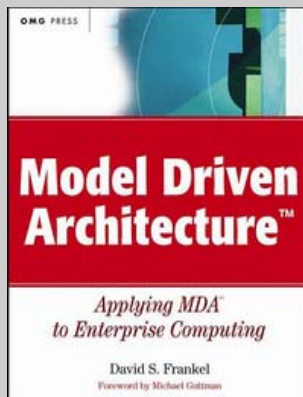


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**Model Driven Architecture:  
Applying MDA to Enterprise  
Computing**

by David S. Frankel

Wiley, 2003  
328 pages**The MDA Classic**

by Paul Harmon

The Object Management Group (OMG) is a standards consortium supported by almost every major software vendor in the world, and by many of the major corporations that use software as well. The OMG has created a number of software standards, including CORBA and UML. In the past two years the OMG has begun to work on a new suite of standards, collectively termed the Model Driven Architecture (MDA). In essence, MDA proposes to extend UML -- the international graphical notation standard used by nearly all contemporary software developers -- so that developers can define an application as a set of UML diagrams, and then automatically generate software code from the diagrams. The OMG also proposes to create specifications for a number of different "code generation engines" so that a developer can use the same UML models to generate Java, C, .NET, CORBA, or XML code. Moreover, the OMG proposes to create new code generators as new languages come along.

MDA is a complex undertaking. Code generation from diagrams has been tried in the past and failed. (Remember CASE tools in the late Eighties?) Luckily, the OMG has already generated and tested most of the standards necessary to implement MDA, and it will become a reality within the next few years. In essence, it will enable a company to create a single, high-level architecture that describes its applications, and the middleware that links them, in a graphical form. As changes are required, the diagrams can be altered and new code generated. As software languages change -- and they always do every few years -- the same UML diagrams can be used to generate new code implementations. This initiative will be of huge importance to enterprise software organizations in large corporations. It will, potentially, save companies huge amounts of money and time. It will also be of great benefit to business process managers, ultimately assuring that their software people can change the applications that support their processes, faster and with greater flexibility.

Most senior software managers working in large companies have probably already heard of MDA. Few, however, have a good idea of how MDA will actually work, or what will be involved in shifting their IT organizations to take advantage of this major breakthrough in software engineering. Until now there have been no books on MDA.

As I write, however, I have in hand a book that was written specifically to explain the Model Driven Architecture approach in detail. The book is *Model Driven Architecture: Applying MDA to Enterprise Computing*. It was written by David S. Frankel, and it has just been published by Wiley, as part of its OMG Press series.

Dave Frankel is the perfect person to write this book. First, he's been on the Architecture Board of the OMG for as long as I can remember, representing Genesis, then Iona, and now representing his own consulting company, David Frankel Consulting. Dave is an architects' architect. He has been involved in the



development of MDA from the beginning, and is intimately aware of all the details of this complex undertaking.

Equally important, Frankel is a writer with a very precise and clear style. It's hard to describe very complex software techniques in a way that accurately describes the technologies and is, simultaneously, clear to a reader not steeped in the technology. Few can manage it. I can remember, several years ago, being asked to edit a paper Dave had written. He'd authored a 24 page paper on "CORBA, J2EE and .NET." I was asked to create a 15 page version of the paper. After several days I simply gave up. The only solution was a completely new paper. The paper Dave had written was so well put together, so clear, and preceded by such logical steps, that nothing could be removed without ruining a really great piece of instructional writing. I was reminded of what Emerson said of Montaigne's *Essays*: "...cut these words and they would bleed."

*Model Driven Architecture* is a 328 page book that does for MDA what Frankel did in 24 pages for CORBA, J2EE and .NET. It systematically walks the reader through every aspect of MDA, explaining each piece, and then showing how that piece relates to all the others.

The chapters are: 1. Pressure and Progress: How We Arrived at This Point, 2. Model Driven Enterprise Computing, 3. The Role of UML in MDA, 4. Beyond Basic Class Modeling, 5. The Meta Object Facility (MOF), 6. Extending and Creating Modeling Languages, 7. Building Compilable Class Models, 8. Modeling at Different Abstraction Levels, 9. Modeling Transformations with CWM, 10. Additional Advanced Topics, and an Epilogue: A Reality Check.

Frankel has another important virtue that he brings to this book: He is scrupulously honest. At each step, he explains just what currently exists, what still needs to be created, and what one can do in the meantime. This book not only explains MDA, but it lets managers know exactly what will really be involved in actually implementing MDA in their organizations.

This is a book for corporate managers and architects who are thinking about MDA and need to really understand how it works. Such a reader would have a basic knowledge of UML, and the ability to read pseudo code. The book develops a currency options trading example to illustrate some of the concepts.

This book will be an instant classic. It will be read by everyone who is trying to learn or use MDA in the course of the next few years. I can't imagine anyone could write anything clearer about the very complex and powerful new approach to software development that I confidently predict will play a large role in every large corporation by the end of this decade. Every software architect needs to read this book.

For more information on David Frankel or his consulting company, check [www.DavidFrankelConsulting.com](http://www.DavidFrankelConsulting.com)

Paul Harmon is Executive Editor of Business Process Trends. He can be reached at [pharmon@bptrends.com](mailto:pharmon@bptrends.com)

