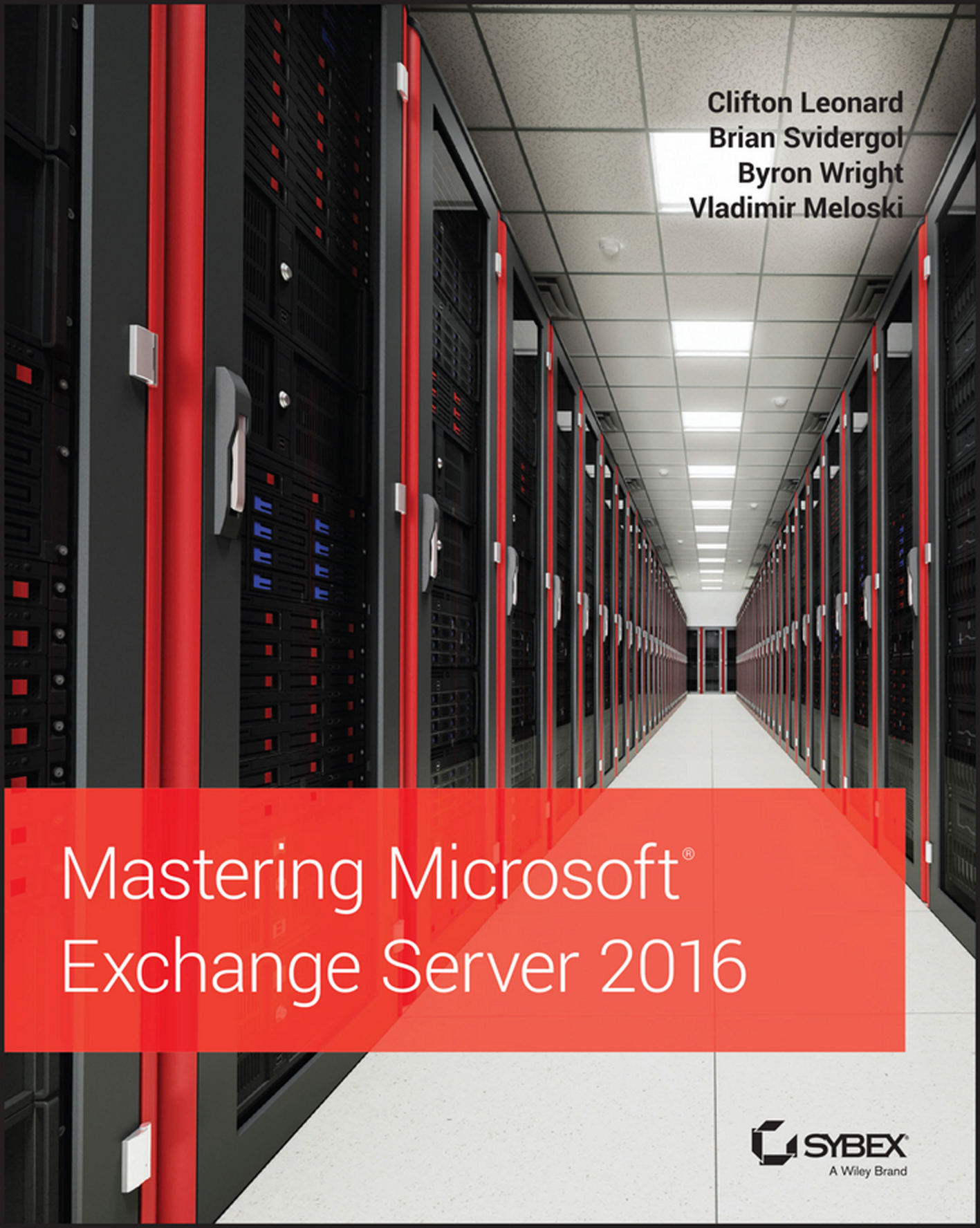


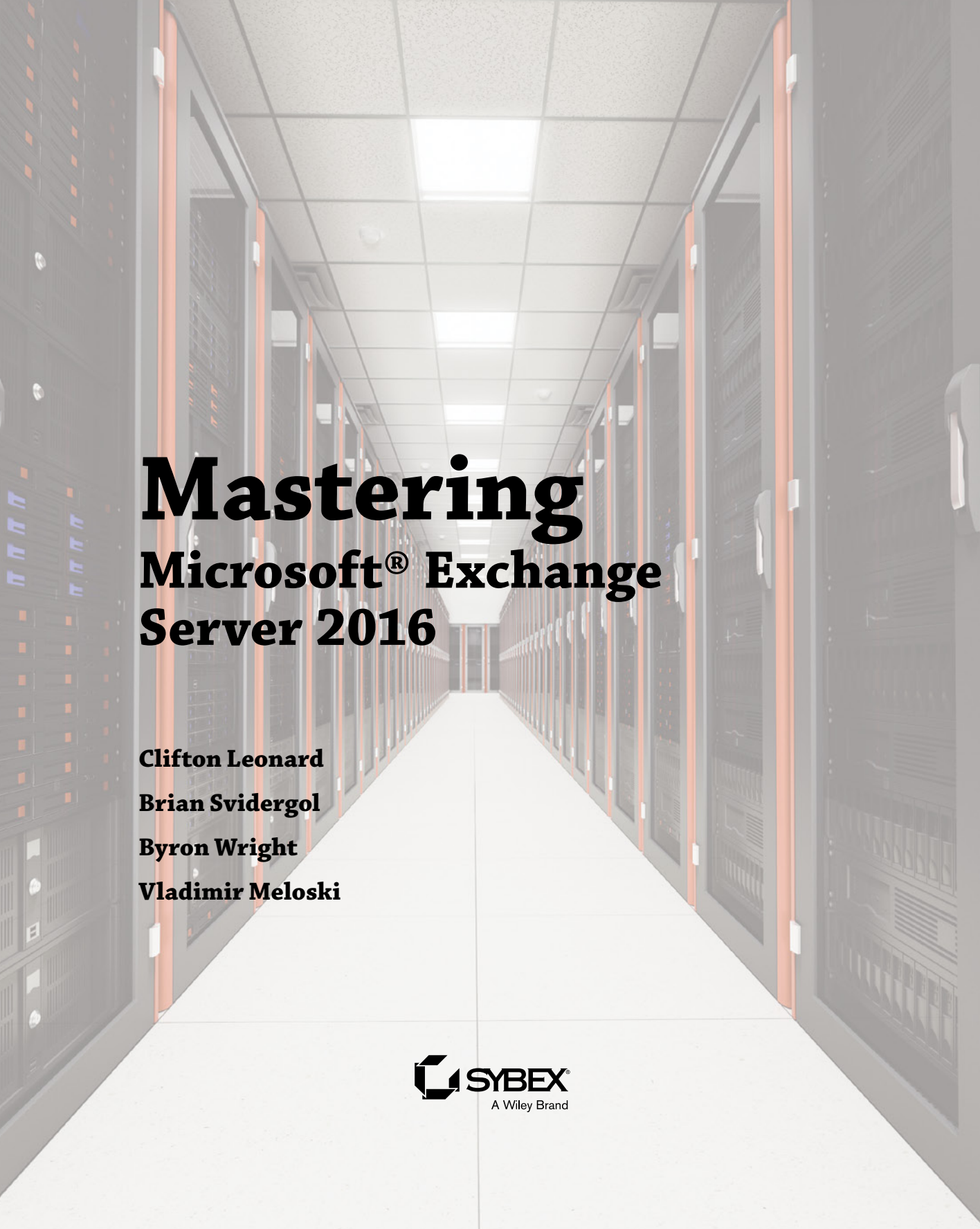


Clifton Leonard
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Vladimir Meloski

Mastering Microsoft® Exchange Server 2016



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This book is dedicated to my loving, gorgeous wife, Marie, and to my incredible inspirations Pierce, Treyden, Gabrielle, Cheyenne, Taylor, Zoe, and Talon. Thank you for enduring all my late nights and continuously encouraging me through this journey. I love you all!

—Clifton Leonard

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—Brian Svidergol

I dedicate this book to my parents who unwittingly put me on the path to working with technology by indulging me in my youth. Who knew buying a Commodore VIC-20 would get it all started? I am thankful for that and your support in many other ways over the years.

