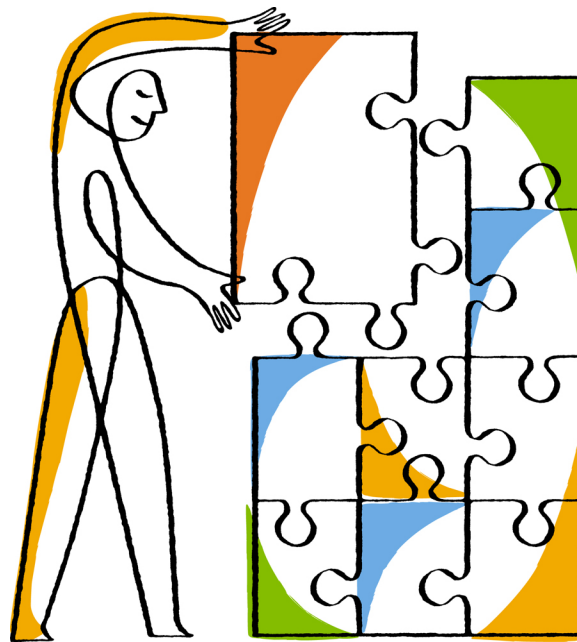




NetApp®

OnCommand® Plug-in 4.1.1 for Microsoft®

Release Notes



NetApp, Inc.
495 East Java Drive
Sunnyvale, CA 94089
U.S.

Telephone: +1 (408) 822-6000
Fax: +1 (408) 822-4501
Support telephone: +1 (888) 463-8277
Web: www.netapp.com
Feedback: doccomments@netapp.com

Part number: 215-10352_A0_ur002
October 2015

Contents

Updates to these release notes	4
Product overview	6
New in this release	7
Fixed issues	7
Upgrade notes	8
Verifying support for your configuration in the Interoperability Matrix	11
Important cautions	13
Known limitations	15
Known issues	16
Documentation errors	18
Where to get help and find more information	20
Copyright information	21
Trademark information	22
How to send comments about documentation and receive update notifications	23
Index	24

Updates to these release notes

NetApp occasionally issues updates to release notes between product releases as new information becomes available. Review these updates carefully.

October 2015 update

New support enhancements were added to the “New in this release” section:

- Support for Microsoft System Center Operations Manager (SCOM) 2012 SP1 and SCOM 2012 R2
- Support for OnCommand Data ONTAP Shared Library management pack
- OCPM Database (OCPMDB) is required for all of the management packs and cmdlet-based features

The following BURT's were added to the “Fixed issues” section:

- 813108
- 824916
- 880081
- 926998

New sections were added to the “Upgrade notes” section:

- Prerequisite upgrade conditions
- New profile accounts in this release
- Post upgrade condition for management servers that were remotely installed.

New entries were added to the “Important cautions” section:

- Discovery tasks might fail if servers are configured to be outside of the OnCommand Plug-in for Microsoft resource pool
- The OnCommand Plug-in for Microsoft workflow OC.Cluster.OM.Server.Monitoring.StorageMonitoring.InsertVolumePerformanceData might fail due to incorrect permissions to access the local registry on the system

The following BURT's were removed from the “Known issues” section:

- 743532
- 785436
- 793195
- 813108
- 854154 (deprecated)

A new known issue was added (bug ID [867580](#)).

The following new entries were added to the “Documentation errors” section:

- Missing OnCommand Plug-in for Microsoft permissions needed when connecting to the clustered Data ONTAP using a different user other than administrator

- Missing OnCommand Plug-in for Microsoft permission needed to monitor NetApp MetroCluster software

Links to associated OnCommand Plug-in for Microsoft knowledge base articles were provided in the “Where to get help and find more information” section.

Product overview

You can use OnCommand Plug-in for Microsoft to configure, monitor, and maintain your storage. The plug-in includes management packs for Microsoft System Center Operations Manager (SCOM) 2012 SP1 and SCOM 2012 R2, PowerShell cmdlets, and System Center Orchestrator integration packs (OIPs) that you can use to provision, clone, and recover Microsoft Hyper-V virtual machines.

