BizTalk 2010 EDI for Health Care

HIPAA Compliant 837 Solutions



Mark Beckner

Apress^{*}

BizTalk 2010 EDI for Health Care: HIPAA Compliant 837 Solutions

An Apress Advanced Book

Copyright © 2013 by Mark Beckner

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed. Exempted from this legal reservation are brief excerpts in connection with reviews or scholarly analysis or material supplied specifically for the purpose of being entered and executed on a computer system, for exclusive use by the purchaser of the work. Duplication of this publication or parts thereof is permitted only under the provisions of the Copyright Law of the Publisher's location, in its current version, and permission for use must always be obtained from Springer. Permissions for use may be obtained through RightsLink at the Copyright Clearance Center. Violations are liable to prosecution under the respective Copyright Law.

ISBN 978-1-4302-5019-7

ISBN 978-1-4302-5020-3 (eBook)

Trademarked names, logos, and images may appear in this book. Rather than use a trademark symbol with every occurrence of a trademarked name, logo, or image we use the names, logos, and images only in an editorial fashion and to the benefit of the trademark owner, with no intention of infringement of the trademark.

The use in this publication of trade names, trademarks, service marks, and similar terms, even if they are not identified as such, is not to be taken as an expression of opinion as to whether or not they are subject to proprietary rights.

While the advice and information in this book are believed to be true and accurate at the date of publication, neither the authors nor the editors nor the publisher can accept any legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, express or implied, with respect to the material contained herein.

President and Publisher: Paul Manning Lead Editor: Jeffrey Pepper Technical Reviewer: Richard Kikuchi Editorial Board: Steve Anglin, Ewan Buckingham, Gary Cornell, Louise Corrigan, Morgan Ertel, Jonathan Gennick, Jonathan Hassell, Robert Hutchinson, Michelle Lowman, James Markham, Matthew Moodie, Jeff Olson, Jeffrey Pepper, Douglas Pundick, Ben Renow-Clarke, Dominic Shakeshaft, Gwenan Spearing, Matt Wade, Tom Welsh Coordinating Editor: Anamika Panchoo Copy Editor: Linda Seifert Compositor: SPi Global Indexer: SPi Global

Artist: SPi Global Cover Designer: Anna Ishchenko

Distributed to the book trade worldwide by Springer Science+Business Media New York, 233 Spring Street, 6th Floor, New York, NY 10013. Phone 1-800-SPRINGER, fax (201) 348-4505, e-mail orders-ny@springer-sbm.com, or visit www.springeronline.com.

For information on translations, please e-mail rights@apress.com, or visit www.apress.com.

Apress and friends of ED books may be purchased in bulk for academic, corporate, or promotional use. eBook versions and licenses are also available for most titles. For more information, reference our Special Bulk Sales–eBook Licensing web page at www.apress.com/bulk-sales. To my dear wife who home birthed our two boys and is an acupuncturist. Because of your "ideas," we have yet to file a claim for these kids that has been transported through any EDI or claims management processing system, BizTalk or otherwise.

—Mark Beckner

Contents at a Glance

Foreword	xi
About the Author	xiii
About the Technical Reviewer	xv
Introduction	xvii
Chapter 1: Architectural Patterns	1
Chapter 2: Solution: Receiving 837P Data	11
Chapter 3: Solution: Sending 837P Data	27
Chapter 4: Mapping Data	
Chapter 5: Ports, AS2 and Acknowledgements	55
Index	75

Contents

Forewordxi
About the Authorxiii
About the Technical Reviewerxv
Introductionxvii
Chapter 1: Architectural Patterns1
Receiving Inbound 837P Data2
Receiving Data via SFTP2
Receiving PGP Encrypted Data via FTP2
Receiving Data via AS23
Receiving Data Mapped to Other 837P Formats3
Receiving Data Mapped to Proprietary Flat Files4
Receiving Data Mapped to a SQL Server Database4
Receiving Data that Requires an Acknowledgement5
Receiving Data that Requires an Orchestration
Sending Outbound 837P Files6
Sending Data Mapped from an Internal Flat File Format6
Sending Data Mapped Directly from SQL Server7
Sending Unencrypted Data via SFTP7
Sending Encrypted Data via FTP8
Sending Batched Data8
Conclusion9

Contents

Chapter 2: Solution: Receiving 837P Data11
Visual Studio Solution11
The Schema Projects12
The Map Project
The .NET Assembly Project and Related SQL Objects
The Orchestration Project
The Pipeline Project21
Setting Up the BizTalk Components23
Party Settings and Agreements24
The Receive Port25
The File Send Port25
Orchestration Binding25
Enabling and Running the Solution26
Conclusion26
Conclusion
Chapter 3: Solution: Sending 837P Data27
Chapter 3: Solution: Sending 837P Data
Chapter 3: Solution: Sending 837P Data 27 Visual Studio Solution 28 The Schema Projects 28 The Map Project 30 Setting Up the BizTalk Components 31 SQL Receive Port 31 File Send Port 33
Chapter 3: Solution: Sending 837P Data 27 Visual Studio Solution 28 The Schema Projects 28 The Map Project 30 Setting Up the BizTalk Components 31 SQL Receive Port 31 File Send Port 33 File Receive Port 33
Chapter 3: Solution: Sending 837P Data

