centoscn.com

Centos7变化centos

安装后，一开始有点儿无力吐槽的感觉，变化这么大？

一、Runlevel

首先一条，原来一直用的CentOS-6.5-x86_64-minimal.iso光盘镜像（400M左右无图形系统小巧便捷），而7目前最小的镜像是CentOS-7.0-1406-x86_64-livecd.iso（700M左右），默认安装后是启动图形界面，按原来的习惯要改成启动命令行，结果发现：

```
[root@localhost ~]# cat /etc/inittab
# inittab is no longer used when using systemd.
#
# ADDING CONFIGURATION HERE WILL HAVE NO EFFECT ON YOUR SYSTEM.
#
```

```
# Ctrl-Alt-Delete is handled by /etc/systemd/system/ctrl-
alt-del.target
#
# systemd uses 'targets' instead of runlevels. By default,
there are two main targets:
#
# multi-user.target: analogous to runlevel 3
# graphical.target: analogous to runlevel 5
#
# To set a default target, run:
#
# ln -sf /lib/systemd/system/<target name>.target
/etc/systemd/system/default.target
#
```

好吧，systemd一统天下了（它管的东西很多很多，学Centos7首先要搞定systemd）。

```
[root@localhost ~]# ls -Xl /etc/systemd/system/*.target
lrwxrwxrwx. 1 root root 36 7月 8 23:12 /etc/systemd/system
```

```
/default.target -> /lib/systemd/system/graphical.target
```

我们来看看从前的runlevel都变成什么样了？

```
[root@localhost ~]# ls -Xl /lib/systemd/system
[root@localhost ~]# ls -Xl /lib/systemd/system
/runlevel*.target
lrwxrwxrwx. 1 root root 15 7月 5 00:45 /lib/systemd/system
/runlevel0.target -> poweroff.target
lrwxrwxrwx. 1 root root 13 7月 5 00:45 /lib/systemd/system
/runlevel1.target -> rescue.target
lrwxrwxrwx. 1 root root 17 7月 5 00:45 /lib/systemd/system
/runlevel2.target -> multi-user.target
lrwxrwxrwx. 1 root root 17 7月 5 00:45 /lib/systemd/system
/runlevel3.target -> multi-user.target
lrwxrwxrwx. 1 root root 17 7月 5 00:45 /lib/systemd/system
/runlevel4.target -> multi-user.target
lrwxrwxrwx. 1 root root 16 7月 5 00:45 /lib/systemd/system
/runlevel5.target -> graphical.target
lrwxrwxrwx. 1 root root 13 7月 5 00:45 /lib/systemd/system
```

```
/runlevel6.target -> reboot.target
```

修改默认启动runlevel为 multi-user （貌似runlevel2 3 4 没区别了）

```
[root@localhost ~]# ln -sf /lib/systemd/system/multi-
user.target /etc/systemd/system/default.target
[root@localhost ~]# ll -X /etc/systemd/system/*.target
lrwxrwxrwx. 1 root root 37 7月 10 09:42 /etc/systemd/system
/default.target -> /lib/systemd/system/multi-user.target
```

试试init 6 还好用不。

```
[root@localhost ~]# init 6
Connection to 192.168.150.180 closed by remote host.
Connection to 192.168.150.180 closed.
```

成，好用。:)

因为我从桌面版Linux 连接Centos7系统提示变成了中文，所以需要把Centos7 的root用户语言改一下，回到原汁原味。

```
[root@localhost ~]# cp .bashrc .bashrc-back
[root@localhost ~]# echo ’export LANG=″en_Us.UTF-8″’ >>
/root/.bashrc
```

二、Services

```
[root@localhost ~]# chkconfig

Note: This output shows SysV services only and does not
include native
      systemd services. SysV configuration data might be
overridden by native
      systemd configuration.

      If you want to list systemd services use ’systemctl
list-unit-files’.
      To see services enabled on particular target use
      ’systemctl list-dependencies [target]’.

iprdump            0:off    1:off    2:on    3:on
```

```
4:on    5:on    6:off
iprinit            0:off    1:off    2:on    3:on
4:on    5:on    6:off
iprupdate          0:off    1:off    2:on    3:on
4:on    5:on    6:off
livesys            0:off    1:off    2:off    3:on
4:on    5:on    6:off
livesys-late       0:off    1:off    2:off    3:on
4:on    5:on    6:off
netconsole         0:off    1:off    2:off    3:off
4:off    5:off    6:off
network            0:off    1:off    2:off    3:off
4:off    5:off    6:off
rhnsd              0:off    1:off    2:on    3:on
4:on    5:on    6:off
vboxadd            0:off    1:off    2:on    3:on
4:on    5:on    6:off
vboxadd-service    0:off    1:off    2:on    3:on
4:on    5:on    6:off
vboxadd-x11        0:off    1:off    2:off    3:on
4:off    5:on    6:off
```