New in this release

OnCommand Plug-in 4.1.1 for Microsoft includes support enhancements, performance improvements, and bug fixes.

- Support for Data ONTAP 8.3.1
- Support for 2-node MetroCluster configurations
- Support for Microsoft System Center Operations Manager (SCOM) 2012 SP1 and SCOM 2012 R2
- Support for OnCommand Data ONTAP Shared Library management pack
- OCPM Database (OCPMDB) is required for all of the management packs and cmdlet-based features
- Performance improvements
- Bug fixes

Fixed issues

It is a good practice to review the known issues fixed in a new release before upgrading to it. If a Bugs Online report is available, the bug ID contains a hyperlink to the report.

Bug ID	Description
813108	Misleading error message when trying to add a 7-Mode storage controller using the Clustered Data ONTAP: Manage Storage System task.
824916	OnCommand Plug-in for Microsoft 4.1.1 introduced three optional Run As profiles: Data ONTAP: Discovery and Monitoring Account, Data ONTAP: Discovery and Monitoring for Virtualization Account, and Data ONTAP: Maintenance Account. You can now assign users with the required permissions to the Action Accounts contained in these profiles.
829268	The storage-shelf-environment-list-info ZAPI reports power supplies as not installed for 2-PSU systems.
832322	Error event ID 22406 PowerShell script failed with the error LifNotFoundException: No LIFs were found with universal unique identifier (UUID).
852506	Performance improvements were made in OnCommand Plug-in for Microsoft 4.1.1 to reduce CPU demand on SCOM management servers.
880081	To improve performance, OnCommand Plug-in for Microsoft 4.1.1 implemented an API call introduced in Data ONTAP 8.3.1 that avoids downloading unchanged data.
899056	Cannot add diagnostic and/or recovery tasks for Data ONTAP operating in 7-Mode monitors.
926998	The Storage Efficiency calculation is expensive, so it was removed from the discovery task and set to run once a day to improve performance. In addition, an on-demand task for running Storage Efficiency was added.

Upgrade notes

Upgrade notes describe important changes in support between the last release of OnCommand Plug-in for Microsoft and this one, including any deprecated features. You should review this information carefully before upgrading OnCommand Plug-in for Microsoft. You should also check the NetApp Interoperability Matrix (IMT) for the most up-to-date information on supported configurations.

Supported upgrade path

You can perform an in-place upgrade of OnCommand Plug-in for Microsoft from version 4.0.1 and later.

If you are upgrading from versions prior to 4.0.1, you must first uninstall the existing version before installing 4.1.1.

Prerequisite upgrade conditions

Before you can upgrade from an earlier supported version of OnCommand Plug-in for Microsoft, you should be aware of the following conditions:

- Before upgrading from 4.1 to 4.1.1, you must uninstall any management packs that include user-created overrides to OnCommand Plug-in for Microsoft management packs.

During the upgrade, all management packs from 4.1 are uninstalled, and the management packs from 4.1.1 are installed. This removes all customer-created overrides. Additionally, any management packs that contain dependencies on user-created management packs with overrides are blocked from the uninstall process and will block the new management pack to be imported.

- Starting with the 4.1.1 release, the OCPM Database (OCPMDB) is required for all of the management packs and cmdlet-based features.

When an upgrade is performed, the installation package detects whether the OCPMDB is present and displays an error message if it is missing (bug ID [951878](#)). If the OCPMDB was not created as part of your previous installation of OnCommand Plug-in for Microsoft, you should perform one of the following procedures to avoid encountering this issue prior to performing an upgrade to the latest version:

- You can uninstall the existing version of OnCommand Plug-in for Microsoft and perform a fresh install.
- You can re-install the previous version of OnCommand Plug-in for Microsoft (for example, 4.1) to add the cmdlets; then, perform an upgrade to 4.1.1.

If you choose this option, make sure to select “Modify” and add the “OCPM Commandlets” feature during the installation process to create the OCPMDB. After that, you can upgrade to the latest version.

