Pro PerformancePoint Server 2007

Building Business Intelligence Solutions

Philo Janus

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Pro PerformancePoint Server 2007: Building Business Intelligence Solutions

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For Pamela Janus, my mother, who sparked my love of logic, mathematics, and reading.

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Foreword

One element of Bruce Springsteen's showmanship involves the soliloquies he recites before introducing the members of his band. In one of these, he recounts being a young man standing before a dark grove of trees. He tells about being afraid to pass through the trees. As he tries to get his courage up, a gypsy appears before him and asks him for his story. As she realizes he is afraid to pass through the trees, she tells him, "You need a man. You need someone who can help you." And then Bruce goes on to introduce the members of the band. If you are contemplating your first business intelligence or performance management project, or maybe your largest or most complicated project to date, Philo Janus is "your man." He's here to help you pass through the figurative dark grove of trees. He is a solution specialist at Microsoft, focusing on business intelligence. More than that, Philo is a trusted confidant of the BI product development teams at Microsoft. He is able to provide guidance to our teams based on his years of field experience and his ability to synthesize input from diverse customers into patterns and trends that help us build better products. We always appreciate his insights; I believe you will come to as well as you read this book and work through the examples.

This book is based on Philo's experience with the entire Microsoft business intelligence offering and his work with many Microsoft customers. He starts with the foundation of Microsoft BI, SQL Server (including its major BI components), Integration Services, Analysis Services, and Reporting Services. In doing so, Philo helps you build a robust base for your own projects. He also covers data mining, an increasingly used feature of BI applications. From there, Philo works "up the stack," bringing in elements of Microsoft Office and PerformancePoint Server 2007, Microsoft's entry into the performance management market. He includes coverage of Management Reporter, the very newest component of the offering as of this writing. We built the Microsoft BI offering to provide every aspect of a complete BI solution, from acquiring and managing data, to adding value through analytics, to presenting results to end users and business people in ways that both guide and inspire action and results. Only a book (and a guide like Philo) that covers the whole spectrum of Microsoft BI can help you provide a complete solution for your company and end users.

Philo tells it like it is. With the product team, he is plainspoken about where and how we can do better for our customers. Alas, software is an imperfect art and we are always improving. In this book, Philo guides you through the few tricky spots in the technology with practical steps you can use to make progress in your projects. He also imparts wisdom he's gained both from experience and from just being smart. For example, in Chapter 1, he explains the Law of Unintended Consequences as it applies to BI projects. Put quickly, what you measure becomes important to a lot of people in your organization. They will change their behavior as performance management takes hold in the team or company. As an implementer, you need to anticipate these changes and ensure that they are meaningful and actually lead to better performance—not shallow and easily "gamed." Philo provides examples and practical advice on how to do this.

In addition to imparting wisdom and big-picture guidance, your author supplies the practices, tips, and how-tos you need to make progress with your own projects. Philo gives you

insight into the structuring and layering of the elements you will use to build your application. Building the application objects in the right order will save you time and reduce your testing efforts. In the per-component chapters, you'll find advice on which components to use for each job and which to not use at all. Philo will help you future-proof your application so it grows gracefully as the Microsoft product offering continues to evolve.

While much of this book necessarily addresses the foundations of any BI application, ETL, OLAP, reporting, and so on, it has a particular focus on performance management. As the worldwide economy goes through the various stresses of rapidly rising energy prices, recession, competition for resources, and turmoil in the financial markets, companies need agility, accountability, and alignment to maximize their use of limited resources and compete most effectively *and* efficiently. PerformancePoint Server 2007 is Microsoft's platform for performance management. If you are charged with bringing performance management into your corporation, PerformancePoint is for you. Philo is an excellent guide to performance management and PerformancePoint. You are in excellent hands.

Bill Baker
Distinguished Engineer, Microsoft

About the Author

PHILO JANUS is a senior solution specialist with Microsoft. Over the last five years, he has had various roles including evangelist for Office as a developer platform, teacher of SharePoint development, technology specialist for the Business Intelligence product group, and finally application and platform solution specialist.

Philo graduated from the US Naval Academy with a BSEE in 1989 to face a challenging career in the US Navy. His first assignment was on the USS Midway (CV 41), where he had 52 direct reports, four chief petty officers, and several million dollars of equipment to keep track of. All the maintenance was tracked on note cards and grease pencil whiteboards. This heritage may be where Philo's interest in automated monitoring was born.

Philo's software development career started with building a training and budgeting application in Access 2.0 in 1995. Since then, he's worked with Oracle, Visual Basic, SQL Server, and .NET building applications for federal agencies, commercial firms, and conglomerates. In 2003, he joined Microsoft as an Office developer evangelist. When Business Scorecard Manager was released, he quickly found happiness talking to enterprise customers about managing their metrics with this new software. Microsoft quickly grew its business intelligence practice, and Philo has been happier than ever as more capabilities get added to the newly christened PerformancePoint suite.