SysV已经快退居二线了，想配置服务得用systemctl，先看看默认启动的服务吧。（如果不用grep过滤一下，输出结果有260多行）

```
[root@localhost ~]# systemctl list-unit-files|grep enabled
tmp.mount                                   enabled
accounts-daemon.service                     enabled
atd.service                                 enabled
auditd.service                              enabled
avahi-daemon.service                        enabled
bluetooth.service                           enabled
chronyd.service                             enabled
crond.service                               enabled
dbus-org.bluez.service                      enabled
dbus-org.fedoraproject.FirewallD1.service   enabled
dbus-org.freedesktop.Avahi.service          enabled
dbus-org.freedesktop.NetworkManager.service enabled
dbus-org.freedesktop.nm-dispatcher.service  enabled
display-manager.service                     enabled
dmraid-activation.service                   enabled
```

```
firewalld.service                       enabled
gdm.service                             enabled
getty@.service                          enabled
irqbalance.service                      enabled
iscsi.service                           enabled
kdump.service                           enabled
libstoragemgmt.service                  enabled
lvm2-monitor.service                    enabled
mdmonitor.service                       enabled
microcode.service                       enabled
multipathd.service                      enabled
NetworkManager-dispatcher.service       enabled
NetworkManager.service                  enabled
packagekit-offline-update.service       enabled
postfix.service                         enabled
rngd.service                            enabled
rsyslog.service                         enabled
rtkit-daemon.service                    enabled
smartd.service                          enabled
spice-vdagentd.service                  enabled
sysstat.service                         enabled
```

```
systemd-readahead-collect.service           enabled
systemd-readahead-drop.service              enabled
systemd-readahead-replay.service            enabled
tuned.service                               enabled
avahi-daemon.socket                         enabled
dm-event.socket                             enabled
iscsid.socket                               enabled
iscsiuio.socket                             enabled
lvm2-lvmetad.socket                         enabled
default.target                              enabled
multi-user.target                           enabled
remote-fs.target                            enabled
```

默认居然没有启动sshd，晕！看看监听端口：

```
[root@localhost ~]# netstat -lntp
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address           Foreign
Address         State       PID/Program name
tcp        0      0 127.0.0.1:25
```

```
0.0.0.0:*               LISTEN      2090/master
```

果然没有22，试试老办法：

```
[root@localhost ~]# chkconfig sshd on
Note: Forwarding request to 'systemctl enable sshd.service'.
ln -s '/usr/lib/systemd/system/sshd.service' '/etc/systemd
/system/multi-user.target.wants/sshd.service'
```

能用，但是指令被转发到 systemctl enable sshd.service ，以后控制服务就用这个指令了。试试：

禁用sshd：

```
[root@localhost ~]# systemctl disable sshd.service
rm '/etc/systemd/system/multi-user.target.wants
/sshd.service'
```

启用sshd:

```
[root@localhost ~]# systemctl enable sshd.service
ln -s '/usr/lib/systemd/system/sshd.service' '/etc/systemd
```

```
/system/multi-user.target.wants/sshd.service’
```

看看：

```
[root@localhost ~]# systemctl list-unit-files|grep
sshd.service
anaconda-sshd.service                      static
sshd.service                               enabled

[root@localhost ~]# netstat -lntp
Active Internet connections (only servers)
Proto Recv-Q Send-Q Local Address          Foreign
Address         State       PID/Program name
tcp        0      0 127.0.0.1:25
0.0.0.0:*               LISTEN      2090/master
tcp        0      0 0.0.0.0:22
0.0.0.0:*               LISTEN      2758/sshd
tcp6       0      0 :::22
:::*                    LISTEN      2758/sshd
```

其实启用和禁用服务就是在当前“runlevel”的配置文件目录（/etc/systemd/system/multi-user.target.wants/）里，

建立/usr/lib/systemd/system 里面对应服务配置文件的软链接；禁用服务就是删除此软链接。
有兴趣就自己看看 /usr/lib/systemd/system 里的文件，语法跟旧版 /etc/init.d/ 里的服务脚本完全不同，也不能再用 /etc/init.d/sshd restart 之类的指令启动服务器了。

先试试旧方法启动服务：

```
[root@localhost ~]# service sshd start
Redirecting to /bin/systemctl start  sshd.service
```

