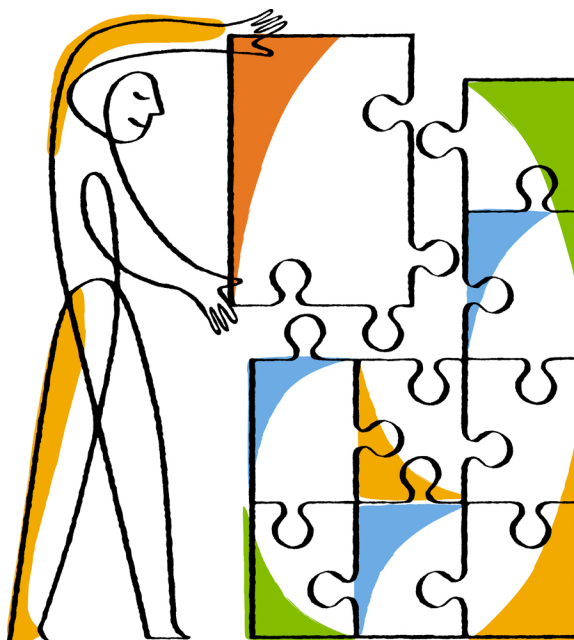




OnCommand® Plug-in 3.2.1 for Microsoft®

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: 215-08083_A0 ur001
July 2013

Contents

New and changed features in OnCommand Plug-in 3.2 for Microsoft	5
Highlighted fixed issues in OnCommand Plug-in 3.2.1 for Microsoft	7
Special configuration information	8
Configuring an OnCommand Plug-in for Microsoft database	8
Remotely installing and uninstalling OnCommand Plug-in for Microsoft using the Manage OCPM Hosts Add-in	9
Limitations of the plug-in	10
Removed functionality	12
Troubleshooting	13
What to do with the event matrix	13
Diagnostics using the Debug-OCHost cmdlet	14
When you attempt to run the installer remotely, you get a fatal error	14
The OCPM add-ins for SCVMM Console require the plug-in be installed on the SCVMM server	14
OCPM is not installed	15
Add-in cannot be installed	15
Cmdlet fails when creating a LUN exactly 2 TB (2048 GB) in size	15
Uninitialized LUNs cannot be connected to the host	16
Connect to controller failed: storage system credentials cannot be found	16
SCVMM Console crashes after creating new virtual machines	17
You need to format the disk in drive X:\ before you can use it	17
Plug-in fails to create a LUN on a Japanese configuration	17
Known issues	18
Disconnect and Remove storage can take up to six minutes to complete	18
OCPM add-in for SCVMM Console fails to clone to a remote host that has only the SCVMM Console	18
Object Deleted error returned after check-in to SCVMM	19
SCOM management pack-related event filters might take time to appear in Eventvwr	19
Documentation corrections and additions	20
Copyright information	24

Trademark information 25

New and changed features in OnCommand Plug-in 3.2 for Microsoft

OnCommand Plug-in 3.2 for Microsoft introduces support for System Center 2012 Service Pack 1 and offers new features to help you manage Data ONTAP storage.

New System Center Virtual Machine Manager (SCVMM) features

- **SCVMM Clone Virtual Machine Add-in**
Enables you to clone a virtual machine from the remote console.
- **SCVMM Clone Virtual Machine from Template Add-in**
Enables you to clone a virtual machine from a template that is on storage.
- **SCVMM Manage Controllers Add-in**
Enables you to manage remote controllers and their credentials from an SCVMM console.
- **SCVMM Manage Hosts Add-in**
Enables you to remotely configure the plug-in on Hyper-V hosts in the SCVMM console.

New System Center Orchestrator feature

- Support for Options Menu Configuration for Cloning and Provisioning and Data ONTAP Toolkit

New PowerShell cmdlet

- **Debug-OCHost** runs diagnostics on the local machine, which enables you to check the host configurations. When you encounter issues with the plug-in, you can run **Debug-OCHost** to help you resolve those issues.

New System Center Operation Manager (SCOM) feature

- Support for the SCOM console

New controller management feature

- OnCommand Plug-in for Microsoft stores controller credential information for cloning, provisioning, System Center Orchestrator activities, and SCVMM Add-ins in a SQL database.

Updates to Microsoft Windows support

- Support for Microsoft Windows 2012

Changes to disaster recovery

- Live disaster recovery is supported so that you can update your disaster recovery plan while the virtual machines are online.

