Hedvig: Resetting VMware ESXi NFS 4.1 Transfer Size

For NFS 4.1 Datastores, the VMware ESXi NFS client limits the maximum write/read transfer size to 255 KB, even when the NFS server negotiates a higher I/O size.

For 255 KB I/Os, this would result in unaligned writes on Hedvig, causing a degradation in performance.

Two hidden parameters, `ForeMaxRqstSize` and `ForeMaxRespSize`, in the ESXi advanced settings, can be used to increase the maximum transfer size up to 1024 KB.

Here is the procedure for resetting these parameters:

1. Run the following commands on the ESXi host:

   ```
   esxcfg-advcfg -s 1024 /NFS41/ForeMaxRqstSize
   esxcfg-advcfg -s 1024 /NFS41/ForeMaxRespSize
   ```

2. Verify the new settings:

   ```
   esxcfg-advcfg -g /NFS41/ForeMaxRqstSize
   ```

   The value of `ForeMaxRqstSize` should now be 1024.

   ```
   esxcfg-advcfg -g /NFS41/ForeMaxRespSize
   ```

   The value of `ForeMaxRqstSize` should now be 1024.

3. Mount the datastore:

   For Hedvig NFS Datastores, 512 KB is set as the maximum write/read transfer size (as specified in `hedvignfs-exports.conf`):

   ```
   MaxWrite = 524288; MaxRead = 524288
   ```

   The `vmkernel.log` should reflect the `MaxWrite` and `MaxRead` size:

   ```
   2021-03-06T01:47:38.666Z cpu25:9160177 opID=cb5301f1)NFS41:
   NFS41FSCompleteMount:3893: Max read xfer size: 0x80000

   2021-03-06T01:47:38.666Z cpu25:9160177 opID=cb5301f1)NFS41:
   NFS41FSCompleteMount:3894: Max write xfer size: 0x80000
   ```