—Byron Wright

To my loving family who always supports me.

—Vladimir Meloski

Acknowledgments

Thank you once again, Microsoft, for a great release of Exchange Server. This is now the eighth major release of the well-known premier messaging system. In this release, we can see the effort and ingenuity come together in solving customer problems to create a truly superior product. Congratulations!

As the team that is working on this book completes the final steps required to send it to the printer, I continue to bring some real-world expertise into the content. I have deployed several Exchange Server 2016 infrastructures to date, but this product is so vast and so broad that I continue to find design options, best practices, and architecture recommendations on a daily basis. I'm pretty sure that I will be updating the content up to the last minute!

When I was approached to take on this book, several months before Exchange Server 2016 was about to release to manufacturing, my reaction was, "What about David and Jim?" David Elfassy authored the previous edition and has been an invaluable contributor to the Microsoft, and more specifically Exchange Server, community. Prior to David, Jim McBee authored three previous editions of this book and has been the pillar of the *Mastering Exchange Server* series. I consider it to be a true honor to take over for David Elfassy and Jim McBee as the lead author for this book, and I hope that this edition has adequately followed through on their traditions.

Throughout the book, we have tried to keep the tone and language similar to what was used in the previous editions of this book, so if you are familiar with both of these men's writing style, you should find comfort in these pages. In addition, we have removed some of the introductory technical information from previous editions, to reflect the depth of initial experience of the readers.

Taking on the responsibility of a 816-plus-page manual is no simple task and not one that can be undertaken by only one person. Along the way, I have invited several contributors to this effort. Their knowledge and expertise have added incredible value to this book. Having written anywhere from several paragraphs to complete chapters, Brian Svidergol, Byron Wright, and Vladimir Meloski are Exchange Server gurus who have provided key content for this book. These men are well respected within the Exchange Server community and are authors of Microsoft Official Curriculum, including Exchange Server 2016. They have been great contributions to this effort. Thank you!

There is also a man who has kept us all honest and has been the gatekeeper for technical accuracy in this book, and he has helped revise a couple of chapters more substantially. Joseph Nguyen agreed to take on the responsibility of technical reviewer for this book and has done a formidable job. I consider it an honor to have worked with him! Joseph, thank you!

The great folks at Wiley have been patient beyond belief when it comes to deadlines, content, and outline changes as well as our ever-changing list of contributors. They include acquisitions editor Ken Brown, developmental editor Kelly Talbot, and production editor Athiyappan Lalith Kumar.

And a special acknowledgment to those in my daily life, my father, DC Leonard; my mother, Lynette Leonard; my sister, Jaena Poppe; and my brothers, Jerry, Adam, and Jeff: thank you for always being supportive of all my endeavors.

—Clifton Leonard

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Clifton Leonard, MCSE: Exchange Server, has more than 25 years' experience in the IT industry as an engineer, architect, consultant, trainer, and author. Clifton has extensive experience consulting on Active Directory, Exchange Server, Lync and Skype for Business Server, Identity Management, Office 365, and Azure cloud solutions. His clients include large energy corporations, K-12 schools, universities, technology manufacturers, financial institutions, the United States Air Force, and the Department of Defense. While Clifton cut his teeth on Microsoft Mail on Novell Netware and Exchange Server 5.0 on DEC Alpha, he has worked with every version of Exchange Server since then. He has also contributed as a subject matter expert to multiple Microsoft courses including Windows Desktop, Windows Server, Exchange Server, SharePoint Server, HyperV, Identity Management, Office 365, and Azure. Helping organizations migrate to the latest versions of Microsoft Exchange Server has always been a key focus of Clifton's consulting commitments.

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Joseph Nguyen is a senior consultant for Microsoft. He has 20 years of experience as a system administrator, messaging engineer, IT analyst, systems engineer, consultant, and trainer providing messaging, communications, and collaboration expertise for a wide range of corporations and institutions. Joseph coauthored *Exchange Server 2010 Administration: Real World Skills for MCITP Certification and Beyond* and *MCITP Self-Paced Training Kit (Exam 70-238): Deploying Messaging Solutions with Microsoft Exchange Server 2007*.

