

Mike Halsey
Windows documentation expert

Microsoft

Troubleshooting Windows[®] 7

INSIDE OUT

- The ultimate, in-depth reference
- Hundreds of timesaving solutions
- Supremely organized, packed with expert advice

Includes
YOUR BOOK—ONLINE!

See back

Microsoft

Troubleshooting Windows® 7 Inside Out

Mike Halsey

Published with the authorization of Microsoft Corporation by:
O'Reilly Media, Inc.
1005 Gravenstein Highway North
Sebastopol, California 95472

Copyright © 2010 Mike Halsey.

Complying with all applicable copyright laws is the responsibility of the user. All rights reserved. Without limiting the rights under copyright, no part of this document may be reproduced, stored in or introduced into a retrieval system, or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise), or for any purpose, without express written permission of O'Reilly Media, Inc.

Printed and bound in the United States of America.

1 2 3 4 5 6 7 8 9 M 5 4 3 2 1 0

Microsoft Press titles may be purchased for educational, business or sales promotional use. Online editions are also available for most titles (<http://my.safaribooksonline.com>). For more information, contact our corporate/institutional sales department: (800) 998-9938 or corporate@oreilly.com. Visit our website at microsoftpress.oreilly.com. Send comments to mspinput@microsoft.com.

Microsoft, Microsoft Press, ActiveX, Excel, FrontPage, Internet Explorer, PowerPoint, SharePoint, Webdings, Windows, and Windows 7 are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. Other product and company names mentioned herein may be the trademarks of their respective owners.

Unless otherwise noted, the example companies, organizations, products, domain names, email addresses, logos, people, places, and events depicted herein are fictitious, and no association with any real company, organization, product, domain name, email address, logo, person, place, or event is intended or should be inferred.

This book expresses the author's views and opinions. The information contained in this book is provided without any express, statutory, or implied warranties. Neither the author, O'Reilly Media, Inc., Microsoft Corporation, nor their respective resellers or distributors, will be held liable for any damages caused or alleged to be caused either directly or indirectly by such information.

Acquisitions and Development Editor: Kenyon Brown

Production Editor: Adam Zaremba

Editorial Production: Octal Publishing, Inc. and Custom Editorial Productions, Inc.

Technical Reviewer: Todd Meister

Indexing: Ginny Munroe

Cover: Karen Montgomery

Illustrator: Robert Romano

978-0-735-64520-2

Chapter 18:	Where to Find More Help and Support	289
	Windows Help	289
	Third-Party Software	289
	Sisoftware Sandra Utilities	289
	Windows Sysinternals	290
	Zinstall zPOD	290
	GoToAssist	290
	SpinRite	291
	Windows Memory Diagnostic	291
	Norton Ghost	291
	Acronis True Image	291
	Paragon Partition Manager	291
	Acronis Disk Director Suite	292
	Third-Party Websites	292
	Tom's Hardware	292
	Tech PC Forums	292
	Computing.net	292
	How-To Geek	292
	Annoyances.org	293
	Gibson Research	293
	ATI Support	293
	nVidia Support	293
	MSDN Diagnostics	293
	Within Windows	293
	The Long Climb	294
	Summary	294
Chapter 19:	Diagnosing Hardware Problems	295
	PC Hardware Guide	295
	Desktop PC Case	295
	Power Supply	295
	Motherboard	296
	Processor	297
	Memory	298
	Hard Disk	298
	Optical Drive	300
	Graphics Card	300
	Expansion Card(s)	301
	Fans	301
	Keyboards and Mice	301
	Laptops, Netbooks, and All-in-One PCs	301
	Safe Working	304
	Is Everything Plugged In?	305
	Minimal Hardware Boot	306
	Resetting the BIOS	307
	Jump-Starting Your PC	309
	Summary	310