After you perform one of the procedures, you should verify that the OCPMDB was successfully created by either using SQL Server Management Tools or by checking the installation log file (*OnCommand_install_dir\MS_Plugin\OCPluginMSDBLog_timestamp.txt*).

If you check the log file, look for entries such as the following:

```
OCPM database OCPMDB exists. No database created.
OCPM database table ONTAPHost exists. No table created.
OCPM database table ActivePerformanceSample was created.
OCPM database table ArchivePerformanceSample was created.
OCPM database procedure OCPMDBMaintenance was created.
```


Upgrade must be performed on the same management server as the original installation

If your SCOM environment contains multiple management servers in a management pool, you selected a specific server and were prompted to push the installation to the other servers during the original installation of OnCommand Plug-in for Microsoft.

When upgrading OnCommand Plug-in for Microsoft to 4.1.1, you must install the upgrade on the same management server as was used for the original installation of OnCommand Plug-in for Microsoft.

Post upgrade conditions

After you upgrade from an earlier supported version of OnCommand Plug-in for Microsoft, be aware of the following conditions:

- Clear cache if OnCommand Plug-in for Microsoft workflows are not running as expected.
After upgrading to or installing OnCommand Plug-in for Microsoft 4.1.1, if you notice that the workflows are not running as expected (for example, storage objects are not being discovered and monitored), then run “Flush Health Service State and Cache” for all of the management servers included in the OnCommand Plug-in for Microsoft resource pool.
- Increase data file size and transaction log file size.
When upgrading from an earlier supported version, you must manually increase the OnCommand Plug-in for Microsoft database data file size and transaction log file size. In addition, if you notice that the database is getting full, you must add more data files or increase the size. For better performance of the OnCommand Plug-in for Microsoft database, it is recommended to have 50% of the space to be free, similar to how the Operations Manager database is handled.
- If experiencing an adverse reaction due to a Data ONTAP 8.3.1 performance enhancement that was intended to improve discovery time, you can disable this feature.
Data ONTAP 8.3.1 contains a feature intended to improve discovery time; this feature avoids downloading specific storage objects information (volumes, qtree, and SMB shares) if their configuration did not change since last discovery.
If you notice that certain objects or changes to these objects are not discovered for a Data ONTAP 8.3.1 controller, then perform the following steps:
 1. Run `OC.Cluster.OM.ConfigureEffectiveDiscovery.exe`.
 2. Click **Load** to populate current settings from the SCOM database.
 3. Deselect the **Effective Discovery** setting.
 4. Save and close.
- This condition is applicable only for management servers that were remotely installed. If encountering operation management event log errors related to OnCommand Plug-in for Microsoft workflows, it is recommended to locally run the 4.1.1 installer and make sure to select “Modify” and add the “OCPM Commandlets” feature during the installation process to improve the integrity of the local installation.

New profile accounts in this release

Prior to this release, all OnCommand Plug-in for Microsoft workflows used the Default Action Account. In this release, the following optional Run As profiles have been introduced that can be set to the user-created Run As profile account instead of using the Default Action Account:

- Data ONTAP: Discovery and Monitoring Account

Note: If you use this optional profile, the same privileges are required as were set for the Default Action Account.

- Data ONTAP: Discovery and Monitoring Account for Virtualization
- Data ONTAP: Maintenance Account

Data ONTAP: Discovery and Monitoring Account

This profile must have the following privileges:

Note: If you do not use this optional profile, then the Default Action Account privileges must be set using these same criteria and procedures.

- Login must be created on the SQL server and mapped to the dbo user for the OCPMDB; the **db_owner** permission is required on the OCPMDB.

