



Planning your Cloud Volumes ONTAP configuration in Azure

Cloud Manager

Ben Cammett
November 20, 2020

This PDF was generated from https://docs.netapp.com/us-en/occm/task_planning_your_config_azure.html on December 07, 2020. Always check docs.netapp.com for the latest.

Table of Contents

- Planning your Cloud Volumes ONTAP configuration in Azure 1
 - Choosing a license type 1
 - Supported VM types 1
 - Understanding storage limits 1
 - Sizing your system in Azure 1
 - Choosing a configuration that supports Flash Cache 3
 - Azure network information worksheet 3
 - Choosing a write speed 3
 - Choosing a volume usage profile 3

Planning your Cloud Volumes ONTAP configuration in Azure

When you deploy Cloud Volumes ONTAP in Azure, you can choose a preconfigured system that matches your workload requirements, or you can create your own configuration. If you choose your own configuration, you should understand the options available to you.

Choosing a license type

Cloud Volumes ONTAP is available in two pricing options: pay-as-you-go and Bring Your Own License (BYOL). For pay-as-you-go, you can choose from three licenses: Explore, Standard, or Premium. Each license provides different capacity and compute options.

[Supported configurations for Cloud Volumes ONTAP 9.8 in Azure](#)

Supported VM types

Cloud Volumes ONTAP supports several VM types, depending on the license type that you choose.

[Supported configurations for Cloud Volumes ONTAP 9.8 in Azure](#)

Understanding storage limits

The raw capacity limit for a Cloud Volumes ONTAP system is tied to the license. Additional limits impact the size of aggregates and volumes. You should be aware of these limits as you plan your configuration.

[Storage limits for Cloud Volumes ONTAP 9.8 in Azure](#)

Sizing your system in Azure

Sizing your Cloud Volumes ONTAP system can help you meet requirements for performance and capacity. You should be aware of a few key points when choosing a VM type, disk type, and disk size:

Virtual machine type

Look at the supported virtual machine types in the [Cloud Volumes ONTAP Release Notes](#) and then review details about each supported VM type. Be aware that each VM type supports a specific number of data disks.

- [Azure documentation: General purpose virtual machine sizes](#)

- [Azure documentation: Memory optimized virtual machine sizes](#)

Azure disk type

When you create volumes for Cloud Volumes ONTAP, you need to choose the underlying cloud storage that Cloud Volumes ONTAP uses as a disk.

HA systems use Premium page blobs. Meanwhile, single node systems can use two types of Azure Managed Disks:

- *Premium SSD Managed Disks* provide high performance for I/O-intensive workloads at a higher cost.
- *Standard SSD Managed Disks* provide consistent performance for workloads that require low IOPS.
- *Standard HDD Managed Disks* are a good choice if you don't need high IOPS and want to reduce your costs.

For additional details about the use cases for these disks, see [Microsoft Azure Documentation: What disk types are available in Azure?](#).

Azure disk size

When you launch Cloud Volumes ONTAP instances, you must choose the default disk size for aggregates. Cloud Manager uses this disk size for the initial aggregate, and for any additional aggregates that it creates when you use the simple provisioning option. You can create aggregates that use a disk size different from the default by [using the advanced allocation option](#).



All disks in an aggregate must be the same size.

When choosing a disk size, you should take several factors into consideration. The disk size impacts how much you pay for storage, the size of volumes that you can create in an aggregate, the total capacity available to Cloud Volumes ONTAP, and storage performance.

The performance of Azure Premium Storage is tied to the disk size. Larger disks provide higher IOPS and throughput. For example, choosing 1 TB disks can provide better performance than 500 GB disks, at a higher cost.

There are no performance differences between disk sizes for Standard Storage. You should choose disk size based on the capacity that you need.

Refer to Azure for IOPS and throughput by disk size:

- [Microsoft Azure: Managed Disks pricing](#)
- [Microsoft Azure: Page Blobs pricing](#)

Choosing a configuration that supports Flash Cache

A Cloud Volumes ONTAP configuration in Azure includes local NVMe storage, which Cloud Volumes ONTAP uses as *Flash Cache* for better performance. [Learn more about Flash Cache.](#)

Azure network information worksheet

When you deploy Cloud Volumes ONTAP in Azure, you need to specify details about your virtual network. You can use a worksheet to collect the information from your administrator.

Azure information	Your value
Region	
Virtual network (VNet)	
Subnet	
Network security group (if using your own)	

Choosing a write speed

Cloud Manager enables you to choose a write speed setting for Cloud Volumes ONTAP. Before you choose a write speed, you should understand the differences between the normal and high settings and risks and recommendations when using high write speed. [Learn more about write speed.](#)

Choosing a volume usage profile

ONTAP includes several storage efficiency features that can reduce the total amount of storage that you need. When you create a volume in Cloud Manager, you can choose a profile that enables these features or a profile that disables them. You should learn more about these features to help you decide which profile to use.

NetApp storage efficiency features provide the following benefits:

Thin provisioning

Presents more logical storage to hosts or users than you actually have in your physical storage pool. Instead of preallocating storage space, storage space is allocated dynamically to each volume as data is written.

Deduplication

Improves efficiency by locating identical blocks of data and replacing them with references to a single shared block. This technique reduces storage capacity requirements by eliminating redundant blocks of data that reside in the same volume.

Compression

Reduces the physical capacity required to store data by compressing data within a volume on primary, secondary, and archive storage.

Copyright Information

Copyright © 2020 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.