Part 4: Disaster Recovery	311
Chapter 20: Windows and Data Recovery Tools	313
You Did Back It Up, Didn't You?!	313
Restoring Windows and Data from a Backup	313
Data Restore Through Over-the-Top Reinstall	315
RAID Drives	318
Summary	318
Chapter 21: Restoring from Another PC	319
Restoring a Windows Image on Another PC	319
zPOD	320
Restoring Windows File by File	320
Restoring Your Data by Using Another PC	321
Summary	324
Chapter 22: Linux: An Operating System on a Disc	325
System or Data Restore Using Another Operating System	325
Useful Software in Linux	330
Remote Desktop	330
System Monitor	331
System Testing	332
CD and DVD Burning in Linux	333
Compatible Linux Operating Systems to Run from a Disc	334
Ubuntu	334
Other Variants of Linux	335
Creating a Linux Installation Disc or Pen Drive	335
Summary	336
Chapter 23: Third-Party Rescue Tools and Services	337
Zinstall and zPOD	337
GRC SpinRite	341
Other Third-Party Tools	344
O&O Disk Recovery	344
Ashampoo WinOptimizer	344
Other Third-Party Services	344
Summary	345
Chapter 24: When You Can't Recover Data	347
Encrypted File System	347
Setting Up EFS	348
Restoring an EFS Key	352
Turning EFS Off	354
EFS Certificates	354
Smart Cards and EFS Certificates	356
File Encryption Certificate Manager	359

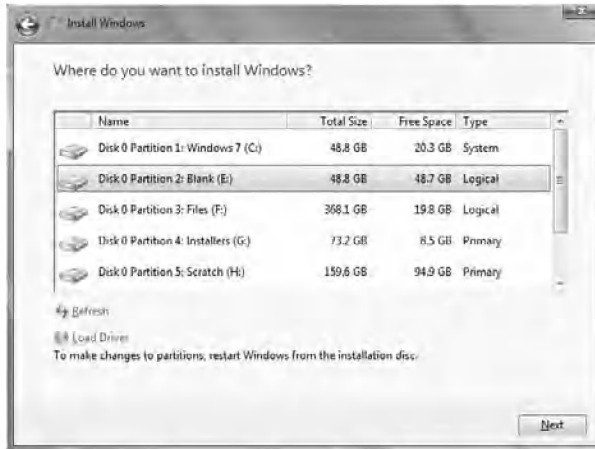


Figure 1-1 Creating and choosing a hard disk and partition for Windows 7 during setup

Keeping Your Installation of Windows XP or Windows Vista

If you really *must* keep your Windows XP or Windows Vista installation, you have two options. First, if you have a spare partition or hard disk large enough to accommodate Windows 7 on your computer, you could install Windows 7 there and create a **dual-boot** system where you can choose at startup which operating system you want to run.

However, many people find this setup clunky and want to be able to use both systems simultaneously. Certain software, such as **Zinstall**, can help. This software will turn your previous operating system into a virtual machine that will run in a window on your Windows 7 desktop. You need a large hard disk or partition for this since you will essentially have two operating systems installed.

Note

You can get Zinstall at www.zinstall.com.



Figure 18-1 Sissoftware Sandra utilities

Windows Sysinternals

www.sysinternals.com

Windows Sysinternals is a suite of tools and applications from Microsoft that help you manage, troubleshoot, and diagnose your Windows systems and applications. These extensive tools provide huge amounts of detail about your PC when troubleshooting problems. However, some of these tools are quite complex and are designed for experienced computer users.

Zinstall zPOD

www.zinstall.com

Zinstall zPOD is an excellent software package that enables you to turn your copy of Windows and all of your software into a virtual machine that can be stored on a removable hard disk or even a USB pen drive. You can then use this virtual machine on any PC. This means you can always have your copy of Windows and your programs (perhaps even your files) with you whenever you need them.

GoToAssist

www.gotoassist.com

GoToAssist is software that performs the same functions as Windows Remote Desktop and Windows Remote Assistance but offers a few additional functions for serious technical support. Most notably, it allows you to restart the remote computer (which can be essential when performing some support functions), and it runs on and from Apple Mac computers.

INSIDE OUT

Can you run Windows 7 from one PC on another computer?

You can run a Windows installation from one PC on another only if the motherboards of both computers match. Any difference between the two will result in a Blue Screen of Death (BSOD), and Windows will not start.

Although you can restore a copy of Windows on another PC, only do so if the host PC is identical to the one you have removed the hard disk from, for example, if they are from the same business environment.

zPOD

Although you cannot run a Windows 7 installation on a PC with a different hardware specification from the original, you can run it in a virtual machine. US-based company **Zinstall** has developed a piece of software called **zPOD** that allows you to create a virtual machine out of any Windows installation. The virtual machine you create will also include all of your installed programs. This installation can be loaded onto a USB disk drive or even a pen drive (also known as a thumb drive) and run on any PC, regardless of the installed hardware.

zPOD is available from www.zinstall.com. You can find out more about this software in Chapter 23, “Third-Party Rescue Tools and Services.”