Note: These requirements were configured during the installation of OnCommand Plug-in for Microsoft for the user account running the installation.
- Member of the Local Administrators group. Perform the following steps on every management server to set this permission:
 1. From the Control Panel, select **Manage User Accounts**.
 2. On the Users tab, add a new “Local Administrator” user account.
- Member of the local Performance Monitor Users group. Perform the following steps on every manager server to set this permission:
 1. From the Control Panel, select **Manage User Accounts**.
 2. On the Advanced tab, click **Advanced**.
 3. In the left pane, double-click Groups.
 4. In the middle pane, double-click Performance Monitor Users.
 5. Add the new user account.
- **Allow log on locally** permission (SetInteractiveLogonRight) on the Windows servers (hosts) that are used as the System Center Operations Manager (SCOM) management servers.
 1. From the Control Panel, select Administrative Tools and open **Local Security Settings**.
 2. In the console tree, click **Security Settings**.
 3. Under Local Policies, select **User rights Assignment**.
 4. Double-click **Allow log on locally**.
 5. Click Add User or Group and add the new user account as the Action Account.
- Associated Windows profile.

This profile is set by logging on to each management server one time using the Run As Account.
- Public server role on the OCPMDB, OperationsManager, and OperationsManagerDW databases:
 1. Open SQL Server Management Studio and connect to your SQL instance.
 2. Under Databases, expand Security.
 3. Expand Logins.
 4. Right-click the user name for the default action account and select Properties.
 5. On the left, select the Server Roles page.
 6. On the right, make sure the public server role option is selected.

- The appropriate database role memberships (public, dbmodule_users, and either db_owner OR db_datareader, db_datawriter, db_ddladmin) on the OCPMDB, OperationsManager, and OperationsManagerDW databases:
 1. Open SQL Server Management Studio and connect to your SQL instance.
 2. Under Databases, expand Security.
 3. Expand Logins.
 4. Right-click the user name for the default action account and select Properties.
 5. On the left, select the User Mappings page.
 6. In the box on the upper right, under Users Mapped to this login, select the row for each database.
 7. In the lower left, make sure the following options are selected:
 - public
 - dbmodule_users
 - db_owner OR db_datareader, db_datawriter, db_ddladmin

Note: db_owner is required on the OCPMDB.
- The SCOM user role of Operation Manager Operator must be set to the same Run As account as either the Data ONTAP: Discovery and Monitoring, if used, or the Default Action Account.
 1. Navigate to **SCOM > Administration > Security > User Roles > Operation Manager Operator > Add users**.
 2. Add the Run As account as the user.

Data ONTAP: Discovery and Monitoring Account for Virtualization

This profile must have the following privileges:

- All of the same permissions as the Data ONTAP: Discovery and Monitoring Account.
- Member of local administrators group on Hyper-V hosts being monitored.

Data ONTAP: Maintenance Account

This profile must have all of the same permissions as the Data ONTAP: Discovery and Monitoring Account.

Related information

[*Microsoft TechNet: System Center 2012 Operations - How and When to Clear the Cache*](#)

Verifying support for your configuration in the Interoperability Matrix

You can use the NetApp Interoperability Matrix (IMT) to verify product support for your configuration: Data ONTAP software, host operating system, and so on. Verify support for your configuration before you install or upgrade to the new release.

Steps

1. Access the IMT.

NetApp Interoperability Matrix Tool

2. If OnCommand Plug-in for Microsoft is not the selected Storage Solution, click **Change**, and then select it under the Server Suite category.



3. In the **Component Explorer** pane, select each component you want to verify and click **Add** when prompted.

When you add an item, incompatible items are grayed out.

Tip: Select the parent of a set of components to select all of its children.

4. When you are satisfied with your choices, click **Show Results**.

The IMT lists each supported configuration.

5. You can:

- Scroll across a configuration to view the supported components and any notes or alerts for the configuration.
- Click the configuration name to display complete information for supported components, including support history and NetApp policies and guidelines for the selected Storage Solution category.

6. If no results are returned for your configuration, use the feedback wizard to report the problem to NetApp:
 - a. Click **Feedback** in the upper right corner of the IMT.
 - b. Select **I cannot find my configuration**, and then click **Next**.
 - c. Choose OnCommand Plug-in for Microsoft in the **Solution** drop-down list, and then type your comments and click **Submit**.

Important cautions

Important cautions identify issues that could severely degrade product functionality. Review these cautions carefully.

Running virtualization discovery

After you complete a MetroCluster switchover operation, you must run the discovery task on your clustered Data ONTAP systems prior to running virtualization discovery task.

