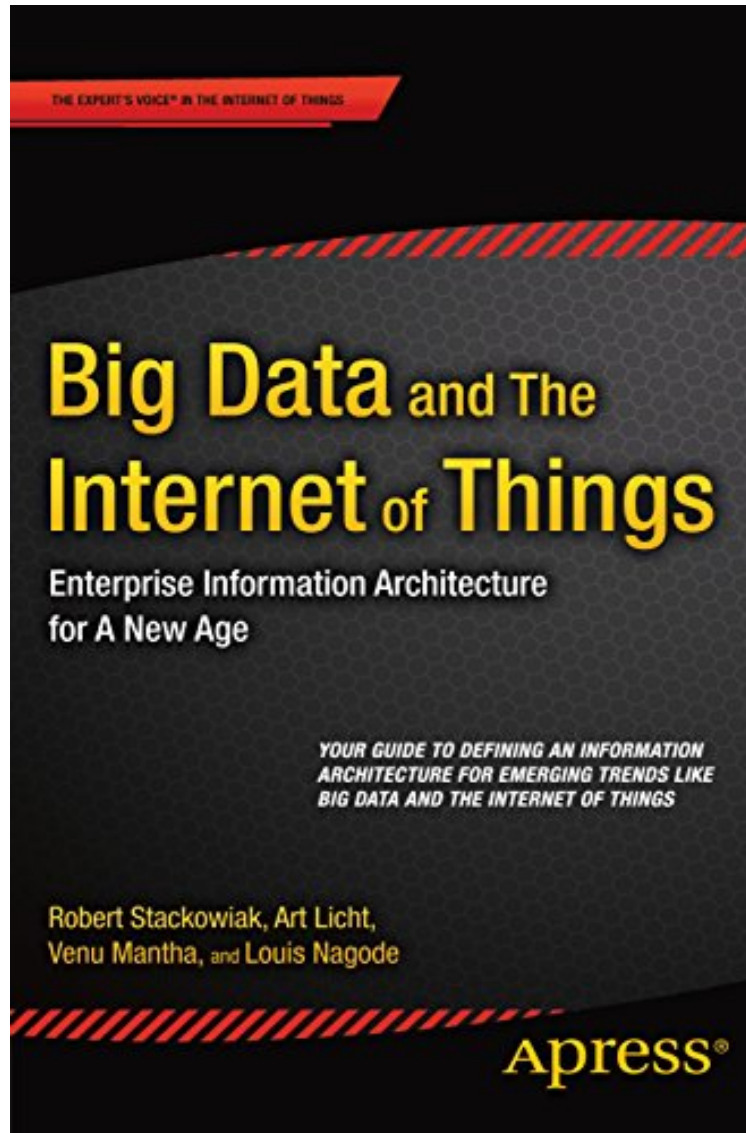


[Free pdf] Big Data and The Internet of Things: Enterprise Information Architecture for A New Age

# Big Data and The Internet of Things: Enterprise Information Architecture for A New Age

*Robert Stackowiak, Art Licht, Venu Mantha, Louis Nagode*  
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**Robert Stackowiak, Art Licht, Venu Mantha, Louis Nagode : Big Data and The Internet of Things: Enterprise Information Architecture for A New Age** before purchasing it in order to gage whether or not it would be worth my time, and all praised Big Data and The Internet of Things: Enterprise Information Architecture for A New Age:

0 of 1 people found the following review helpful. Really enjoyed the bookBy Jordan MartzDifficult problems derive some difficult scenarios for solving them. This is the team that brings the genius 'easy' button into the mix. Really enjoyed the book.2 of 2 people found the following review helpful. The book should certainly help people analyse and

design systems (not just Big Data ones). By Ian Stirk, I have written a detailed chapter-by-chapter review of this book on [www.doi-programmer.com](http://www.doi-programmer.com), the first and last parts of this review are given here. For my review of all chapters, search [www.doi-programmer.com](http://www.doi-programmer.com) for STIRK together with the book's title. This book aims to show you how to implement a Big Data and Internet of Things project, with the subtitle "Enterprise Information Architecture for a New Age". This book guides you through the steps required to analyse and extend an existing architecture (based on a data warehouse), to one involving Big Data. The content is project/analysis focused rather than technical. The book is targeted at... enterprise architects and information architects, as well as anyone tasked with designing and building these solutions or concerned about the ultimate success of such projects. Some knowledge of IT systems/architecture is needed, since various terms are used without being defined (e.g. third normal form). The book is relatively small, containing around 180 working pages, split over 8 chapters. Below is a chapter-by-chapter exploration of the topics covered.

