No route to host / connection refused - swarm mode on ARM #25892

New issue

Closed **alexellis** opened this issue on Aug 20, 2016 · 20 comments

alexellis commented on Aug 20, 2016 • edited Contributor

I've set up a Node / ExpressJS service on port 3000 with a Raspberry Pi Model 2 using the install from `get.docker.com`. If I run the container with `docker run` it works OK and returns the text "hello" from `curl`.

CC/ **@ManoMarks @DieterReuter @StefanScherer**

Expected: `curl -4 localhost:3000` should return `hello`

Actual: `curl: (7) Failed to connect to localhost port 3000: Connection refused`

Image built from:

https://github.com/alexellis/arm-alpinehello/

```
$ docker service create --name hello --publish 3000:3000 --replicas=1 alexellis2/arm-alpine
```

```
docker service ps hello
ID                         NAME     IMAGE                              NODE       DESIRED S
2m0sodl714p3qowp6hk9zq3nx  hello.1  alexellis2/arm-alpinehello:latest  pi2swarm7  Running
```

```
ID                           HOSTNAME   STATUS  AVAILABILITY  MANAGER STATUS
207yx66h5q1i3qn4zwqxy49gc    pi2swarm6  Ready   Active        Reachable
6009dx3xhfmyc5qdkjuwlzgd9    pi2swarm5  Ready   Active
6ftjhnqqmtjkyk7r5trxcrm9m    pi2swarm2  Ready   Active
7725832n2rsj1e39edrb02nsr *  pi2swarm1  Ready   Active        Leader
ae26fnpuyh9slt9olan725uir    pi2swarm3  Ready   Active
cdewqt2lzd3trkretleghe2v9    pi2swarm4  Ready   Active        Reachable
evrpb5uq9li9qbw9a28spkyon    pi2swarm7  Ready   Active
```

```
docker version
Client:
 Version:      1.12.1
 API version:  1.24
 Go version:   go1.6.3
 Git commit:   23cf638
 Built:        Thu Aug 18 05:31:15 2016
 OS/Arch:      linux/arm

Server:
 Version:      1.12.1
 API version:  1.24
 Go version:   go1.6.3
 Git commit:   23cf638
 Built:        Thu Aug 18 05:31:15 2016
 OS/Arch:      linux/arm
```

```
pi@pi2swarm1:~ $ cat /etc/issue
Raspbian GNU/Linux 8 \n \l

pi@pi2swarm1:~ $ uname -a
Linux pi2swarm1 4.4.11-v7+ #888 SMP Mon May 23 20:10:33 BST 2016 armv7l GNU/Linux
pi@pi2swarm1:~ $
```

Assignees

No one assigned

Labels

Projects

None yet

Milestone

No milestone

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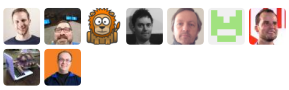
9 participants



```
$ docker info
Containers: 2
 Running: 2
 Paused: 0
 Stopped: 0
Images: 27
Server Version: 1.12.1
Storage Driver: overlay
 Backing Filesystem: extfs
Logging Driver: json-file
Cgroup Driver: cgroupfs
Plugins:
 Volume: local
 Network: bridge host null overlay
Swarm: active
 NodeID: 7725832n2rsj1e39edrb02nsr
 Is Manager: true
 ClusterID: bf29ss6elcv9xy866z2pcwymf
 Managers: 3
 Nodes: 7
 Orchestration:
  Task History Retention Limit: 5
 Raft:
  Snapshot Interval: 10000
  Heartbeat Tick: 1
  Election Tick: 3
 Dispatcher:
  Heartbeat Period: 5 seconds
 CA Configuration:
  Expiry Duration: 3 months
 Node Address: 192.168.0.54
Runtimes: runc
Default Runtime: runc
Security Options:
Kernel Version: 4.4.11-v7+
Operating System: Raspbian GNU/Linux 8 (jessie)
OSType: linux
Architecture: armv7l
CPUs: 4
Total Memory: 925.5 MiB
Name: pi2swarm1
ID: XMTN:LXMA:MUKR:WDLH:AOQ5:QSZR:SOKF:6MT6:KPDW:AKO4:BIDQ:4HHG
Docker Root Dir: /var/lib/docker
Debug Mode (client): false
Debug Mode (server): false
Username: alexellis2
Registry: https://index.docker.io/v1/
WARNING: No swap limit support
WARNING: No kernel memory limit support
WARNING: No cpu cfs quota support
WARNING: No cpu cfs period support
WARNING: No cpuset support
Insecure Registries:
 127.0.0.0/8
```