6 | OnCommand Plug-in 3.2.1 for Microsoft Release Notes

- You can include virtual machines on LUNs that are mounted on volume GUIDs in disaster recovery operations.

Change to cloning

- Cloning across multiple controllers

Highlighted fixed issues in OnCommand Plug-in 3.2.1 for Microsoft

You should be aware of the most important fixed issues in OnCommand Plug-in 3.2.1 for Microsoft.

Unable to monitor aggregate space

After installing OnCommand Plug-in for Microsoft, you are unable to monitor aggregate space when initiating the monitoring through `GetAggregatedUsedSpace`.

Unable to view multipath SnapMirror relationships in the Status window

OnCommand Plug-in for Microsoft does not display multipath SnapMirror relationships in the SnapMirror Status window, even though both systems are configured for monitoring and discoverable. This is because OnCommand Plug-in for Microsoft supports neither aliases nor multipaths in the `snapmirror.conf` file.

Cloning an invalid template deletes the destination LUN

When you clone an invalid template, the new clone operation deletes the destination LUN. An example of an invalid template is one that does not have a valid operating system, or one that has a valid operating system but an invalid product key. This happens when you use the PowerShell cmdlet `New-OCCLone`, SCVMM **Clone VM from Template** Add-in, or System Center Orchestrator **Clone VM from SCVMM Template** activity.

Special configuration information

You should be aware of updated information about how to configure the OnCommand Plug-in for Microsoft database and how to manage host configurations using System Center Virtual Machine Manager Add-ins.

Configuring an OnCommand Plug-in for Microsoft database

The OnCommand Plug-in for Microsoft database enables you to set up your controller credentials in one centralized location. When you install OnCommand Plug-in for Microsoft on new hosts, you simply point to the SQL Server instance on which the OnCommand Plug-in for Microsoft database is located for your controller credential authentication. This is a new feature in OnCommand Plug-in 3.2 for Microsoft.

Before you begin

- You have an existing local or remote SQL server instance.
- You know your SQL Server instance name.

About this task

Configure the OnCommand Plug-in for Microsoft database during your first OnCommand Plug-in for Microsoft installation. During subsequent installations, specify the SQL Server instance on which the OnCommand Plug-in for Microsoft database to use that database to centrally manage your controller credentials.

You can use the OnCommand Plug-in for Microsoft database to manage controller credentials used by System Center Orchestrator Integration Packs, System Center Virtual Machine Manager Add-ins, and PowerShell cmdlets.

Step

1. During your initial OnCommand Plug-in for Microsoft installation, in the **Configure OCPM Database** screen, specify the SQL Server instance on which you want the OnCommand Plug-in for Microsoft database to reside: for example, **ServerName\InstanceName**.

If you are using a default instance, you need only specify the server name.

After you finish

After you create the OnCommand Plug-in for Microsoft database, specify the SQL Server instance on which the OnCommand Plug-in for Microsoft database resides, to centrally manage your controller credentials using that database during all subsequent installations on different hosts.

After you create the OnCommand Plug-in for Microsoft database, you can manage your stored controller credentials in a few ways:

- Use the SCVMM **Manage Controllers** Add-ins to add, modify, or remove controller credentials.
- Use the PowerShell cmdlets `Add-OCStorageSystem`, `Remove-OCStorageSystem`, and `Get-OCStorageSystem`.
- Use the System Center Orchestrator activities **Add Controller Credentials**, **List Controller Credentials**, and **Remove Controller Credentials**.

Remotely installing and uninstalling OnCommand Plug-in for Microsoft using the Manage OCPM Hosts Add-in

You can use the System Center Virtual Machine Manager (SCVMM) **Manage OCPM Hosts** Add-in to remotely install and uninstall OnCommand Plug-in for Microsoft on multiple hosts, including hosts in a cluster environment.

Before you begin

You have OnCommand Plug-in for Microsoft installed on your SCVMM server.

About this task

If OnCommand Plug-in for Microsoft is not installed on your SCVMM server, the add-ins do not work and you are prompted to install the plug-in whenever an add-in is loaded. You can do this installation remotely and for a clustered SCVMM server.

Steps

1. In the **Manage OCPM Hosts** Add-in, click the names of the unconfigured hosts you want to remotely install.

Choose from the available hosts in the **Host Configuration** screen.

