



Configure the NFS credential cache

ONTAP 9

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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 vsver_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 vsver_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
```

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