



Storage classes and PV size for AKS clusters

Astra

Ben Cammett
August 16, 2021

Table of Contents

- Storage classes and PV size for AKS clusters 1
 - Service levels and storage classes 1
 - Persistent volume size and performance 1
 - Minimum volume size 1

Storage classes and PV size for AKS clusters

Astra Control Service uses Azure NetApp Files as the backend storage for Azure Kubernetes Service (AKS) clusters. You should understand how choosing a storage class and persistent volume size can help you meet your performance objectives.

Service levels and storage classes

Azure NetApp Files supports three service levels: Ultra storage, Premium storage, and Standard storage. Each of these service levels are designed for different performance needs:

Ultra storage

Provides up to 128 MiB/s of throughput per 1 TiB.

Premium storage

Provides up to 64 MiB/s of throughput per 1 TiB.

Standard storage

Provides up to 16 Mib/s of throughput per 1 TiB.

These service levels are an attribute of a capacity pool. You need to set up a capacity pool for each service level that you want to use with your Kubernetes clusters. [Learn how to set up capacity pools.](#)

Astra Control Service uses these service levels as storage classes for your persistent volumes. When you add Kubernetes compute to Astra Control Service, you're prompted to choose either Ultra, Premium, or Standard as the default storage class. The names of the storage classes are *netapp-anf-perf-ultra*, *netapp-anf-perf-premium*, and *netapp-anf-perf-standard*.

[Learn more about these service levels in the Azure NetApp Files docs.](#)

Persistent volume size and performance

As described above, the throughput for each service level is per 1 TiB of provisioned capacity. That means larger volumes provide better performance. So you should take both capacity and performance needs into consideration when provisioning volumes.

Minimum volume size

Astra Control Service provisions persistent volumes using a minimum volume size of 100 GiB, even if the PVC asks for a smaller volume size. For example, if the PVC in a Helm chart asks for 6 GiB, Astra Control Service automatically provisions a 100 GiB volume.

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.