

APPENDIX D

Reference URLs

This appendix includes a number of reference URLs associated with System Center 2012 Operations Manager (OpsMgr). URLs do change. Although the authors have made every effort to verify the references here as working links, there is no guarantee they will remain current. Sometimes the Wayback Machine (<http://www.archive.org/index.php>) can rescue you from dead or broken links. This site is an Internet archive, and it will take you back to an archived version of a site—sometimes.

These links are also available “live” at Pearson’s InformIT website with the online content for this book at <http://www.informit.com/store/system-center-2012-operations-manager-unleashed-9780672335914>, under the Downloads tab. Look for Appendix D, “Reference URLs.”

General Resources

A number of websites provide excellent resources for OpsMgr, as follows:

- ▶ A nice overview of System Center 2012 Operations Manager is in the February 2012 issue of *TechNet Magazine* at <http://technet.microsoft.com/en-us/magazine/hh825624.aspx>.
- ▶ Gartner Group placed Operations Manager 2007 R2 in the Leader’s or “Magic” quadrant for IT Event Correlation and Analysis in December 2010 (this quadrant was retired in 2011; you can get the 2010 report at http://www.idgconnect.com/view_abstract/7198/gartner-magic-quadrant-it-event-correlation-analysis). OpsMgr 2012’s application performance monitoring (APM) feature is in the Challenger’s quadrant for Application

IN THIS CHAPTER

- ▶ General Resources
- ▶ Microsoft’s OpsMgr Resources
- ▶ Blogs
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Performance Monitoring discussed at <http://www.gartner.com/technology/reprints.do?ct=120820&id=1-1BRNFO0&st=sg> and <http://innetworktech.com/wp-content/uploads/2012/08/2012-Magic-Quadrant-for-Application-Performance-Monitoring.pdf>.

- ▶ CRN names System Center 2012 to its annual Products of the Year list. See <http://www.crn.com/slide-shows/components-peripherals/240144534/the-2012-products-of-the-year.htm?pgno=9>.
- ▶ OpsMgr 2012 removes the root management server (RMS) feature. The RMS emulator is used to provide backward compatibility and support for legacy management packs. Read about the RMS emulator at
 - ▶ <http://blogs.catapultsystems.com/cfuller/archive/2012/01/11/what-does-the-root-management-server-emulator-rmse-actually-do-in-opsmgr-scom.aspx>
 - ▶ <http://scug.be/blogs/christopher/archive/2012/01/09/scom-2012-move-rms-emulator-role.aspx>
 - ▶ <http://blogs.technet.com/b/momteam/archive/2011/08/22/topology-changes-in-system-center-2012-operations-manager-overview.aspx>
- ▶ Kevin Greene presents an overview of APM at <http://kevingreeneitblog.blogspot.com/2012/03/scom-2012-configuring-application.html>. For additional readings on this feature, check out the following:
 - ▶ **System Center .NET application alerts versus events:** <http://blogs.technet.com/b/shawngibbs/archive/2012/04/13/system-center-net-application-alerts-vs-events.aspx>
 - ▶ **Custom APM rules for granular alerting:** <http://blogs.technet.com/b/momteam/archive/2012/01/23/custom-apm-rules-for-granular-alerting.aspx>
 - ▶ **Working with alerts:** <http://blogs.technet.com/b/momteam/archive/2011/08/23/application-monitoring-working-with-alerts.aspx>
 - ▶ **MMS 2012 – Digital MMS:** The Microsoft Management Summit (MMS) 2012 had many interesting sessions, follow the “Application Management” track for APM sessions at <http://www.mms-2012.com/digitalmms>.
 - ▶ **Microsoft TechNet—Monitoring .NET Applications:** Available at <http://technet.microsoft.com/library/hh212856.aspx>.
 - ▶ **VIACode blog on Application Monitoring:** VIACode Consulting LLC worked on the AVIcode product prior to its acquisition by Microsoft. After the acquisition, most of the employees relocated to Microsoft, although some stayed with VIACode to continue working with Microsoft as contractors and consultants. The blog is located at <http://viacode.com/blog>.
- ▶ Here’s another one on APM—Daniel Muscetta of the Operations Manager engineering team blogs about APM data trends at <http://blogs.technet.com/b/momteam/archive/2012/06/18/event-to-alert-ratio-reviewing-problems-and-understanding-trends-for-apm-data-in-opsmgr-2012.aspx>.

- ▶ Want to understand targeting? Check the article by Brian Wren at <http://blogs.technet.com/ati/archive/2007/05/14/targeting-rules-and-monitors.aspx>. Although written in the OpsMgr 2007 timeframe, it remains applicable for OpsMgr 2012. Steve Rachui discusses targeting as well at <http://technet.microsoft.com/en-us/magazine/2008.11.targeting.aspx?pr=blog>.
- ▶ The ReSearch This! management pack troubleshooting tool is hosted by System Center Central. It provides a way to quickly research OpsMgr alerts. You can download the management pack at <http://www.systemcentercentral.com/PackCatalog/PackCatalogDetails/tabid/145/IndexID/21716/Default.aspx>.
- ▶ Visio stencils for Operations Manager 2012 are available at <http://blogs.catapultsystems.com/lrayl/archive/2012/11/13/system-center-2012-operations-manager-2012-stencil.aspx> and <http://www.systemcentercentral.com/Downloads/DownloadsDetails/tabid/144/IndexID/96587/Default.aspx>.
- ▶ For a whitepaper on auditing using ACS and optimizing that experience with Secure Vantage, see <http://www.securevantage.com/security-auditing-with-microsoft-system-center-bridging-the-gap/>.
- ▶ Secure Vantage offers resources as free community downloads, available at <http://www.securevantage.com/download/>.
- ▶ Maarten Goet (System Center Data Center and Cloud Management MVP) has several ACS “deep dive” articles at System Center Central. Written in the OpsMgr 2007 timeframe, they are still applicable:
 - ▶ <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/13052/Default.aspx>
 - ▶ <http://systemcentercentral.com/BlogDetails/tabid/143/indexid/13112/Default.aspx>
- ▶ You can find an ACS disk and database planning calculator at <http://www.systemcentercentral.com/Downloads/DownloadsDetails/tabid/144/IndexID/7425/Default.aspx>. The calculator is also available through Appendix E, “Available Online.” Microsoft’s ACS sizing calculator is at <http://blogs.technet.com/b/momteam/archive/2008/07/02/audit-collection-acs-database-and-disk-sizing-calculator-for-opsmgr-2007.aspx>.
- ▶ Eric Fitzgerald (an original Microsoft ACS Program Manager) documents and demystifies ACS event transformation at <http://blogs.msdn.com/ericfitz/archive/2008/02/27/acs-event-transformation-demystified.aspx>.
- ▶ For information on configuring ACS to use certificate-based authentication, a good place to start is Clive Eastwood’s article at <http://blogs.technet.com/cliveeastwood/archive/2007/05/11/how-to-configure-audit-collection-system-acs-to-use-certificate-based-authentication.aspx>.
- ▶ <http://blogs.technet.com/b/neharris/archive/2011/03/22/acs-forwarders-and-high-availability-part-1.aspx> discusses ACS high availability.

- ▶ Satya Vel discusses how to edit company knowledge using Word 2010 at <http://blogs.technet.com/b/momteam/archive/2012/10/10/how-to-get-knowledge-editing-to-work-in-operations-manager-2012-with-office-2010.aspx>.
- ▶ When creating company knowledge, one of the required pieces of software is the Visual Studio 2005 Tools for Office Second Edition Runtime. This is available at <http://www.microsoft.com/downloads/details.aspx?FamilyID=F5539A90-DC41-4792-8EF8-F4DE62FF1E81&displaylang=en>. (Microsoft Word is also required.)
- ▶ <http://contoso.se/blog/?p=831> discusses using multiple gateway servers for automatic agent failover.
- ▶ Here are some additional resources regarding gateway servers:
 - ▶ <http://technet.microsoft.com/en-us/library/hh212823.aspx> discusses gateway server concepts.
 - ▶ Satya Vel gives 10 reasons to use a gateway server at <http://blogs.technet.com/b/momteam/archive/2008/02/19/10-reasons-to-use-a-gateway-server.aspx>.
- ▶ Read about chaining gateways at <http://blogs.technet.com/b/momteam/archive/2009/12/08/how-to-link-multiple-gateway-servers-together.aspx>.
- ▶ Mutual authentication takes one of two forms in Operations Manager—Kerberos or certificate authentication. <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/32926/Default.aspx> is Pete Zerger's master list of mutual authentication related errors. While written for OpsMgr 2007, there are only several new events in OpsMgr 2012, so it is still basically current.

