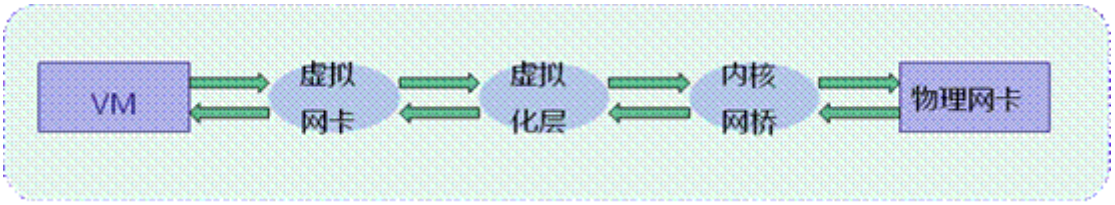
kvm网络管理

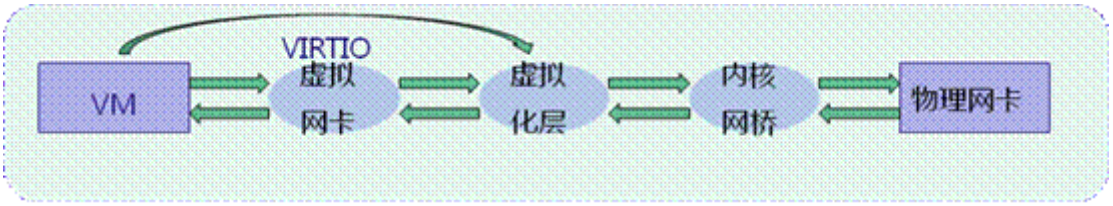
一、命令行方式添加网卡

网卡驱动:

软件虚拟化　rtl8139



半虚拟化驱动　virtio



1、命令行方式添加网卡

```
[root@martin-wjc ~]# virsh attach-interface vm01_centos7 --type network --source default --model virtio --persistent
```

--persistent	立即永久生效
--live	立即生效、临时
--config	永久生效、重启kvm

2、查看网卡

```
[root@martin-wjc ~]# virsh domiflist vm01_centos7
Interface Type Source Model MAC
-------------------------------------------------------
vnet0 network default virtio 52:54:00:94:38:51
vnet2 network default virtio 52:54:00:1a:ed:1c
vnet3 network default virtio 52:54:00:80:77:33
```

3、命令行方式删除网卡

```
[root@martin-wjc ~]# virsh detach-interface vm01_centos7 --type network --mac 52:54:00:1a:ed:1c --persistent
```