2. Configure OnCommand Plug-in for Microsoft web service.

Use the same user name, password, and port number that you provided for web services during the OnCommand Plug-in for Microsoft installation.

3. Configure or connect to the OnCommand Plug-in for Microsoft database.

Specify the local or remote SQL server instance on which the OnCommand Plug-in for Microsoft database resides. When you have finished, click **OK** to complete the remote installation.

Limitations of the plug-in

You should be aware of certain features that are not supported or have limited support in OnCommand Plug-in for Microsoft.

System Center Operations Manager (SCOM)

- Hyper-V hosts with VHDs on LUNs that are mounted using the volume GUID cannot be monitored for VHD misalignment.
- Remote procedure call protocol for communicating with storage systems is not supported.
- For SCOM views in the plug-in, the optimal screen resolution is 1680 x 1050 or higher and the minimum screen resolution is 1280 x 1024.

At lower resolutions, you should use the Dashboard view, with the tasks pane minimized.

SCVMM Add-ins

The Clone VM and Clone VM from Template SCVMM Add-ins can clone virtual machines only to existing LUNs. These Add-ins cannot clone VMs to new LUNs.

Provisioning

- Connecting LUNs without partitions is not supported.
- Space is not reclaimed for deleted NTFS blocks.
- Remote procedure call protocol for communicating with storage systems is not supported.

Cloning

- The New-OCClone cmdlet supports inclusion of a single SCSI controller in the source virtual machine.
If you attempt to clone an unsupported case in which VHDs are connected to multiple iSCSI controllers, the VHD structure of the cloned virtual machine will not match the source virtual machine.
- Virtual machine cloning supports the use of only one SCSI controller.
- The number of clones that you can create with the New-OCClone cmdlet is limited to one (under specific conditions) when you create a clone from an SCVMM template into new shared LUNs in a cluster environment.
- Template cloning on a remote host or cluster on a new cluster shared volume (CSV) with nc>1 is not supported.
- Sub-LUN cloning in which the source and destination are mounted on different Windows hosts is not supported.

Disaster recovery

- Failover and failback between Windows 2008 and Windows 2012 are not supported.
- The virtual switch name on all nodes of the primary site and secondary site must be identical.
- Round-robin, many-to-one, and one-to-many replication topologies are not supported.
- Synchronous SnapMirror is not supported.
- Multipath SnapMirror relationships are not supported for disaster recovery.
- Mixed primary setups that contain both dedicated and clustered virtual machines are not supported.
- Running any other applications on the secondary site is not supported.
- Using the secondary site as the primary site is not supported.
- The ability to select a subset of virtual machines for failover or failback is not supported.
- Application-consistent restore operations on SnapManager for Hyper-V or SnapDrive for Windows are not supported.
- Configuring any virtual machine networking, such as DHCP, is not supported.
- Disaster recovery of virtual machines that are attached to pass-through disks is not supported.
- Virtual machines that are running on storage that is not from NetApp is not supported.
- Integration of the disaster recovery solution with Hyper-V Authorization Manager is not supported.
- Networking of virtual machines after a restore operation on the secondary site is limited to system or network administrators only.
- Remote procedure call protocol for communicating with storage systems is not supported.

Orchestrator Integration Packs (OIPs)

- For LUNs that you create with System Manager or with the Data ONTAP OIP activities **Create LUN by Size** or **Clone LUN**, you cannot connect to the host using the **Connect Storage to Host** activity.

You must use disk management to explicitly partition and format the LUN.

See the previous lists for provisioning, cloning, and disaster recovery issues related to Orchestrator integration packs.

Removed functionality

You should be aware of certain OnCommand Plug-in for Microsoft functionality that has been removed from the 3.2 version of the software.

The Programs and Features window in the Control Panel does not provide a Change option for OnCommand Plug-in 3.2 for Microsoft.

Also, when you run the installer after an initial installation—for example to upgrade or modify your installation—the Modify and Repair options are not available. You must uninstall the software and reinstall it if you are experiencing problems.

Troubleshooting

You should be familiar with certain OnCommand Plug-in for Microsoft issues and their causes so that you can solve problems with consoles, storage controllers, and performance and resource optimization.

What to do with the event matrix

Some OCPM cmdlets generate error events in various Windows logs. This behavior is not expected by Windows and occurs because of the order in which operations are performed. All the errors and warnings that are generated on a host from any log are also reported in the Administrative Events log, which can be found in the Custom Views folder of the Event Viewer. You can use the event matrix as a guide to error events that you do not need to troubleshoot.