用新方法折腾一下：

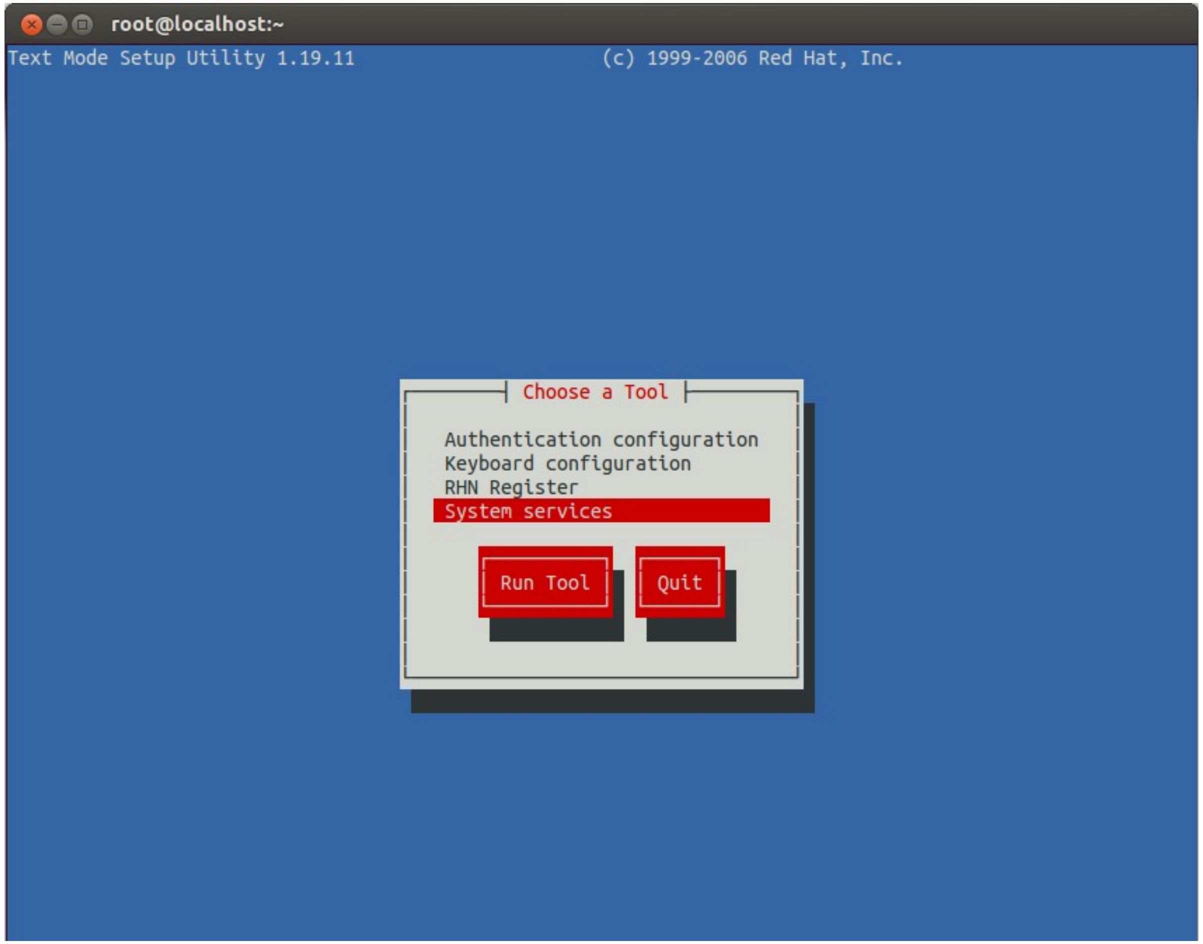
```
[root@localhost ~]# systemctl start sshd.service
[root@localhost ~]# systemctl stop sshd.service
[root@localhost ~]# systemctl restart sshd.service
[root@localhost ~]#
```