### Chapter 1 Big Data Solutions and the Internet of Things

The book opens with a look at how we arrived at Big Data and the Internet of Things (IoT), giving some history, and explaining that much existing technology is still appropriate in new solutions (e.g. databases). The importance of getting business buy-in is emphasised for successful projects, else the errors of the past may repeat with the newer architectures. Enterprise Data Warehouse (EDW) and data marts are discussed, outlining their advantages and disadvantages, before noting that increasing volumes of unstructured data required a new approach, involving NoSQL databases and Hadoop. NoSQL databases store data that doesn't map neatly into the traditional relational database management systems (RDBMS). The 4 main types of NoSQL databases are outlined (i.e. key-value, column, document, graph), before looking at scalability and high availability. Hadoop is the most popular Big Data platform. The importance of Google's technology papers is noted in the development of Hadoop's distributed file system (HDFS), and its distributed parallel programming algorithm (MapReduce). Next, many of Hadoop's popular tools are highlighted (e.g. Hive, Sqoop). It's expected that a growing number of sensors and devices will provide steaming data, this is the heart of the Internet of Things. This voluminous data will drive Big Data processing. The chapter ends with an overview of the methodology for developing and deploying projects (this is what this book is really about). The popular "The Open Group Architectural Framework" (TOGAF) model is briefly examined, noting it forms the basis of the author's own methodology - which is then outlined (with each of the 7 stages forming a subsequent book chapter). This chapter provides a useful overview of the history and drivers of IT systems, culminating in the current Big Data and IoT systems. The iterative methodology for developing and deploying projects is outlined, showing you what to expect from the rest of the book. In essence the book is about defining the current system, defining your required system, and then taking steps to bridge the two. The chapter is generally easy to read, with helpful diagrams to support the text. It touches a wide-range of topics but only in a cursory manner. Various vendor products are identified in passing. Some knowledge of IT systems/architecture is needed since various terms are used but not defined (e.g. ACID, named node) - perhaps links to further information could have been included. These traits apply to the whole book....

### Conclusion

This book aims to show you how to implement a Big Data and Internet of Things project, and succeeds. It contains details of the steps to undertake to analyse and extend an existing architecture (based on a data warehouse) to one based on Hadoop technologies. The emphasis is on project planning and analysis rather than technology. It is easy to read, with good explanations, and useful diagrams to support the text. The outline agendas and questions included should prove useful in creating your own systems. The book is based on a seven-step methodology, which itself is based on the popular "The Open Group Architectural Framework" (TOGAF). Many sections can be read without reference to Big Data and IoT, in which case it reads like a good traditional system analysis book, except it's more agile and less comprehensive - since various steps in traditional methodologies are omitted. Undoubtedly the book oversimplifies the details, but does so to provide an achievable approach. Some knowledge of IT systems/architecture is needed to get the most out of this book, since various terms are used without being defined (e.g. third normal form, ACID, RDDs, named node). Perhaps links to further information could have been included - I note there is an appendix of references, but these are not annotated. The book's title in itself is misleading, this is a book largely about analysis and design. I suspect Big Data and Internet of Things were added because they're the latest "must haves" technologies, and of course they sell... I enjoyed this book, it took me back to my 1987 SSADM analysis course! The book should certainly help people analyse and design systems (not just Big Data ones).

2 of 2 people found the following review helpful.

