Check protocol settings on the storage system

ONTAP 9

NetApp
January 23, 2026

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Check the ONTAP NFS TCP maximum transfer size

For NFS, you can check whether the TCP maximum transfer size for reads and writes might be causing a performance issue. If you think the size is slowing performance, you can increase it.

Before you begin

- You must have cluster administrator privileges to perform this task.
- You must use advanced privilege level commands for this task.

Steps

1. Change to the advanced privilege level:

   ```
   set -privilege advanced
   ```

2. Check the TCP maximum transfer size:

   ```
   vserver nfs show -vserver vserver_name -instance
   ```

3. If the TCP maximum transfer size is too small, increase the size:

   ```
   vserver nfs modify -vserver vserver_name -tcp-max-xfer-size integer
   ```

4. Return to the administrative privilege level:

   ```
   set -privilege admin
   ```

Example

The following example changes the TCP maximum transfer size of `SVM1` to 1048576:

```
cluster1::*> vserver nfs modify -vserver SVM1 -tcp-max-xfer-size 1048576
```

Check the ONTAP iSCSI TCP read/write size

For iSCSI, you can check the TCP read/write size to determine if the size setting is creating a performance issue. If the size is the source of an issue, you can correct it.

Before you begin

Advanced privilege level commands are required for this task.

Steps

1. Change to advanced privilege level:

   ```
   set -privilege advanced
   ```

2. Check the TCP window size setting:

   ```
   vserver iscsi show -vserv,er vserver_name -instance
   ```

3. Modify the TCP window size setting:

   ```
   vserver iscsi modify -vserver vserver_name -tcp-window-size integer
   ```

4. Return to administrative privilege:

   ```
   set -privilege admin
   ```

Example

The following example changes the TCP window size of `SVM1` to 131,400 bytes:

```
cluster1::*> vserver iscsi modify -vserver vs1 -tcp-window-size 131400
```

Check the ONTAP CIFS/SMB multiplex settings

If slow CIFS network performance causes a performance issue, you can modify the multiplex settings to improve and correct it.

Steps

1. Check the CIFS multiplex setting:

   ```
   vserver cifs options show -vserver -vserver_name -instance
   ```

2. Modify the CIFS multiplex setting:

   ```
   vserver cifs options modify -vserver -vserver_name -max-mpx integer
   ```

Example

The following example changes the maximum multiplex count on `SVM1` to 255:

```
cluster1::> vserver cifs options modify -vserver SVM1 -max-mpx 255
```

Check the ONTAP FC adapter port speed

The adapter target port speed should match the speed of the device to which it connects, to optimize performance. If the port is set to autonegotiation, it can take longer to reconnect after a takeover and giveback or other interruption.

Before you begin

All LIFs that use this adapter as their home port must be offline.

Steps

1. Take the adapter offline:

   `network fcp adapter modify -node` *`nodename`* `-adapter` *`adapter`* `-state` *`down`*

   Learn more about `network fcp adapter modify` in the ONTAP command reference.

2. Check the maximum speed of the port adapter:

   `fcp adapter show -instance`

   Learn more about `fcp adapter show` in the ONTAP command reference.

3. Change the port speed, if necessary:

   `network fcp adapter modify -node` *`nodename`* `-adapter` *`adapter`* `-speed {1|2|4|8|10|16|auto}`

4. Bring the adapter online:

   `network fcp adapter modify -node` *`nodename`* `-adapter` *`adapter`* `-state up`

5. Bring all the LIFs on the adapter online:

   `network interface modify -vserver * -lif * { -home-node node1 -home-port e0c } -status-admin up`

   Learn more about `network interface modify` in the ONTAP command reference.

Example

The following example changes the port speed of adapter `0d` on `node1` to 2 Gbps:

```
cluster1::> network fcp adapter modify -node node1 -adapter 0d -speed 2
```

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