GordonTheTurtle added the `version/1.12` label on Aug 20, 2016

ManoMarks commented on Aug 20, 2016

I was able to reproduce the problem. However, using the wan0 address I was able to access.
pi@raspberrypi:~ $ curl 192.168.86.104:3000
Hellopi@raspberrypi:~ $

when I originally init'd the swarm it gave the message that used the wan0 address:
docker swarm join
--token *sometoken*
192.168.86.104:2377

alexellis commented on Aug 20, 2016 • edited — Contributor

Thanks for looking into this **@ManoMarks** . I have done a docker leave on the first Pi which was the swarm leader. I then noted the ethernet address of the new swarm it created on `eth0` - it gave connection refused initially and then worked for a single host (I guess the container was still starting)

When I join a single worker then scale to two replicas I get the error on a round robin basis. Hmm I doing something wrong here?

Summary: A single manager works on its own, when > 1 node exists in the swarm: routing error.

```
pi@pi2swarm1:~ $ docker service scale hello=2
hello scaled to 2
pi@pi2swarm1:~ $ curl -4 http://192.168.0.54:3000
curl: (7) Failed to connect to 192.168.0.54 port 3000: No route to host
pi@pi2swarm1:~ $ curl -4 http://192.168.0.54:3000
Hellopi@pi2swarm1:~ $ curl -4 http://192.168.0.54:3000
curl: (7) Failed to connect to 192.168.0.54 port 3000: No route to host
pi@pi2swarm1:~ $ curl -4 http://192.168.0.54:3000
Hellopi@pi2swarm1:~ $ curl -4 http://192.168.0.54:3000
curl: (7) Failed to connect to 192.168.0.54 port 3000: No route to host
pi@pi2swarm1:~ $ curl -4 http://192.168.0.54:3000
Hellopi@pi2swarm1:~ $ curl -4 http://192.168.0.54:3000
curl: (7) Failed to connect to 192.168.0.54 port 3000: No route to host
pi@pi2swarm1:~ $ curl -4 http://192.168.0.54:3000
Hellopi@pi2swarm1:~ $ curl -4 http://192.168.0.54:3000
curl: (7) Failed to connect to 192.168.0.54 port 3000: No route to host
pi@pi2swarm1:~ $
```

Diagnostics:

```
pi@pi2swarm1:~ $ docker service ls
ID            NAME   REPLICAS  IMAGE                              COMMAND
7gpmfme3i6fo  hello  2/2       alexellis2/arm-alpinehello:latest
pi@pi2swarm1:~ $ docker service ps hello
ID                         NAME     IMAGE                              NODE       DESIRED S
3dekmrc17dp0rpapmffeiqxqi  hello.1  alexellis2/arm-alpinehello:latest  pi2swarm1  Running
7qtx18kyacgiknt6hwokpsnat  hello.2  alexellis2/arm-alpinehello:latest  pi2swarm2  Running

docker service inspect hello
[
    {
        "ID": "7gpmfme3i6fokgnqlgi6jnc8j",
        "Version": {
            "Index": 25
        },
        "CreatedAt": "2016-08-20T07:33:56.317634185Z",
        "UpdatedAt": "2016-08-20T07:38:56.091576739Z",
        "Spec": {
            "Name": "hello",
            "TaskTemplate": {
                "ContainerSpec": {
                    "Image": "alexellis2/arm-alpinehello:latest"
                },
                "Resources": {
                    "Limits": {},
                    "Reservations": {}
                },
                "RestartPolicy": {
                    "Condition": "any",
                    "MaxAttempts": 0
                },
                "Placement": {}
            },
            "Mode": {
                "Replicated": {
                    "Replicas": 2
                }
            },
            "UpdateConfig": {
                "Parallelism": 1,
                "FailureAction": "pause"
            },
            "EndpointSpec": {
                "Mode": "vip",
                "Ports": [
                    {
                        "Protocol": "tcp",
                        "TargetPort": 3000,
                        "PublishedPort": 3000
                    }
                ]
            }
        },
        "Endpoint": {
            "Spec": {
                "Mode": "vip",
                "Ports": [
                    {
                        "Protocol": "tcp",
                        "TargetPort": 3000,
                        "PublishedPort": 3000
                    }
```

```
                ]
            },
            "Ports": [
                {
                    "Protocol": "tcp",
                    "TargetPort": 3000,
                    "PublishedPort": 3000
                }
            ],
            "VirtualIPs": [
                {
                    "NetworkID": "79fwvv34c6di92phd5fwid8w4",
                    "Addr": "10.255.0.4/16"
                }
            ]
        },
        "UpdateStatus": {
            "StartedAt": "0001-01-01T00:00:00Z",
            "CompletedAt": "0001-01-01T00:00:00Z"
        }
    }
]
```