Minimum RSA certificate key length required in Windows

If the NetApp storage controller uses a certificate with an RSA key length less than 1024 bits, the length must be updated to meet the minimum requirements for certificates; the RSA key must be at least 1024 bits long. This affects Windows Server 2008 R2.

Clustered Data ONTAP MetroCluster health check disabled by default

The clustered Data ONTAP MetroCluster health check features (Cluster.MetroCluster.Health and Cluster.MetroCluster.HealthMonitor) are disabled by default.

Discovery tasks might fail if servers are configured to be outside of the OnCommand Plug-in for Microsoft resource pool

In a configuration where some of the servers are configured to be outside of the OnCommand Plug-in for Microsoft resource pool, the OnCommand Plug-in for Microsoft discovery tasks might fail (bug ID [930322](#)).

The problem occurs because tasks for the OnCommand Plug-in for Microsoft discoveries are executed on the wrong management server outside of the OnCommand Plug-in for Microsoft resource pool.

The root cause for this issue is an error inside a Microsoft stored procedure that also returns servers outside of the resource pool.

The problem is unlikely to occur in stable production environments where the management servers included in the OnCommand Plug-in for Microsoft resource pool do not change. It is more likely to occur in a test environment where the OnCommand Plug-in for Microsoft is uninstalled and reinstalled in a short period of time.

The recommended workaround is to wait 48 hours until the Microsoft SCOM Service cleans up and consolidates deleted entries in the database.

There is another possible workaround; however, because this code is internal to Microsoft, it is not a recommended solution. This workaround requires you to modify one of the Microsoft System Center database stored procedures. If you cannot wait the recommended 48 hours, contact NetApp support for assistance. Microsoft plans to include a fix in an upcoming SCOM update.

The OnCommand Plug-in for Microsoft workflow

OC.Cluster.OM.Server.Monitoring.StorageMonitoring.InsertVolumePerformanceData might fail due to incorrect permissions to access the local registry on the system

If the Run As profiles and the user permissions were not set up properly on the OCPMDB, you might encounter an error that you “cannot access DB connection information” (bug ID [953933](#)).

To resolve this issue, perform the following steps:

1. Make sure that the user configured to execute SCOM and OnCommand Plug-in for Microsoft workflows has permission to read and write to the local registry (for example, the user is configured to be the "local administrator").
2. Make sure all of the permissions for the Run As profiles accounts and assigned users are set properly on every management server (see the "Upgrade notes" section of these Release Notes).
3. Verify that the Run As profile account > Data ONTAP: Maintenance Account contains a user configured with the "db_owner" role.
If this profile account is not configured with this type of user, then you must configure the Default Action Account with a user assigned with the "db_owner" role.
4. If any host was remotely installed with only SCOM, then run the OnCommand Plug-in for Microsoft 4.1.1 installer locally. Make sure to select "Modify" and add the "OCPM Commandlets" feature during the installation process. This will insure the integrity of the installation in case permissions were not correct during the original installation.

Related references

[Upgrade notes](#) on page 8

Known limitations

Known limitations identify platforms, devices, or functions that are not supported by this release of the product, or that do not interoperate correctly with it. Review these limitations carefully.

Unsupported functionality

The following functionality is not supported in this release:

- Discovery and monitoring of SMB home-directory or home-directory shares

Remote cloning limitations (7-Mode only)

Note the following limitations to remotely cloning templates:

- A non-HA VM template can be cloned only from stand-alone to remote or to local stand-alone.
- An HA VM template can be cloned only from cluster to remote or to local cluster.

Monitor timeout and interval values in a large configuration

In a large configuration with many storage objects, you can configure the timeout and interval values of the rules. You can override and increase the timeout and interval values of the rules to avoid a timeout occurring or monitoring scripts being dropped. You should monitor the Operations Manager event logs for script timeout issues.

SNMP v3 cannot be used to discover hosts with SCOM MP operating in 7-Mode

By default, SCOM MP uses only SNMP v1 or v2 for network discovery, and the plug-in uses the network discovery built into SCOM. If you are using SNMP v3 and attempt to add a controller using SCOM, discovery does not find the host and the controller is not added.

