



What's new in Cloud Volumes ONTAP 9.4

Cloud Volumes ONTAP

Ben Cammett
March 13, 2020

This PDF was generated from https://docs.netapp.com/us-en/cloud-volumes-ontap/reference_new_94.html on March 18, 2021. Always check docs.netapp.com for the latest.

Table of Contents

- What's new in Cloud Volumes ONTAP 9.4. 1
 - Support for pay-as-you-go in the AWS GovCloud (US) region 1
 - Tiering cold data with Cloud Volumes ONTAP Premium and BYOL 1
 - Data tiering in Microsoft Azure 1
 - Data tiering with Provisioned IOPS SSDs 1
 - Improved performance when tiering data. 2
 - Improved performance for multiple workloads in AWS 2
 - EC2 instance types no longer supported 2
 - Upgrade notes 2

What's new in Cloud Volumes ONTAP 9.4

Cloud Volumes ONTAP 9.4 includes several new features and enhancements.



Additional features and enhancements are also introduced in the latest versions of Cloud Manager. See the [Cloud Manager Release Notes](#) for details.

Support for pay-as-you-go in the AWS GovCloud (US) region

The pay-as-you-go version of Cloud Volumes ONTAP is now supported in the AWS GovCloud (US) region. This is in addition to supporting Cloud Volumes ONTAP BYOL in the GovCloud (US) region.

You can deploy Cloud Volumes ONTAP in the GovCloud (US) region just like any other region. Go to NetApp Cloud Central and launch Cloud Manager in GovCloud (US). Then launch Cloud Volumes ONTAP PAYGO or BYOL by creating a new working environment in Cloud Manager.

Tiering cold data with Cloud Volumes ONTAP Premium and BYOL

The 9.2 release introduced automated data tiering between a performance tier (SSD or HDD) and a capacity tier (an object store). The cold data sent to the capacity tier included Snapshot copies of read-write volumes (the *Snapshot only* tiering policy) or data from destination volumes (the *backup* tiering policy).

With Cloud Volumes ONTAP 9.4 Premium and BYOL, you now have a third option: you can use the *auto* tiering policy to tier cold data blocks in a read-write volume to a capacity tier. The cold data includes not just Snapshot copies but also cold user data from the active file system.

If read by random reads, the cold data blocks in the capacity tier become hot and move to the performance tier. If read by sequential reads, such as those associated with index and antivirus scans, the cold data blocks stay cold and do not move to the performance tier.

You can choose the tiering policy when you create or edit a volume in Cloud Manager. For details, refer to [Cloud Manager documentation](#).

Data tiering in Microsoft Azure

You can now reduce your Azure storage costs by combining a performance tier for hot data (Premium or Standard managed disks) with a capacity tier for cold data (Azure Blob storage). The same tiering policies that are supported in AWS are also supported in Azure: auto, Snapshot only, and backup.



Data tiering is not supported with the DS3_v2 virtual machine type.

You can choose the tiering policy when you create or edit a volume in Cloud Manager. For details, refer to [Cloud Manager documentation](#).

Data tiering with Provisioned IOPS SSDs

Data tiering is now supported in AWS with Provisioned IOPS SSDs. You can use these SSDs as the

performance tier for hot data with Amazon S3 as the capacity tier for cold data.

Improved performance when tiering data

The enhanced write performance that was introduced in the 9.2 and 9.3 releases is now supported with volumes that tier cold data to an object store capacity tier. This applies to volumes created on new SSD aggregates in Cloud Volumes ONTAP 9.4.

Improved performance for multiple workloads in AWS

Cloud Volumes ONTAP now has additional networking bandwidth in AWS, which provides improved performance for systems with multiple workloads. The additional bandwidth is available for the following EC2 instance types when you upgrade to 9.4 and when you launch new 9.4 systems:

- m4.xlarge
- m4.2xlarge
- m4.4xlarge
- c4.4xlarge
- c4.8xlarge

EC2 instance types no longer supported

All versions of Cloud Volumes ONTAP no longer support several EC2 instance types. Existing systems running these instance types will continue to operate normally; however, NetApp strongly recommends changing to a different instance type.

To review pricing differences between instance types and NetApp licenses, go to the AWS Marketplace for [single-node systems](#) and for [HA pairs](#).

Instance type no longer supported	Recommended instance type
c3.2xlarge	m4.xlarge
c4.2xlarge	m4.2xlarge
m3.xlarge	m4.xlarge
m3.2xlarge	m4.2xlarge
r3.xlarge	m4.2xlarge
r3.2xlarge	r4.2xlarge



M3 and R3 instance types are not supported with data tiering and enhanced performance, so moving to the M4 and R4 instance types allows you to take advantage of those Cloud Volumes ONTAP features.

Upgrade notes

- Upgrades of Cloud Volumes ONTAP must be completed from Cloud Manager. You should not upgrade Cloud Volumes ONTAP by using System Manager or the CLI. Doing so can impact system stability.

- You can upgrade to Cloud Volumes ONTAP 9.4 from the 9.3 release.

To understand version requirements, refer to [ONTAP 9 Documentation: Cluster update requirements](#).

- The upgrade of a single node system takes the system offline for up to 25 minutes, during which I/O is interrupted.
- Upgrading an HA pair is nondisruptive and I/O is uninterrupted. During this nondisruptive upgrade process, each node is upgraded in tandem to continue serving I/O to clients.

Copyright Information

Copyright © 2021 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, 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.