如果没有错误，就不会输出任何信息，这个，，，，得习惯一下。

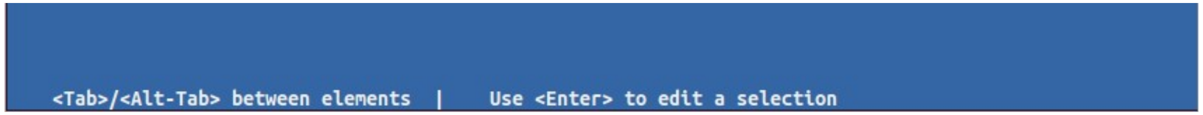
三、网络

setup工具还是保留了，但有区别，没有了网络配置，多了RHN（Centos到底是跟RedHat一家子了）

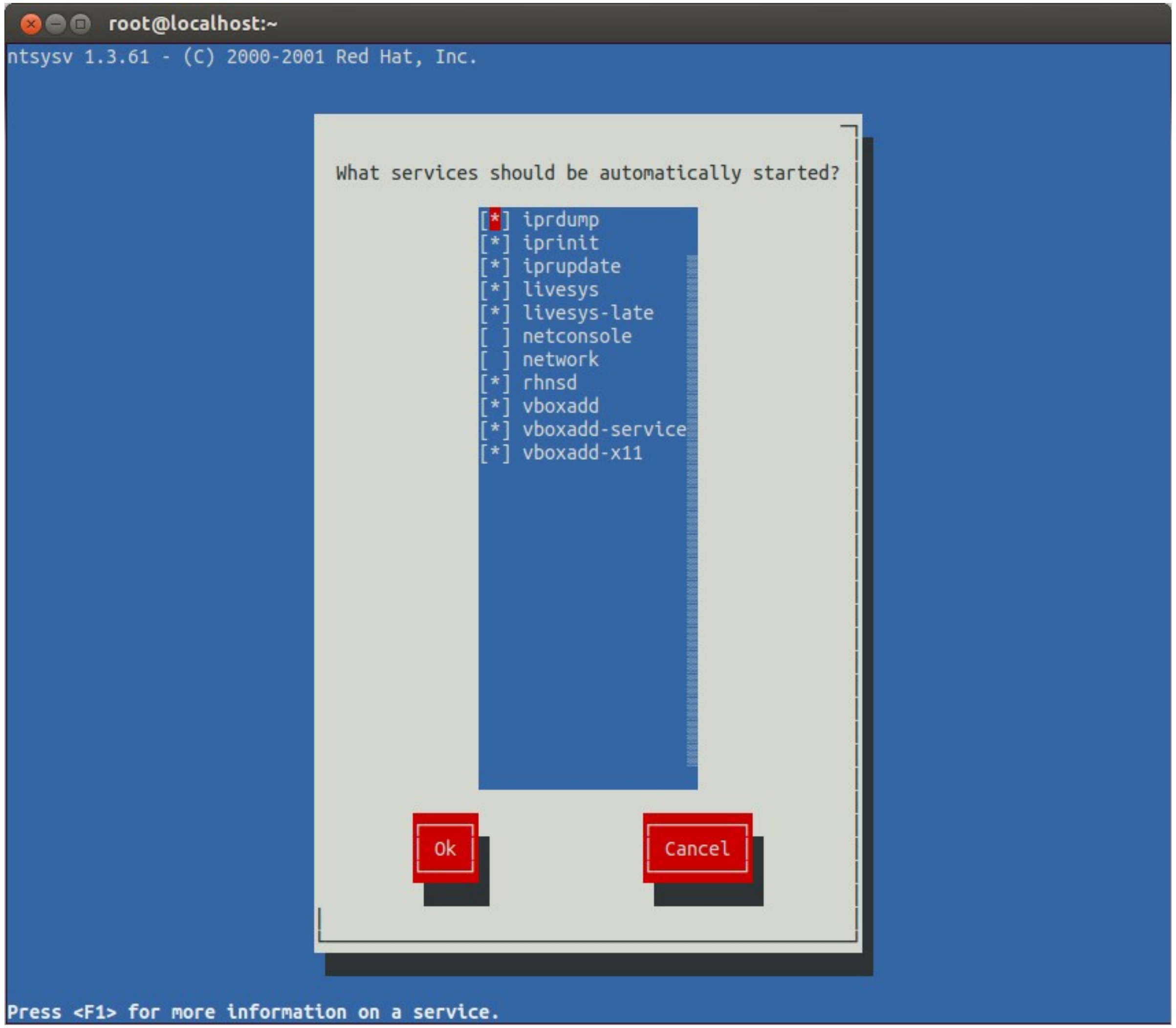
[root@localhost ~]# setup



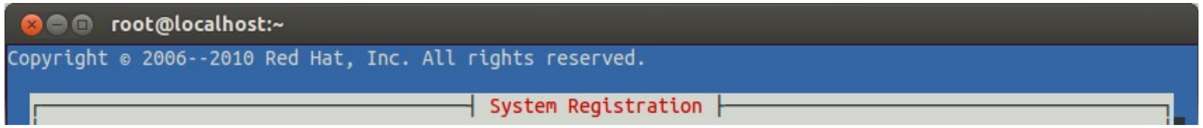
```
Text Mode Setup Utility 1.19.11                    (c) 1999-2006 Red Hat, Inc.

                    ┤ Choose a Tool ├

                 Authentication configuration
                 Keyboard configuration
                 RHN Register
                 System services

                   Run Tool        Quit
```



