🖳 moby / **moby**

Allow overlay2 on 7.4 kernel 3.10.0-693.el7.x86_64 or higher? #34368

New issue

🕐 **Closed**   **clemenko** opened this issue on Aug 2, 2017 · 9 comments

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clemenko commented on Aug 2, 2017

Allow the uses of overlay2 in the 3.10.0-693.el7.x86_64 kernel now that Redhat officially supports it?

moby/daemon/graphdriver/overlay2/overlay.go
Lines 136 to 141 in `1009e6a`

```
136        if kernel.CompareKernelVersion(*v, kernel.VersionInfo{Kernel: 4, Major: 0, Minor: 0}) < 0
137            if !opts.overrideKernelCheck {
138                return nil, graphdriver.ErrNotSupported
139            }
140            logrus.Warn("Using pre-4.0.0 kernel for overlay2, mount failures may require kernel
141        }
```

Steps to reproduce the issue:

1. Install docker-ce 17.0.6 on rhel 7.4
2. `echo -e "{ \"storage-driver\": \"overlay2\" }" > /etc/docker/daemon.json; systemctl restart docker`

Describe the results you received:
Docker should restart.

Describe the results you expected:
Docker doesn't support overlay2 on rhel 7.4.

Additional information you deem important (e.g. issue happens only occasionally):

Output of `docker version` :

[root@rhel74 ~]# docker -v
Docker version 17.06.0-ce

Additional environment details (AWS, VirtualBox, physical, etc.):
vmware fusion. also tested on aws.

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chanwit commented on Aug 2, 2017

You can override the kernel check with `--storage-opts overlay2.override_kernel_check=true` .

Ref: https://docs.docker.com/engine/userguide/storagedriver/overlayfs-driver/#configure-docker-with-the-overlay-or-overlay2-storage-driver

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🏷 **chanwit** added `kind/question` `area/storage/overlay` labels on Aug 2, 2017

clemenko commented on Aug 2, 2017

This issue for changing the default behavior and not require the `--storage-opts` .

🏷 **chanwit** removed the `kind/question` label on Aug 2, 2017

thaJeztah commented on Aug 2, 2017   Member

I think there's a couple of options;

through packaging;

Assignees
No one assigned

Labels
area/daemon
area/storage/overlay
kind/enhancement

Projects
None yet

Milestone
No milestone

Notifications

4 participants

- use a different unit file for RHEL7 and CentOS7 rpm's that has the `--storage-opt overlay2.override_kernel_check=true` set by default
- add a drop-in unit file that's installed by the RHEL/CentOS packages (similar to above)

changing the check in the daemon;

- add a compile-time option that disables the check; we can set that when compiling binaries for RHEL/CentOS
- add a very specific kernel-version check that allows overlay2 to be used on `kernel 3.10-<suffix>`

For the kernel check, I think technically the `-suffix` is not part of the kernel's versioning, so this could cause issues with other distros running kernel 3.10

Overall, a vanilla 3.10 kernel is way too old to run docker in a sensible way, so perhaps this is no concern

- Ubuntu 14.04 runs at least kernel 3.13 (they are promoting the Xenial kernels, which is 4.x)
- Debian Wheezy ships with 3.2 by default, which is not supported, so needs to be upgraded to a newer version, but kernels < 3.16 (IIRC) don't support overlay at all, so I guess that's ok

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thaJeztah commented on Aug 2, 2017   Member

ping **@dmcgowan** wdyt?

🏷️ 👤 **thaJeztah** added `area/daemon` `kind/enhancement` labels on Aug 2, 2017

clemenko commented on Aug 2, 2017

My vote is a better kernel check internal to the engine!

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dmcgowan commented on Aug 2, 2017   Member

I think the pattern we have mostly been following here is just testing for the functionality. We don't do too many of these on `Init` but it wouldn't be unreasonable to check for it on Init to detect whether it is supported. The check would only need to be done on older kernels when the `overlay2.override_kernel_check` is not provided.

▥ 👤 **thaJeztah** added this to **backlog** in **maintainers-session** on Aug 3, 2017

thaJeztah commented on Aug 3, 2017   Member

Discussing this in the maintainers meeting with **@cpuguy83** and **@tianon**

- standard kernels < 3.18 don't support overlay (thus no overlay2 as well), so that shouldn't be a problem
- if we detect a kernel < 3.18 that *does* support overlay, we likely have a RHEL kernel, in which case we can do the detection that **@dmcgowan** suggested. This will probably be slow, but only an issue when starting the daemon

We were ok with adding this detection for that case; **@dmcgowan** are you able to work on that, or have any hints what would be needed (if someone else wants to work on it)?

▥ 👤 **thaJeztah** removed this from **backlog** in **maintainers-session** on Aug 3, 2017

dmcgowan commented on Aug 4, 2017   Member

@thaJeztah the hint would be looking at how we detect overlay features in https://github.com/moby/moby/blob/master/daemon/graphdriver/overlay2/check.go. This is not a difficult change, but I think it is better left to someone who has easy access to a RHEL environment to test on. If someone can provide me access to one I don't mind working on it.

🔖 👤 **kinghuang** referenced this issue on Aug 16, 2017

Cannot delete dead containers with overlay2 on RHEL 7.4 #34538   🕐 Closed

thaJeztah commented on Sep 11, 2017

Member

/cc **@kolyshkin** (who's also working on some graph driver things IIRC)

thaJeztah referenced this issue on Nov 16, 2017

Detect overlay2 support on pre-4.0 kernels #35527   Merged

vieux closed this in #35527 on Nov 29, 2017

NicolasT added a commit to scality/metal-k8s that referenced this issue 5 days ago

Explicitly use the `overlay2` Docker storage driver   …   827179f