### First How-To Book for Implementing Big Data IoT Projects

By Jim Fisher

This book fills a gap for organizations looking to gain value from Big Data and the Internet of Things (IoT). There are reports that come out from time to time about companies struggling to find value from Big Data or projects not proceeding beyond a Pilot phase. At the same time, there are many organizations that get tremendous value from the emerging technologies that underpin these concepts. The disconnect between organizations is become some have taken the right approach to use these technologies - solve a problem, while other organizations often are using it as a solution looking for a problem. This book provides a very prescriptive methodology on how to become the former organization as opposed to the latter. While not every organization uses this same approach, it will get you to the end result, and it will help avoid some of the pitfalls that may come up along the way. For example, there is often a question of how these new technologies

integrate with existing technology. Or where will the skills come from? The methodology that the book provides is based on the best practices of Information Architecture so it can provide value even outside the realm of Big Data and IoT. That being said, some of the value of the book is walking through examples of the methodology being used with Big Data and IoT use cases and examples. I think the combination of Information Architecture and Big Data/IoT is the unique value that the book provides but I would still like to see it go further. I'm not sure the best way to do that (more examples, real world case studies, a little deeper content) but I think it would make the great message even more impactful. If you are looking at embarking on a Big Data/IoT journey, you need to read this book. It will provide a lot of clarity up front and help you avoid some of the pitfalls that other organizations have encountered. I have seen the outcome of this approach work at organizations so I know it's not based on theory but the outcome of many successful projects.

Enterprise Information Architecture for a New Age: Big Data and The Internet of Things, provides guidance in designing an information architecture to accommodate increasingly large amounts of data, massively large amounts of data, not only from traditional sources, but also from novel sources such as everyday objects that are fast becoming wired into global Internet. No business can afford to be caught out by missing the value to be mined from the increasingly large amounts of available data generated by everyday devices. The text provides background as to how analytical solutions and enterprise architecture methodologies and concepts have evolved (including the roles of data warehouses, business intelligence tools, predictive analytics, data discovery, Big Data, and the impact of the Internet of Things). Then you're taken through a series of steps by which to define a future state architecture and create a plan for how to reach that future state. Enterprise Information Architecture for a New Age: Big Data and The Internet of Things helps you gain an understanding of the following:

- Implications of Big Data from a variety of new data sources (including data from sensors that are part of the Internet of Things) upon an information architecture
- How establishing a vision for data usage by defining a roadmap that aligns IT with line-of-business needs is a key early step
- The importance and details of taking a step-by-step approach when dealing with shifting business challenges and changing technology capabilities
- How to mitigate risk when evaluating existing infrastructure and designing and deploying new infrastructure

Enterprise Information Architecture for a New Age: Big Data and The Internet of Things combines practical advice with technical considerations. Author Robert Stackowiak and his team are recognized worldwide for their expertise in large data solutions, including analytics. Don't miss your chance to read this book and gain the benefit of their advice as you look forward in thinking through your own choices and designing your own architecture to accommodate the burgeoning explosion in data that can be analyzed and converted into valuable information to drive your business forward toward success. What you'll learn

- Grasp the big picture of the trend toward enterprise analytic solutions
- Define and validate a vision for a future state within your organization
- Ensure that your vision is aligned with line-of-business needs
- Understand available skills and align your IT infrastructure to the new vision
- Address Data Governance, Security, Data Quality, and other important attributes
- Implement the new vision while dealing successfully with changes in scope

Who this book is for Enterprise Information Architecture for a New Age: Big Data and The Internet of Things for a New Age is most targeted at Enterprise Architects in an organization (commercial company, public sector agency, systems integrator), but will also appeal to IT managers, CIOs, line-of-business IT executives, and others seeking to understand how to define enterprise analytics architectures and justify projects that are focused in this area.

About the Author Robert Stackowiak is Vice President of Information Architecture and Big Data at Oracle in North America. His team of architects and experts focuses on Big Data (including Hadoop and NoSQL databases), predictive analytics, data warehousing, business intelligence, and information discovery. The team engages with companies that are implementing these technologies and exploring new solutions such as those enabled by the Internet of Things. Bob has spoken at conferences around the world and co-authored many books on data management and business intelligence including five editions of Oracle Essentials (O'Reilly Media), Oracle Big Data Handbook (Oracle Press), Achieving Extreme Performance with Oracle Exadata (Oracle Press), and Oracle Data Warehousing and Business Intelligence Solutions (Wiley). Follow him on Twitter @rstackow.