Live disaster recovery requires that the virtual machine configuration data be stored on the secondary site for a restore operation to be successful. Consequently, the disks are disconnected prior to deleting the virtual machine, which then causes the creation of the erroneous event log messages. Errors might occur for each virtual machine that is restored or removed.

The following matrix lists all possible events by ID names their sources, and describes them. You can refer to this matrix to determine which events do not need to be addressed.

Event ID	Event source	Type and description
4096	Microsoft - Windows - Hyper-V - Config	[Error] The virtual machine's configuration is no longer accessible. The device is not ready.
4657	Microsoft - Windows - Failover ClusteringManager	[Error] An error occurred opening resource Virtual Machine Configuration for the virtual machine being removed.
16150	Microsoft - Windows - Hyper-V - VMMS	[Warning] Cannot delete directory. The directory is not empty.
16300	Microsoft - Windows - Hyper-V - VMMS	[Error] Cannot load a virtual machine configuration. Cannot create a file when that file already exists.

Event ID	Event source	Type and description
16410	Microsoft - Windows - Hyper-V - VMMS	[Error] Cannot access the data folder of the virtual machine that is in the process of being removed.
20848	Microsoft - Windows - Hyper-V - VMMS	[Error] Failed to lock virtual machine's configuration. The specified network resource or device is no longer available.

Diagnostics using the Debug-OCHost cmdlet

The Debug-OCHost cmdlet runs diagnostics on the local machine that you can use to troubleshoot problems with the plug-in. The Debug-OCHost cmdlet enables you to check the host configurations.

When you attempt to run the installer remotely, you get a fatal error

Description	This issue occurs when the plug-in detects that there is software missing.
Corrective action	If the log files do not provide enough information, run the installer using the remote system user interface.

The OCPM add-ins for SCVMM Console require the plug-in be installed on the SCVMM server

Description	If you have a machine with the SCVMM Console installed and pointing to a SCVMM server on another node, when you attempt to manage controllers in the SCVMM Console machine, the plug-in instructs you to install OnCommand Plug-in for Microsoft on the SCVMM server machine also.
Cause	The OCPM add-ins for SCVMM Console are installed per console and require the OCPM web service on the SCVMM server.
Corrective action	Install OnCommand Plug-in for Microsoft on the SCVMM server.

OCPM is not installed

Description	This message occurs when you attempt to clone a virtual machine from the Clone VM from Template add-in for SCVMM Console under the following circumstances: • SCVMM manages a remote cluster or node on which the plug-in is not installed. • From the SCVMM server, you invoke the Clone VM from Template add-in. When you click OK in the error message dialog box, the following additional error message, which is not correct, appears: No valid VM Templates
Corrective action	Install OnCommand Plug-in for Microsoft on the remote host.

Add-in cannot be installed

Description	If you try to install the OCPM Manage Controllers add-in for SCVMM, you might receive an error that refers to an assembly that is found in other add-ins.
Cause	This is a Microsoft issue.
Corrective action	1. Go to the Microsoft Support Site and search for Update Rollup 1 for System Center 2012 Service Pack 1. 2. Apply the Update Rollup 1 for System Center 2012 Service Pack 1. Ensure that you apply both of the two Knowledge Bases (KBs) that the Update includes: • KB2792925 - For SCVMM Console • KB2792926 - For VMM Server

Related information

[*Microsoft Support Site*](#)

Cmdlet fails when creating a LUN exactly 2 TB (2048 GB) in size

Description	When you try to create a LUN of exactly 2 TB (2048 GB), the operation fails.
--------------------	---

Corrective action Create a LUN slightly smaller or larger than 2048 GB and re-size it to the size that you want.

Uninitialized LUNs cannot be connected to the host

Issue	Attempts to connect LUNs to the host fail.
Cause	This issue occurs when you attempt to use the <code>Connect-OCStorage</code> cmdlet or the Connect Storage to Host activity to connect to the host uninitialized LUNs that were created using System Manager or the storage system console.
Corrective action	You must first map the LUN to the host and then use Windows Disk Management to initialize and format the disk before attempting to connect the LUN to the host.

