



Configure the NFS credential cache

ONTAP 9

NetApp
January 17, 2023

Table of Contents

- Configure the NFS credential cache 1
 - Reasons for modifying the NFS credential cache time-to-live 1
 - Configure the time-to-live for cached NFS user credentials. 2

Configure the NFS credential cache

Reasons for modifying the NFS credential cache time-to-live

ONTAP uses a credential cache to store information needed for user authentication for NFS export access to provide faster access and improve performance. You can configure how long information is stored in the credential cache to customize it for your environment.

There are several scenarios when modifying the NFS credential cache time-to-live (TTL) can help resolve issues. You should understand what these scenarios are as well as the consequences of making these modifications.

Reasons

Consider changing the default TTL under the following circumstances:

Issue	Remedial action
The name servers in your environment are experiencing performance degradation due to a high load of requests from ONTAP.	Increase the TTL for cached positive and negative credentials to reduce the number of requests from ONTAP to name servers.
The name server administrator made changes to allow access to NFS users that were previously denied.	Decrease the TTL for cached negative credentials to reduce the time NFS users have to wait for ONTAP to request fresh credentials from external name servers so they can get access.
The name server administrator made changes to deny access to NFS users that were previously allowed.	Reduce the TTL for cached positive credentials to reduce the time before ONTAP requests fresh credentials from external name servers so the NFS users are now denied access.

Consequences

You can modify the length of time individually for caching positive and negative credentials. However, you should be aware of both the advantages and disadvantages of doing so.

If you...	The advantage is...	The disadvantage is...
Increase the positive credential cache time	ONTAP sends requests for credentials to name servers less frequently, reducing the load on name servers.	It takes longer to deny access to NFS users that previously were allowed access but are not anymore.
Decrease the positive credential cache time	It takes less time to deny access to NFS users that previously were allowed access but are not anymore.	ONTAP sends requests for credentials to name servers more frequently, increasing the load on name servers.

If you...	The advantage is...	The disadvantage is...
Increase the negative credential cache time	ONTAP sends requests for credentials to name servers less frequently, reducing the load on name servers.	It takes longer to grant access to NFS users that previously were not allowed access but are now.
Decrease the negative credential cache time	It takes less time to grant access to NFS users that previously were not allowed access but are now.	ONTAP sends requests for credentials to name servers more frequently, increasing the load on name servers.

Configure the time-to-live for cached NFS user credentials

You can configure the length of time that ONTAP stores credentials for NFS users in its internal cache (time-to-live, or TTL) by modifying the NFS server of the storage virtual machine (SVM). This enables you to alleviate certain issues related to high load on name servers or changes in credentials affecting NFS user access.

About this task

These parameters are available at the advanced privilege level.

Steps

1. Set the privilege level to advanced:

```
set -privilege advanced
```

2. Perform the desired action:

If you want to modify the TTL for cached...	Use the command...
Positive credentials	<pre>vserver nfs modify -vserver vserver_name -cached -cred-positive-ttl time_to_live</pre> <p>The TTL is measured in milliseconds. The default is 24 hours (86,400,000 milliseconds). The allowed range for this value is 1 minute (60000 milliseconds) through 7 days (604,800,000 milliseconds).</p>
Negative credentials	<pre>vserver nfs modify -vserver vserver_name -cached -cred-negative-ttl time_to_live</pre> <p>The TTL is measured in milliseconds. The default is 2 hours (7,200,000 milliseconds). The allowed range for this value is 1 minute (60000 milliseconds) through 7 days (604,800,000 milliseconds).</p>

3. Return to the admin privilege level:

```
set -privilege admin
```

Copyright information

Copyright © 2023 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.

LIMITED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (b)(3) of the Rights in Technical Data -Noncommercial Items at DFARS 252.227-7013 (FEB 2014) and FAR 52.227-19 (DEC 2007).

Data contained herein pertains to a commercial product and/or commercial service (as defined in FAR 2.101) and is proprietary to NetApp, Inc. All NetApp technical data and computer software provided under this Agreement is commercial in nature and developed solely at private expense. The U.S. Government has a non-exclusive, non-transferrable, nonsublicensable, worldwide, limited irrevocable license to use the Data only in connection with and in support of the U.S. Government contract under which the Data was delivered. Except as provided herein, the Data may not be used, disclosed, reproduced, modified, performed, or displayed without the prior written approval of NetApp, Inc. United States Government license rights for the Department of Defense are limited to those rights identified in DFARS clause 252.227-7015(b) (FEB 2014).

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.