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# Managing Microsoft's Remote Installation Services

COMMUNICATIONS

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A Practical Guide

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# *Foreword*

I remember one fateful afternoon when I asked my colleague Michael Iversen whether he'd be interested in writing a book with me. When he had finished laughing, his initial response was that he actually liked the idea. Neither of us had ever written a book before, but for us the idea seemed thrilling.

Agreeing on the subject was easy. Naturally, we chose to write about a topic for which we found ourselves professionally fit to move forward in the writing process. We are both IT Specialists working for IBM Global Services, and because we had both been working together on a variety of Remote Installation Services installations at different types of organizations, we found ourselves highly qualified to share our knowledge about this deployment technology with other people.

When writing a book, we think it is essential to keep the purpose for doing so clear at all times. For us, the purpose has been to try to do something different, to share our knowledge with the IT community, and to learn how to express this knowledge in writing. Now that this book is finished, we have learned a tremendous amount about writing. We have exerted a lot of effort and spent a lot of time, and there have been times when our motivation seemed forgotten. At the end of the day, it has been hard work, but it has certainly been worth the effort. We hope you will enjoy reading this book as much as we have enjoyed writing it.

## Why this book?

The idea of writing this book about Remote Installation Services came up because of necessity. Necessity being the fact that there is no specialized literature in the marketplace covering in-depth knowledge about Remote Installation Services in either Windows 2000 or Windows 2003. Anyone

who has worked with Remote Installation Services will know how to install Remote Installation Services and get the fundamental technology working. Similarly, those who have worked with Remote Installation Services will also have learned that issues relating to client installation problems or advanced issues are not really documented very well in any book.

Specific information can be sparse and dotted among various sources of information. Finding information on certain advanced issues could often take several visits to various Web sites, sometimes only to find that described solutions to your issue did not work. Being IBM specialists and working with Remote Installation Services in real-life installations every day, we soon found this to be a major source of irritation. For that reason, this book is now available.

We want to show you how this beautiful, wonderful technology can help you perform powerful computer deployments at your fingertips. We have used all of our theoretical knowledge about Remote Installation Services and merged it together with all of our real-life experiences, written it down, and this is the result. This book is intended to be a single point of entry to all you need to know about Remote Installation Services—from understanding what Remote Installation Services is, how to implement it, how to install it, how to tune it, how to perform advanced tasks of deploying software, and how to make deployment be beneficial and easy for you and your business. Use it as a practical guide, use it as an information source to understand the theoretical application of RIS, use it as a source of inspiration, or use it as a reference guide. Use it in any way you wish.

In this book, we have also written several sections about the concept of "One Image Fits All." Understanding this concept is easy: by using simple techniques you can heavily minimize the amount of client operating system images used in any organization. Carrying the concept out into real life will end up saving you time, hassle, administrative overhead, disk space, maintenance windows, and money. We suggest you look into it. In the real world we have implemented this concept in many organizations—small and large businesses—and it really does work.

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**Note:** This book was written to reflect Remote Installation Services in Windows Server 2003, but 95% of the information is also relevant to Remote Installation Services in Windows 2000 Server. Throughout the book, it is clearly mentioned whenever information applies only to Windows 2000 Server.

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## Intended audience

The intended audience for this book is anyone looking for new methods to deploy new computer operating system platforms to any amount of computers, be it 15 or 15,000. This may be IT administrators, IT consultants, or IT supporters. The reader should have fundamental knowledge about the Windows Server operating system platform. Having knowledge about your organization and its business operations and requirements will also be beneficial to you. Other than this background, this book will walk you through the concepts, technical details, and logistics of Remote Installation Services.

# *Acknowledgments*

We would like to thank everyone who assisted in making the creation of this book possible. Also, warm thanks to our families, who have given us time and support during the writing of this book. Thanks to IBM Global Services Denmark for providing us the legal liberty to release this book. Finally, thank you to Digital Press/Elsevier and Theron Shreeve for believing in us.

Feedback about this book can be sent to:

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# *Concepts of Deployment*

This chapter introduces you to the basics of different deployment technologies. It will also discuss benefits and drawbacks of different deployment methods.

Highlights:

- Understand the fundamentals of computer deployment
- Understand which considerations to make before your deployment
- Explore different deployment methods
- Understand the beauty of Remote Installation Services
- Understand how to benefit from Remote Installation Services

## 1.1 Computer deployment

Deploying computer operating systems and software to multiple computers is a task that every single IT administrator, IT supporter, or IT manager is faced with at least once during his or her career. A release of a new operating system, for either client computers or server computers, will often initiate this process.

New operating systems such as Windows XP or Windows Server 2003 have more and better functionality than, for example, Windows NT Workstation or Windows 2000 Server. They don't have the drawbacks of older operating systems, they are easier to manage, they offer more possibilities, and they are more scalable, more stable, and more economic. You name it. Based on these facts, it is common to evaluate and explore new possibilities, to examine how the organization can benefit, and, based on the results of this evaluation, to decide whether to deploy or not. A significant amount of time will often be used exploring different deployment

products, methods, and technologies. Then often more time will be used testing your choices.

Your business might consist of 15, 160, 475, or 12,000 computers. No matter the size of your organization, the deployment issues remain the same. Some considerations that affect your deployment process are as follows:

- Do you wish to upgrade to a new operating system or to deploy fresh installations?
- What are the people/business logistics involved?
- What is the time frame?
- How many physical sites are involved?
- How are the WAN connections between those sites?
- How is your LAN doing?
- Which applications will you deploy?
- Are those applications compliant with the operating system deployed?
- What other configuration issues exist (e.g., network services, browser services, application setup)?
- Will you be moving to a new Windows domain? Perhaps from Windows NT 4.0 to Windows Server 2003 and Active Directory?
- Would you like to leave it to the hands of every single user to do the job? If so, how would that affect the amount of calls placed to the support desk? And what would the error rate then be? How many installation faults would you have to correct?

In every single organization we've ever worked with, the scenario of having the end user install and configure operating systems as well as applications and network services is considered a really bad idea. Although we have come across it a few times, the end result has been anarchy, chaos, a damaged IT infrastructure, and a hard lesson learned with all the bells and whistles imaginable.

Although some organizations employ super-users to perform different types of assistance to end users, most super-users are often end users themselves, not IT professionals. Don't expect super-users to be skilled to handle complex deployment operations.