Pete also has a three-part series on PKI and gateway scenarios here, updated for Operations Manager 2012:

- ▶ <http://www.systemcentercentral.com/BlogDetails/tabid/143/indexid/19101/Default.aspx>
- ▶ <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/19102/Default.aspx>
- ▶ <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/31342/Default.aspx>
- ▶ Walter Chomak, formerly of Microsoft Consulting Services, has updated his results on OpsMgr I/O considerations for System Center 2012 Operations Manager. Read about it at <http://blog.mobieussystems.com/bid/183789/IO-Reference-Model-for-SCOM-2012>.
- ▶ You will also want to read Satya Vel's article on network bandwidth utilization at <http://blogs.technet.com/momteam/archive/2007/10/22/network-bandwidth-utilization-for-the-various-opsmgr-2007-roles.aspx>. While written for OpsMgr 2007, the information is still applicable.
- ▶ A discussion of low-bandwidth scenarios is at <http://blogs.technet.com/b/momteam/archive/2007/08/31/low-bandwidth-scenarios.aspx>.

- ▶ Ready to dig into MP authoring? Check out Chapter 22, “Authoring Management Packs and Reports.” As the chapter discusses, you can still use the OpsMgr 2007 R2 Authoring console for MP authoring. Read Pete Zerger’s discussion of the OpsMgr 2007 R2 Authoring console at <http://www.systemcentercentral.com/Details/tabid/147/IndexID/24878/Default.aspx>. (You must be logged into System Center Central to download the article.)
- ▶ More information on management pack authoring is available at the AuthorMPs site at <http://blogs.technet.com/b/authormps/> and Brian Wren’s TechNet blog site at <http://blogs.technet.com/b/mpauthor/>.
- ▶ Check out the Management Pack University at http://74.52.12.162/~microsoft/conference_agenda.php?cid=19; this contains some great videos developed in the OpsMgr 2007 timeframe.
- ▶ Tools for MP authors include the following:

High-level comparison of the various options: <http://www.code4ward.net/main/Blog/tabid/70/EntryId/152/System-Center-2012-Operations-Manager-Authoring-Options.aspx>.

System Center Operations Manager 2007 R2 Authoring Resource Kit: <http://www.microsoft.com/downloads/details.aspx?FamilyID=9104af8b-ff87-45a1-81cd-b73e6f6b51f0&displaylang=en>.

Tool for creating your own customized dashboards: <http://blogs.technet.com/b/momteam/archive/2012/06/12/free-windows-server-2008-dashboards-for-opsmgr-2012-and-tool-to-help-create-your-own-customized-dashboards.aspx>.

OpsMgr Community Toolkit: A complete list of community-authored tools for OpsMgr is at <http://systemcentercentral.com/tools>. (Depending on when you view this site, some of the tools may only work with OpsMgr 2007.)

- ▶ Looking for community-authored management packs? For a complete list, see <http://www.systemcentercentral.com/mps>.
- ▶ http://www.systemcentercentral.com/tabid/63/tag/Pack_Catalog+MP_Catalog/Default.aspx is a collection of community-developed utilities and management packs.
- ▶ Brian Wren of Microsoft talks about programmatically creating groups at <http://blogs.technet.com/brianwren/archive/2008/11/18/programmatically-creating-groups.aspx>.
- ▶ Cameron Fuller writes about mass-creating computer groups with XML at <http://blogs.catapultsystems.com/cfuller/archive/2012/11/28/blastfromthepast-mass-creating-groups-via-xml-in-opsmgr-aka-fun-with-xml.aspx>.
- ▶ Read about how you can have explicit and dynamic members in a group at <http://blogs.catapultsystems.com/cfuller/archive/2012/01/07/a-quick-question-about-groups-in-opsmgr-scom.aspx>.

- Want to know how to combine a System.SnmpProbe and System.Performance.DeltaValueCondition module to calculate SNMP counter delta values? See Kris Bash's post at <http://operatingquadrant.com/2009/10/14/scom-combining-a-system-snmp-probe-and-system-performance-deltavaluecondition-modules-to-calculate-snmp-counter-delta-values/>.

- Looking for training? This is not an exhaustive list, but here are several places that offer courses on OpsMgr 2012:

Information on InFront Consulting Group's training is at <http://www.infrontconsulting.com/training.php>. Course offerings include migration from OpsMgr 2007, helping operators use the console to work with alerts, and a boot camp.

<http://learning.microsoft.com/Manager/Catalog.aspx?nav=trainingtype%3aClassroom+Training&qry=system+center+2012> will get you a listing of Microsoft-developed training for System Center 2012.

Training videos are available at <http://technet.microsoft.com/en-us/opsmgr/bb498237.aspx>. This page is updated as new material becomes available.

<http://technet.microsoft.com/en-us/video/ff832960?Category=System%20Center> includes a list of assorted System Center videos.

Other training videos and demos are available at <http://www.microsoft.com/events/series/technetmms.aspx?tab=webcasts&id=42365>.

The Microsoft Virtual Academy provides an overview of Operations Manager 2012 at <http://www.microsoftvirtualacademy.com/tracks/system-center-2012-operations-manager>.

Marnix Wolf, a contributor to this book, references various courses at <http://thoughtsonopsmgr.blogspot.com/2012/01/system-center-2012-training-buffet-now.html>.

There is also <http://www.kalliance.com/microsoft-it/scom12.htm>.

The System Center 2012 Private Cloud training videos are available for purchase at <http://www.cbtplanet.com/it-training/microsoft/scom-2012.htm>.

Source Solutions offers a five-day course on OpsMgr 2012 implementation and administration. See <http://www.sourcesolutionsco.com/current-courses/scom2012/> for information.

- *CIO Insight* documents the cost of downtime at <http://www.cioinsight.com/c/a/Infrastructure/IT-Downtime-Carries-a-High-Pricetag-448122/>.
- For a detailed guide about configuring SQL log shipping for OpsMgr, see <http://social.technet.microsoft.com/wiki/contents/articles/11372.configure-sql-server-log-shipping-guide-for-the-system-center-operations-manager-2007-r22012-operational-database.aspx>.

- ▶ Kevin Holman discusses recommended SQL maintenance for the OpsMgr databases at <http://blogs.technet.com/b/kevinholman/archive/2008/04/12/what-sql-maintenance-should-i-perform-on-my-opsmgr-databases.aspx>.
- ▶ <http://blogs.msdn.com/steverac/archive/2007/12/13/scom-2007-operational-and-datawarehouse-grooming.aspx> is a post by Steve Rachui discussing the `standard-datasetgroom` stored procedure in the data warehouse database to manually trigger grooming.
- ▶ An in-depth article on IOPS for the operational and data warehouse databases is at <http://blogs.technet.com/b/momteam/archive/2008/06/24/performance-iops-for-the-db-and-dw-in-opsmgr-2007.aspx>.
- ▶ To clean up clutter from the Monitoring pane of the Operations console, see Cameron Fuller's article at <http://blogs.catapultsystems.com/cfuller/archive/2011/05/11/quicktricks-decluttering-the-monitoring-pane-view.aspx>.
- ▶ Maintenance mode headaches? See Tim McFadden's GUI-based remote maintenance scheduler, available for download at <http://www.scom2k7.com/scom-remote-maintenance-mode-scheduler-20>.
- ▶ Tao Yang discusses his update of Steve Rachui's group maintenance mode script at <http://blog.tyang.org/2012/11/22/group-maintenance-made-powershell-script-updated/>. This update uses the OpsMgr software development kit (SDK) rather than the 2007 PowerShell snap-in, so the script works for both OpsMgr 2007 and 2012. For a PowerShell example of how to do this in 2012, see the "OpsMgr Shell" section.
- ▶ To enable the Windows Server 2008 physical disks counters, read Marnix Wolf's blog at <http://thoughtsonopsmgr.blogspot.com/2010/04/where-are-my-counters-for-windows.html>.
- ▶ If you're wondering how computer discovery works, see <http://blogs.technet.com/b/momteam/archive/2007/12/10/how-does-computer-discovery-work-in-opsmgr-2007.aspx>.
- ▶ To troubleshoot the discovery wizard, see the articles at <http://thoughtsonopsmgr.blogspot.com/2010/08/discovery-wizard-is-running-for-ever.html> and <http://go.microsoft.com/fwlink/?LinkId=128940>.
- ▶ To identify computers without an installed agent, see <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/94221/Default.aspx>, and then read about automating agent installation with PowerShell at <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/94248/Default.aspx>.
- ▶ Troubleshooting agent installation? Check these out:
 - ▶ **Troubleshooting installation of the System Center Operations Manager agent:** <http://support.microsoft.com/kb/2566152>
 - ▶ **Console-based agent deployment troubleshooting table:** <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/60047/Default.aspx>