ASUP reports on the clones created by OnCommand Plug-in for Microsoft

Because ASUP only works at the cluster level, to see the ASUP message for the Storage Virtual Machine (SVM), you must add the SVM parent cluster to the OnCommand Plug-in for Microsoft database.

Known issues

Known issues identify problems that might prevent you from using this release of the product successfully. NetApp Bugs Online provides complete information for most known issues, including any workarounds.

[NetApp Bugs Online](#)

If a Bugs Online report is available, the bug ID contains a hyperlink to the report.

Known issues identified in this release

The following issues have been added to the release notes since the last release:

Bug ID	Description
823846	On System Center Operations Manager (SCOM) 2012, if the device is discovered as SNMPv2, the SNMPv1 traps will not be received.
867580	The Data ONTAP operating in 7-Mode Discovery task fails with the exception: Data ONTAP discovery - caught exception during commit.
930322	If any servers are configured to be outside of the OnCommand Plug-in for Microsoft resource pool, the OnCommand Plug-in for Microsoft Discovery tasks might fail due to a known Microsoft error.
945408	Various views in the SCOM appear to be constantly in the loading process when displaying discovered storage objects.
945921	Cannot manually delete OnCommand Data ONTAP Shared Library maintenance profile if there is a dependency on the Microsoft.SystemCenter.SecureReferenceOverride management pack.
951878	Database error occurred during upgrade of OnCommand Plug-in for Microsoft.

Known issues identified in previous releases

The following issues were reported in previous editions of the release notes:

Bug ID	Description
669645	OnCommand Plug-in for Microsoft add-in for SCVMM Console fails to clone to a remote host that has only the SCVMM Console.
689292	OnCommand Plug-in for Microsoft cannot set threshold levels for qtree, such as Critical and Warning, as can be set for aggregates.
707547	Disconnect-OCStorage cmdlet might fail if a LUN is missing the serial number.
725278	Monitors for disconnected ports send alerts and display the health state.
745175	Sub LUN Sis clone performance degradation: operation buffer size was reduced in OnCommand Plug-in 4.0 to prevent the Data ONTAP API from hanging.
779161	You cannot add controllers into SCOM after upgrading to OnCommand Plug-in 4.0 operating in 7-Mode.
780178	An incomplete version number is displayed for the integration packs under SCO deployment manager.
820415	VHD Volume State Monitor does not generate event 25012 when the VHD's volume is offline.

Bug ID	Description
830206	Unable to add controllers into SCOM OnCommand Plug-in 4.0.1 for Microsoft.
863041	OnCommand Plug-in 4.0.1 for Microsoft discovery failed.

Documentation errors

Review these errors and omissions in the published documentation carefully.

Missing OnCommand Plug-in for Microsoft permissions needed when connecting to clustered Data ONTAP using a user other than administrator

The storage administrator must add the following permissions:

```
security login role create -role OCPM -access readonly "statistics catalog instance show"
```

```
security login role create -role OCPM -access readonly "statistics catalog counter show"
```

```
security login role create -role OCPM -access readonly "statistics catalog object show"
```

```
security login role create -role OCPM -access readonly "metrocluster show"
```

Missing OnCommand Plug-in for Microsoft permission needed to monitor NetApp MetroCluster software

The storage administrator must add the following permissions:

```
security login role create -role OCPM -access readonly "storage bridge show"
```

Adding Data ONTAP storage controller credentials in 7-Mode environments

If you cannot connect to the controller entered into the Manage Controller Credentials, the Run As Action Account might need to be configured:

1. Add the OnCommand Plug-in for Microsoft Run As Action Account as an administrator on the local host.
2. Change the credentials of the OnCommand Plug-in for Microsoft Run As Action Account to a user with privileges that allow it to run.
The credentials can be edited by navigating SCOM **Administration > Run As Configuration > Accounts > Action Account**.