Connect to controller failed: storage system credentials cannot be found

Description	The following error can be encountered when the DNS contains multiple IP addresses for a host name and the host name does not always resolve to the same IP address: Connect to controller failed: storage system credentials cannot be found.
Corrective action	You should add credentials for all IP addresses that a host name uses: • If you add the storage system credentials with the IP address, the plug-in uses the IP address and DNS lookup for the fully qualified domain name (FQDN). • If you add the storage system credentials with the host name, the plug-in looks up the IP addresses that are associated with the host and adds one of those IP addresses. • If you perform a get or remove operation with one or more IP addresses, only those IP entries associated with the host name or names is displayed or removed from the OCPM database. • If you have multiple IP addresses per host name and encounter this error, add the storage system credentials for all IP addresses that the host name can resolve, to ensure that any cmdlet and activity operations that are given host names succeed.

SCVMM Console crashes after creating new virtual machines

Description	The SCVMM Console crashes if, after you create new virtual machines using Hyper-V or the OnCommand Plug-in for Microsoft add-ins for SCVMM, you return to SCVMM and refresh the virtual machines.
Cause	This is a Microsoft issue.
Corrective action	To correct this issue, install the latest Microsoft System Center 2012 SP1 roll-up updates.

You need to format the disk in drive *X:* before you can use it

Description	When you attempt to create a LUN on a machine that is running Windows 2008 R2 SP1, the New-OCStorage cmdlet succeeds but OnCommand Plug-in for Microsoft returns the following error message: You need to format the disk in drive <i>X:</i> before you can use it.
Corrective action	Format the newly created disk using Microsoft Disk Management. Right-click the name of the primary partition and select Format .

Plug-in fails to create a LUN on a Japanese configuration

Description	OnCommand Plug-in for Microsoft fails to create a LUN on a Japanese configuration and returns the error そのようなホストは不明です when the display language is set to Japanese and the cluster group strings are not in local language.
Cause	The cluster group strings are not in the local language.
Corrective action	When you create a Windows cluster that uses a non-English language operating system, you should create the cluster in the local display language, for example you should create a Japanese cluster in the Japanese display language on a Japanese operating system.

Known issues

The descriptions of the known issues in this release of OnCommand Plug-in for Microsoft can help you to recognize issues that have been encountered and learn the corrective actions that are available to you.

Disconnect and Remove storage can take up to six minutes to complete

Description	When you attempt to disconnect and remove storage in a Windows 2012 environment, the operation can take up to six minutes if the virtual machine has a LUN.
Cause	There is a new file system, CSVFS, on Windows Server 2012. In CSVFS, when you try to dismount the CSV without cleaning up its cluster resource and dependencies, the plug-in returns an error that states <code>Access denied</code> . Therefore, to disconnect storage, the plug-in has to clean up the cluster resource and dependencies on the CSV first, before it dismounts the CSV disk, and the clean up requires more time.
Corrective action	There is none at this time.

OCPM add-in for SCVMM Console fails to clone to a remote host that has only the SCVMM Console

Description	If you attempt to use the Clone VM from Template add-in to clone from a template to a remote host that has the template and SCVMM Console only, the plug-in returns the following error: TemplateCloneEngine: Clone failed because Get-SCVMMHostCluster thrown an exception reason = you cannot access VMM management server... (Error ID 1604)
Corrective action	1. Log in to the remote machine on which both the template and the remote SCVMM Console are located. 2. Invoke the SCVMM Console and connect to the SCVMM server. 3. Pick the host on which the template resides. 4. Invoke the Clone VM from Template add-in on the local host.

5. Return to the SCVMM server and try to perform remote operations on the console-only machine.

Object Deleted error returned after check-in to SCVMM

Description	OnCommand Plug-in for Microsoft add-ins for SCVMM Console might show an <code>Object Deleted</code> error after you attempt to check them in to the SCVMM Console. The <code>Object Deleted</code> error is displayed whenever the plug-in fails to find the result object in the cache.
Cause	The object might not be found in the cache for two reasons: • The object no longer exists. • The object has not yet been pushed to the client's cache. This is a Microsoft issue.
Corrective action	You can disregard the error message because the add-ins are checked-in successfully.

SCOM management pack-related event filters might take time to appear in Eventvwr

Description	The Data ONTAP management pack and Data ONTAP Virtualization management pack filters might not be operational immediately following the installation of version 3.2 of OnCommand Plug-in for Microsoft. Filters take effect only after at least one event of each type is logged.
Cause	This is due to the design of Eventvwr.

