Authored by: Lenesto Page (/author/lenesto.page)

Node using swap memory instead of host memory

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Issue

By default, Docker recommends using a value of `vm.swappiness=0` for Docker environments, which prevents swapping except in the case of an OOM (OutOfMemory) condition. All nodes must set `vm.overcommit_memory=1`, which tells the kernel to always allow memory allocations until there is no truly memory. This article explains a situation that can occur whenever a value other `0` is used for `vm.swappiness`.

Root Cause

If `vm.swappiness` is set to a value higher than `0`, you might notice that only swap memory is being used on the node even though host memory was available.

Resolution

To successfully set `vm.swappiness=0` and `vm.overcommit_memory=1` use these steps:

1. Verify the current values for `vm.swappiness` and `vm.overcommit_memory`:

   ```
   $ sudo sysctl -a |grep 'vm.swapp*\|vm.over*'
   ```

2. Change the value of `vm.swappiness`:

   ```
   $ sudo sysctl vm.swappiness=0
   ```

3. Change the value of `vm.overcommit_memory`:

   ```
   $ sudo sysctl vm.overcommit_memory=1
   ```

4. Verify the settings have changed two ways:

   ```
   $ sudo sysctl -a |grep 'vm.swapp*\|vm.over*'
   ```

   Also check the `/proc/sys/vm` file:

   ```
   $ cat /proc/sys/vm/overcommit_memory
   $ cat /proc/sys/vm/swappiness
   ```