Microsoft® Exchange Server 2003
Advanced Administration

Jim McBee
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Advanced Administration
This book is dedicated to my parents, Charles and Betty McBee. That you ever managed to survive my Calvin-like childhood (or adulthood) is miraculous.
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Introduction

I have been working with Exchange Server now for more than 10 years. As a former Microsoft Mail and cc:Mail administrator, Exchange was love at first sight. I have enjoyed the process of learning each version of Exchange and learning how to solve business problems using Exchange. I never stop learning new facts about it.

NOTE I have made some assumptions about the audience of this book. I assume that the typical reader will have some basic Exchange administrator skills.

As I’m writing this, a lot is happening in the messaging community. Microsoft has finally started getting serious about helping organizations fight spam. Microsoft is now providing for free the new Intelligent Message Filter (IMF) that uses its SmartScreen spam detection technology; with Exchange 2003 Service Pack 2, the IMF is included automatically. In addition to the IMF, Service Pack 2 now supports Sender ID to help detect potential sources of spam. And Exchange Server has continued to evolve to meet the needs of its administrators and users. Microsoft is now officially supporting network attached storage using the iSCSI protocol; several of my customers are using iSCSI-based storage with Exchange 2003 and are pleased with their results. With Exchange 2003 SP1, the “move mailbox” functionality now includes moving mailboxes between admin groups while still in mixed mode.

The Exchange team at Microsoft is continually releasing new tools to make messaging administrators’ jobs easier and more productive. This includes the new Exchange Best Practices Analyzer and the Exchange Disaster Recovery Analyzer.

By the time this book is on the shelves, Exchange 2003 Service Pack 2 will have been in use for nearly six months, and there will probably even be a few critical fixes for SP2.

I began planning the first edition of this book while I was still finishing this book’s predecessor, Exchange 2000 Server 24seven. By the time I finished that book, I found many additional topics I wanted to include in another book. The first edition of this book was finished just before the release of Exchange 2000 SP1. Immediately upon the SP1 release, I began thinking about changes I should include in this edition. After working on several large migration projects using both Service Pack 1 and Service Pack 2, I have accumulated additional best practices and knowledge of running Exchange servers. One of the most important factors in good administration is following good operational practices. That is one of the deciding factors in the design of this book and contributes to the evolution of Microsoft Exchange Server 2003 Advanced Administration.

I decided to focus more on operations and best practices in this book. I am relating the practices I have seen employed by organizations to generate the best user satisfaction with respect to functionality, availability, and services provided.

If you are reading this introduction and considering whether you will buy the book, well first of all, thanks for considering it. Because you are reading the introduction, you are off to a great start. I hope this introduction will give you a good idea of what you can find in this book and a little about my quirky style.

If you purchased the Exchange Server 2000 24seven book, you will find quite a bit of new information. I estimate that about 60 percent of this book has been completely rewritten, but you will find some familiar material.

I found myself in a quandary as we neared completion. I wrote nearly 100 more pages of information than there was space for in this book. I have placed much of this information on my web
Content? Does Anyone Have Content?

During the initial development of this book (and the original 24seven series), the emphasis was on conveying what you, as an administrator, need to know to keep your Exchange server healthy, happy, and operational 24 hours a day, 7 days a week. This book is the sequel to both the Exchange 5.5 24seven and Exchange Server 2000 24seven books, which I wrote in 1999 and 2001, respectively. It is the revision of Microsoft Exchange Server 2003 24seven, in which I have provided additional experiences I have had over the past two years of working with Exchange and some of the new features that have been updated in Exchange 2003 SP1 and SP2. I have also listened to many readers and queried many experienced Exchange administrators, and I asked them a few questions:

◆ What do you do to keep your Exchange servers healthy and happy?
◆ What facts did you learn the hard way?
◆ What have you done wrong (and right)?
◆ What would you like to share with other Exchange administrators?

I used their information to assemble this book. I focused primarily on Exchange Server operations issues. I avoided client-related issues except when necessary; the Outlook family is the subject of its own book. In addition, I avoided the topics of installation, migration, and interoperability in order to keep this book focused on operations and customization.

Throughout this book, you will find Real-World Scenario sidebars. The Real-World Scenarios contain specific situations and problems I have encountered in the field while deploying Exchange. I thought it important to use some special mechanism to emphasize how other companies are approaching problems. (The actual names of the companies have been changed.)

