



Azure administration

Cloud Volumes ONTAP

NetApp
September 25, 2023

Table of Contents

- Azure administration. 1
 - Change the Azure VM type for Cloud Volumes ONTAP. 1
 - Overriding CIFS locks for Cloud Volumes ONTAP HA pairs in Azure 2
 - Use an Azure Private Link or service endpoints. 3
 - Moving resource groups. 7

Azure administration

Change the Azure VM type for Cloud Volumes ONTAP

You can choose from several VM types when you launch Cloud Volumes ONTAP in Microsoft Azure. You can change the VM type at any time if you determine that it is undersized or oversized for your needs.

About this task

- Automatic giveback must be enabled on a Cloud Volumes ONTAP HA pair (this is the default setting). If it isn't, then the operation will fail.

[ONTAP 9 Documentation: Commands for configuring automatic giveback](#)

- Changing the VM type can affect Microsoft Azure service charges.
- The operation restarts Cloud Volumes ONTAP.

For single node systems, I/O is interrupted.

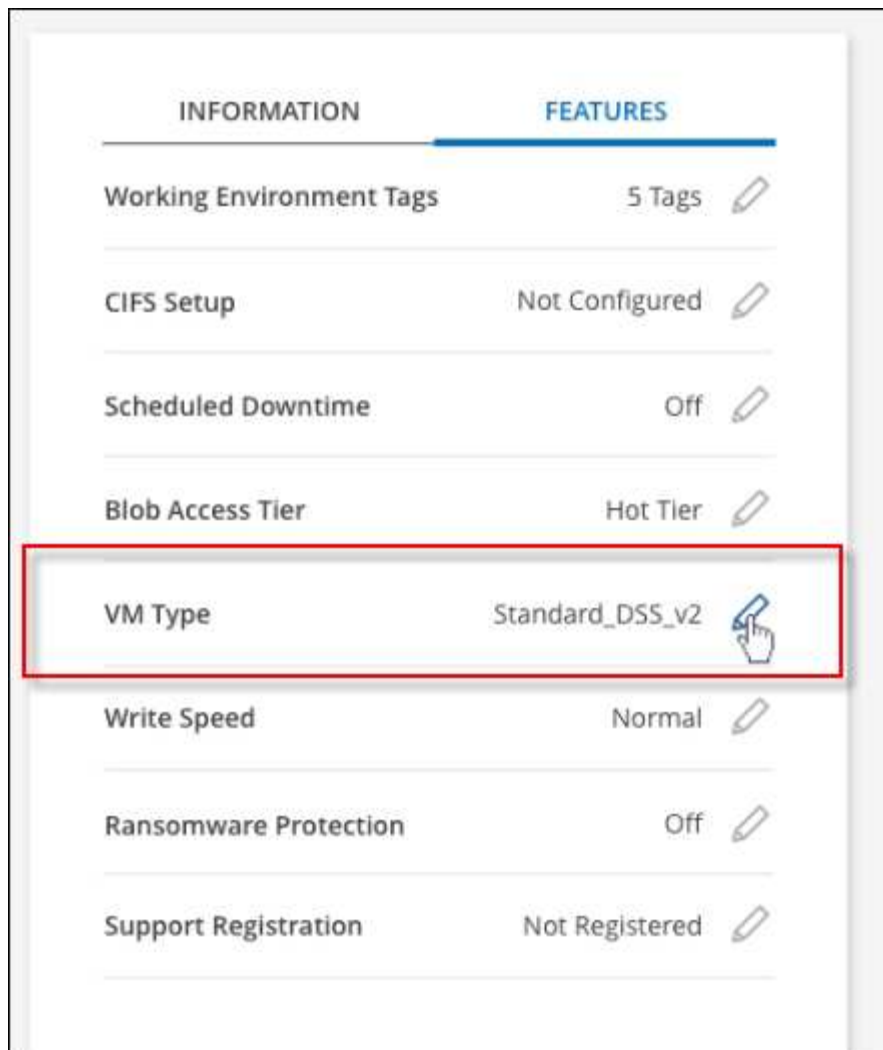
For HA pairs, the change is nondisruptive. HA pairs continue to serve data.



BlueXP gracefully changes one node at a time by initiating takeover and waiting for give back. NetApp's QA team tested both writing and reading files during this process and didn't see any issues on the client side. As connections changed, we did see retries on the I/O level, but the application layer overcame these short "re-wire" of NFS/CIFS connections.