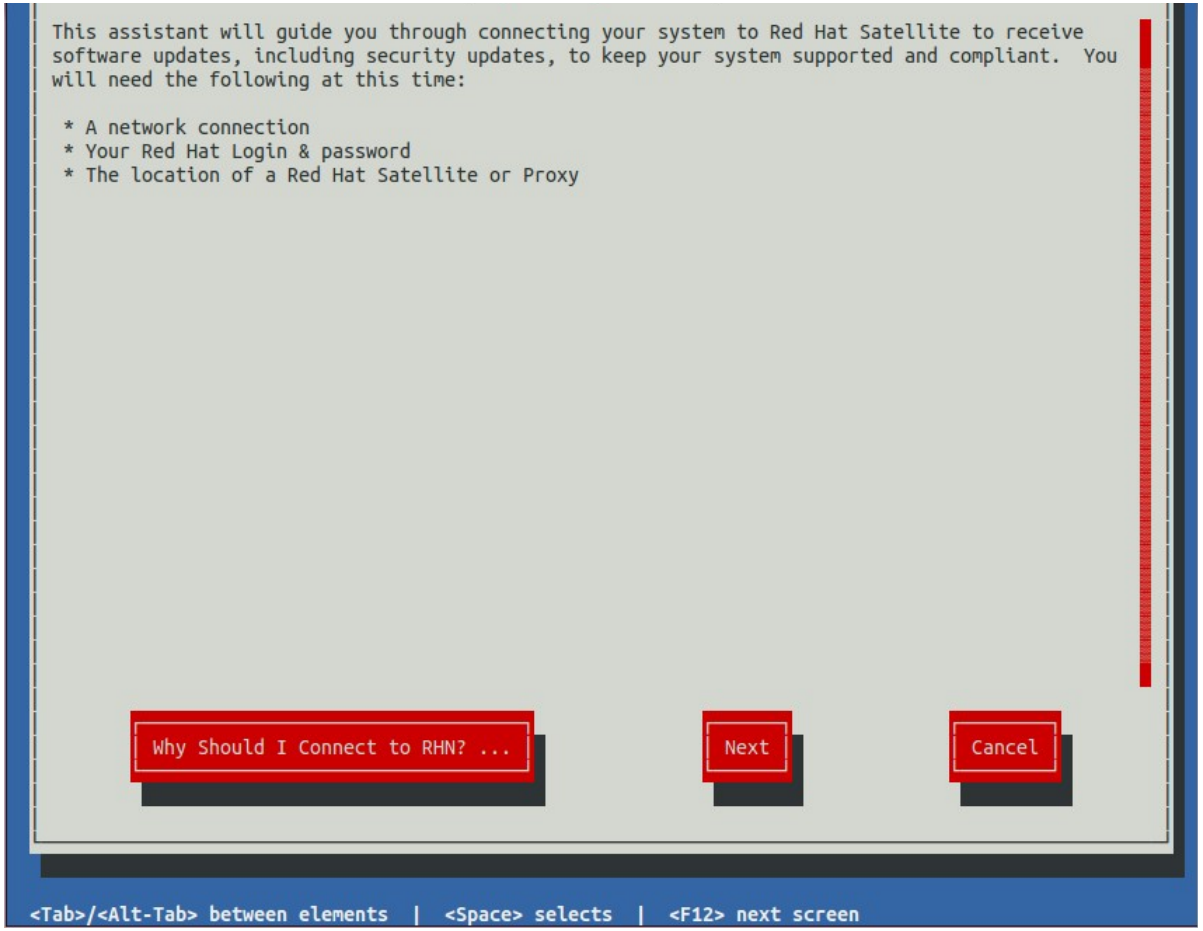
```
  <Tab>/<Alt-Tab> between elements   |    Use <Enter> to edit a selection
```



```
ntsysv 1.3.61 - (C) 2000-2001 Red Hat, Inc.

        What services should be automatically started?

                  [*] iprdump
                  [*] iprinit
                  [*] iprupdate
                  [*] livesys
                  [*] livesys-late
                  [ ] netconsole
                  [ ] network
                  [*] rhnsd
                  [*] vboxadd
                  [*] vboxadd-service
                  [*] vboxadd-x11

              Ok                     Cancel

Press <F1> for more information on a service.
```



```
Copyright © 2006--2010 Red Hat, Inc. All rights reserved.
  ┌──────────────────────────┤ System Registration ├──────────────────────────┐
```



This assistant will guide you through connecting your system to Red Hat Satellite to receive software updates, including security updates, to keep your system supported and compliant. You will need the following at this time:

 * A network connection
 * Your Red Hat Login & password
 * The location of a Red Hat Satellite or Proxy

Why Should I Connect to RHN? ...
Next
Cancel
<Tab>/<Alt-Tab> between elements | <Space> selects | <F12> next screen

好吧，我们看看网络配置。

```
[root@localhost ~]# cat /etc/resolv.conf
# Generated by NetworkManager
```

```
nameserver 192.168.150.254

[root@localhost ~]# cat /etc/sysconfig/network
# Created by anaconda

[root@localhost ~]# ll /etc/sysconfig/network-scripts
/ifcfg-*
-rw-r--r--. 1 root root 298 Jul  9 00:13 /etc/sysconfig
/network-scripts/ifcfg-Auto_Ethernet
-rw-r--r--. 1 root root 288 Jul  8 23:12 /etc/sysconfig
/network-scripts/ifcfg-enp0s3
-rw-r--r--. 1 root root 254 Apr  2 23:30 /etc/sysconfig
/network-scripts/ifcfg-lo

[root@localhost ~]# ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        inet 192.168.150.180  netmask 255.255.255.0
broadcast 192.168.150.255
        inet6 fe80::a00:27ff:fe9a:a688  prefixlen 64
scopeid 0x20<link>
        ether 08:00:27:9a:a6:88  txqueuelen 1000  (Ethernet)
        RX packets 39317  bytes 2487945 (2.3 MiB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 2216  bytes 740115 (722.7 KiB)
        TX errors 0  dropped 0 overruns 0  carrier 0
collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 0  (Local Loopback)
        RX packets 6  bytes 504 (504.0 B)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 6  bytes 504 (504.0 B)
        TX errors 0  dropped 0 overruns 0  carrier 0
collisions 0

[root@localhost ~]#
```