- ▶ The OpsMgr 2012 agent has a new control panel applet that Kevin Holman discusses at <http://blogs.technet.com/b/kevinholman/archive/2011/11/10/opsmgr-2012-new-feature-the-agent-control-panel-applet.aspx>.
- ▶ Jonathan Almquist discusses when one should use Active Directory Integration in OpsMgr at <http://blogs.technet.com/b/jonathanalmquist/archive/2010/06/14/ad-integration-considerations.aspx>.
- ▶ How does Active Directory Integration work? See Steve Rachui's article at <http://blogs.msdn.com/b/steverac/archive/2008/03/20/opsmgr-ad-integration-how-it-works.aspx>.
- ▶ You should never close an alert on a monitor, unless it didn't auto close on its own. Read about this at <http://blogs.catapultsystems.com/cfuller/archive/2011/04/15/opsmgr-never-close-an-alert-for-a-monitor-%E2%80%93-the-exception-to-the-%E2%80%93Crule-of-the-monitor%E2%80%93.aspx>.
- ▶ Want to use SharePoint to view Operations Manager data? http://technet.microsoft.com/en-us/library/hh212924.aspx#bkmk_howtodeploytheoperationsmanagerwebpart discusses how to deploy the Operations Manager web part. You will also want to check out <http://www.scom2k7.com/how-to-view-scom-2012-dashboards-in-sharepoint-2010/>, where Tim McFadden discusses how to view OpsMgr 2012 dashboards in SharePoint 2010. Cameron Fuller discusses benefits of using SharePoint with Operations Manager at [http://blogs.catapultsystems.com/cfuller/archive/2012/08/16/the-top-5-benefits-of-combining-operations-manager-and-sharepoint-\[scom-sysctr-sharepoint\].aspx](http://blogs.catapultsystems.com/cfuller/archive/2012/08/16/the-top-5-benefits-of-combining-operations-manager-and-sharepoint-[scom-sysctr-sharepoint].aspx).
- ▶ For details on using web application availability monitoring to configure monitoring of web applications, see Marnix Wolf's article at <http://thoughtsonopsmgr.blogspot.com/2012/06/how-to-use-web-application-availability.html>, and the OpsMgr product team's article at <http://blogs.technet.com/b/momteam/archive/2012/05/31/using-the-web-application-availability-monitoring-to-monitor-web-applications-health.aspx>.
- ▶ Learn about dashboards from Dale Koetke at <http://blogs.technet.com/b/momteam/archive/2011/09/27/introducing-operations-manager-2012-dashboards.aspx>.
- ▶ How are OpsMgr dashboards different from reports? See <http://blogs.technet.com/b/momteam/archive/2011/11/10/how-are-opsmgr-2012-dashboards-different-from-reports.aspx>.
- ▶ The OpsMgr engineering team provides some Windows Server 2008 dashboards and a tool to help create your own customized dashboards at <http://blogs.technet.com/b/momteam/archive/2012/06/12/free-windows-server-2008-dashboards-for-opsmgr-2012-and-tool-to-help-create-your-own-customized-dashboards.aspx>.
- ▶ Several VMM dashboard views based on the new OpsMgr 2012 dashboard views were created by the *OpsMgr Unleashed* authoring team. These are described and are available for download from <http://opsmgrunleashed.wordpress.com/2012/07/13/>

free-opsmgr-2012-virtual-machine-manager-dashboards-from-the-opsmgr-unleashed-team-scom/. They are also available on the InformIT page for this book; see Appendix E for details.

- ▶ For examples of Live Maps and using them to display OpsMgr information, see
 - ▶ <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/75218/Default.aspx>
 - ▶ <http://blogs.catapultsystems.com/cfuller/archive/2010/09/14/taking-distributed-applications-to-the-next-level-with-savision-live-maps-%E2%80%93-part-2.aspx>
 - ▶ <http://blogs.catapultsystems.com/cfuller/archive/2011/10/11/opsmgr-2012-savision-amp-dashboards.aspx>
 - ▶ <http://blogs.catapultsystems.com/cfuller/archive/2011/04/28/quicktricks-getting-the-url-for-a-savision-live-map.aspx>
 - ▶ Savision has a gadget designed to provide state information, available as part of its Live Maps product at <http://www.savision.com/resources/blog/sneak-preview-live-maps-vista-gadget>
- ▶ Cameron Fuller writes about OpsMgr 2012 dashboards at <http://www.windowsitpro.com/article/system-center/dashboards-operations-manager-2012-141491> and <http://www.windowsitpro.com/article/systems-management/operations-manager-dashboards>.
- ▶ For some useful SQL queries to use with OpsMgr, see <http://blogs.technet.com/b/kevinholman/archive/2007/10/18/useful-operations-manager-2007-sql-queries.aspx> and <http://www.systemcentercentral.com/Downloads/DownloadsDetails/tabid/144/IndexID/86822/Default.aspx>.
- ▶ Generating reports with data can be challenging. Read some tips at <http://www.windowsitpro.com/article/microsoft-system-center-operations-manager-2007/10-system-center-operations-manager-reporting-tips-140603>.
- ▶ For ideas on how to make AEM reports more useful, consult these resources:
 - ▶ <http://contoso.se/blog/?p=537>
 - ▶ <http://blogs.technet.com/b/jimmyharper/archive/2009/02/21/aem-views-and-tables.aspx>
- ▶ Read how to optimize SQL Server 2012 for private cloud at <http://www.microsoft.com/sqlserver/en/us/solutions-technologies/hybrid-it/private-cloud.aspx>.
- ▶ Michael Pearson has an excellent article discussing SQL Server Reporting Services (SSRS) Recovery Planning, available online from the SQL Server Central community at <http://www.sqlservercentral.com/columnists/mpearson/recoveryplanningforsqlreportingservices.asp>. You must register with SQLServerCentral to view the full article.

- ▶ For information on the types of SQL maintenance to perform on your OpsMgr databases, check Kevin Holman's posting at <http://blogs.technet.com/kevinholman/archive/2008/04/12/what-sql-maintenance-should-i-perform-on-my-opsmgr-databases.aspx>.
- ▶ Here's some information on setting up SQL Server clusters:
 - ▶ <http://msdn.microsoft.com/en-us/library/ms179530.aspx>.
 - ▶ <http://blogs.technet.com/pfe-ireland/archive/2008/05/16/how-to-create-a-windows-server-2008-cluster-within-hyper-v-using-simulated-iscsi-storage.aspx> discusses creating a virtual cluster on Windows 2008/Hyper-V.
- ▶ Coauthor Cameron Fuller wrote a (humorous) piece on the Clustering MP at <http://www.systemcentercentral.com/BlogDetails/tabid/143/CategoryId/51752/Default.aspx>, emphasizing major steps to remember when working with clustered resources in OpsMgr.
- ▶ For a discussion of agent discovery hanging after enabling the SQL Broker Service, see Steve Rachui's posting at <http://blogs.msdn.com/steverac/archive/2009/08/30/opsmgr-agent-discovery-hanging-after-enabling-broker-service.aspx>.
- ▶ Have an interesting experience when trying to delete an agentless system? This happens if you first install agentless and then install as a managed agent without first deleting the agentless configuration. This information, written for OpsMgr 2007 but still applicable, is available at <http://opsmgrunleashed.wordpress.com/2007/06/04/unable-to-delete-agentless-systems/>.
- ▶ For information on debugging the infamous alert "Script or Executable Failed to Run," see <http://blogs.catapultsystems.com/cfuller/archive/2012/11/28/blastfrom-thepast-debugging-the-script-or-executable-failed-to-run-alert.aspx>.
- ▶ Steve Rachui has a two-part series on understanding monitors:
 - ▶ <http://blogs.msdn.com/steverac/archive/2009/08/30/understanding-monitors-in-opsmgr-2007-part-i-unit-monitors.aspx>
 - ▶ <http://blogs.msdn.com/steverac/archive/2009/09/06/understanding-monitors-in-opsmgr-2007-part-ii-aggregate-monitors.aspx>
- ▶ Trying to put systems into maintenance mode? Chapter 23, "PowerShell and Operations Manager," includes a PowerShell solution for this. Several individuals have also done some work to help you put computers into maintenance mode in batch. These were written during the OpsMgr 2007 timeframe, so require some tweaking for OpsMgr 2012.
 - ▶ Clive Eastwood's command-line tool, documented at <http://blogs.technet.com/cliveeastwood/archive/2007/09/18/agentmm-a-command-line-tool-to-place-opsmgr-agents-into-maintenance-mode.aspx>.
 - ▶ Andrzej Lipka enhances Clive's approach using the PsExec Tool. See <http://blogs.technet.com/alipka/archive/2007/12/20/>

opsmgr-2007-putting-computers-in-maintenance-mode-remotely.aspx. PsExec is available at <http://technet.microsoft.com/en-us/sysinternals/bb897553.aspx>.