Steps

1. On the Canvas page, select the working environment.
2. On the Overview tab, click the Features panel and then click the pencil icon next to **VM type**.



- a. If you are using a node-based PAYGO license, you can optionally choose a different license and VM type by clicking the pencil icon next to **License type**.
3. Select a VM type, select the check box to confirm that you understand the implications of the change, and then click **Change**.

Result

Cloud Volumes ONTAP reboots with the new configuration.

Overriding CIFS locks for Cloud Volumes ONTAP HA pairs in Azure

The Account Admin can enable a setting in BlueXP that prevents issues with Cloud Volumes ONTAP storage giveback during Azure maintenance events. When you enable this setting, Cloud Volumes ONTAP vetoes CIFS locks and resets active CIFS sessions.

About this task

Microsoft Azure schedules periodic maintenance events on its virtual machines. When a maintenance event occurs on a Cloud Volumes ONTAP HA pair, the HA pair initiates storage takeover. If there are active CIFS sessions during this maintenance event, the locks on CIFS files can prevent storage giveback.

If you enable this setting, Cloud Volumes ONTAP will veto the locks and reset the active CIFS sessions. As a result, the HA pair can complete storage giveback during these maintenance events.



This process might be disruptive to CIFS clients. Data that is not committed from CIFS clients could be lost.

What you'll need

You need to create a Connector before you can change BlueXP settings. [Learn how.](#)

Steps

1. In the upper right of the BlueXP console, click the Settings icon, and select **Connector Settings**.



2. Under **Azure**, click **Azure CIFS locks for Azure HA working environments**.
3. Click the checkbox to enable the feature and then click **Save**.

Use an Azure Private Link or service endpoints

Cloud Volumes ONTAP uses an Azure Private Link for connections to its associated storage accounts. If needed, you can disable Azure Private Links and use service endpoints instead.

Overview

By default, BlueXP enables an Azure Private Link for connections between Cloud Volumes ONTAP and its associated storage accounts. An Azure Private Link secures connections between endpoints in Azure and provides performance benefits.

If required, you can configure Cloud Volumes ONTAP to use service endpoints instead of an Azure Private Link.

With either configuration, BlueXP always limits network access for connections between Cloud Volumes ONTAP and storage accounts. Network access is limited to the VNet where Cloud Volumes ONTAP is deployed and the VNet where the Connector is deployed.

Disable Azure Private Links and use service endpoints instead

If required by your business, you can change a setting in BlueXP so that it configures Cloud Volumes ONTAP to use service endpoints instead of an Azure Private Link. Changing this setting applies to new Cloud Volumes ONTAP systems that you create. Service endpoints are only supported in [Azure region pairs](#) between the Connector and Cloud Volumes ONTAP VNets.

The Connector should be deployed in the same Azure region as the Cloud Volumes ONTAP systems that it manages, or in the [Azure region pair](#) for the Cloud Volumes ONTAP systems.

Steps

1. In the upper right of the BlueXP console, click the Settings icon, and select **Connector Settings**.



2. Under **Azure**, click **Use Azure Private Link**.
3. Deselect **Private Link connection between Cloud Volumes ONTAP and storage accounts**.
4. Click **Save**.

After you finish

If you disabled Azure Private Links and the Connector uses a proxy server, you must enable direct API traffic.

[Learn how to enable direct API traffic on the Connector](#)

Work with Azure Private Links

In most cases, there's nothing that you need to do to set up Azure Private links with Cloud Volumes ONTAP. BlueXP manages Azure Private Links for you. But if you use an existing Azure Private DNS zone, then you'll need to edit a configuration file.

Requirement for custom DNS

Optionally, if you work with custom DNS, you need to create a conditional forwarder to the Azure private DNS zone from your custom DNS servers. To learn more, refer to [Azure's documentation on using a DNS forwarder](#).

How Private Link connections work

When BlueXP deploys Cloud Volumes ONTAP in Azure, it creates a private endpoint in the resource group. The private endpoint is associated with storage accounts for Cloud Volumes ONTAP. As a result, access to Cloud Volumes ONTAP storage travels through the Microsoft backbone network.

Client access goes through the private link when clients are within the same VNet as Cloud Volumes ONTAP, within peered VNets, or in your on-premises network when using a private VPN or ExpressRoute connection to the VNet.

Here's an example that shows client access over a private link from within the same VNet and from an on-prem network that has either a private VPN or ExpressRoute connection.