先改改主机名：

```
[root@localhost ~]# echo "hostname cenots7.localdomain"
>>/etc/sysconfig/network
[root@localhost ~]# reboot
Connection to 192.168.150.180 closed by remote host.
Connection to 192.168.150.180 closed.
xw@Opt9010:~$ ssh root@192.168.150.180
root@192.168.150.180's password:
Last login: Thu Jul 10 10:01:09 2014
[root@cenots7 ~]#
```

看看网卡配置文件：

```
[root@cenots7 ~]# cd /etc/sysconfig/network-scripts/

[root@cenots7 network-scripts]# cat ifcfg-Auto_Ethernet
HWADDR=08:00:27:9A:A6:88
TYPE=Ethernet
BOOTPROTO=dhcp
DEFROUTE=yes
```

```
PEERDNS=yes
PEERROUTES=yes
IPV4_FAILURE_FATAL=no
IPV6INIT=yes
IPV6_AUTOCONF=yes
IPV6_DEFROUTE=yes
IPV6_PEERDNS=yes
IPV6_PEERROUTES=yes
IPV6_FAILURE_FATAL=no
NAME=″Auto Ethernet″
UUID=76304098-8f46-4185-8337-bb7f0d90423e
ONBOOT=yes
```

```
[root@cenots7 network-scripts]# cat ifcfg-enp0s3
HWADDR=08:00:27:9A:A6:88
TYPE=Ethernet
BOOTPROTO=dhcp
DEFROUTE=yes
PEERDNS=yes
PEERROUTES=yes
IPV4_FAILURE_FATAL=no
```

```
IPV6INIT=yes
IPV6_AUTOCONF=yes
IPV6_DEFROUTE=yes
IPV6_PEERDNS=yes
IPV6_PEERROUTES=yes
IPV6_FAILURE_FATAL=no
NAME=enp0s3
UUID=66a635c2-9600-437b-8cfb-57e9569f68da
ONBOOT=no
```

看看两个文件有啥不同：

```
[root@cenots7 network-scripts]# diff ifcfg-Auto_Ethernet
ifcfg-enp0s3
14,16c14,16
< NAME="Auto Ethernet"
< UUID=76304098-8f46-4185-8337-bb7f0d90423e
< ONBOOT=yes
---
```

```
> NAME=enp0s3
> UUID=66a635c2-9600-437b-8cfb-57e9569f68da
> ONBOOT=no
```

两个文件MAC地址一样，ifcfg-Auto_Ethernet ONBOOT=yes，但是ifconfig结果显示的是enp0s3，有点儿费解了。

再看看我复制KVM虚拟机时经常要改的网卡MAC地址：

```
root@cenots7 network-scripts]# ll /etc/udev/rules.d/
total 8
-rw-r--r--. 1 root root 134 Jul  9 00:47 60-vboxadd.rules
-rw-r--r--. 1 root root 352 Jul  4 00:38 98-kexec.rules

[root@cenots7 network-scripts]# cat /etc/udev/rules.d
/98-kexec.rules
SUBSYSTEM=="cpu", ACTION=="online", PROGRAM="/bin/systemctl
try-restart kdump.service"
SUBSYSTEM=="cpu", ACTION=="offline", PROGRAM="/bin
```

```
/systemctl try-restart kdump.service″
SUBSYSTEM==″memory″, ACTION==″add″, PROGRAM=″/bin/systemctl
try-restart kdump.service″
SUBSYSTEM==″memory″, ACTION==″remove″, PROGRAM=″/bin
/systemctl try-restart kdump.service″
```

```
[root@cenots7 network-scripts]# cat /etc/udev/rules.d
/60-vboxadd.rules
KERNEL==″vboxguest″, NAME=″vboxguest″, OWNER=″vboxadd″,
MODE=″0660″
KERNEL==″vboxuser″, NAME=″vboxuser″, OWNER=″vboxadd″,
MODE=″0666″
```