Adding a clustered Data ONTAP storage system

If you cannot connect to the controller entered into the Manage Storage System, the Run As Action Account might need to be configured:

1. Add the OnCommand Plug-in for Microsoft Run As Action Account as an administrator on the local host.
2. Change the credentials of the OnCommand Plug-in for Microsoft Run As Action Account to a user with privileges that allow it to run.
The credentials can be edited by navigating SCOM **Administration > Run As Configuration > Accounts > Action Account**.

Additional hardware requirements for installing SCOM management servers

For SCOM management servers that will monitor clustered Data ONTAP systems, it is recommended that in addition to meeting the minimum requirements specified in the *OnCommand Plug-in for*

Microsoft Installation and Setup Guide For Clustered Data ONTAP, your management server should have at least 4 vCPUs and 4 GB of additional RAM available for the plug-in.

Errors in the Installation and Setup Guide for clustered Data ONTAP regarding using SNMP for discovery

SNMP is not used for clustered Data ONTAP monitoring. You must supply the name or IP address of the clustered systems for OnCommand Plug-in for Microsoft to discover them. The *OnCommand Plug-in for Microsoft 4.1 for Microsoft Installation and Setup Guide For Clustered Data ONTAP* should contain the following changes:

- The reference to SystemSnmp.Library in the System Center Operations Manager library requirements topic should be removed.
- The SNMP support topic should be deleted.

Related information

[*OnCommand Plug-in 4.1 for Microsoft Installation and Setup Guide for Clustered Data ONTAP*](#)

Where to get help and find more information

The NetApp Support Site provides access to troubleshooting tools, product documentation, and technical assistance. You can use NetApp Community forums to connect with peers, and the NetApp Library to access technical reports and white papers.

- [*NetApp Support*](#)
Access troubleshooting tools, product documentation, and technical support assistance.
- [*NetApp Communities*](#)
Connect with peers, ask questions, exchange ideas, find resources, and share best practices.
- [*NetApp library of technical reports and white papers*](#)
Access technical reports, white papers, and other documents.
 - [*List of OnCommand Plug-in for Microsoft "Break-Fix" knowledge base articles*](#)
 - [*List of OnCommand Plug-in for Microsoft "FAQs" knowledge base articles*](#)
 - [*List of OnCommand Plug-in for Microsoft "How to" knowledge base articles*](#)

Copyright information

Copyright © 1994–2015 NetApp, Inc. All rights reserved. Printed in the U.S.

No part of this document covered by copyright may be reproduced in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system—without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP "AS IS" AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

RESTRICTED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.277-7103 (October 1988) and FAR 52-227-19 (June 1987).

Trademark information

NetApp, the NetApp logo, Go Further, Faster, AltaVault, ASUP, AutoSupport, Campaign Express, Cloud ONTAP, Clustered Data ONTAP, Customer Fitness, Data ONTAP, DataMotion, Fitness, Flash Accel, Flash Cache, Flash Pool, FlashRay, FlexArray, FlexCache, FlexClone, FlexPod, FlexScale, FlexShare, FlexVol, FPolicy, GetSuccessful, LockVault, Manage ONTAP, Mars, MetroCluster, MultiStore, NetApp Insight, OnCommand, ONTAP, ONTAPI, RAID DP, RAID-TEC, SANtricity, SecureShare, Simplicity, Simulate ONTAP, Snap Creator, SnapCenter, SnapCopy, SnapDrive, SnapIntegrator, SnapLock, SnapManager, SnapMirror, SnapMover, SnapProtect, SnapRestore, Snapshot, SnapValidator, SnapVault, StorageGRID, Tech OnTap, Unbound Cloud, and WAFL and other names are trademarks or registered trademarks of NetApp, Inc., in the United States, and/or other countries. All other brands or products are trademarks or registered trademarks of their respective holders and should be treated as such. A current list of NetApp trademarks is available on the web at <http://www.netapp.com/us/legal/netapptmlist.aspx>.

How to send comments about documentation and receive update notifications

You can help us to improve the quality of our documentation by sending us your feedback. You can receive automatic notification when production-level (GA/FCS) documentation is initially released or important changes are made to existing production-level documents.

