Introduction

In the past 12 years, we have written a book on every version of Exchange since its inception built on at least two years of early adopter beta experience. This book, *Microsoft Exchange Server 2007 Unleashed*, is the latest of our efforts. However, unlike the past two major releases of Exchange (2000 and 2003), Microsoft Exchange Server 2007, although very similar, had enough differences that it required complete rethinking of the way we wrote this book.

Rather than being just an email and calendaring product, Microsoft added a handful of new server roles to Exchange Server 2007 to improve security and reliability. In addition, Exchange 2007 is Microsoft's entry into the world of unified messaging. Exchange 2007 not only added a Unified Messaging server role, but Exchange is now the backbone of an entire unified communications strategy that Microsoft will be building on over the next several years. Beyond just email and calendaring, Exchange Server 2007 now lays the foundation for voice and mobile communications.

Just a decade ago, email was just one of a number of different ways people communicated. Early implementations of Exchange (v4.0, v5.0) had organizations tolerant if a server was down for a day or two. Today, email has become an extremely important, if not primary, method of communications for organizations. Downtime on an Exchange server can bring an entire organization to its knees. With Exchange 2007 adding voice mail and mobile communications into the messaging environment, an Exchange 2007 server and environment can no longer tolerate failures caused by viruses and spam, nor system downtime caused by server crashes or database corruption.

You will find that the improvements Microsoft has made to Exchange 2007 are not only evolutionary improvements, but highly critical if not absolutely essential to Microsoft's responsibility to help organizations maintain a safe, secure,

and reliable communications infrastructure. This book covers all of the aspects of Exchange 2007 from introducing the technologies, to properly planning and designing Exchange, to the implementation, management, and support of an Exchange 2007 environment built on tips, tricks, and best practices from over two years of early adopter implementations in the field.

This book is organized into 10 parts, each part focusing on core Exchange Server 2007 areas, with several chapters making up each part:

▶ **Part I: Microsoft Exchange Server 2007 Overview**—This part provides an introduction to Exchange Server 2007, not only from the perspective of a general technology overview, but also to note what is truly new in Exchange 2007 that made it compelling enough for organizations to implement the technology in beta in a production environment. This part also covers best practices of planning, prototype testing, and migration techniques.

▶ **Part II: Planning and Designing an Exchange Server 2007 Environment**—This part covers the design of an underlying Windows Server 2003 and Active Directory environment in addition to the Exchange Server 2007 unified communications environment. Because organizations of varying sizes have different needs and requirements, as appropriate, this part addresses core Exchange 2007 design plans and concepts appropriate for most organizations, and specific attention is given to enterprise-level design and planning considerations for some of the largest Exchange implementations in the world. This part also covers the integration of Exchange 2007 in a non-Windows environment as well as tips, tricks, and best practices at getting a Windows Server 2003 Active Directory, DNS, and domain structure properly planned and architected.

▶ **Part III: Implementing Exchange Server 2007 Services**—This part covers the core implementation of Exchange 2007 as well as the new Edge Services role that has been added to the Exchange organizational structure to provide protection against viruses and spam. In addition, this section has a chapter on the Exchange Management Script based on PowerShell, the new Microsoft scripting solution that is the basis of the configuration, administration, and operations of Exchange 2007.

▶ **Part IV: Securing an Exchange Server 2007 Environment**—Security is on everyone's mind these days, and it was absolutely critical to have several chapters that covered security. The chapters of this part of the book include client-level, server-level, and transport-level security that is at the backbone of security for a network environment. A dedicated chapter on email encryption was necessary to cover the use of certificate-based encryption technologies to enable an organization the ability to provide person-to-person encrypted message communications. In addition, chapters on Microsoft ISA Server 2006 enhancing security at the edge and a chapter on enterprise policy environment addressing regulatory compliance security enhancements added to Exchange 2007 round out this extensive part on security.

▶ **Part V: Migrations and Coexistence with Exchange Server 2007**—This part is dedicated to migrations, Client Access servers (CASs), and Hub Transport servers.

This part provides a chapter specifically on migrating from Windows 2000 Server to Windows Server 2003 for organizations that have yet to complete their migration to a base Windows 2003 environment. And, of course, this part includes a chapter on migrating from Exchange 2000 Server and Exchange Server 2003 to the new Exchange 2007 unified communications environment. Because Microsoft does not provide migrations from Exchange Server 5.5 to Exchange 2007, nor does it provide in-place upgrades to Exchange 2007, there are fewer options to choose from, which means that the method you are left with needs to be planned, tested, and executed with the utmost care to minimize, if not eliminate, any interruption to users. This part of the book includes a chapter that covers the planning and implementation of the CAS role and the Hub Transport role, two new roles to Exchange 2007 that are critical to the new Exchange 2007 organizational environment.

▶ **Part VI: Exchange Server 2007 Administration and Management**—In this part, five chapters focus on the administration and management of an Exchange Server 2007 environment. The administration and management of mailboxes, distribution lists, sites, and administration have been greatly enhanced in Exchange Server 2007. Although you can continue to perform many of the tasks the way you did in the past, because of significant changes in replication, background transaction processing, secured communications, integrated mobile communications, and changes in Windows Server 2003 Active Directory, there are better ways to work with Exchange Server 2007. These chapters drill down into specialty areas helpful to administrators of varying levels of responsibility.

▶ **Part VII: Unified Communications in an Exchange Server 2007 Environment**—This section is completely new to Exchange 2007 with the addition of the Unified Messaging role, new mobility functionality, and tight integration with SharePoint 2007. As mentioned earlier in this introduction, Exchange 2007 not only added voice mail to Exchange, but the addition of voice integration takes Exchange 2007 far beyond just an email and calendaring solution. This addition takes Exchange into an area where communications is conducted on personal computers, mobile handheld devices, and from remote kiosks and terminal systems. The chapters in this part of the book highlight all of the new technologies and integration capabilities that make Exchange 2007 the core foundation to the future of an organization's communications infrastructure.

▶ **Part VIII: Client Access to Exchange Server 2007**—This part of the book focuses on the enhancements to the Outlook Web Access client, various Outlook client capabilities, and Outlook for non-Windows systems. Outlook Web Access is no longer just a simple browser client, but one that can effectively be a full primary user client to Exchange, including access to network file shares, an entry point to SharePoint shares, and a remote voice mail collection point. Being that Exchange 2007 now includes voice and mobile communications as a major component of the Exchange environment, client access as well as the distribution, management, and support of the client becomes even more important.

▶ **Part IX: Data Protection and Disaster Recovery of Exchange Server 2007**—As organizations implement Exchange 2007 and make it their central store for email, calendars, contacts, voice and fax communications, and mobile communications, it is no longer an option to set up and support an environment where downtime is even a possibility. This part of the book covers clustering and the new continuous backup technologies built in to Exchange 2007 intended to keep Exchange 2007 operating in a nonstop environment. Additional chapters in this part address backing up and restoring Exchange data, along with the recovery of an Exchange 2007 environment in the event of a disaster.

▶ **Part X: Optimizing Exchange Server 2007 Environments**—This last part of the book addresses optimization in terms of server and Exchange 2007 organizational environment optimization, as well as storage systems (SAN/NAS) optimization. Optimization goes far beyond simply tuning an Exchange server with the appropriate amount of RAM and disk space, but takes on a whole new area of load balancing data storage across external storage subsystems where information is managed and replicated separately.

The real-world experience we have had in working with Exchange Server 2007 and our commitment to writing this book based on years of field experience in early adopter Exchange 2007 environments enables us to relay to you information that we hope will be valuable in your successful planning, implementation, and migration to an Exchange Server 2007 environment.