- ▶ For tips on OLE DB queries, see
 - ▶ <http://www.systemcentercentral.com/PackCatalog/PackCatalogDetails/tabid/145/IndexID/19773/Default.aspx>
 - ▶ Kevin Holman provides an example of monitoring a non-Microsoft database at <http://blogs.technet.com/b/kevinholman/archive/2012/03/19/opsmgr-how-to-monitor-non-microsoft-sql-databases-in-scom-an-example-using-postgre-sql.aspx>
 - ▶ Maarten Damen provides an example of how to monitor an Oracle database with an OLE DB watcher at <http://www.maartendamen.com/2010/09/monitor-an-oracle-database-with-a-scom-oledb-watcher/>
- ▶ To learn about OpsMgr key performance indicators, read Cameron Fuller's article at <http://www.windowsitpro.com/article/microsoft-system-center-operations-manager-2007/Operations-Manager-Key-Performance-Indicators-128969>.
- ▶ Kevin Holman discusses self-tuning thresholds (STTs) and how they are created and tuned correctly at <http://blogs.technet.com/b/kevinholman/archive/2008/03/19/self-tuning-thresholds-love-and-hate.aspx>.
- ▶ Recalculating health does not work for more than 95% of all monitors in Operations Manager 2012. This is due to how on-demand recalculation works. To understand on-demand detection, read Boris Yanushpolsky's article at http://blogs.msdn.com/b/boris_yanushpolsky/archive/2008/06/03/on-demand-detection.aspx.
- ▶ Read about unit monitors at <http://blogs.msdn.com/b/steverac/archive/2009/08/30/understanding-monitors-in-opsmgr-2007-part-i-unit-monitors.aspx>. Steve also writes about aggregate rollup monitors; see <http://blogs.msdn.com/b/steverac/archive/2009/09/06/understanding-monitors-in-opsmgr-2007-part-ii-aggregate-monitors.aspx>.
- ▶ To find out if an alert was created by a rule or a monitor, see <http://blogs.catapult-systems.com/cfuller/archive/2012/01/30/quicktrick-find-alerts-from-a-monitor-or-rule-in-opsmgr-2012-scom.aspx>.
- ▶ If you can't get your reports to send email subscriptions, check out <http://blogs.msdn.com/ketaanhs/archive/2005/09/05/461055.aspx> on how to configure the PermittedHosts entry in the RSReportServer.config file.
- ▶ The Alert Forward management pack is available from <http://www.systemcentercentral.com/tabid/145/indexId/11518/Default.aspx>.
- ▶ Read about how to use custom groups to simplify the Operations console at <http://opsmgrunleashed.wordpress.com/2009/08/28/how-to-use-customized-groups-to-simplify-the-opsmgr-console-for-server-owners-%E2%80%93-using-custom-groups-with-subscriptions-one-off-notifications/>.

- ▶ To enable instant messaging in OpsMgr 2012, see <http://opsmgrunleashed.wordpress.com/2012/02/24/enabling-instant-messaging-notifications-in-system-center-2012-operations-manager/>.
- ▶ Check out <http://thoughtsonopsmgr.blogspot.com/2010/06/sending-out-sms-messages-with-scom.html> for the steps to get SMS functional. System Center Central also has a series of articles at <http://www.systemcentercentral.com/tabid/143/IndexID/60339/Default.aspx>.
- ▶ Kevin Holman discusses subscriptions in OpsMgr 2012 at <http://blogs.technet.com/b/kevinholman/archive/2012/04/28/opsmgr-2012-configure-notifications.aspx>.
- ▶ Want to create a web application synthetic transaction? For registry changes to use the web recorder on 64-bit Windows systems, see <http://social.technet.microsoft.com/wiki/contents/articles/1307.scom-howto-use-the-webrecorder-on-windows-64bit.aspx>.
- ▶ To troubleshoot web recorder issues, see <http://blogs.technet.com/b/kevinholman/archive/2009/06/19/web-application-recorder-r2-the-recorder-bar-missing-in-ie.aspx> and <http://blogs.technet.com/b/kevinholman/archive/2008/11/15/recording-a-web-application-browser-session-driving-you-crazy.aspx>.
- ▶ To learn about global service monitoring, newly available with SP 1, see <http://blogs.technet.com/b/momteam/archive/2012/06/19/global-service-monitor-for-system-center-2012-observing-application-availability-from-an-outside-in-perspective.aspx>.
- ▶ Interested in writing reports? Here are ways to get started:
 - ▶ **Building reports with Report Builder by Stefan Koell:** <http://www.code4ward.net/main/Blog/tabid/70/EntryId/81/How-to-use-Report-Builder-to-create-custom-reports-in-SCOM-2007.aspx>.
 - ▶ **Building reports in SQL Server Business Intelligence Development Studio by Oskar Landman:** <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/60805/Default.aspx>.
 - ▶ **Building linked reports in OpsMgr 2007 R2 by Pete Zerger:** <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/64107/Default.aspx>.
 - ▶ **Reporting links for creating custom reports by Stefan Stranger:** http://blogs.technet.com/b/stefan_stranger/archive/2011/01/27/opsmgr-custom-reporting-links.aspx.
- ▶ David Wallis wrote an application allowing OpsMgr administrators to acknowledge and resolve alerts via email—download it at <http://www.systemcentercentral.com/Downloads/DownloadsDetails/tabid/144/IndexID/44253/Default.aspx>.
- ▶ <http://www.systemcentercentral.com/Details/tabid/147/IndexID/35783/Default.aspx> discusses using Process Monitor to identify which discovery and monitoring script is using more resources than expected.

- ▶ See <http://social.technet.microsoft.com/wiki/contents/articles/6938.monitoring-and-modeling-shape-reference-for-visio-management-pack-designer.aspx> for the monitoring and modeling shape reference for the Visio MP Designer.
- ▶ Kevin Holman documents custom information that can be added to alert descriptions and notifications at <http://blogs.technet.com/b/kevinholman/archive/2007/12/12/adding-custom-information-to-alert-descriptions-and-notifications.aspx>.
- ▶ To write reports on performance counters for large groups of servers, see <http://www.bictt.com/blogs/bictt.php/2010/11/28/scom-reports-on-performance-counters-for-large-groups-of-servers>.
- ▶ Here are some examples of how to query SQL and use the results in OpsMgr, including how to perform checks for a SQL full or differential backup and how to monitor the default management pack:
 - ▶ http://blogs.technet.com/b/stefan_stranger/archive/2009/02/02/opsmgr-sql-full-or-differential-backup-check.aspx
 - ▶ <http://blogs.technet.com/b/jonathanalmquist/archive/2008/11/12/monitor-default-management-pack.aspx>
- ▶ Read about how network monitoring works at <http://blogs.technet.com/b/momteam/archive/sell/09/20/what-gets-monitored-with-system-center-operations-manager-2012-network-monitoring.aspx>
- ▶ Wondering how to use a property bag? See <http://blogs.msdn.com/mariussutara/archive/2008/01/24/momscriptapi-createtypedpropertybag-method.aspx> and <http://www.systemcentercentral.com/Downloads/DownloadsDetails/tabid/144/indexID/7803/Default.aspx>. You may also want to check <http://blogs.technet.com/b/momteam/archive/2009/02/13/mp-authoring-resources.aspx> and <http://blogs.technet.com/b/authormps/archive/2011/02/24/property-bags-and-multi-instance-monitoring.aspx>.
- ▶ Management pack bundles are supported with OpsMgr 2012, first introduced with System Center Service Manager 2010. Information on how bundles work is at <http://blogs.technet.com/b/servicemanager/archive/2009/09/04/introducing-management-pack-bundles.aspx>.
- ▶ To extract files from an MP bundle, see Daniel Grandini's post at <http://nocent-docent.wordpress.com/2012/02/28/opsmgr-2012-how-to-dump-management-pack-bundles/> and Stefan Stranger's discussion at http://blogs.technet.com/b/stefan_stranger/archive/2012/03/06/opsmgr-2012-how-to-dump-management-pack-bundles-small-improvement.aspx.
- ▶ Boris Yanushpolsky of the OpsMgr product team developed several utilities to assist with viewing management pack content. These have been updated for OpsMgr 2012 by Daniele Muscetta and can be downloaded from <http://blogs.msdn.com/b/dmuscett/archive/2012/02/19/boris-s-tools-updated.aspx>.