Documentation corrections and additions

It is important that you note information that should be added to or changed based on new or improved functionality not available at the time of the most recent publication of the *Installation and Administration Guide* and the *PowerShell Cmdlet and Orchestrator Activity Reference Guide*.

Installation and Administration Guide changes

Installing and upgrading

OnCommand Plug-in for Microsoft

Add the following information to the end of the task section:

OnCommand Plug-in 3.2 for Microsoft stores all controller credentials in an SQL database. Controller credentials for the 3.1 version of the plug-in were stored in a flat file. Therefore, when you upgrade from version 3.1 to version 3.2 of the plug-in, the credentials in the flat file are not migrated. You must manually add all of your controller credentials to the SQL database in OnCommand Plug-in 3.2 for Microsoft.

Orchestrator integration packs requirements for installation

Replace the last two bullet points with the following information:

- You must re-create your provisioning, cloning, and PowerShell toolkit workflows after you deploy the OIPs for version 3.2. Because of the configuration changes, you must reconnect your runbook for your provisioning, cloning, and PowerShell toolkit workflows to work with version 3.2 OIPs.

Software requirements for installation

Change the first bullet to read as follows:

- Microsoft .NET Framework 4.0 or later

Requirements for adding SCVMM Add-ins

Add the following information between the first and second paragraphs:

SCVMM Add-ins have the following requirements:

- For hosts that are managed in SCVMM, the OnCommand Plug-in for Microsoft System Center TCP/IP web service ports (default 808) must be open in the firewalls or the firewalls must be turned off.
- All cluster nodes with the OnCommand Plug-in for Microsoft System Center TCP/IP web service installed must be using the same port that you specified during installation (default 808).

Cloning virtual machines from a template with the Clone VM from a Template Add-in for the SCVMM Console

Change step 4 to read as follows:

In the Clone VM from Template dialog box, enter or select the following information:

Cloning a virtual machine with the Clone a VM Add-in for the SCVMM Console

Change the wording for step 5 to read as follows:

In the Clone VM dialog box, enter or select the following information:

Configuring hosts with the Manage OCPM Hosts Add-in for SCVMM Console

Change step 4 to read as follows:

- In the Configure OCPM Database dialog box, enter the server name, port number, SQL server instance name, and authentication method. If the credentials that you enter for authentication are invalid, the configuration operation finishes but also returns an error.

Tasks you can perform using the Manage OCPM Hosts Add-in for SCVMM Console

Invoking the Manage OCPM Hosts Add-in installs only cmdlets and the associated web services on the target server. To install any other component, you must use the OnCommand Plug-in for Microsoft installer to install the plug-in manually on the target server.

Clone operation failed to complete. Error The pipeline has been stopped

This issue has been resolved in the 3.2 version.

SnapMirror over multiple paths

Add the following content to the “Disaster recovery” section:

Because you might want more than one physical path for a SnapMirror relationship, SnapMirror supports up to two paths for a particular SnapMirror relationship. When you use multiple paths, you must set up the configuration in one of the following ways:

- Set up static routes to ensure that different routes are used for different IP connections.
- Use different subnets for the two connections.

The paths can be Ethernet, Fibre Channel, or a combination of Ethernet and Fibre Channel.

The two paths can be used in one of these two modes:

Multiplexing mode

SnapMirror uses both paths at the same time, essentially load balancing the transfers. If one path fails, the transfers occur on the remaining path.

After the failed path is repaired, the transfers resume using both paths.

Failover mode SnapMirror uses the first specified path as the desired path and uses the second specified path only after the first path fails.

Failover using only one pair of connections is not supported with SnapMirror network compression.

Windows PowerShell Cmdlet and Orchestrator Activity Reference Guide changes

Remove-OCStorageSystem cmdlet

Add the following information to the description section:

Even if you have multiple IP addresses configured on the storage system, the **Remove-OCStorageSystem** cmdlet removes the specified storage system. You can also remove the storage system using the host name, in which case the cmdlet removes all the entries that the IP addresses associate with the host name.

Remove Controller Credentials activity

Add the following information to the description section:

Even if you have multiple IP addresses configured on the storage system, the **Remove Controller Credentials** activity removes the specified storage system. You can also remove the storage system using the host name, in which case the cmdlet removes all the entries that the IP addresses associate with the host name.

