



Operational details

ONTAP Select

David Peterson
November 21, 2019

This PDF was generated from https://docs.netapp.com/us-en/ontap-select/concept_lic_cp_operation.html on October 18, 2020. Always check docs.netapp.com for the latest.

Table of Contents

Operational details 1

Operational details

The capacity pools licensing model is different from the capacity tiers model. Instead of a dedicating storage capacity to each individual node, the storage capacity is allocated to a pool and shared among many nodes. Additional components and processes have been created to support the capacity pools model.

License Manager

The License Manager is a software component introduced with ONTAP Select 9.5 using ONTAP Select Deploy 2.10. LM runs as a separate process within each instance of the Deploy administration utility. Some of the functions provided by LM include:

- Generate a unique twenty-digit serial number for each node based on the capacity pool license serial number
- Create leases for capacity from the shared capacity pools based on requests from the ONTAP Select nodes
- Report pool usage information through the Deploy user interface

Lease characteristics

The storage allocated for every data aggregate at a node using a capacity pool license must have an associated lease. The node requests a storage lease and if the capacity is available, the License Manager responds with a lease. Each lease has the following explicit or implicit attributes:

- License Manager
Every ONTAP Select node is associated with one License Manager instance
- Capacity pool
Every ONTAP Select node is associated with one capacity pool
- Storage allocation
A specific capacity value is assigned in the lease
- Expiration date and time
Leases have a duration of between one hour and seven days depending on the user configuration.

License Lock ID

Each instance of the License Manager, and therefore each corresponding Deploy utility instance, is identified with a unique 128-bit number. This number is combined with the nine-digit capacity pool license serial number to lock the pool to a specific License Manager instance (which is effectively a Deploy instance). You must provide both values at the NetApp support site as part of generating the NetApp License File (NLF).

You can determine the License Lock ID for your Deploy instance using the web user interface in the following ways:

- **Getting Started page**

This page is displayed when you first sign in to Deploy. You can also display the page by clicking the drop down box at the top right of the page and selecting Getting Started. The LLID is displayed in the Add Licenses section.

- **Administration**

Click the **Administration** tab at the top of the page, then click **Systems** and **Settings**.

Basic lease operations

An ONTAP Select node must locate or request a valid capacity lease every time a data aggregate is created, expanded, or changed. A lease obtained from a previous request that is still valid can be used, or a new lease can be requested if needed. The following steps are taken by the ONTAP Select node to locate a capacity pool lease:

1. If an existing lease is located at the node, it is used as long as all of the following are true:
 - Lease has not expired
 - Storage request for the aggregate does not exceed the lease capacity
2. If an existing lease cannot be located, the node requests a new lease from the License Manager.

Returning storage capacity to a capacity pool

Storage capacity is allocated from a capacity pool as needed and each new request can reduce the available storage in the pool. Storage capacity is returned to the pool in several situations, including:

- Lease for a data aggregate expires and is not renewed by the node
- Data aggregate is deleted



If an ONTAP Select virtual machine is deleted, any active leases remain in effect until they expire. When this occurs, the capacity is returned to the pool.

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.