- ▶ Kevin Holman discusses collecting and monitoring information from WMI as performance data at <http://blogs.technet.com/b/kevinholman/archive/2008/07/02/collecting-and-monitoring-information-from-wmi-as-performance-data.aspx>.

Microsoft's OpsMgr Resources

The following list includes some general Microsoft resources available for OpsMgr 2012:

- ▶ A glossary of terms for OpsMgr 2012 is at <http://technet.microsoft.com/en-us/library/hh710011.aspx>.
- ▶ For links to OpsMgr 2012 product documentation and getting started, see <http://technet.microsoft.com/en-us/systemcenter/hh285243>.
- ▶ You can find the official support documentation for OpsMgr 2012 in the following locations:
 - ▶ **OpsMgr 2012 RTM:** <http://technet.microsoft.com/en-us/library/jj656649.aspx>
 - ▶ **OpsMgr 2012 Service Pack (SP) 1:** <http://technet.microsoft.com/en-us/library/jj656654.aspx>
- ▶ What's OpsMgr all about, anyway? Microsoft has published a key concepts document. This document, which includes a discussion of modeling, can be downloaded at <http://www.microsoft.com/downloads/details.aspx?FamilyID=3a633532-1dde-49b6-930f-7df50b69b77b&DisplayLang=en>.
- ▶ Microsoft has published a whitepaper on performance tuning guidelines for Windows Server 2008 R2 at <http://msdn.microsoft.com/en-us/windows/hardware/gg463392>. Guidelines for Windows Server 2012 are at msdn.microsoft.com/en-us/library/windows/hardware/jj248719.aspx.
- ▶ Documentation on deploying Operations Manager 2012 is at <http://technet.microsoft.com/en-us/library/hh298609.aspx>.
- ▶ Microsoft talks about mapping your requirements to an OpsMgr design at <http://technet.microsoft.com/en-us/library/bb735402.aspx>.
- ▶ The OpsMgr 2012 Operations Guide is at <http://technet.microsoft.com/library/hh212887.aspx>.
- ▶ <http://technet.microsoft.com/en-us/library/hh872885> discusses operations associated with user role profiles.
- ▶ See <http://technet.microsoft.com/en-us/library/jj628198.aspx> for the list of SQL Server versions supported by OpsMgr 2012 Service Pack 1.
- ▶ Information about the different SQL Server 2012 editions is at <http://www.microsoft.com/sqlserver/en/us/product-info/compare.aspx>.
- ▶ Read about the differences between the three SQL Server recovery models at <http://msdn.microsoft.com/en-us/library/ms189275.aspx>.

- ▶ <http://technet.microsoft.com/en-us/library/ms156421.aspx> discusses moving the SSRS databases to another computer. You may also want to read about best practices for moving the SSRS databases in Chapter 12, "Backup and Recovery."
- ▶ For information on SQL Server best practices, see <http://technet.microsoft.com/en-us/sqlserver/bb671430.aspx>.
- ▶ The SQL Server 2008 R2 Best Practices Analyzer can be downloaded from <http://www.microsoft.com/en-us/download/details.aspx?id=15289>. The download page for the SQL Server 2012 version is at <http://www.microsoft.com/en-us/download/details.aspx?id=29302>.
- ▶ For a discussion on upgrading a distributed OpsMgr 2007 environment, see <http://technet.microsoft.com/en-us/library/hh241304>.
- ▶ The process flow diagram for upgrading Operations Manager is at <http://technet.microsoft.com/en-us/systemcenter/hh204732.aspx>.
- ▶ The SQL query to run against the operational database to clean up the Localizedtext table and the Publishmessage table after upgrade can be copied from http://technet.microsoft.com/en-us/library/8c2dbaf4-2966-45e3-a72d-5de90ff4f495#BKMK_VerifyUpgrade.
- ▶ Find out how to enable high availability for the Data Access Service at <http://technet.microsoft.com/en-us/library/hh316108.aspx>.
- ▶ For recommendations and best practices when creating overrides, see <http://support.microsoft.com/kb/943239>.
- ▶ Need to add or remove a management group? See the sample VBScript at <http://msdn.microsoft.com/en-us/library/hh329017.aspx>.
- ▶ The System Center 2012 Operations Manager SDK is at <http://msdn.microsoft.com/en-us/library/hh329086.aspx>.
- ▶ Management pack structure is discussed at <http://technet.microsoft.com/en-us/library/hh457558.aspx>.
- ▶ Microsoft's authoring documentation is available at <http://technet.microsoft.com/en-us/library/hh457564.aspx>.
- ▶ The OpsMgr 2012 Authoring guide is at <http://technet.microsoft.com/en-us/library/hh457564.aspx>.
- ▶ The Operations Manager Management Pack Development Kit is discussed at <http://msdn.microsoft.com/en-us/library/jj130093.aspx>. This provides the information necessary to build and design an OpsMgr management pack.
- ▶ Microsoft publishes a module types reference at <http://msdn.microsoft.com/en-us/library/ee533869.aspx>.
- ▶ To configure gateway server failover between management servers, see <http://technet.microsoft.com/en-us/library/hh456445.aspx>.

- ▶ Here are some articles on Audit Collection Services (ACS):
 - ▶ **Installing ACS:** <http://technet.microsoft.com/en-us/library/hh284670.aspx>, <http://technet.microsoft.com/en-us/library/hh284665.aspx>
 - ▶ **Collecting security events:** <http://technet.microsoft.com/en-us/library/hh212908.aspx>
 - ▶ **Deploying ACS and ACS Reporting:** <http://technet.microsoft.com/en-us/library/hh298613.aspx>
- ▶ ACS on UNIX and Linux is discussed at http://technet.microsoft.com/en-us/library/hh212908.aspx#bkmk_acsonunixandlinux.
- ▶ All console instances require Microsoft Report Viewer 2010 Redistributable Package, which you can download from <http://www.microsoft.com/download/en/details.aspx?displaylang=en&id=6442>.
- ▶ For information on connecting management groups in Operations Manager, see <http://technet.microsoft.com/en-us/library/hh230698.aspx>.
- ▶ The System Center 2012 Visio MP Designer is available at <http://www.microsoft.com/en-us/download/details.aspx?id=30170>. Installation instructions are at the TechNet Wiki, http://social.technet.microsoft.com/wiki/contents/articles/6936_installing-the-visio-management-pack-designer.aspx.
- ▶ The pattern reference for Visio Management Pack Designer is at http://social.technet.microsoft.com/wiki/contents/articles/6939_pattern-reference-for-visio-management-pack-designer.aspx.
- ▶ Download the System Center 2012 Visual Studio Authoring Extensions from <http://www.microsoft.com/en-us/download/details.aspx?id=30169>. You can find the installation instructions at the TechNet Wiki, http://social.technet.microsoft.com/wiki/contents/articles/5236_visual-studio-authoring-extensions-for-system-center-2012-operations-manager-en-us.aspx.
- ▶ Before you seal a management pack, you must create a key file. Jonathan Almquist documents the process for creating a key file at <http://blogs.technet.com/b/jonathanalmquist/archive/2008/08/19/seal-a-management-pack.aspx>. Sealing a management pack file using MPSeal is documented at <http://technet.microsoft.com/en-us/library/hh457550>.
- ▶ If you have a requirement to monitor VMware, check out Veeam's monitoring for System Center at <http://www.veeam.com/vmware-microsoft-esx-monitoring.html>.
- ▶ The .NET Framework SDK downloadable at <http://www.microsoft.com/en-us/download/details.aspx?id=19988>.
- ▶ The MOMScriptAPI object is documented at <http://msdn.microsoft.com/en-us/library/bb437523>.
- ▶ Microsoft's System Center Pack Catalog is located at the System Center Marketplace site at <http://systemcenter.pinpoint.microsoft.com/>.

