

# Windows Troubleshooting Series



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# Windows Installation and Update Troubleshooting



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## ***Windows Installation and Update Troubleshooting***

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# About the Authors



**Chris Rhodes** is a Microsoft MVP (Most Valuable Professional) awardee and technical expert. Over nearly two decades as a Microsoft Certified Trainer, he has taught Windows technologies to thousands of students, taking them to certification level and beyond. Outside of the classroom,

Chris has been involved with numerous projects, including consulting for a variety of customers, and also as a subject matter expert for Microsoft on several projects. In his spare time, Chris can often be found attending and speaking at conferences, such as TechEd and MCT and MVP events. Chris is also a founding member of the Windows User Group in the United Kingdom, where he regularly presents with a passion on topics around Windows.



**Andrew Bettany** is a Microsoft Most Valuable Professional (MVP), recognized for his Windows expertise, and author of several publications including Windows exam certification prep and Microsoft official training materials.

Managed the IT Academy at the University of York, UK for 8 years, and now focuses his time training and writing. As a Microsoft Certified Trainer, Andrew delivers learning and consultancy to businesses on a number of technical areas including Windows deployment and troubleshooting.

He has created and manages the IT Masterclasses series of short intensive technical courses, found at [www.itmasterclasses.com](http://www.itmasterclasses.com) and run through his own training company, Deliver IT Training Ltd.

Passionate about learning and helping others, he frequently donates his time to work with Microsoft. He is a frequent speaker and proctor at TechEd conferences worldwide. In 2011 he delivered a “train the trainer” class in earthquake-hit Haiti to help the community rebuild their technology skills, and he returned in November 2013 to deliver a second bootcamp.

Andrew is very active on social media and can be found on LinkedIn, Facebook, and Twitter. He lives in a village just outside of the beautiful city of York in Yorkshire, UK.

# About the Technical Reviewers



**Dustin Harper** is an IT professional for a large winery in the United States. He volunteers his time and knowledge among various Microsoft technologies, both in person and online. He was first awarded the Microsoft Most Valuable Professional (MVP) award in 2014. He is active on his website ([MSTechpages.com](http://MSTechpages.com)), Microsoft Answers, and other tech forums. He also has several industry certifications, including Microsoft Certified Professional (MCP).



**Zeshan Sattar** is Head of Curriculum Development at Agilisys Arch, an Apprenticeships Training Provider in the United Kingdom. He is responsible for devising the training and certification curriculum for apprentices between 16 and 24 years old. This includes a diverse range of topics across the infrastructure and development tracks. He has delivered training to audiences across the world, both in person and via online platforms. Zeshan has also worked and spoken at a number of Microsoft events, including Microsoft Ignite and TechEd.

# Windows Troubleshooting Series

When something goes wrong with technology, it can seem impossible to diagnose and repair the problem, and harder still to prevent a recurrence. In this series of books, we'll take you inside the workings of your devices and software and teach you how to find and fix problems using a simple step-by-step approach that helps you understand the cause, the solution, and the tools required.

Series Editor  
Mike Halsey, MVP



Mike Halsey is a Microsoft MVP (Most Valuable Professional) awardee since 2011, the author of more than ten books on Microsoft Windows, and a teacher of many years. He understands the need to convey subjects that can sometimes be complex in clear and non-intimidating ways.

The Windows Troubleshooting Series is, he feels, a great example of how quality help, support, and tutorials can be delivered to individuals of all technical abilities. He hopes you enjoy reading this and many other books in this series, both now and for years to come.

# Introduction

Nearly all PCs purchased contain a version of Microsoft Windows that has been pre-installed by the vendor or manufacturer. The vast majority of Windows users will use the original operating system for the lifetime of the device. Microsoft has always allowed you to change and modify the PC configuration, adding or removing components and allowing users to re-install or change the version of Windows to another version that you may have. This flexibility is one of the reasons that the PC and Windows became very popular to business customers and PC enthusiasts.

Virtualization tools such as Hyper-V allow you to test, evaluate, and use multiple instances of the same or different Windows installation on a single device. For machines that do not support virtualization, or when a user wants the option to choose the version of Windows they want to use as the host, a user can also create multi-boot scenarios where the device has multiple operating systems installed and the user is required to choose the host operating system at boot time.

With Windows XP no longer being supported by Microsoft (since April 8, 2014), this book will focus on the technologies available for the installation, upgrading, and deployment of Windows post-Windows XP. Some tools and concepts used during installation and upgrading have remained relatively static since Windows Vista, such as the WAIK, Sysprep, and the WIM format, but many have been improved upon and expanded. There are plenty of new tools that have been introduced recently including the Windows Assessment and Deployment Kit (ADK), Windows Imaging and Configuration Designer (Windows ICD), Refresh, and Reset, which offer a variety of options when considering an in-place upgrade or new installation of Windows.

If you are upgrading from one version of Windows to a newer version, or upgrading the edition of the same Windows version, the process has become easier and can be fully automated, with all your files and settings optionally being preserved during the upgrade.

Within corporate environments, you are able to use a variety of deployment tools, such as Windows Pre-installation Environment (Windows PE), Deployment Image Servicing and Management (DISM), Windows System Image Manager (Windows SIM), Microsoft Deployment Toolkit (MDT), Windows Deployment Services (Windows DS), and System Center 2012 Configuration Manager (SCCM). New and updated methodologies, including Refresh, Provisioning, and Migration, allow deployments to be quicker, more efficient, and more cost effective.

The threat of malware attacks continues to increase, aiming to disrupt or exploit security vulnerabilities and access your business or personal data and your bank account. You must ensure that your systems remain fully patched and updated. We will discuss Windows Update and review troubleshooting scenarios where a bad update needs to be blocked. Windows Server Update Services (WSUS) offers enterprises the ability to control and scale the approval of updates, and the new peer sharing of updates within Windows 10 allows updates to be rapidly deployed across the network to clients.

## ■ INTRODUCTION

More devices are connected to the Internet than ever before, and working anywhere, using either company-owned devices or BYOD, is increasingly popular. The cloud-based Microsoft Intune dashboard offers IT administrators a desktop and mobile-device management solution that helps organizations manage and maintain devices, both those that are decentralized and those based within the office. Intune is included as part of Microsoft's Enterprise Mobility Suite.