If the Connector and Cloud Volumes ONTAP systems are deployed in different VNets, then you must set up VNet peering between the VNet where the Connector is deployed and the VNet where the Cloud Volumes ONTAP systems are deployed.

Provide BlueXP with details about your Azure Private DNS

If you use [Azure Private DNS](#), then you need to modify a configuration file on each Connector. Otherwise, BlueXP can't enable the Azure Private Link connection between Cloud Volumes ONTAP and its associated storage accounts.

Note that the DNS name must match Azure DNS naming requirements [as shown in Azure documentation](#).

Steps

1. SSH to the Connector host and log in.
2. Navigate to the following directory: `/opt/application/netapp/cloudmanager/docker_occm/data`
3. Edit `app.conf` by adding the "user-private-dns-zone-settings" parameter with the following keyword-value pairs:

```
"user-private-dns-zone-settings" : {
  "resource-group" : "<resource group name of the DNS zone>",
  "subscription" : "<subscription ID>",
  "use-existing" : true,
  "create-private-dns-zone-link" : true
}
```

The parameter should be entered at the same level as "system-id" like shown below:

```
"system-id" : "<system ID>",
"user-private-dns-zone-settings" : {
```

Note that the subscription keyword is required only if the Private DNS Zone exists in a different subscription than the Connector.

4. Save the file and log off the Connector.

A reboot isn't required.

Enable rollback on failures

If BlueXP fails to create an Azure Private Link as part of specific actions, it completes the action without the Azure Private Link connection. This can happen when creating a new working environment (single node or HA pair), or when the following actions occur on an HA pair: creating a new aggregate, adding disks to an existing aggregate, or creating a new storage account when going above 32 TiB.

You can change this default behavior by enabling rollback if BlueXP fails to create the Azure Private Link. This can help to ensure that you're fully compliant with your company's security regulations.

If you enable rollback, BlueXP stops the action and rolls back all resources that were created as part of the action.

You can enable rollback through the API or by updating the app.conf file.

Enable rollback through the API

Step

1. Use the `PUT /occm/config` API call with the following request body:

```
{ "rollbackOnAzurePrivateLinkFailure": true }
```

Enable rollback by updating app.conf

Steps

1. SSH to the Connector host and log in.
2. Navigate to the following directory: `/opt/application/netapp/cloudmanager/docker_occm/data`

3. Edit app.conf by adding the following parameter and value:

```
"rollback-on-private-link-failure": true
```

4. Save the file and log off the Connector.

A reboot isn't required.

Moving resource groups

Cloud Volumes ONTAP supports Azure resource groups moves but the workflow happens in the Azure console only.

You can move a working environment from one resource group to a different resource group in Azure within the same Azure subscription. Moving resource groups between different Azure subscriptions is not supported.

Steps

1. Remove the working environment from **Canvas**.

To learn how to remove a working environment, see [Removing Cloud Volumes ONTAP working environments](#).

2. Execute the resource group move in the Azure console.

To complete the move, refer to [Move resources to a new resource group or subscription in Microsoft Azure's documentation](#).

3. In **Canvas**, discover the working environment.
4. Look for the new resource group in the information for the working environment.

Result

The working environment and its resources (VMs, disks, storage accounts, network interfaces, snapshots) are in the new resource group.

Copyright information

Copyright © 2023 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.

LIMITED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (b)(3) of the Rights in Technical Data -Noncommercial Items at DFARS 252.227-7013 (FEB 2014) and FAR 52.227-19 (DEC 2007).

Data contained herein pertains to a commercial product and/or commercial service (as defined in FAR 2.101) and is proprietary to NetApp, Inc. All NetApp technical data and computer software provided under this Agreement is commercial in nature and developed solely at private expense. The U.S. Government has a non-exclusive, non-transferrable, nonsublicensable, worldwide, limited irrevocable license to use the Data only in connection with and in support of the U.S. Government contract under which the Data was delivered. Except as provided herein, the Data may not be used, disclosed, reproduced, modified, performed, or displayed without the prior written approval of NetApp, Inc. United States Government license rights for the Department of Defense are limited to those rights identified in DFARS clause 252.227-7015(b) (FEB 2014).

Trademark information

NETAPP, the NETAPP logo, and the marks listed at <http://www.netapp.com/TM> are trademarks of NetApp, Inc. Other company and product names may be trademarks of their respective owners.