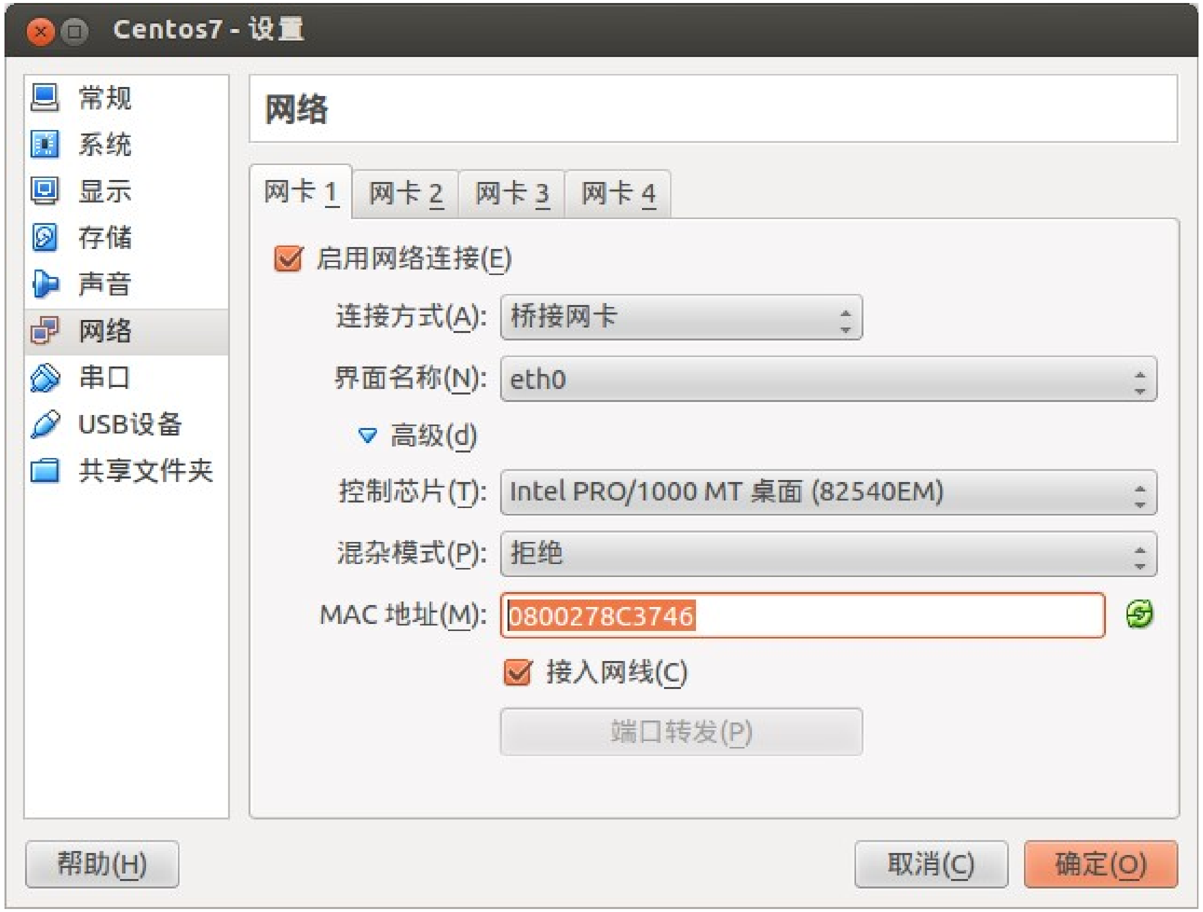
70-persistent-net.rules呢？

网卡MAC只在网卡配置文件里有，一旦变了我只需要改网卡配置文件？

```
[root@cenots7 network-scripts]# grep -r ″08:00:27:9A:A6:88″
/etc/
```

```
/etc/sysconfig/network-scripts/ifcfg-enp0s3:HWADDR=08:00:27:9A:A6:88
/etc/sysconfig/network-scripts/ifcfg-Auto_Ethernet:HWADDR=08:00:27:9A:A6:88
```

