
Subject: Re: Using dhcpd within VE without relay agent possible?

Posted by [sebastian.esser](#) on Tue, 17 Jul 2007 14:37:38 GMT

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I decided against the ethernet bridge. I need a more transparent way, which implements an easy mechanism to work with offline migrations. Thus I choose the use of a DHCP Relay Agent.

Here's my workaround:

Every HN which shall be able to shelter a VE with a running DHCP daemon inside has to be equipped with a proper DHCP Relay Agent.

On CentOS 4 these two services (dhcpd and dhcrelay) are provided through the RPM package dhcp

This scenario allows only one VE with an DHCP daemon per HN and only one VE with DHCP daemon per group of HNs. The latter constraint could be removed. E.g. by modifying the "mount" Action Script /etc/vz/conf/101.mount in a manner that the Relay Agent's configuration will be overwritten. In that case you'll have to ensure there's no other VE with a running DHCP daemon on the HN.

First I've set up an applicable VE with the DHCP daemon dhcpd...

```
vzctl create 101 \  
  --ostemplate=centos-4-i386-minimal \  
  --hostname=ve001.foo.bar
```

```
vzctl set 101 \  
  --name=ve001 \  
  --netif_add eth0 \  
  --nameserver=192.168.1.1 \  
  --searchdomain=foo.bar \  
  --save
```

```
vzyum 101 install dhcp  
vzctl exec 101 chkconfig --level 3 dhcpd on  
vzctl exec 101 service dhcpd start
```

Quote:To get rid of the error message "/etc/init.d/dhcpd: line 17: [: =: unary operator expected" while starting/stopping the daemon apply the following patch within the VE:

```
--- BEGIN /etc/init.d/dhcpd.patch ---  
*** /etc/init.d/dhcpd.ORIGIN      2007-07-17 14:33:06.000000000 +0200  
--- /etc/init.d/dhcpd            2007-07-17 14:33:36.000000000 +0200  
*****  
*** 15,19 ****  
  
# Check that networking is up.  
! [ ${NETWORKING} = "no" ] && exit 0  
  
[ -f /usr/sbin/dhcpd ] || exit 0  
--- 15,19 ----
```

```

# Check that networking is up.
! [ "${NETWORKING}" = "no" ] && exit 0

[ -f /usr/sbin/dhcpd ] || exit 0
--- END /etc/init.d/dhcpd.patch ---
After reading the advices about virtual ethernet devices on http://wiki.openvz.org/Veth (especially
http://wiki.openvz.org/Veth#Making\_a\_veth-device\_persistent and
http://wiki.openvz.org/Veth#Simple\_configuration\_with\_virtual\_ethernet\_device) I've modified
the VE's main configuration file,...
--- SNIP /etc/vz/conf/101.conf ---
CONFIG_CUSTOMIZED="yes"
VETH_IP_ADDRESS="192.168.1.2"
--- END /etc/vz/conf/101.conf ---
created a "start" Action Script...
--- BEGIN /etc/vz/conf/101.start ---
#!/bin/bash

#
# OpenVZ Action Script 101.start
#

# Setup network devices
/sbin/ifconfig eth0 0
/sbin/ip addr add 192.168.1.2 dev eth0
/sbin/ip route add default dev eth0
--- END /etc/vz/conf/101.start ---

and created an "mount" Action Script...
--- BEGIN /etc/vz/conf/101.mount ---
#!/bin/bash

#
# OpenVZ Action Script 101.mount
#

[ -f /etc/sysconfig/vz ] || exit 1
[ -f $VE_CONFFILE ] || exit 1

. /etc/sysconfig/vz
. $VE_CONFFILE

/bin/echo 1 > /proc/sys/net/ipv4/conf/eth0/forwarding
/bin/echo 1 > /proc/sys/net/ipv4/conf/eth0/proxy_arp

# Define / get checksums for comparing
declare DHCRELAY_MD5SUM_PATCHED="1d50d252d6501fede6aa2dcca3bc1138
/etc/sysconfig/dhcrelay"

```

```
declare DHCRELAY_MD5SUM_CURRENT=$(md5sum /etc/sysconfig/dhcrelay)
```

```
# Apply the patch if dhcrelay isn't already configured.
```

```
# If the patching fails (maybe modified otherwise) exit with
```

```
# return code 127.
```

```
if [[ "$DHCRELAY_MD5SUM_CURRENT" != "$DHCRELAY_MD5SUM_PATCHED" ]]
```

```
then
```

```
  (patch -Np0 || exit 127) <<- \
```

```
  EOF
```

```
  *** /etc/sysconfig/dhcrelay.ORIGIN 2007-07-19 12:01:16.000000000 +0200
```

```
  --- /etc/sysconfig/dhcrelay 2007-07-19 12:02:10.000000000 +0200
```

```
  *****
```

```
  *** 1,3 ****
```

```
    # Command line options here
```

```
  ! INTERFACES=""
```

```
  ! DHCPSEVERERS=""
```

```
  --- 1,3 ----
```

```
    # Command line options here
```

```
  ! INTERFACES="eth0 veth${VEID}.0"
```

```
  ! DHCPSEVERERS="$HOSTNAME"
```

```
  EOF
```

```
fi
```

```
# Start the DHCP Relay Agent on the HN after waiting 5 seconds
```

```
# to ensure the VE has been mounted and is running.
```

```
(sleep 5; echo; service dhcrelay start) &
```

```
--- END /etc/vz/conf/101.umount ---
```

The "mount" Action Script prepares the virtual ethernet device and establishes (if necessary) the proper configuration for the DHCP Relay Agent. The virtual ethernet device has to exist before the Relay Agent starts. That's why the start of the Relay Agent will be put into the background with a delay.

```
--- BEGIN /etc/vz/conf/101.umount ---
```

```
#!/bin/bash
```

```
#
```

```
# OpenVZ Action Script 101.umount
```

```
#
```

```
[ -f /etc/sysconfig/vz ] || exit 1
```

```
[ -f $VE_CONFFILE ] || exit 1
```

```
./etc/sysconfig/vz
```

```
.$VE_CONFFILE
```

```
service dhcrelay stop || :
```

```
--- END /etc/vz/conf/101.umount ---
```

Now it's possible to migrate this VE in offline mode:

vzmigrate -r yes target.foo.bar 101