About the Technical Reviewers

Born in Brooklyn, New York, **DANA L. HOFFMAN** often jokes that her name should have been "Data." She has always had a sharp eye for detail and an avid desire to create systems that are not just workable but intuitive and easy to use. She always tries to see things from the user's point of view, and sees technical reviewing as an excellent opportunity to put her nitpicking skills to good use. With a background in programming and database development, Dana currently works as a data analyst. She lives in Connecticut and is nearly finished raising two sons.

PHILLIP TAYLOR is an independent IT consultant providing database systems development services to several large government agencies. Specializing in data warehouse and business intelligence, he has spent the last ten years building solutions using Microsoft SQL Server.

Acknowledgments

This is often the hardest part of writing a book. You live in fear of who you're going to forget. Last time I forgot my mom, so I think I've pretty much set the upper limit on embarrassing omissions.

First and foremost, I could not have done this without the support of my family. My kids endured another year of "Daddy is working on his book." Hopefully it was a little easier this time having the last book on hand as a concrete reminder that it's actually possible. Antoinette and Samantha, thank you so much for understanding.

What my wife has put up with is nothing short of amazing. Suffice to say that Chapter 9 was written in the Bahamas and Chapter 13 was written in a hotel room in London. She's been a real trooper in putting up with my absences, even on vacation. Christine, I love you, babe.

Big thanks to my project manager, Richard Dal Porto, for dealing with my incredibly erratic writing schedule.

And anyone who buys this book owes my technical reviewer, Dana Hoffman, a bouquet of flowers. Dana was relentless in letting me know when text didn't make sense, when I was using jargon I hadn't defined, and when exercises didn't work. If you find the exercises and walkthroughs in this book valuable, and get through them having learned something, it's thanks to Dana's work.

Finally, another shout-out to my cheerleaders at the Design of Software: Rui Pacheco, John Haren, Aaron F. Stanton, PhD, Ricardo Antunes da Costa, Colm O'Connor, Mark Theodore Anthony Wieczorek, Peter Lorenzen, Andrei Tuch, Tim Becker, Geert-Jan Thomas, Tapiwa Sibanda, Christopher Boyle, Luis Zaldivar, and David J Donahue.

Introduction

"Business intelligence" is a nebulous, scary term that is often brandished as something that you need an MBA and 20 years of experience in the field to implement. As I've dug my way around the field in the three short years since Business Scorecard Manager was released, what I've found is that the *technology* does not have to be that hard. I'm not saying it's always easy, but it's definitely approachable and accessible to the average developer or DBA.

The issue with business intelligence is that the *business problem* is hard. There are issues of metrics, what to measure, how to measure it, where to get the data, how to get the data securely, how to apply the data, how to analyze the data, how to get value out of the analysis, and so on. The important things—and I try to reiterate these throughout the book—are focusing our attention on the business problems and trying to make the technology as unobtrusive as possible.

That is what Microsoft is doing with PerformancePoint. By commoditizing what was previously a premium software field, they are trying to make business intelligence available to the masses, so we can think in terms of "How do I measure performance" instead of "How can I afford business intelligence software and consultants?"

Who This Book Is For

My target for this book is really the jack-of-all-trades developer or DBA: developers who set up their own servers and databases, and DBAs who write code, reports, and so on. There are parts that will appeal to more structured team types, but other parts that won't. But if you're a "I want to solve this problem and learn what's necessary to do it" type, then I hope I've hit your sweet spot.

Although fairly technical in a lot of areas, this book may also serve folks who want to understand business intelligence and the interface between business intelligence and technology.

I appreciate any feedback from readers on how you found the book—what worked and what didn't. You can get in touch with me at `philo89@msn.com`.

How This Book Is Structured

My main goal with this book was that readers be able to actually read it from front to back. I try to tell a story, building from some business intelligence basics, to how the Microsoft platform works, and finally to how PerformancePoint delivers the best solution overall. While I think individual chapters stand on their own, it really works best as a whole work.

The book breaks down as follows:

- Chapters 1 and 2 introduce you to business intelligence and the Microsoft solution.
- Chapters 3 through 7 cover SQL Server and the services that make it a business intelligence platform.
- Chapter 8 is a quick overview of the business intelligence capabilities in SharePoint, especially Excel Services.
- Chapters 9 through 14 cover PerformancePoint.

Prerequisites

To work with the exercises in this book, you'll need the following:

- SharePoint version 3; either Microsoft Office SharePoint Server (MOSS) 2007 or Windows SharePoint Services (WSS) version 3 will suffice, except in Chapter 8, which requires MOSS
- SQL Server; either 2005 or 2008 will do
- PerformancePoint Server 2007, including ProClarity 6.3

Of course, you'll need Windows Server, either 2003 or 2008. If you haven't delved into virtualization yet, I highly recommend investigating Windows Server 2008 and its Hyper-V technology.

Downloading the Code

The downloads for this book are available from the Source Code/Download page of the Apress web site, at `www.apress.com`. The most notable of these are the Texas Healthcare data set for Chapter 5; the scorecards and dashboards developed in Chapters 10, 11, and 12; and the planning solution created in Chapter 13.

Contacting the Author

Philo is always available via `philo89@msn.com`. Feedback and questions are welcome.