In several chapters, I incorporated a frequently asked questions (FAQ) section; in these sections, I address a lot of the typical questions I am asked about certain topics. The Exchange administrator’s mailing list also has a FAQ maintained by Andy Webb located at www.swinc.com/resource/exchange.htm.

Throughout each chapter, you will find references to other books, white papers, RFCs, and Microsoft Knowledge Base articles. I hope you will find the time to review the reference material I am pointing you toward. Some of the URLs I used in the first edition were quite long and sometimes wrapping over to two lines, so for this edition I have started using the service TinyURL (http://tinyurl.com) to shorten them just a bit. You can enter the URLs in your browser exactly as they appear in the book.

Most of the scenarios and the instructions for this book were tested on my test network, though some of the instructions were taken from how I had implemented something for a customer. My test network consists of two Pentium 4 desktop systems with 2GB and 4GB of RAM, respectively. One of these physical machines runs VMware Workstation 5.5, and the other physical machine runs Microsoft Virtual Server. Most of the screen captures and examples are actually virtual machines running in my lab environment. I did use screen captures from real, production systems, but you will probably see places where I obscured the information about the source server or organization name where necessary.
Who Should Buy This Book?

If you are standing in your neighborhood bookstore asking yourself this question, then ask no further. Maybe you are just starting a pilot deployment of Exchange. Possibly you just returned from a Microsoft Certified Technical Education Center class and you want to know more. Maybe you are currently running Exchange and you want to know what you can do better. Perhaps you are curious about some of the pitfalls and sticky situations that can happen with Exchange. If you are in any of these situations, this book is for you. This book focuses primarily on Exchange operations and best practices.

Maybe the mysteries of how Exchange 2003 and Active Directory interact are keeping you awake at night. Are you wondering what the best management practices for Exchange Server are? What events indicate the Exchange server is having problems? How often should you run backups? Have you given any consideration to what would happen if disaster struck? How about what you can do to proactively prevent problems? Are you wondering what Microsoft recommends versus what works in the real world? If you answered “yes” to any of these questions, this book is for you.

Are you looking for ways to further customize your Exchange organization? Are you trying to figure out the best Exchange connectors to use? Or are you trying to track down a problem with a connector? Do you know what to do if the Exchange server failed to restart or if you lost a disk drive? Maybe you are concerned about messaging security. If you are seeking answers to any of these questions, this book will steer you in the right direction.

I have endeavored to keep the topics in this book useful for you whether you are supporting 10 mailboxes or 100,000. For those of you with larger sites, you are already aware that any guidance I can provide in a 900-page book will have to be generic enough for you to customize to your own environment.

This book is not for beginners. Its readers should have networking experience in Exchange or some other messaging system, including knowledge of network operating systems, communications media, and related technologies. If you want to understand how to install Exchange, create mailboxes, or perform other basic Exchange Server administration tasks, then this book is not right for you. For a basic Exchange 2003 reference, pick up a copy of Barry Gerber’s *Mastering Exchange Server 2003* (Sybex, 2003). It is an excellent introduction to the world of installing, configuring, and administering Exchange Server. After you learn the fundamentals, I hope you will consider purchasing this book to take you to the next level.

If you are studying for the MCSE exams, this book will be helpful, but it should not be considered an exam study guide. If that is what you are seeking, purchase a copy of James Chellis and Will Schmeid’s *MCSE: Exchange Server 2003 Implementation and Management Study Guide* (Sybex, 2004).

Assumptions

The book is centered on Exchange Server 2003 Service Pack 2 at a minimum running on Windows 2003 SP1 or Windows 2003 R2; in some places I have included instructions that might be necessary for pre-Exchange 2003 SP2 tasks.

Occasionally, I draw parallels between Exchange 5.5 and Exchange 2003. If you did not run Exchange 5.5, I apologize ahead of time for boring you with some details of an older version of the product.

In the text, I assume that the Windows operating directory is located on the C: drive in the \\Windows directory and that you are using Windows 2003. I also assume that the \exchsrvr\bin directory is on the C: drive. The Exchange 2003 Setup program now puts the \Exchsrvr directory into \Program Files, but I still refer to it simply as \Exchsrvr.
Anytime you see HKLM in a Registry path, it is a shortened version of \HKEY_LOCAL_MACHINE. The same is true for HKCU (HKEY_CURRENT_USER).