- ▶ You can search the System Center Pack Catalog by component; Operations Manager content is at <http://systemcenter.pinpoint.microsoft.com/en-US/applications/search/operations-manager-d11?q=>.
- ▶ Find the Operations Manager management pack guides at <http://go.microsoft.com/fwlink/?LinkId=85414>.
- ▶ The TechNet jumping off page for Operations Manager is at <http://technet.microsoft.com/en-us/library/hh205987.aspx>.
- ▶ The Operations Manager Rule and Monitor Targeting Poster is available at http://download.microsoft.com/download/f/a/7/fa73e146-ab8a-4002-9311-bfe69a570d28/BestPractices_Rule_Monitor_REV_110607.pdf.
- ▶ The Microsoft Volume Licensing Brief is available for download at <http://www.microsoft.com/en-us/server-cloud/buy/pricing-licensing.aspx>. The System Center 2012 Licensing FAQ is available at <http://download.microsoft.com/download/8/7/0/870B5D9B-ACF1-4192-BD0A-543AF551B7AE/System%20Center%202012%20Licensing%20FAQ.pdf>.
- ▶ XML Notepad 2007 is an intuitive tool for browsing and editing XML documents. Read about it at <http://msdn2.microsoft.com/en-us/library/aa905339.aspx> and download the tool from <http://www.microsoft.com/downloads/details.aspx?familyid=72d6aa49-787d-4118-ba5f-4f30fe913628&displaylang=en>.
- ▶ How do multiple server resource pools actually work? See <http://social.technet.microsoft.com/wiki/contents/articles/13920.how-do-multiple-servers-in-a-resource-pool-actually-work.aspx>.
- ▶ Download OpsMgr component add-ons at <http://www.microsoft.com/en-us/download/details.aspx?id=29270>.
- ▶ Run As accounts for network monitoring are discussed at <http://technet.microsoft.com/en-us/library/hh212920.aspx>.
- ▶ Read about using the Power Consumption monitoring template at <http://technet.microsoft.com/en-us/library/ee808918.aspx>.
- ▶ Interested in learning more about the Microsoft Operations Framework? Check out version 4.0 of the MOF at <http://go.microsoft.com/fwlink/?LinkId=50015>. Details on the MOF Deliver phase are at <http://technet.microsoft.com/en-us/library/cc543223.aspx> and <http://technet.microsoft.com/en-us/library/cc506047.aspx>. You can read about the MOF Envision SMF at <http://technet.microsoft.com/en-us/library/cc531013.aspx>, and the Manage layer at <http://technet.microsoft.com/en-us/library/cc506048.aspx>.
- ▶ Information on the Infrastructure Optimization (IO) model is available at <http://www.microsoft.com/technet/infrastructure>.
- ▶ An IDC study about the IO model is at http://download.microsoft.com/download/a/4/4/a4474b0c-57d8-41a2-afe6-32037fa93ea6/IDC_windesktop_IO_whitepaper.pdf.

- ▶ If you want to learn about Service Modeling Language (SML), see <http://www.w3.org/TR/sml/>. For additional technical information on SML from Microsoft, visit <http://technet.microsoft.com/en-us/library/bb725986.aspx>.
- ▶ Read what's new in Operations Manager 2012 at <http://technet.microsoft.com/en-US/library/jj656648.aspx>. Changes for Service Pack 1 are documented at <http://technet.microsoft.com/en-US/library/jj656650.aspx>.
- ▶ System requirements for System Center 2012 Operations Manager are at <http://technet.microsoft.com/en-us/library/hh205990.aspx>. This includes information about the initial release as well as Service Pack 1.
- ▶ OpsMgr 2012 release notes are at <http://technet.microsoft.com/en-us/library/hh561709.aspx>. See <http://technet.microsoft.com/en-US/library/jj656651.aspx> for the Service Pack 1 release notes.
- ▶ You can download the Windows Server Operating System monitoring management pack at <http://www.microsoft.com/en-us/download/details.aspx?id=9296>.
- ▶ The OpsMgr 2007 resource kit is at the System Center Operations Manager TechCenter (<http://go.microsoft.com/fwlink/?LinkId=94593>). This is not yet updated for OpsMgr 2012.
- ▶ The Operations Manager 2012 Sizing Helper Tool is described at <http://blogs.technet.com/b/momteam/archive/2012/04/02/operations-manager-2012-sizing-helper-tool.aspx> and can be downloaded from http://blogs.technet.com/cfs-file.ashx/__key/communityserver-components-postattachments/00-03-48-96-45/System-Center-2012-Operations-Manager-Sizing-Helper-Tool-v1.xls.
- ▶ A discussion of applicable user roles for APM is at <http://technet.microsoft.com/en-us/library/hh544002>.
- ▶ APM grooming is discussed at <http://technet.microsoft.com/en-us/library/jj159297>.

Blogs

There has been an explosion of blogs with information regarding OpsMgr and System Center. Here are some blogs the authors have used. Some are more active than others, and new blogs seem to spring up overnight!

- ▶ A number of OpsMgr folks blog at System Center Central (<http://www.systemcentercentral.com>).
- ▶ The OpsMgr team has a blog at <http://blogs.technet.com/b/momteam/>. You can find older postings at <http://blogs.technet.com/operationsmgr/> and <http://blogs.technet.com/smsandmom/>.
- ▶ If you're interested in keeping up with VMM, the VMM team has a blog at <http://blogs.technet.com/scvmm/>.
- ▶ <http://www.contoso.se/blog/> is the System Center blog by Anders Bengtsson, now a Microsoft premier field engineer (PFE) and formerly an MVP.

- ▶ See a blog by Stefan Stranger (former MVP and now at Microsoft) at http://blogs.technet.com/stefan_stranger/.
- ▶ Kevin Sullivan's Management blog is at https://blogs.technet.com/kevinsul_blog/. (Kevin is a Technology Specialist at Microsoft focusing on management products.)
- ▶ <http://blogs.technet.com/kevinholman> is Kevin Holman's System Center blog. Kevin is the technical editor for this book.
- ▶ <http://blogs.msdn.com/rslaten> is a blog by Russ Slaten, a Microsoft Escalation Engineer supporting System Center products.
- ▶ <http://blogs.msdn.com/steverac> is Steve Rachui's manageability blog. Steve is a PFE at Microsoft, concentrating on OpsMgr and ConfigMgr.
- ▶ <http://blogs.technet.com/mgoedtel/> is a blog by Matt Goedtel, a Microsoft MCS consultant focusing on Operations Manager.
- ▶ <http://discussitnow.wordpress.com/> is by Blake Mengotto, a former MVP and self-described "MOM dude."
- ▶ <http://blogs.msdn.com/eugenebykov/> is a great source of information on authoring OpsMgr reports by Eugene Bykov, an OpsMgr developer responsible for the reporting user interface.
- ▶ Veeam provides an extended generic report library (GRL) for analyzing the health and performance of infrastructure objects. Learn more at <http://www.veeam.com/extended-generic-report-library.html>.
- ▶ <http://www.scom2k7.com/>, by Timothy McFadden, is titled "Everything System Center 2012 Operations Manager."
- ▶ <http://www.techlog.org/> is all about everything Microsoft, by Maarten Goet, Kenneth van Surksun, Steven van Loef, and Sander Klaassen in the Netherlands.
- ▶ <http://blog.advisec.com/> is by Bjorn Axell, a System Center Datacenter and Cloud Management MVP currently working at Dell. Previous entries are at <http://advisec.wordpress.com/>.
- ▶ www.systemcenterguide.com is a System Center blog by Duncan McAlynn.
- ▶ Gordon McKenna's blog is available at http://wmug.co.uk/blogs/gordons_blog/default.aspx. Gordon is a System Center Datacenter and Cloud Management MVP, has worked with the Operations Manager software since its Mission Critical Software days, and is extremely knowledgeable on the product.
- ▶ Walter Chomak's blog on OpsMgr design and capacity planning while at Microsoft is at <http://blogs.technet.com/wchomak/>. He currently blogs at <http://blog.mobieussystems.com>.
- ▶ Ian Blyth, previously a Lead Technical Specialist in Microsoft UK, blogs at <http://ianblythmanagement.wordpress.com/> on System Center Technologies.
- ▶ MVP Scott Moss blogs at <http://om2012.wordpress.com/> and <http://systemcentercentral.com/smoss>.