Chapter 4: Mapping Data	39
BizTalk Mapping Technologies4	41
Mapping to an Outbound 837P4	42
Formatting Dates Using an External .NET Assembly	42
Creating HI Records Using Inline XSLT	44
Service Line Mapping Using Inline XSLT Call Template	46
HL Hierarchy Mapping with Functoids	47
Mapping from an Inbound 837P	18
Using More than One Map to Handle a Single Map Case	50
Using an External XSLT File for Mapping	52
Conclusion	53
Chapter 5: Ports, AS2 and Acknowledgements	55
SFTP	55
Configuring the SFTP Adapter	56
Encrypted Data with Standard FTP	59
FTP Adapter Settings	60
Pipelines and Pipeline Components	60
AS2 Communications	54
Certificates	65
IIS and the BizTalk HTTP Receive Location	67
Agreements and Party Settings	69
The Generic MDN Send Port for Asynchronous Messages	72
Testing Your AS2 Configuration	73
Sending 997/999 Acknowledgements	73
Conclusion	74
Index	75

Foreword

As a health care practitioner, I have never written a line of code, yet I am responsible for orchestrating some of the best health care applications in the industry. Imagine developing an application that pays a doctor for services before the insurance company has even received the bill! That's risky! I know how far I can push the technology envelope and I enjoy salaciously pushing it. I build people advanced technological tools, yet I hunt and peck my own keyboard. Technology to me is a ball you constantly move forward, because if and when it stops, your game is over. The technology covered in this book is the tool to move your technology ball forward.

Since the early eighties, I have been a part of and followed the evolution of both hardware and software. My first computer cost me \$10,000, not including a keyboard, monitor, or operating system. I could have bought a car for what I paid for that small, heavy, metal box. I used it to develop my first successful medical billing application. My first experience with electronic data interchange (EDI) came in 1986 and utilized a rudimentary format that failed entire batches of bills because of one missing piece of information. That was bad. On the other hand, I began to receive payments in less than 14 days, and in some cases less than a week. That was good. I speculated that my EDI process bypassed human claim adjusters. I was communicating to the master claims system and my bills were triggering checks. I will never forget one healthcare CIO saying he would have to build in controls to slow down payments because they were being made too fast. Wow. My conclusion—EDI works.

Fast forward 12 years; I built the blueprint for an linternet-based EDI system that not only transmitted the universal medical bill HCFA-1500, but would also transmit all supporting medical documents. iHCFA was born. Unfortunately, I realized after reading an article in *Barron's* that I was about 14 years ahead of the industry. One major insurance company after another realized they were saddled with legacy systems unable to utilize the efficiency EDI presented. One more hurdle to overcome.

So, how long does a technological solution last and how quickly does technology improve? It is like a snapshot in time. In my opinion, he who has the better system wins, especially as we become more comfortable with technology and its devices. Steve Jobs made a decision to not allow an iPhone user to change their battery. Was this because he knew the iPhone would last a lifetime, or because he knew his users would become bored and expect something new? Staying ahead of your competition is the key to success.

Once in a while, a technology hits the street that moves application development light years ahead in just a matter of minutes. Why it happens and who funds it is not important. What is important is that someone somewhere saw a need and an opportunity to create something that could standardize an industry. In my world, this technology warp was

Foreword

Microsoft BizTalk Server, a readily available application with the ability to provide a working nervous system to the complex world of EDI. This is a system which provides the end user the ability to bolt on customized components, rudimentary or sophisticated, and allow the BizTalk infrastructure to take over and guide the data to a proper outcome.

BizTalk becomes an *out of the box* application that enables the user to save years of development time. For me, it became a technically superior product which I could customize in less than six months. The decision to use BizTalk was a simple one. My only deficiency was guidance.

All technology needs is someone capable of navigating through the most treacherous waters. BizTalk, a Microsoft product, provides a plethora of options. At its helm is the man who wrote this book, even though he was 2,000 miles away, Mark Beckner. Mark is a BizTalk expert and he can navigate the BizTalk waters like a beacon in the night. Mark assisted us in implementing BizTalk as the backbone of a new EDI system that would take our healthcare transactions to a new level. Mark utilized the many robust internal features of BizTalk to halve our development time and, in today's highly competitive technology world, this became a differentiator for us.

Mark provided us with stable guidance that allows us to utilize our current system as a blueprint to a new BizTalk-based system. The insight Mark provides is the same insight the reader will find in this book. Mark provides real-time solutions to a complex EDI world, ultimately simplifying the hardest of tasks. Getting to the experts is often half the battle when it comes to development efficiency and Mark has provided his expertise in a transparent, open fashion, enabling anyone to take advantage of BizTalk and its product lines. In my opinion, this book will fast track your success just like BizTalk fast tracked mine.

> William J. DeGasperis, DC President & CEO Atlantic Imaging Group and iHCFA