Connect-OCStorage cmdlet

Change the bulleted list in the description of the `Initiator_Name` parameter to read as follows:

- You must zone the initiator port properly with the target port from the storage system.
- If you use iSCSI, the initiator name is the IQN name.
- If you use Fibre Channel, the initiator name is the worldwide port name (WWPN).
The plug-in picks one Fibre Channel initiator from each node of the cluster.
- You must enable MPIO to specify more than one initiator from the same host.
If MPIO is not installed and you have multiple FCP initiators from the same host, you should not specify the initiator parameters explicitly. You should specify the cluster name as the server parameter for OnCommand Plug-in for Microsoft to handle it correctly.

- If you specify invalid or disabled initiators, the storage provisioning operation fails with an error message that indicates which initiator is invalid.

New-OCStorage cmdlet

Change the bulleted list in the description of the `Initiator_Name` parameter to read as follows:

- You must zone the initiator port properly with the target port from the storage system.
 - If you use iSCSI, the initiator name is the IQN name.
 - If you use Fibre Channel, the initiator name is the worldwide port name (WWPN).
- The plug-in picks one Fibre Channel initiator from each node of the cluster.
- You must enable MPIO to specify more than one initiator from the same server.

If MPIO is not installed and you have multiple FCP initiators from the same host, you should not specify the initiator parameters explicitly.

You should specify the cluster name as the server parameter for OnCommand Plug-in for Microsoft to handle it correctly

If MPIO is not enabled, the plug-in picks one Fibre Channel initiator from each node of the cluster; otherwise, the plug-in puts all available Fibre Channel initiators from each node into an initiator group.

Therefore, if MPIO is enabled, each cluster node has an initiator group that contains all its enabled and available Fibre Channel initiators.

- The storage provisioning operation fails with an error if you take any of the following actions:
 - Specify an initiator that does not belong to any of the cluster nodes
 - Do not specify an initiator for a cluster node when you connect to a shared disk or CSV and MPIO is enabled
 - Specify invalid or disabled initiators (the error message indicates which initiator is invalid)

Copyright information

Copyright © 1994–2013 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, Network Appliance, the Network Appliance logo, Akorri, ApplianceWatch, ASUP, AutoSupport, BalancePoint, BalancePoint Predictor, Bycast, Campaign Express, ComplianceClock, Cryptainer, CryptoShred, CyberSnap, Data Center Fitness, Data ONTAP, DataFabric, DataFort, Decru, Decru DataFort, DenseStak, Engenio, Engenio logo, E-Stack, ExpressPod, FAServer, FastStak, FilerView, Flash Accel, Flash Cache, Flash Pool, FlashRay, FlexCache, FlexClone, FlexPod, FlexScale, FlexShare, FlexSuite, FlexVol, FPolicy, GetSuccessful, gFiler, Go further, faster, Imagine Virtually Anything, Lifetime Key Management, LockVault, Mars, Manage ONTAP, MetroCluster, MultiStore, NearStore, NetCache, NOW (NetApp on the Web), Onaro, OnCommand, ONTAPI, OpenKey, PerformanceStak, RAID-DP, ReplicatorX, SANscreen, SANshare, SANtricity, SecureAdmin, SecureShare, Select, Service Builder, Shadow Tape, Simplicity, Simulate ONTAP, SnapCopy, Snap Creator, SnapDirector, SnapDrive, SnapFilter, SnapIntegrator, SnapLock, SnapManager, SnapMigrator, SnapMirror, SnapMover, SnapProtect, SnapRestore, Snapshot, SnapSuite, SnapValidator, SnapVault, StorageGRID, StoreVault, the StoreVault logo, SyncMirror, Tech OnTap, The evolution of storage, Topio, VelocityStak, vFiler, VFM, Virtual File Manager, VPolicy, WAFL, Web Filer, and XBB are trademarks or registered trademarks of NetApp, Inc. in the United States, other countries, or both.

IBM, the IBM logo, and ibm.com are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both. A complete and current list of other IBM trademarks is available on the web at www.ibm.com/legal/copytrade.shtml.

Apple is a registered trademark and QuickTime is a trademark of Apple, Inc. in the United States and/or other countries. Microsoft is a registered trademark and Windows Media is a trademark of Microsoft Corporation in the United States and/or other countries. RealAudio, RealNetworks, RealPlayer, RealSystem, RealText, and RealVideo are registered trademarks and RealMedia, RealProxy, and SureStream are trademarks of RealNetworks, 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.

NetApp, Inc. is a licensee of the CompactFlash and CF Logo trademarks.

NetApp, Inc. NetCache is certified RealSystem compatible.