DJBnjack commented on Aug 22, 2016 • edited

I am having the same problems, with a single manager in a 3-node swarm - the manager is set to drain.
Connecting to localhost:port only works for the node the container is running on.

alexellis commented on Aug 22, 2016 Contributor

Can you try updating the docker.service file to add a --debug flag? See if you get errors. **@DJBnjack**

alexellis commented on Aug 22, 2016 Contributor

1st use-case is as documented above is broken on Raspbian and Arch Linux but not Hypriot - start a web service and scale it over > 1 node then try to curl it through the manager. You will get no route to host.

2nd broken use-case (on Raspbian and Hypriot and Arch Linux):

Intercontainer communication:

```
$ docker network create --driver overlay armnet
$ docker service create --replicas=1 --network=armnet --name redis alexellis2/redis-arm:v6
$ docker service create --name counter --replicas=5 --network=armnet --publish 3000:3000 al
```

ManoMarks commented on Aug 22, 2016

Are you trying Raspbian Jesse Lite and Raspbian Jesse?

On Sun, Aug 21, 2016 at 11:55 AM, Alex Ellis notifications@github.com
wrote:

> 1st use-case is as documented above is broken on Raspbian and Arch Linux
> but not Hypriot - start a web service and scale it over > 1 node then try
> to curl it through the manager. You will get no route to host.
>
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>
> Intercontainer communication:
>
> $ docker network create --driver overlay armnet
> $ docker service create --replicas=1 --network=armnet --name redis alexellis2/redis-arm:v6
> $ docker service create --name counter --replicas=5 --network=armnet --publish 3000:3000
> alexellis2/arm_redis_counter

—
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https://github.com/notifications/unsubscribe-auth/AAG8v6dybAueql1Z5-SbzpsDP17XZ-Nbks5qiJ8rgaJpZM4Jo4_T
.

DJBnjack commented on Aug 22, 2016 • edited

@alexellis - my bad, did not notice this was an open issue for ARM and not in general. I am running docker on x86 machines.

My problem seemed to have been that the services were killed/created too fast: waiting 30 seconds after killing a service before re-creating it seems to be a working work-around for me now.

ManoMarks commented on Aug 22, 2016

I've been able to reproduce the issue with Raspbian Jesse. Single node works, two or more doesn't work.

alexellis commented on Aug 22, 2016 • edited Contributor

On the worker and the manager, when I "join" I get an error:

Failed to create testvxlan interface: error creating vxlan interface: operation not supported

Worker:

```
ERRO[0012] Error getting node eefxmubv8v1ad8bgb5wiib729: This node is not a swarm manager. '
ERRO[0012] Handler for GET /v1.24/nodes/eefxmubv8v1ad8bgb5wiib729 returned error: This node
This node joined a swarm as a worker.
pi@pi2swarm2:~ $ DEBU[0012] Assigning addresses for endpoint ingress-endpoint's interface o
DEBU[0012] RequestAddress(LocalDefault/10.255.0.0/16, 10.255.0.4, map[])
DEBU[0012] Assigning addresses for endpoint ingress-endpoint's interface on network ingress
ERRO[0012] Failed to create testvxlan interface: error creating vxlan interface: operation
DEBU[0012] checkEncryption(c5nmn7f, 192.168.0.54, 256, false)
peerdbupdate in sandbox failed for ip 10.255.0.3 and mac 02:42:0a:ff:00:03: could not add n
INFO[0000] Firewalld running: false
DEBU[0013] Assigning addresses for endpoint gateway_ingress-sbox's interface on network doc
DEBU[0013] RequestAddress(LocalDefault/172.18.0.0/16, <nil>, map[])
DEBU[0013] Assigning addresses for endpoint gateway_ingress-sbox's interface on network doc
DEBU[0013] Programming external connectivity on endpoint gateway_ingress-sbox (ff9eaa303e24
DEBU[0024] 2016/08/22 07:58:40 [DEBUG] memberlist: TCP connection from=192.168.0.54:36420

DEBU[0024] pi2swarm2: Initiating bulk sync for networks [c5nmn7f23qrocnja87xs2lzj2] with no
DEBU[0034] 2016/08/22 07:58:50 [DEBUG] memberlist: TCP connection from=192.168.0.54:36422
```

