

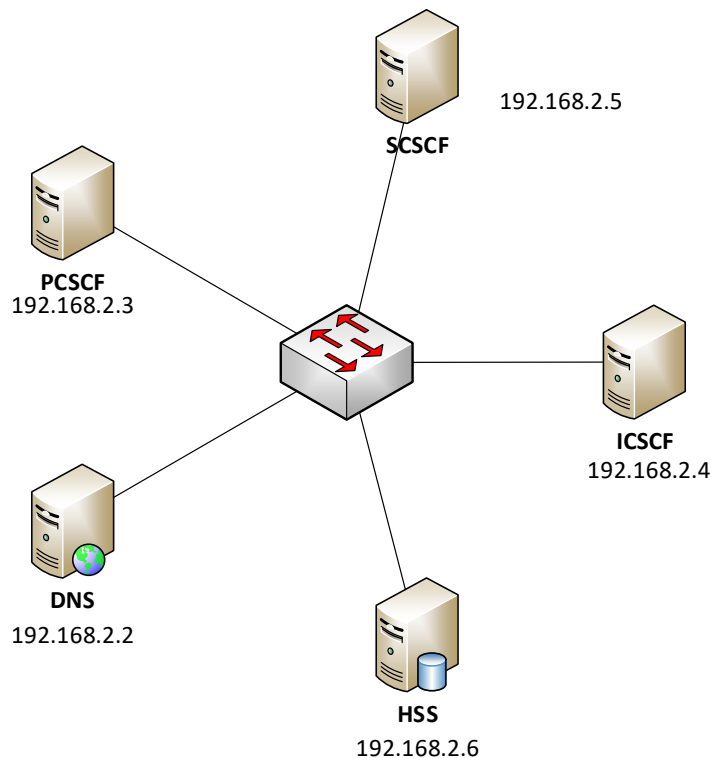
# Distributed Installation of IMS Network Core

The domain name remains: open-ims.test.

On the hypervisor type 2 (VirtualBox, VMWare WorkStation), we will create a local LAN with these informations:

- Network address: 192.168.2.0
- Mask: 255.255.255.0
- Broadcast address: 192.168.2.255
- Gateway: 192.168.2.1 (if needed)
- Address range: 192.168.2.2 – 192.168.2.254
- No DHCP. All host address are statics.

You may need a second NIC (Network Interface Card) for internet connection.



## On DNS VM:

First of all, a DNS server should be installed. We installed DNS server on ubuntu 12.04 by using bind9:

```
sudo apt-get install bind9
```

Then, remove network manager of ubuntu:

```
sudo apt-get remove network-manager-gnome
```

```
sudo apt-get remove network manager
```

Now it's time to configure the IP address of your DNS server.

```
sudo gedit /etc/network/interfaces
```

Add in interfaces file, the following instructions base on your architecture:

```
auto eth0
iface eht0 inet static
address 192.168.2.2
netmask 255.255.255.0
network 192.168.2.0
broadcast 192.168.2.255
dns-nameserver 192.168.2.2
```

Reset the network adaptor:

```
sudo /etc/init.d/networking restart
```

A sample DNS zone file is present in the installation directory of installation directory. Copy it to your DNS configuration directory:

- `cp ser_ims/cfg/open-ims.dnszone /etc/bind/`

Now change the loopback IP address to IP address of IMS core (P-SCSF, S-CSCF, I-CSCF and HSS):

```
sudo gedit /etc/bind/open-ims.dnszone
```

```
$ORIGIN open-ims.test.
$TTL 1W
@           1D IN SOA     localhost. root.localhost. (
                2006101001      ; serial
                3H              ; refresh
                15M             ; retry
                1W              ; expiry
                1D )            ; minimum

                1D IN NS     ns
ns           1D IN A       127.0.0.1
```

