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Microsoft®
**System Center
Enterprise Suite**
I UNLEASHED

800 East 96th Street, Indianapolis, Indiana 46240 USA

Microsoft® System Center Enterprise Suite Unleashed

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About the Authors

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Rand H. Morimoto, Ph.D., MVP, MCITP, CISSP, has been in the computer industry for more than 30 years and has authored, coauthored, or been a contributing writer for dozens of books on Windows, Security Exchange Server, BizTalk, and Remote and Mobile Computing. Rand is the president of Convergent Computing, an IT-consulting firm in the San Francisco Bay area that has been one of the key early adopter program partners with Microsoft, implementing the latest Microsoft technologies including Microsoft Windows Server 2008 R2, System Center Service Manager 2010, Windows 7, Exchange Server 2010, and SharePoint 2010 in production environments more than 18 months before the initial product releases.

Dedication

I dedicate this book to my lovely wife, Sophia, whose love and support I cherish. And to my children, Michelle, Megan, Zoe, Zachary, and Ian, for whose sake all the hard work is worthwhile. I also want to dedicate the book to my late father, Jairo Amaris, who taught me to think on many different levels.

–Chris Amaris, MCSE, MVP, CISSP/ISSAP, CHS III

I dedicate this book to the world's greatest hiking companion, my golden retriever Madison. Here's to climbing many peaks in the Japanese Alps this summer. Oh, and I can't forget to thank my wife (Maiko). Thanks for putting up with me writing these books.

–Tyson Kopczynski, CISSP, GCIH

*I dedicate this book to Rand Morimoto, Chris Amaris, Matt Morgensen, Thinh Luu, Vic Chapman, and Rob Fry. Thanks for all your help while writing this book. I also dedicate this book to my beautiful wife Sonia and my father David Minty.
Way to beat cancer, Dad!*

–Alec Minty, MCSE

I dedicate this book to my brother Bruce, as I see the sibling rivalry between Kelly and Chip just as you and I had growing up as kids. You were always there for me, giving me guidance and helping me be who I am today. Thanks, bro!

–Rand H. Morimoto, Ph.D., MVP, MCITP, CISSP

I dedicate this book to Elias Hill, a colleague and friend who always reminds me of the value of excellence for its own sake and of the need to find fun and humor at work.

–Guy Yardeni, MCSE, MCITP, CISSP

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Rand H. Morimoto, Ph.D., MVP, MCITP, CISSP Congratulations to Chris for getting a System Center title out the door, especially one with this much coverage of the suite! I know how much of a passion you have for systems management; it was a pleasure collaborating with you on this title!

I want to thank the team at Sams Publishing for turning this book around in record time, from contract to on store shelves in three and a half months, an amazing team effort! Thank you Neil, Mark, Betsy, and all the folks behind the scenes in making this happen! And my thanks to Karen Annett, my favorite copy editor!

I also wanted to thank the consultants at Convergent Computing and our early adopter clients who fiddle with these new technologies really early on and then take the leap of faith in putting the products into production to experience (and at times feel the pain) as we work through best practices. The early adopter experiences give us the knowledge, based on the lessons learned, we need to share with all who use this book as their guide to their production environments.

To Kelly and Chip: All right, so in my last book acknowledgement, I said that, after two 1300+ page books back to back in seven months, I was "done" with writing for a little while. Blame it on Mr. Chris.... I think "now" you might find me in bed at night instead of at the kitchen table writing at the wee hours of the morning. I just need to stop volunteering to write these books one after another. And thanks, Mom, for all your love and support through the years!

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Introduction

The System Center family of products from Microsoft has undergone quite the evolution over the past decade, with some products purchased through acquisitions, to other products evolving from earlier releases that didn't work all that well, to what is now a very broadly deployed management suite of products. In 2009, the System Center products crossed that magical \$1-billion mark in revenues for Microsoft that signifies a product line has "made it" among the mass of products churned out of Redmond, Washington, every

This book covers real-world experiences with the System Center products, not like a "product guide" simply with step-by-step installation and feature configurations, but with real-world notes, tips, tricks, best practices, and lessons learned in the design, planning, implementation, migration, administration, management, and support of the System Center technologies based on years of early adopter and enterprise production deployments.

The 19 chapters of this book are written to highlight the most important aspects of the technologies that make up the System Center family of products. To combine the products into groups of technologies, this book covers the following:

- **Introduction**—The first chapter of this book provides an introduction to the System Center family of products, what they are, what they do, and what business and IT challenges they solve. The introduction paints the picture of what the rest of the book will cover and how you as the reader can jump to those sections of the book most important to you in your day-to-day IT management tasks.
- **System Center Configuration Manager 2007**—The first product covered in this book is the System Center Configuration Manager 2007 (SCCM) product, which is a product that has come a long way in the past decade. The earlier releases of Configuration Manager went by the name SMS, or Systems Management Server, which was known to take full-time personnel to manage the management system. However, now easily three to four generations later, SCCM with its latest R2 and service pack has really helped organizations with the patching, updating, imaging, reporting, and compliance management of their client and server systems. The four chapters in this book that cover SCCM address the planning and design process of implementing SCCM in an enterprise, the implementation of the product, and, more important, how administrators use SCCM to image, update, manage, and support the servers and client systems in their environment.
- **System Center Operations Manager 2007**—The second product covered in this book is the System Center Operations Manager 2007 (SCOM) product, which provides monitoring and alerting on servers and client systems. Rather than waiting for users to alert the help desk that a server is down, SCOM proactively monitors systems and provides alerts before systems fail, plus it logs error events and system

issues to help organizations address system problems—usually before they occur. The chapters dedicated to SCOM cover the planning and design of SCOM, the rollout and implementation of servers and monitoring agents, and the best practices on how to understand errors and alerts that allow IT administrators to be more proactive in managing their servers and the systems in their environment.