Manager:

```
=(*Server).updateCluster module=ca
DEBU[0011] Assigning addresses for endpoint ingress-endpoint's interface on network ingress
DEBU[0011] RequestAddress(LocalDefault/10.255.0.0/16, 10.255.0.3, map[])
DEBU[0011] Assigning addresses for endpoint ingress-endpoint's interface on network ingress
ERRO[0011] Failed to create testvxlan interface: error creating vxlan interface: operation
DEBU[0012] checkEncryption(c5nmn7f, <nil>, 256, true)
```

justincormack commented on Aug 22, 2016 Contributor

@alexellis looks like your kernel might not have vxlan support? The check-config script might help diagnose https://raw.githubusercontent.com/docker/docker/master/contrib/check-config.sh

DieterReuter commented on Aug 22, 2016 • edited Contributor

@justincormack you are absolutely right, this is a standard Raspbian Jessie OS and this kernel did not have all the recommended Docker settings included, only the mandatory ones. In this case not all the features are working, e.g. VXLAN is not included for sure!

alexellis commented on Aug 22, 2016 Contributor

@justincormack That is presumably going to stop swarmmode from functioning fully?

@DieterReuter even with HypriotOS (after reflashing 3x Model 3 Pis) the third test scenario did not work for me. If you could find time to repo it would be appreciated.

I've summarised the basic test scenarios I wanted to see working to be able to launch Mano's swarm visualizer tool: https://github.com/alexellis/swarmmode-tests/tree/master/arm

alexellis commented on Aug 22, 2016 Contributor

@justincormack

```
warning: /proc/config.gz does not exist, searching other paths for kernel config ...
error: cannot find kernel config
  try running this script again, specifying the kernel config:
    CONFIG=/path/to/kernel/.config bash or bash /path/to/kernel/.config
```

justincormack commented on Aug 23, 2016 • edited Contributor

@alexellis not sure where the kernel config is (I wish people would configure `/proc/config.gz`!). `modprobe vxlan` should indicate if you have it, unless it is built in (unlikely).

I think this may be the kernel config being used, maybe someone could verify
https://github.com/raspberrypi/linux/blob/rpi-4.4.y/arch/arm/configs/bcm2709_defconfig
or this
https://github.com/raspberrypi/linux/blob/rpi-4.4.y/arch/arm/configs/bcmrpi_defconfig

justincormack referenced this issue in **raspberrypi/linux** on Aug 23, 2016

please enable CONFIG_VXLAN #1614 Closed

popcornmix commented on Aug 23, 2016

@justincormack

```
sudo modprobe configs
zcat /proc/config.gz
```

Your link to bcm2709_defconfig is correct.

justincormack commented on Aug 24, 2016 Contributor

The vxlan module has been included in the 4.4.19 kernel update.

2

ManoMarks commented on Aug 24, 2016

I tested it using **@alexellis** 's test suite and it worked for me after running rpi-update and rebooting. Thanks **@justincormack**

justincormack commented on Aug 26, 2016 Contributor

I am going to close this now it is resolved - let us know if anyone has any more issues.

justincormack closed this on Aug 26, 2016

alexellis commented on Aug 26, 2016 Contributor

It would be ideal if this worked on Arch Linux for ARM because it has AUFS baked into the Kernel and appears to anecdotally perform much faster than Overlay on Raspbian. I'll try to see what is missing - it may be vxlan and/or other things.

MathiasRenner referenced this issue in **hypriot/image-builder-rpi** on Sep 21, 2016

Mesh routing of Swarm Mode 1.12.1 broken #134 Closed

MathiasRenner commented on Sep 22, 2016

> **@DieterReuter** even with HypriotOS (after reflashing 3x Model 3 Pis) the third test scenario did not work for me. If you could find time to repo it would be appreciated.

@alexellis I confirm that this problem does not exist with HypriotOS v. 1.0.1 (it might have been an issue with previous v. 1.0.0)

thaJeztah added the `platform/arm` label on Sep 22, 2016

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