Karen Bartleson, author of The Standards Game, a blog focused on the standards arena, has three decades of experience in the computer chip industry and is known for her work in electronic design automation standards.

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