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Introduction

Thank you for purchasing (or considering the purchase of) *Mastering Exchange Server 2016*; this is the latest in a series of Mastering Exchange Server books that have helped thousands of readers to better understand Microsoft's excellent messaging system. Along the way, we hope that this series of books has made you a better administrator and allowed you to support your organizations to the best of your abilities.

When we started planning the outline of this book more than a year before its release, Exchange Server 2016 appeared to be simply a minor series of improvements over Exchange Server 2013. Of course, the further we explored the product, the more we found that was not the case. Many of the improvements in Exchange Server 2016 were major improvements (such as Outlook on the web) and sometimes even complete rewrites (such as in the case of the Client Access services role) of how the product worked previously.

Another challenge then presented itself. The market penetration of Exchange Server 2013 was fairly dominant, but we found that many organizations still run Exchange Server 2010. Therefore, we needed to explain the differences for not only Exchange Server 2013 administrators but also for the Exchange Server 2010 administrators. On the other hand, Exchange Server 2003 reached end-of-life on April 8, 2014. As a result, Microsoft no longer provides security updates, offers free or paid support options, nor provides updated online content such as KB articles for Exchange Server 2003. Organizations with Exchange Server 2003 deployed after April 8, 2014, are responsible for their own support of the product and accept the risk associated with the deployment.

We took a step back and looked at the previous editions of the book to figure out how much of the previous material was still relevant. Some of the material from the Exchange Server 2013 book is still relevant but needed updating. Some required completely rewriting chapters to cover new technologies introduced in Exchange Server 2016 or technologies that have since taken on more importance in deployments and management. We faced the challenge of explaining two management interfaces, Exchange Management Shell and Exchange Admin Center, as well as describing the new roles and features.

We started working with the Exchange Server 2016 code more than a year before we expected to release the book. Much of the book was written using the RTM code that was first made available in October 2015, but as we continued writing the book, we made updates based on changes introduced in Cumulative Update 1 (March 2016). So, you can safely assume when reading this

book that it is based on the latest bits of Exchange Server 2016 that released in late summer 2016. In writing this book, we had a few goals for the book and the knowledge we wanted to impart to the reader:

- ◆ We wanted to provide an appropriate context for the role of messaging services in an organization, outlining the primary skills required by an Exchange Server administrator.
- ◆ We wanted the reader to feel comfortable when approaching an Exchange Server environment of any size. The content in this book can assist administrators of small companies with only one server, as well as administrators who handle large Exchange Server farms.
- ◆ We wanted the skills and tasks covered in this book to be applicable to 80 percent of all organizations running Exchange Server.
- ◆ We wanted the book to educate not only “new to product” administrators but also those “new to version” administrators who are upgrading from a previous version.
- ◆ We wanted the book to familiarize administrators with Office 365 environments and the implementation of hybrid coexistence with on-premises Exchange Server deployments.
- ◆ We wanted to provide familiar references for administrators of previous versions, ensuring that Exchange Server 2010 and 2013 administrators can easily find equivalent solutions in Exchange Server 2016.

Microsoft listened to the advice of many of its customers, its internal consultants at Microsoft Consulting Services (MCS), Microsoft Certified Systems Engineers (MCSEs), Most Valuable Professionals (MVPs), Microsoft Certified Solutions Masters (MCSMs), and Microsoft Certified Trainers (MCTs) to find out what was missing from earlier versions of the product and what organizations’ needs were. Much of this work started even before Exchange Server 2016 was released.

Major Changes in Exchange Server 2016

This book covers the many changes in Exchange Server 2016 in detail, but we thought we would give you a little sample of what is to come in the chapters. As you can imagine, the changes are once again significant, considering the tremendous effort that Microsoft sinks into the Exchange Server line of products. Exchange Server is a significant generator of revenue for Microsoft and is also a foundational service for Office 365. Microsoft has every reason to continue improving this most impressive market leader of email and collaboration services.

The primary changes in Exchange Server 2016 since the latest release (Exchange Server 2013) have come in the following areas:

- ◆ Client access services have been integrated into the Mailbox server role, and the Client Access server role has been removed.
- ◆ Outlook Web App is now known as Outlook on the web, is optimized for tablets, and provides platform-specific experiences for smart phones.