二、网络模式

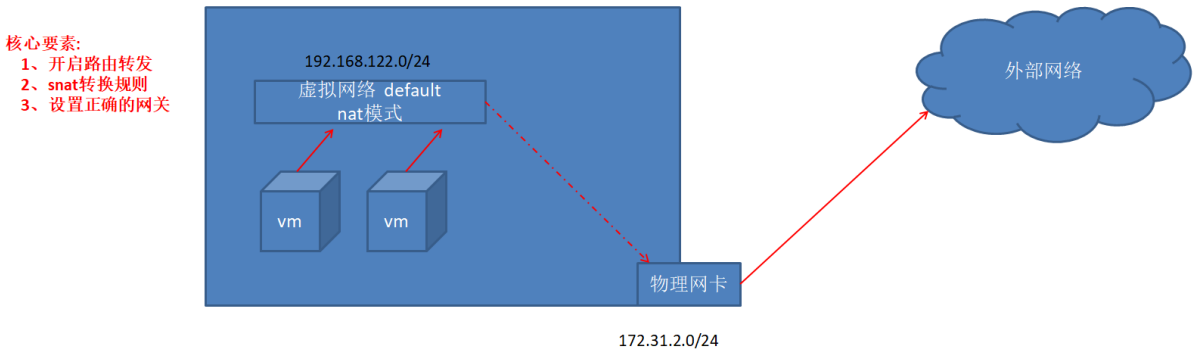
1、nat模式

2、桥接模式

3、隔离模式

4、路由模式

1、nat模式



创建nat模式网络

方法一）virt-manage 图形化工具

```
[root@martin-wjc ~]# virsh net-list --all
 Name State Autostart Persistent
----------------------------------------------------------
 default active yes yes
 test1 active yes yes
```

```
方法二）创建网络配置文件
[root@martin-wjc ~]# cp /etc/libvirt/qemu/networks/test1.xml /etc/libvirt/qemu/networks/test2.xml

[root@martin-wjc ~]# cat /etc/libvirt/qemu/networks/test2.xml
<network>
  <name>test2</name>
  <uuid>4600c6c3-a937-4006-97e0-7b54111607e5</uuid>
  <forward mode='nat'/>
```

```
 <bridge name='virbr2' stp='on' delay='0'/>
 <mac address='52:54:00:91:37:d9'/>
 <domain name='test2'/>
 <ip address='10.1.2.1' netmask='255.255.255.0'>
 <dhcp>
 <range start='10.1.2.2' end='10.1.2.254'/>
 </dhcp>
 </ip>
</network>

[root@martin-wjc ~]# virsh net-define /etc/libvirt/qemu/networks/test2.xml
Network test2 defined from /etc/libvirt/qemu/networks/test2.xml

[root@martin-wjc ~]# virsh net-autostart test2
Network test2 marked as autostarted

[root@martin-wjc ~]# virsh net-start test2
Network test2 started

[root@martin-wjc ~]# virsh net-list --all
 Name State Autostart Persistent
----------------------------------------------------------
 default active yes yes
 test1 active yes yes
 test2 active yes yes
```

删除网络

```
[root@martin-wjc ~]# virsh net-destroy test2
[root@martin-wjc ~]# virsh net-undefine test2
```

发布服务

注意:

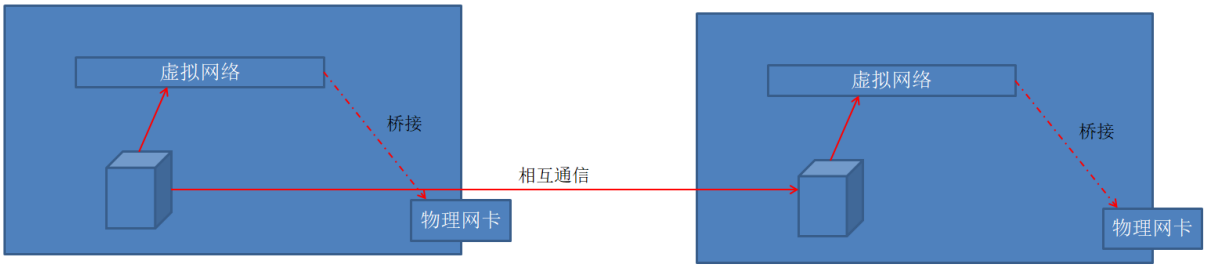
1、端口冲突

```
[root@martin-wjc ~]# iptables -t nat -A PREROUTING -d 172.31.2.252 -p tcp --dport 80 -j DNAT --to-destination 10.1.1.100:80
```

```
[root@martin-wjc ~]# iptables -t nat -A PREROUTING -d 172.31.2.252 -p tcp --dport 22 -j DNAT --to-destination 10.1.1.100:22
```

2、桥接模式

作用：跨物理机实现虚拟机相互通信



注意:

1、关闭NetworkManager服务【nmcli】

2、物理网卡必须是静态地址

1、创建桥接网卡

方法一）virt-manager图形化工具

方法二）virsh命令行工具

```
[root@martin-wjc ~]# virsh iface-bridge enp3s0 br1
Created bridge br1 with attached device enp3s0
Bridge interface br1 started
```

```
[root@martin-wjc ~]# ifconfig
br1: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
 inet 172.31.2.252 netmask 255.255.255.0 broadcast 172.31.2.255
 inet6 fe80::8e89:a5ff:fec4:4f03 prefixlen 64 scopeid 0x20<link>
 ether 8c:89:a5:c4:4f:03 txqueuelen 1000 (Ethernet)
 RX packets 222 bytes 18419 (17.9 KiB)
 RX errors 0 dropped 0 overruns 0 frame 0
 TX packets 576 bytes 720516 (703.6 KiB)
 TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0

enp3s0: flags=4163<UP,BROADCAST,RUNNING,MULTICAST> mtu 1500
 ether 8c:89:a5:c4:4f:03 txqueuelen 1000 (Ethernet)
 RX packets 19056152 bytes 4620710476 (4.3 GiB)
 RX errors 0 dropped 1 overruns 0 frame 0
 TX packets 114972793 bytes 173016777278 (161.1 GiB)
 TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

```
[root@martin-wjc network-scripts]# cat ifcfg-enp3s0
DEVICE="enp3s0"
ONBOOT="yes"
BRIDGE="br1"

[root@martin-wjc network-scripts]# cat ifcfg-br1
DEVICE="br1"
ONBOOT="yes"
TYPE="Bridge"
 BOOTPROTO="none"
 IPADDR="172.31.2.252"
 NETMASK="255.255.255.0"
 GATEWAY="172.31.2.254"
 STP="on"
 DELAY="0"
```

查看桥接网卡

```
[root@martin-wjc network-scripts]# brctl show
bridge name bridge id STP enabled interfaces
br1 8000.8c89a5c44f03 yes enp3s0
virbr0 8000.5254001d92cb yes virbr0-nic
 vnet1
virbr1 8000.5254009137d8 yes virbr1-nic
 vnet0
```