Restoring Windows File by File

In Chapter 4, “Backup and Restore,” I described how Windows Backup encrypts files so they can’t be read unless you restore them, discouraging some people from using this feature. Windows Complete PC Backup and third-party solutions from Symantec and Acronis do the same thing.

Many people find it more useful to boot into another operating system, such as a Linux disc (see Chapter 22, “Linux: An Operating System on a Disc”), and create a file-by-file backup copy of Windows on another hard disk or partition.

This approach has many advantages when it comes to restoring a malfunctioning operating system. For instance, you can copy back only the driver store folders or the registry files if they are causing the problem. This means that you can restore all of your critical operating system files, leaving settings and programs intact. Or you could replace only the files for a faulty program.

zPOD

zPOD works in the same way as Zinstall, but it allows you to copy the VM it creates to an external USB hard disk or even to a pen drive and run Windows from that device on any other computer.

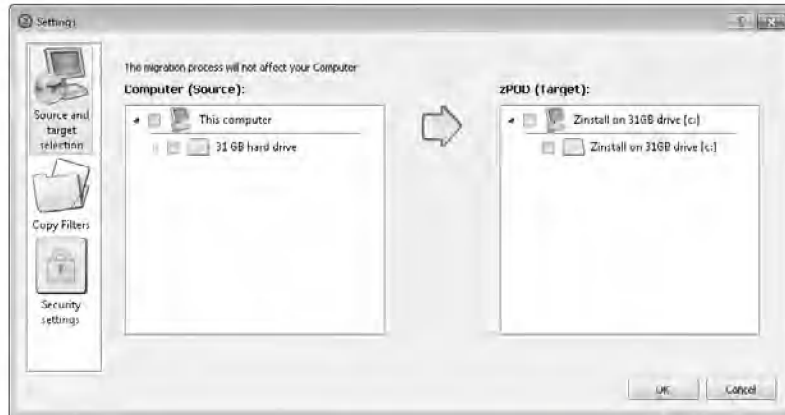
Both programs operate in an incredibly simple way by allowing you to create a VM with a single click. They automatically search for your installed operating systems and then enable you to quickly and easily choose a destination. Both software packages will work with any version of Windows, including Windows 7, and can even rescue a copy of Windows from a dead PC.

To rescue a copy of Windows 7 from a dead PC, follow these instructions.

1. Plug the hard disk from the dead PC into another computer. Remember to make sure both computers are turned off and disconnected from the electrical outlet before working inside the case.
2. Boot the working computer into the copy of Windows that's installed on it.
3. Install the Zinstall or zPOD software on the working PC, and run it.



4. By default, Zinstall or zPOD will find the main, running copy of Windows. To point the software toward the copy of Windows on the imported hard disk, press Advanced.



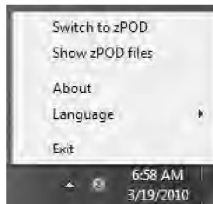
5. You can choose to omit certain file types. By default, Zinstall and zPOD exclude any files in the Users folder. Indicate whether to include or omit other files in the Copy Filters panel of the Advanced settings window.



6. zPOD uses 256-bit encryption to secure the VM so you can carry it around with you, safe in the knowledge that only you can access this copy of Windows and your programs. Activate this option by setting up a password in the Security Settings panel of the Advanced settings window.



7. It could take several hours for Zinstall or zPOD to create the VM. When the process is complete, a utility for running the VM appears.



INSIDE OUT

Zinstall or zPOD: Which is right for you?

If you intend to use the VM only on the PC that you create it on, then Zinstall will do, since it creates the VM to run on the computer where it is created. Use zPOD if you want to use your virtual copy of Windows 7 on other computers, too.

The single biggest advantage of zPOD and Zinstall is continuity of productivity. Simply put, this means that, as long as there is a spare computer available that you can use, you will always be able to keep working.

Although you can't use Complete PC Backup, you can use other disk imaging utilities, such as Norton Ghost or Acronis True Image (see Chapter 18, "Where to Find More Help and Support," for more details) to create an image of the rescued copy of Windows 7. You might also be able to use a third-party tool to rescue programs from the damaged Windows 7 installation that you do not have the original installers for.