- ▶ Jonathan Almquist, a contributor to this book, has blogs at <http://blogs.technet.com/b/jonathanalmquist/> and <http://scomskills.com/blog/>.
- ▶ www.authoringfriday.com is MVP Oskar Landman's blog on authoring management packs and integration packs. Oskar is a contributor to this book.
- ▶ Contributor MVP Pete Zerger blogs at (and runs) <http://www.systemcentercentral.com>.
- ▶ <http://thoughtsonopsmgr.blogspot.com> is maintained by MVP Marnix Wolf, a contributor to this book.

Here are our own blogs:

- ▶ Our Operations Manager blogs are located at <http://systemcentercentral.com/blogs/scomauthor> and <http://opsmgrunleashed.wordpress.com>.
- ▶ <http://blogs.catapultsystems.com/cfuller/> is where Cameron discusses his technical theories, ramblings, and rants. Cameron cross-publishes to System Center Central at <http://www.systemcentercentral.com/CameronFuller>.
- ▶ <http://www.networkworld.com/community/meyler> is a blog by Kerrie, with more general discussion topics, but concentrating on OpsMgr and Microsoft management.
- ▶ Check out <http://www.techrepublic.com/topics/john+joyner> for thoughts by John Joyner.
- ▶ <http://www.systemcentercentral.com/tabid/150/tag/Blog+ByExample/Default.aspx> is the OpsMgr by Example series on System Center Central, maintained by the *OpsMgr Unleashed* authors.

OpsMgr Shell

An extension to PowerShell, the Operations Manager Shell (known as the Command Shell prior to the OpsMgr 2007 R2 release), enables you to do most everything you would ever want to for OpsMgr in a batch or scripted mode. Here are some useful links:

- ▶ The PowerShell cmdlets for OpsMgr 2012 have been renamed. For more information about the new naming standards as well as cmdlet naming collisions, see <http://blogs.msdn.com/b/powershell/archive/2009/09/20/what-s-up-with-command-prefixes.aspx>.
- ▶ Stefan Stranger provides a handy cross reference between OpsMgr 2007 cmdlets and the new OpsMgr 2012 cmdlets at http://blogs.technet.com/b/stefan_stranger/archive/2011/11/26/everything-you-want-to-know-about-the-om12-cmdlets.aspx.
- ▶ <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/94404/Default.aspx> is an article about using PowerShell to create a Report Operator role.
- ▶ Scott Moss discusses using PowerShell for agent-based installation at <http://om2012.wordpress.com/2011/12/07/om12-rc-deploying-agents-with-powershell>.

- ▶ For information about configuring agent failover in PowerShell or a script to bulk-set this configuration for a group of servers, see <http://www.teknoglot.se/code/powershell/opsmgr-2012-agent-failover-simple-script-with-wildcards-opsmgr-powershell/>.
- ▶ <http://blogs.msdn.com/scshell/> is about getting started with the OpsMgr Shell. Robert Sprague, a PowerShell guru on the OpsMgr team, maintains this site.
- ▶ <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/93897/Default.aspx> discusses using `Get-SCOMManagementPack` to bulk delete management packs, where the non-English management packs are deleted.
- ▶ An example of computer discovery and push install of the agent through PowerShell is demonstrated in a posting on automating agent discovery and deployment with PowerShell at <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/94248/Default.aspx>.
- ▶ Use PowerShell to get BeanSpy and PowerShell install scripts if your Java apps require manual discovery. The snippets are at <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/94786/Default.aspx>.
- ▶ See how to reset unit monitors in bulk with PowerShell at <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/94705/Default.aspx>.
- ▶ Finding computers without the Active Directory Helper Object (OOMADS) with PowerShell is discussed at <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/94661/Default.aspx>.
- ▶ System Center Central has a discussion on running a task in bulk using PowerShell at <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/94493/Default.aspx>.
- ▶ Read how to automate agent discovery and deployment with PowerShell at <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/94248/Default.aspx>, which includes a sample script.
- ▶ Use a PowerShell script to find servers experiencing the most heartbeat failures. <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/94158/Default.aspx> provides details.
- ▶ For examples of OpsMgr2007 PowerShell examples migrated to OpsMgr 2012, see the collection of updated single line PowerShell scripts (one-liners) at <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/89870/Default.aspx>.
- ▶ You can update agent failover settings in bulk as described in the article on updating agent failover settings from a spreadsheet with PowerShell at <http://www.systemcentercentral.com/tabid/143/indexid/95393/default.aspx>.
- ▶ To balance agents across multiple management servers, see a posting in the OpsMgr by Example series at <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/96292/Default.aspx>.

- ▶ Learn about OpsMgr 2012 group maintenance mode via PowerShell at <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/94576/Default.aspx>.
- ▶ Here's a four-part series on creating a two-state PowerShell script monitor using the OpsMgr 2007 R2 Authoring console by Stefan Koell (code4ward.net). The series comes with a sample MP you can use to check your work and see the intended end result (<http://www.systemcentercentral.com/tabid/144/IndexID/50087/Default.aspx>). (The PowerShell code, written for OpsMgr 2007, can be used with OpsMgr 2012 with some modifications. See Chapter 23 for further information.):
 - ▶ <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/44971/Default.aspx>
 - ▶ <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/46908/Default.aspx>
 - ▶ <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/48469/Default.aspx>
 - ▶ <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/50085/Default.aspx>
- ▶ Here's a posting on how to create a PowerShell task for OpsMgr using the Authoring console by Andreas Zuckerhut, at <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/41687/Default.aspx>.

PowerShell Information

You can find information on PowerShell itself at the following sites:

- ▶ The official PowerShell site is at <http://www.microsoft.com/powershell>.
- ▶ <http://social.technet.microsoft.com/Forums/en-US/operationsmanagerextensibility/thread/a3d09372-1a93-418a-a93c-9bc9ddd075b9> is an unofficial PowerShell FAQ by former PowerShell MVP Marco Shaw. Marco updates this FAQ on an as-needed ("irregular") basis.
- ▶ The Microsoft TechNet social forum covering general PowerShell discussions is at <http://social.technet.microsoft.com/Forums/en-US/winserverpowershell/threads>.
- ▶ Marco Shaw maintains his own blog at <http://marcoshaw.blogspot.com>.
- ▶ You may want to check all the PowerShell webcasts by the Scripting Guys at <http://www.microsoft.com/technet/scriptcenter/webcasts/ps.msp>.
- ▶ Direct from the PowerShell guy himself (Marc van Orsouw, PowerShell MVP), is located at <http://thepowershellguy.com/blogs/posh/default.aspx>.
- ▶ The Windows PowerShell team has its blog at <http://blogs.msdn.com/powershell/>.
- ▶ A self-training guide is available at http://blogs.technet.com/b/musings_of_a_technical_tam/archive/2012/06/04/windows-powershell-self-training-guide.aspx.

- ▶ If Windows PowerShell is new to you, check out this TechEd session at <http://channel9.msdn.com/Events/TechEd/NorthAmerica/2012/WSV321-R>. You may also want to check out Chapter 23 of this book if you haven't already.
- ▶ Here are resources that discuss using Microsoft's certificate creation tool, `makecert.exe`, to generate certificates to create self-signed PowerShell scripts:
 - ▶ Don Jones' *TechNet Magazine* article "Sign Here, Please," available at <http://technet.microsoft.com/en-us/magazine/2008.04.powershell.aspx>
 - ▶ Scott Hanselman's blog post Signing PowerShell scripts at <http://www.hanselman.com/blog/SigningPowerShellScripts.aspx>
- ▶ The Microsoft Scripting Guys provide a two-part series on signing PowerShell scripts with an enterprise PKI. See <http://blogs.technet.com/b/heyscriptingguy/archive/2010/06/16/hey-scripting-guy-how-can-i-sign-windows-powershell-scripts-with-an-enterprise-windows-pki-part-1-of-2.aspx> and <http://blogs.technet.com/b/heyscriptingguy/archive/2010/06/17/hey-scripting-guy-how-can-i-sign-windows-powershell-scripts-with-an-enterprise-windows-pki-part-2-of-2.aspx>.
- ▶ For information about the PowerShell pipeline, see <http://technet.microsoft.com/en-us/magazine/2007.07.powershell.aspx> by Don Jones. Don also created a pipeline input workbook that provides a good walkthrough of how the pipeline works, available at <http://morelunches.com/files/powershell3/PipelineInput.pdf>.
- ▶ Learn about variables in PowerShell at <http://www.powershellpro.com/powershell-tutorial-introduction/variables-arrays-hashes/>.
- ▶ Help with Windows PowerShell is available at <http://social.technet.microsoft.com/Forums/en/ITCG/threads> or <http://powershellcommunity.org/Forums.aspx>.
- ▶ Scheduling a PowerShell script through scheduled tasks is discussed at <http://social.technet.microsoft.com/Forums/en-US/exchange2010/thread/0cad57bf-1113-4622-aac3-c3278fa97d72/>.
- ▶ Find PowerShell script examples at <http://www.microsoft.com/technet/scriptcenter/hubs/msh.mspx>.
- ▶ PowerShell+ is a free PowerShell editing and debugging environment. You can get a free personal copy at <http://www.powershell.com/downloads/psp1.zip>.
- ▶ Even more about PowerShell and examples of some of the constructs are available in an article by Don Jones at <http://www.microsoft.com/technet/technetmag/issues/2007/01/PowerShell/default.aspx>.