改一下网卡MAC 0800279AA688 -> 0800278C3746


Centos7 - 设置

网络

启用网络连接(E) ☑

连接方式(A): 桥接网卡

界面名称(N): eth0

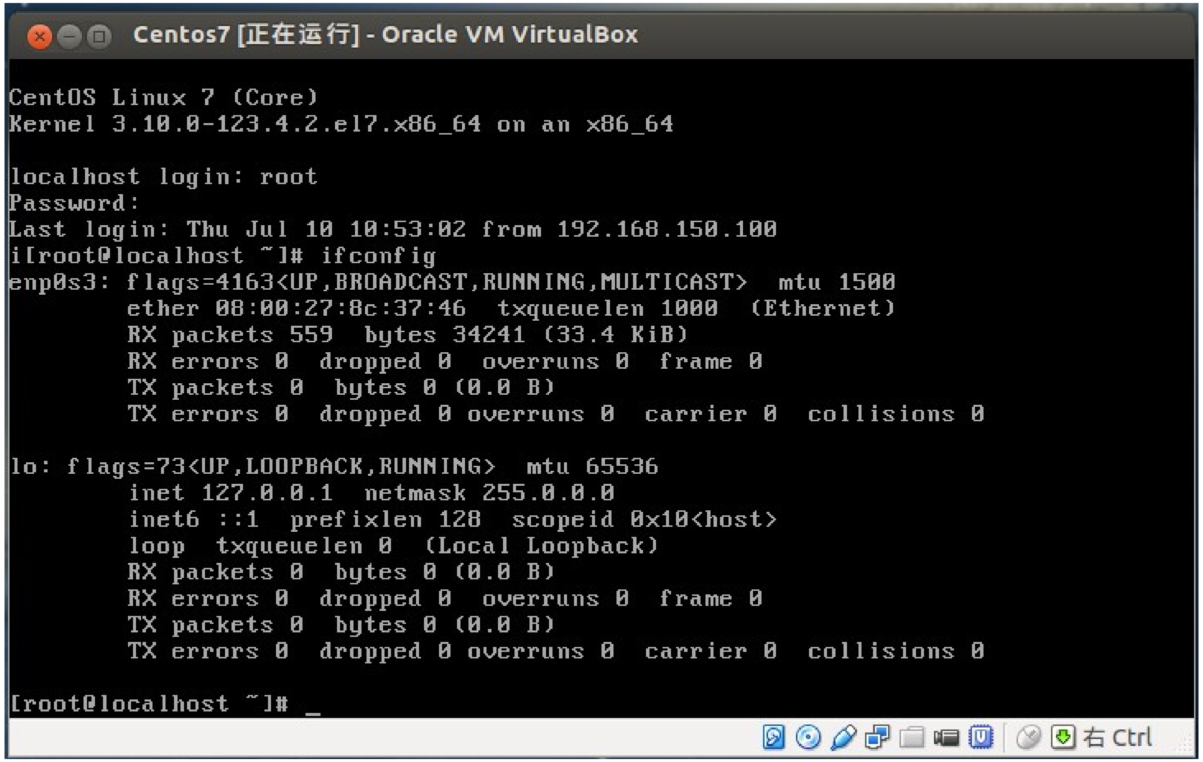
高级(d)

控制芯片(T): Intel PRO/1000 MT 桌面 (82540EM)

混杂模式(P): 拒绝

MAC 地址(M): 0800278C3746

接入网线(C) ☑



```
CentOS Linux 7 (Core)
Kernel 3.10.0-123.4.2.el7.x86_64 on an x86_64

localhost login: root
Password:
Last login: Thu Jul 10 10:53:02 from 192.168.150.100
i[root@localhost ~]# ifconfig
enp0s3: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1500
        ether 08:00:27:8c:37:46  txqueuelen 1000  (Ethernet)
        RX packets 559  bytes 34241 (33.4 KiB)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 0  bytes 0 (0.0 B)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
        inet 127.0.0.1  netmask 255.0.0.0
        inet6 ::1  prefixlen 128  scopeid 0x10<host>
        loop  txqueuelen 0  (Local Loopback)
        RX packets 0  bytes 0 (0.0 B)
        RX errors 0  dropped 0  overruns 0  frame 0
        TX packets 0  bytes 0 (0.0 B)
        TX errors 0  dropped 0 overruns 0  carrier 0  collisions 0

[root@localhost ~]# _
```

改MAC后网卡不认了，测试结果是只需要改网卡配置文件的MAC，而且两个配置文件都要改才行。我顺便把DHCP改成了固定IP。

```
[root@cenots7 ~]# cat /etc/sysconfig/network-scripts/ifcfg-Auto_Ethernet
HWADDR=08:00:27:8C:37:46
# HWADDR=08:00:27:9A:A6:88
```

```
TYPE=Ethernet
BOOTPROTO=static
IPADDR=192.168.150.180
NETMASK=255.255.255.0
GATEWAY=192.168.150.254
DEFROUTE=yes
PEERDNS=yes
PEERROUTES=yes
IPV4_FAILURE_FATAL=no
IPV6INIT=no
IPV6_AUTOCONF=no
IPV6_DEFROUTE=no
IPV6_PEERDNS=no
IPV6_PEERROUTES=no
IPV6_FAILURE_FATAL=no
NAME="Auto Ethernet"
UUID=76304098-8f46-4185-8337-bb7f0d90423e
ONBOOT=yes
```

```
[root@cenots7 ~]# cat /etc/sysconfig/network-scripts/ifcfg-enp0s3
```

```
HWADDR=08:00:27:8C:37:46

# HWADDR=08:00:27:9A:A6:88

TYPE=Ethernet

BOOTPROTO=static

IPADDR=192.168.150.180

NETMASK=255.255.255.0

GATEWAY=192.168.150.254

DEFROUTE=yes

PEERDNS=yes

PEERROUTES=yes

IPV4_FAILURE_FATAL=no

IPV6INIT=no

IPV6_AUTOCONF=no

IPV6_DEFROUTE=no

IPV6_PEERDNS=no

IPV6_PEERROUTES=no

IPV6_FAILURE_FATAL=no

NAME=enp0s3

UUID=66a635c2-9600-437b-8cfb-57e9569f68da

ONBOOT=no
```

好吧，这样初步解决了基础问题。