



# General requirements and planning considerations

## ONTAP Select

David Peterson  
November 21, 2019

This PDF was generated from [https://docs.netapp.com/us-en/ontap-select/reference\\_plan\\_ots\\_general.html](https://docs.netapp.com/us-en/ontap-select/reference_plan_ots_general.html) on December 11, 2020. Always check docs.netapp.com for the latest.

# Table of Contents

- General requirements and planning considerations ..... 1
  - Cluster size and related considerations ..... 1
  - Hypervisor hosts..... 1
  - Storage ..... 2

# General requirements and planning considerations

There are several general requirements that you should consider as part of planning an ONTAP Select deployment.

## Cluster size and related considerations

There are several planning issues related to the cluster size that you should consider.

### Number of nodes in the cluster

An ONTAP Select cluster is composed of one, two, four, six, or eight nodes. You should determine the size of the cluster based on the application requirements. For example, if HA capability is needed for an enterprise deployment, then a multi-node cluster should be used.

### Dedicated versus collocated

Based on the application type, you should determine if the deployment follows the dedicated or collocated model. Note that the collocated model can be more complex due to the workload diversity and tighter integration.

## Hypervisor hosts

There are several planning issues related to the hypervisor host that you should consider.



You should not directly modify the configuration of an ONTAP Select virtual machine unless directed to do so by NetApp support. A virtual machine should only be configured and modified through the Deploy administration utility. Making changes to an ONTAP Select virtual machine outside of the Deploy utility without assistance from NetApp support can cause the virtual machine to fail and render it unusable.

### Hypervisor independent

Both ONTAP Select and the ONTAP Select Deploy administration utility are hypervisor-independent. The following hypervisors are supported for both:

- VMware ESXi
- Kernel-based Virtual Machine (KVM)



Refer to the hypervisor-specific planning information and release notes for additional details regarding the supported platforms.

## **Hypervisor for ONTAP Select nodes and administration utility**

Both the Deploy administration utility and ONTAP Select nodes run as virtual machines. The hypervisor you choose for the Deploy utility is independent of the hypervisor you choose for the ONTAP Select nodes. You have complete flexibility when pairing the two:

- Deploy utility running on VMware ESXi can create and manage ONTAP Select clusters on either VMware ESXi or KVM
- Deploy utility running on KVM can create and manage ONTAP Select clusters on either VMware ESXi or KVM

## **One or more instances of ONTAP Select node per host**

Each ONTAP Select node runs as a dedicated virtual machine. You can create multiple nodes on the same hypervisor host, with the following restrictions:

- Multiple nodes from a single ONTAP Select cluster cannot run on the same host. All the nodes on a specific host must be from different ONTAP Select clusters.
- You must use external storage.
- If you use software RAID, you can only deploy one ONTAP Select node on the host.

## **Hypervisor consistency for the nodes within a cluster**

All of the hosts within an ONTAP Select cluster must run on the same version and release of the hypervisor software.

## **Number of physical ports on each host**

You must configure each host to use one, two, or four physical ports. Although you have flexibility when configuring the network ports, you should follow these recommendations where possible:

- A host in a single-node cluster should have two physical ports.
- Each host in a multi-node cluster should have four physical ports

## **Integrating ONTAP Select with an ONTAP hardware-based cluster**

You cannot add an ONTAP Select node directly to an ONTAP hardware-based cluster. However, you can optionally establish a cluster peering relationship between an ONTAP Select cluster and a hardware-based ONTAP cluster.

# **Storage**

There are several planning issues related to host storage that you should consider.

## **RAID type**

When using direct-attached storage (DAS) on ESXi, you should decide whether to use a local hardware RAID controller or the software RAID feature included with ONTAP Select. If you use software RAID, see [Storage and RAID considerations](#) for more information.

## Local storage

When using local storage managed by a RAID controller, you must decide the following:

- Whether to use one or more RAID groups
- Whether to use one or more LUNs

## External storage

When using the ONTAP Select vNAS solution, you must decide where the remote datastores are located and how they are accessed. ONTAP Select vNAS supports the following configurations:

- VMware vSAN
- Generic external storage array

## Estimate for the storage needed

You should determine how much storage is required for the ONTAP Select nodes. This information is required as part of acquiring the purchased licenses with storage capacity. Refer to Storage capacity restrictions for more information.



The ONTAP Select storage capacity corresponds to the total allowable size of the data disks attached to the ONTAP Select virtual machine.

## Licensing model for production deployment

You must select the capacity tiers or capacity pools licensing model for each ONTAP Select cluster deployed in a production environment. Review the section *License* for more information.

### *Related information*

- [Storage and RAID considerations](#)

## 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.