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pcscf	1D IN A	192.168.2.3		
_sip.pcscf	1D SRV 0 0 4060	pcscf		
_sip._udp.pcscf	1D SRV 0 0 4060	pcscf		
_sip._tcp.pcscf	1D SRV 0 0 4060	pcscf		
icscf	1D IN A	192.168.2.4		
_sip	1D SRV 0 0 5060	icscf		
_sip._udp	1D SRV 0 0 5060	icscf		
_sip._tcp	1D SRV 0 0 5060	icscf		
open-ims.test.	1D IN A	192.168.2.2		
open-ims.test.	1D IN NAPTR 10 50 "s" "SIP+D2U"		""	_sip._udp
open-ims.test.	1D IN NAPTR 20 50 "s" "SIP+D2T"		""	_sip._tcp
iptv	1D IN A	127.0.0.1		
scscf	1D IN A	192.168.2.5		
_sip.scscf	1D SRV 0 0 6060	scscf		
_sip._udp.scscf	1D SRV 0 0 6060	scscf		
_sip._tcp.scscf	1D SRV 0 0 6060	scscf		
trcf	1D IN A	127.0.0.1		
_sip.trcf	1D SRV 0 0 3060	trcf		
_sip._udp.trcf	1D SRV 0 0 3060	trcf		
_sip._tcp.trcf	1D SRV 0 0 3060	trcf		
bgcf	1D IN A	127.0.0.1		
_sip.bgcf	1D SRV 0 0 7060	bgcf		
_sip._udp.bgcf	1D SRV 0 0 7060	bgcf		

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_sip._tcp.bgcf	1D SRV 0 0 7060 bgcf	
mgcf	1D IN A	127.0.0.1
_sip.mgcf	1D SRV 0 0 8060 mgcf	
_sip._udp.mgcf	1D SRV 0 0 8060 mgcf	
_sip._tcp.mgcf	1D SRV 0 0 8060 mgcf	
hss	1D IN A	192.168.2.6
ue	1D IN A	127.0.0.1
presence	1D IN A	127.0.0.1
pcrf	1D IN A	127.0.0.1
clf	1D IN A	127.0.0.1

Edit the named.conf.local (always in /etc/bind/) to take into account this new zone (add the following lines new zone (add the following lines):

```
zone "open-ims.test" {  
  type master;  
  file "/etc/bind/open-ims.dnszone";  
} ;
```

Check that the named.conf file calls this file. To do this, the following line must be present in named.conf:

- include "/etc/bind/named.conf.local";

Add it if it is not the case.

Edit the /etc/resolv.conf file, delete (or comment out) the existing content and add the following lines:

```
search open-ims.test  
domain open-ims.test  
nameserver 192.168.2.2
```

**Warning:** Each time the OS is restarted, this file will be overwritten by the Network Manager. So, make a backup of this file (we will use it in our automatic server launch script, which we will script, which we will see at the end of this tutorial):

- `cp /etc/resolv.conf /etc/resolv.conf.ims`

Edit the `/etc/hosts` file and add the following lines:

```
192.168.2.2 localhost
```

```
192.168.2.2 open-ims.test ue.open-ims.test presence.open-ims.test  
icscf.openims.test scscf.open-ims.test pcscf.open-ims.test hss.open-  
ims.test
```

Warning: As before, make a backup of this file:

- `cp /etc/hosts /etc/hosts.ims`

Restart the DNS server:

- `/etc/init.d/bind9 restart`

Check that the configuration change has been taken into account (via `dig`):

- `dig open-ims.test`

## On IMS nodes (PCSCF, ICSCF, SCSCF, HSS, ...)

We must for each server:

- Get the OpenIMSCore source code (via SVN)
- Compile OpenIMSCore
- Configure MySQL (make the dumps for HSS and ICSCF)

**Note:** These steps are explained in the standalone installation file. Please refer to it.

Now, change IP address of other nodes by removing the network manager and adding this DNS server.

Then use `./configurator` at OpenIMSCore folder to add IP address of each node (PCSCF, ICSCF, SCSCF, HSS, ...) to OpenIMSCore.

Your OpenIMSCore is ready.