- **System Center Data Protection Manager 2010**—System Center Data Protection Manager 2010 (DPM) is a relatively new addition to the Microsoft management family of products. As traditional tape backups have been replaced by digital snapshots and digital data backups of information, DPM provides organizations the ability to have backup copies of their data. DPM incrementally backs up information from servers so that instead of backing up information once a night, DPM makes backups all day long for faster backup times and more granular recovery windows. This book covers the planning, design, implementation, and general recovery process of file systems, Microsoft Exchange, SharePoint Server, and SQL using DPM 2010.
- **System Center Virtual Machine Manager 2008**—In the past couple of years, virtualization has gone from something that was only done in test labs to data centers that are now fully virtualized—enabling organizations to have more than one server session running on a physical server system, and sometimes upward of 10 or 20 server sessions running on a single system. With the huge growth in virtualization in the data center, Microsoft released three major updates to the System Center Virtual Machine Manager (VMM) product in two years to address the needs of the enterprise. The two chapters dedicated to VMM go beyond the installation and setup of VMM 2008, and get into core components of the product that help organizations manage virtual guest sessions running on both Microsoft Hyper-V virtualization as well as VMware, and also how to convert physical servers to virtual servers (P2V), delegate the ability to administer and manage guest sessions, and the ability to share virtual host resources with users and administrators in the enterprise.
- **System Center Service Manager 2010**—After more than five years in development and many many months in production deployment to fine-tune the product, Microsoft now has a help desk/incident management/asset life-cycle management/change management product called System Center Service Manager 2010 (SCSM). Being involved with the development of SCSM from its inception, the authors of this book have shared years of experience, tips, best practices, and lessons learned in the deployment, information tracking, reporting, and support of the SCSM product. SCSM brings together the information gathering, reporting, alerting, and knowledge-base information in the other System Center products into a single product that will help organizations better manage their IT infrastructures.
- **System Center Capacity Planner**—System Center Capacity Planner (SCCP) is not one of the products that organizations hear much about compared with the mainstream products like SCCM, SCOM, DPM, and VMM; however, SCCP adds a lot of value to an organization looking for a comprehensive set of tools to manage their environment. SCCP monitors the state of running systems as well as models the

planned operations of a future environment and provides IT architects and designers the information they need to properly size, procure, and deploy systems with the appropriate capacity needed to meet the needs of the organization. A single chapter is dedicated to SCCP and is content that is intended to help IT professionals better leverage a tool that is part of the System Center family of products.

- **System Center Mobile Device Manager**—System Center Mobile Device Manager (MDM) was just a simple plug-in tool a few years ago that helped organizations inventory and manage their mobile devices. With the growth in sophistication of the mobile phone—with business applications installed on the mobile devices along with the proliferation of phones where some users use their mobile phone as their primary "client device"—the need to manage the mobile devices becomes ever so important for an organization. The chapter in this book dedicated to MDM covers how to use MDM to asset track, remotely secure, patch and update, and support mobile devices in the enterprise.
- **System Center Essentials 2010**—The final chapter in this book covers the System Center Essentials 2010 (SCE) product, which is an all-in-one version of the product intended for organizations with fewer than 500 users and 50 servers. Rather than buying and implementing SCCM, SCOM, and VMM as separate individual products for a small or medium enterprise, SCE allows an organization to take advantage of the key components of the full-blown System Center products, but with much better ease as SCE leverages wizards, autoconfiguration components, and other features to simplify the management tasks of a smaller enterprise.

It is our hope that the real-world experience we have had in working with the entire System Center family of products and our commitment to relaying to you information that will be valuable in your planning, implementation, operation, and administration of System Center in your enterprise will help you more quickly gain and receive benefits from these managements tools from Microsoft!

CHAPTER 1 IN THIS CHAPTER

Introduction to the System Center Suite

System Center, which is licensed either individually or as a bundled suite, is a series of tools that help organizations manage their servers, client systems, and applications to be more proactive in responding to the needs of the IT data center. In fact, the name System Center actually didn't come about until just a few years ago; prior to that, the products were all sold separately.

Like with many families or suites of products, the first rendition of the suite is nothing more than a bunch of disparate products bundled together under a common brand name, but really have no integration in working together. System Center was no different—with the first couple of years of the product line being nothing more than name and branding.

Today however—three to four years and two to three versions later—the System Center products actually do work better together and an IT organization can leverage information in the various System Center components more easily and for a common benefit.

This chapter introduces the System Center family of products, what the components are, and how the balance of the chapters in this book provide tips, tricks, best practices, and guidance on how to best leverage System Center in the enterprise.

What Is System Center?

As mentioned at the start of this chapter, System Center is a family or suite of management tools from Microsoft; being a family of tools, you don't go out and buy Quantity 1 of

- What Is System Center?
- Understanding System Center Configuration Manager
- Understanding System Center Operations Manager
- Understanding System Center Data Protection Manager
- Understanding System Center Virtual Machine Manager
- Understanding System Center Service Manager
- Understanding System Center Capacity Planner
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