How This Book Is Organized
I divided this book into five parts consisting of 23 chapters. The topics and complexity of the book vary from chapter to chapter. Each chapter is intended to stand on its own; however, you should read Chapter 1 first. Throughout the book, I refer you to Chapter 5 for best practices and daily operations. If you are interested in Exchange Server and security, you should read Chapters 17, 18, and 19. Though overall, you can read the chapters in just about any order you want. Some readers will read the book from front to back; others will simply use it as a reference.

Part 1: Building a Foundation
The first part of this book covers important facts you need to know when preparing your Windows 2003 environment, planning Exchange 2003, and understanding Exchange 2003’s interaction with Active Directory. I tried to emphasize issues that have gone wrong with installations I’ve been exposed to, including common design mistakes with Windows 2000, Active Directory forests, and Exchange organizations, and I offer suggestions for how to plan, deploy, and migrate to Exchange Server.

Much of Chapter 4 is new material based on my experiences working with customers and students. I have found a common lack of understanding of how Exchange stores data. During my research for this chapter, I found more than 1,000 pages of in-depth technical information about the ESE database engine. I tried to disseminate the most useful and interesting of that information so that you can better understand the operation of the database.

Chapter 5 is probably my favorite chapter in this book. This chapter represents nearly 10 years of my own experiences and many other expert administrators.

Part 2: Operations
Part 2 covers the Exchange server operations. Overall, this is my favorite topic because I love to figure out how to make things run better (ever since I was a little kid taking my mom’s vacuum cleaner apart). A particularly popular chapter with the reviewers is Chapter 6, which covers typical operations with Exchange 2003. Chapter 7 includes some common features you may want to customize. Chapters 8 and 9 offer information about monitoring your Exchange organization’s health and well-being.

These topics may be particularly useful to you if you believe your Exchange servers are overburdened. Chapter 10 was actually the last chapter I wrote; it covers disaster recovery. Chapter 11 is an overview of the Exchange 2003 clustering and clustering basics. Chapter 12 covers using public folders, building a public folder hierarchy, and developing a replication strategy. Chapter 13 offers techniques for troubleshooting servers.

Part 3: Connectivity
Part 3 discusses connectivity and Exchange 2003. This part has two focuses: server SMTP connectivity and Internet client connectivity. Chapter 14 discusses Exchange 2003’s use of SMTP, connecting routing groups. Chapter 15 covers connectivity between routing groups, and Chapter 16 covers sending and receiving e-mail on the Internet.
Part 4: Exchange 2003 Security Issues

I like a challenge. Any server that has a user community presents a certain amount of challenge to keep it secure. Any server connected to a public network presents an even bigger challenge with respect to security. That is why I enjoyed writing these chapters. Chapter 17 discusses basic messaging security topics and virus protection. Chapter 18 covers securing message content using the S/MIME technologies. Chapter 19 covers topics you need to be familiar with in order to protect Exchange using a firewall.

Part 5: Exchange Clients

Part 5 is intended to help you with the clients that connect to Exchange 2003. Chapter 20 discusses setting up and troubleshooting MAPI (Outlook) clients and using the new RPC over HTTP features that were introduced in Exchange 2003 and Outlook 2003. Chapter 21 covers Outlook Web Access 2003, including some of the features I have found useful when deploying and securing OWA. Chapter 22 discusses Outlook Mobile Access, ActiveSync, and information about supporting mobile clients as well as information about the changes introduced with Windows Mobile 2005 and Exchange 2003 Service Pack 2. Finally, Chapter 23 covers how to use POP3 and IMAP4 and appropriate troubleshooting techniques.

More to Come

I could not fit everything I wanted to include in this book. There is just too much information to share. However, I do have a website and blog on which I will periodically post additional information such as corrections, sample documentation sheets, a sample service-level agreement, and anything else that may be relevant to the topics covered in this book. Right now, you can find my website at www.somorita.com. I discuss my experiences with Exchange, Windows, security, and sometimes just life in general on my blog at http://mostlyexchange.blogspot.com.

Thank you for reading the introduction; I hope it gets you off to a great start with this book. I hope that the material in this book answers some of those nagging questions you have had, and I hope it helps you prevent a few problems in the future. And I hope this book helps get you out of the office by 5 p.m. on most days!