Cross Platform

One of the most visible enhancements in the R2 version of OpsMgr 2007 was its integrated monitoring of cross platform environments, which continues to have improvements in OpsMgr 2012. Here are some references on cross platform monitoring:

- ▶ Cross platform security requirements are discussed at <http://technet.microsoft.com/en-us/library/hh212926.aspx> and <http://technet.microsoft.com/en-us/library/hh212886.aspx>. You will also want to read Scott Weisler's discussion at <http://www.systemcentercentral.com/BlogDetails/tabid/143/indexId/94460/Default.aspx>, also posted at <http://opsmgrunleashed.wordpress.com/2012/07/07/cross-platform-discovery-settings/>.
- ▶ For information on managing resource pools for UNIX and Linux systems, see <http://technet.microsoft.com/en-us/library/hh287152.aspx>.
- ▶ The monitoring pack and guides for UNIX and Linux systems can be downloaded from <http://www.microsoft.com/en-us/download/details.aspx?id=29696>. These are not available in the System Center catalog.
- ▶ To copy files to a UNIX or Linux system using SSH, see the instructions at <http://www.garron.me/linux/scp-linux-mac-command-windows-copy-files-over-ssh.html>.
- ▶ If you need to manually discover JEE application servers, see Chris Crammond's article at http://blogs.technet.com/b/random_happy_dev_thoughts/archive/2012/05/21/manually-discovering-jee-application-servers-with-scom-2012.aspx.
- ▶ Here are some articles specific to UNIX/Linux agent installation:
 - ▶ **Troubleshooting UNIX/Linux Agent Discovery in System Center 2012 - Operations Manager:** <http://social.technet.microsoft.com/wiki/contents/articles/4966.aspx>
 - ▶ **Installing sudo on Solaris:** <http://sysinfo.bascomp.org/solaris/installing-sudo-on-solaris/>
 - ▶ **Enable ssh root login in Solaris 10:** https://blogs.oracle.com/sunrise/entry/enable_ssh_root_login_in
- ▶ For information on configuring sudo, see <http://social.technet.microsoft.com/wiki/contents/articles/7375.configuring-sudo-elevation-for-unix-and-linux-monitoring-with-system-center-2012-operations-manager.aspx>.
- ▶ The wiki for UNIX/Linux agent deployment at <http://social.technet.microsoft.com/wiki/contents/articles/4966.aspx>.
- ▶ Kevin Holman's blog article on deploying UNIX/Linux agents using OpsMgr 2012 is at <http://blogs.technet.com/b/kevinholman/archive/2012/03/18/deploying-unix-linux-agents-using-opsmgr-2012.aspx>.
- ▶ For platforms not supported by the OpsMgr 2012 release, Microsoft has published the providers on CodePlex (<http://scx.codeplex.com>).

System Center

Here are some references and articles regarding other components of Microsoft's System Center:

- ▶ A great source of information for all things System Center-related including Operations Manager is System Center Central (<http://www.systemcentercentral.com>).
- ▶ The System Center Virtual User Group is dedicated to providing educational resources and collaboration between users of System Center technologies worldwide. Bi-monthly meetings present topics from industry experts, including Microsoft engineers. These sessions are recorded for your convenience. To join the user group, go to <http://www.linkedin.com/groupRegistration?gid=101906>.
- ▶ <http://www.myITforum.com> is a community of worldwide Information Technology (IT) professionals and a website established in 1999 by Rod Trent. myITforum includes topics on System Center and Information Technology.
- ▶ The Microsoft System Center website is at <http://www.microsoft.com/en-us/server-cloud/system-center/>.
- ▶ Microsoft's jumping off point for System Center technical resources starts at <http://technet.microsoft.com/en-us/systemcenter/>.
- ▶ The System Center Support page is at <http://support.microsoft.com/ph/16340>
- ▶ Read Network World's reviews of System Center at <http://www.networkworld.com/reviews/2012/092412-microsoft-system-center-test-262332.html>, <http://www.networkworld.com/reviews/2012/071612-microsoft-system-center-260550.html>, and <http://www.networkworld.com/reviews/2012/092412-microsoft-system-center-test-how-262335.html>.
- ▶ System Center is all about ITIL and MOF. Learn about the Information Technology Information Library (ITIL) 2011 update to ITIL v3 at http://www.itilnews.com/ITIL_v4_Simply_CSI_for_ITIL_v3.html.
- ▶ Get a jumpstart on Orchestrator runbooks at <http://www.systemcentercentral.com/BlogDetails/tabid/143/IndexID/92651/Default.aspx>.
- ▶ Virtual labs for System Center components are located at <http://technet.microsoft.com/en-us/bb539977.aspx>.
- ▶ Not officially in System Center, but definitely part of Microsoft's management story, is Windows Intune. Here are some links about Intune 4 ("Wave D"):
 - ▶ <http://blogs.technet.com/b/server-cloud/archive/2012/09/10/system-center-2012-configuration-manager-sp1-beta-and-windows-intune-update.aspx>
 - ▶ <http://www.windowsitpro.com/article/cloud-computing2/microsoft-releases-windows-intune-4-145042>
 - ▶ <http://www.zdnet.com/microsoft-windows-intune-how-wave-d-changes-the-mobile-device-management-game-7000009027/>
 - ▶ <http://www.techlog.org/2012/12/31/configmgr-and-windows-intune-better-together/>

- ▶ Read Network World's take on how System Center 2012 SP 1 helps customers manage their on-premises IT and Azure cloud services with a single set of tools at <http://www.networkworld.com/news/2013/011513-microsoft-system-center-further-fuses-265852.html>.
- ▶ Find out what's new in System Center 2012 SP 1 at <http://technet.microsoft.com/library/jj649385.aspx>.
- ▶ The Windows Server technical library is located at <http://technet.microsoft.com/en-us/library/bb625087.aspx>.
- ▶ Microsoft's *TechNet Magazine* is available online at <http://technet.microsoft.com/en-us/magazine/default.aspx>.
- ▶ Microsoft's Sysinternals website is at <http://technet.microsoft.com/en-us/sysinternals/default.aspx>.
- ▶ Windows IT Pro is an online publication including articles about System Center and other topics. See <http://www.windowsitpro.com/> for information.

Public Forums

If you need an answer to a question, the first place to check is the Microsoft public forums. Here's a list of the current OpsMgr forums:

- ▶ **General:** <http://social.technet.microsoft.com/Forums/en-US/operationsmanagergeneral/>
- ▶ **Deployment:** <http://social.technet.microsoft.com/Forums/en-US/operationsmanagerdeployment/>
- ▶ **Management packs:** <http://social.technet.microsoft.com/Forums/en-US/operationsmanagemgmtpacks/>
- ▶ **Reporting:** <http://social.technet.microsoft.com/Forums/en-US/operationsmanagerreporting/>
- ▶ **Authoring:** <http://social.technet.microsoft.com/Forums/en-US/operationsmanagerauthoring/>
- ▶ **Extensibility (SDK, Connectors, and PowerShell):** <http://social.technet.microsoft.com/Forums/en-US/operationsmanagerextensibility>
- ▶ **AVIcode 5.7:** <http://social.technet.microsoft.com/Forums/en-US/operationsmanageravicode/>
- ▶ **UNIX and Linux:** <http://social.technet.microsoft.com/Forums/en-US/operationsmanagerunixandlinux/>
- ▶ **Application Performance Monitoring:** <http://social.technet.microsoft.com/Forums/en-US/scomapm/>