If you have suggestions for improving this document, send us your comments by email to doccomments@netapp.com. To help us direct your comments to the correct division, include in the subject line the product name, version, and operating system.

If you want to be notified automatically when production-level documentation is released or important changes are made to existing production-level documents, follow Twitter account @NetAppDoc.

You can also contact us in the following ways:

- NetApp, Inc., 495 East Java Drive, Sunnyvale, CA 94089 U.S.
- Telephone: +1 (408) 822-6000
- Fax: +1 (408) 822-4501
- Support telephone: +1 (888) 463-8277

Index

B

bugs

- considerations before upgrading to this release of OnCommand Plug-in for Microsoft [16](#)
- fixed in this release of OnCommand Plug-in for Microsoft [7](#)

C

cautions

- before upgrading to this release of OnCommand Plug-in for Microsoft [13](#)

comments

- how to send feedback about documentation [23](#)

community forums

- help and information you can find on [20](#)

configurations

- verifying support for system [11](#)

D

documentation

- how to receive automatic notification of changes to [23](#)
- how to send feedback about [23](#)
- where to get more product [20](#)

documentation errors

- for this release [18](#)

E

errors, documentation

- for this release [18](#)

F

features

- new in this release of OnCommand Plug-in for Microsoft [7](#)

feedback

- how to send comments about documentation [23](#)

fixed issues

- in this release of OnCommand Plug-in for Microsoft [7](#)

functions

- new in this release of OnCommand Plug-in for Microsoft [7](#)

H

help

- where to get more product information and [20](#)

I

important cautions

- before upgrading to this release of OnCommand Plug-in for Microsoft [13](#)

IMT

- using to verify support for system configurations [11](#)

information

- how to send feedback about improving documentation [23](#)
- where to get more product help and [20](#)

information updates

- release note [4](#)

Interoperability Matrix

- See* IMT

issues

- considerations before upgrading to this release of OnCommand Plug-in for Microsoft [16](#)
- fixed in this release of OnCommand Plug-in for Microsoft [7](#)

K

known issues

- considerations before upgrading to this release of OnCommand Plug-in for Microsoft [16](#)

L

libraries

- help and information you can find on [20](#)

limitations

- known in this release of OnCommand Plug-in for Microsoft [15](#)

N

NetApp Interoperability Matrix

- See* IMT

O

OnCommand Plug-in for Microsoft

- description of [6](#)
- known issues in this release [16](#)
- known limitations in this release [15](#)
- overview of [6](#)
- uses of [6](#)

P

product documentation

- where to get more [20](#)

product help

- where to get more [20](#)

public forums

- help and information you can find on [20](#)

R

release notes

- documentation errors in this release [18](#)
- important cautions before upgrading to this release of OnCommand Plug-in for Microsoft [13](#)
- issues fixed in this release of OnCommand Plug-in for Microsoft [7](#)
- known issues in this release of OnCommand Plug-in for Microsoft [16](#)
- known limitations in this release of OnCommand Plug-in for Microsoft [15](#)
- new features and functions in this release of OnCommand Plug-in for Microsoft [7](#)
- updates [4](#)
- upgrade notes for OnCommand Plug-in for Microsoft [8](#)
- verifying support for system configurations [11](#)
- where to get more product help and information [20](#)

S

suggestions

- how to send feedback about documentation [23](#)

support

- verifying system configuration [11](#)

support site

- help and information you can find on [20](#)

system configurations

- verifying support for [11](#)

T

technical reports

- where you can find [20](#)

tools

- where to get information about troubleshooting [20](#)

troubleshooting tools

- where to get information about [20](#)

twitter

- how to receive automatic notification of documentation changes [23](#)

U

updates

- release note [4](#)

upgrade considerations

- important cautions in this release of OnCommand Plug-in for Microsoft [13](#)
- issues fixed in this release of OnCommand Plug-in for Microsoft [7](#)
- known issues in this release of OnCommand Plug-in for Microsoft [16](#)
- known limitations in this release [15](#)
- OnCommand Plug-in for Microsoft [8](#)