Install CoovaChilli on Ubuntu 14.04

Introduction

- RADIUSdesk can function perfectly without CoovaChilli.
- CoovaChilli is however the best open source captive portal software around.
- If you want to install CoovaChilli on a machine; **make sure that there are at least two functional network cards present.**
- One network card will be used by CoovaChilli as the Internet connection.
- The second network card will be used to run a captive portal on. This captive portal will be controlled by CoovaChilli who in turn receives it’s instructions from FreeRADIUS (RADIUSdesk)

Installing CoovaChilli

- If you have a 32 bit machine the install of CoovaChilli will be a bit easier compared with the actions to install it on a 64 bit machine. They are however both easy to follow.

32 Bit Machines

- We will assume that we are installing CoovaChilli on the same machine running RADIUSdesk. You are not required though to run them on the same machine.
- We also assume that the machine has an Internet connection on eth0 while eth1 will be used to run the captive portal on.
- Grab the latest binary build of CoovaChilli from this page. [http://coova.org/CoovaChilli/Binaries](http://coova.org/CoovaChilli/Binaries)
- As of this writing it is 1.3.0
- Install it on the machine with the two network cards running RADIUSdesk

```
sudo dpkg --install coova-chilli_1.3.0_i386.deb
```

- From the output of the dpkg command you will see that CoovaChilli is by default disabled. In the next section we will configure it to become a working entity.

64 bit Machines

- We have to compile the 64 bit package from source.
- Download the latest version of the source here: [http://coova.org/Download](http://coova.org/Download)
- As of this writing it is at 1.3.0.
- Install the build tools, build and install the package

```
sudo apt-get install build-essential linux-headers-server libssl-dev
dudo apt install devscripts debhelper
tar -xzf fzxvf coova-chilli-1.3.0.tar.gz
cd coova-chilli-1.3.0/
debuild -i -us -uc -b
cd ..
```

RADIUSdesk - [https://www.radiusdesk.com/docuwiki/](https://www.radiusdesk.com/docuwiki/)
Getting started: install CoovaChilli

```
sudo dpkg --install coova-chilli_1.3.0_amd64.deb
```

- From the output of the dpkg command you will see that CoovaChilli is by default disabled. In the next section we will configure it to become a working entity.

# Configuring CoovaChilli

## Enable CoovaChilli

- Edit the following file

```
sudo vi /etc/default/chilli
```

- Change it to look like this

```
START_CHILLI=1
CONFFILE="/etc/chilli.conf"
HS_USER="chilli"
```

- Save the file and start CoovaChilli

```
sudo /etc/init.d/chilli start
```

- Make sure there is a tun interface present when you look at the feedback of the ifconfig command.

```
ifconfig
```

```
.....
tun0  Link encap:UNSPEC  HWaddr 00-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00 inet addr:10.1.0.1 P-t-P:10.1.0.1 Mask:255.255.255.0 UP POINTOPOINT RUNNING MTU:1500 Metric:1 RX packets:0 errors:0 dropped:0 overruns:0 frame:0 TX packets:0 errors:0 dropped:0 overruns:0 carrier:0 collisions:0 txqueuelen:100 RX bytes:0 (0.0 B) TX bytes:0 (0.0 B)
.....
```

## Modify the configuration file

- CoovaChilli is configured by editing or creating certain files under the /etc/chilli directory.

<table>
<thead>
<tr>
<th>File</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>config</td>
<td>start as a copy of default and is edited to override specific variables defined in default</td>
</tr>
<tr>
<td>default</td>
<td>To avoid the splash screen we have to remove one line from this file</td>
</tr>
<tr>
<td>File</td>
<td>Comment</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>ipup.sh</td>
<td>Custom firewall rules for start-up</td>
</tr>
<tr>
<td>ipdown.sh</td>
<td>Custom firewall rule clean-up during shut-down.</td>
</tr>
</tbody>
</table>

- Use the following /etc/chilli/config file as a guideline to configure CoovaChilli

```plaintext
HS_LANIF=eth1       # Subscriber Interface for client devices
HS_NETWORK=10.1.0.0 # HotSpot Network (must include HS_UAMLISTEN)
HS_NETMASK=255.255.0.0 # HotSpot Network Netmask
HS_UAMLISTEN=10.1.0.1 # HotSpot IP Address (on subscriber network)
HS_UAMPORT=3990     # HotSpot UAM Port (on subscriber network)
HS_UAMUIPORT=4990   # HotSpot UAM "UI" Port (on subscriber network, for embedded portal)
HS_NASID=localhost
HS_RADIUS=localhost
HS_RADIUS2=localhost
HS.RadSecret=testing123         # Set to be your RADIUS shared secret
HS_UAMSECRET=greatsecret      # Set to be your UAM secret
HS_UAMALIASNAME=chilli
HS_SSId="Struisbaai"
HS_NASIP=127.0.0.1     # To explicitly set NAS-IP-Address
HS_UAMSERVER=HS_UAMLISTEN
HS_UAMFORMAT=http://\$HS_UAMLISTEN/cake2/rd_cake/dynamic_details/chilli_browser_detect/
HS_MACAUTH=on          # To turn on MAC Authentication
HS_TCP_PORTS="80 23 8000"
HS_MODE=hotspot
HS_TYPE=chillispot
HS_WWWDIR=/etc/chilli/www
HS_WWWBIN=/etc/chilli/wwwsh
HS_PROVIDER=Coova
HS_PROVIDER_LINK=http://www.coova.org/
HS_LOC_NAME="My HotSpot" # WISPr Location Name and used in portal
HS_COAPORT=3799
```

- Comment the following line out of /etc/chilli/default.

```plaintext
#   Same principal goes for HS_UAMHOMEPAGE.
#HS_UAMHOMEPAGE=http://\$HS_UAMLISTEN:\$HS_UAMPORT/www/coova.html
```

- Also comment the DNS server settings out in /etc/chilli/default to force CoovaChilli to use the DNS servers of the system that it is running on.

```plaintext
# OpenDNS Servers
#HS_DNS1=208.67.222.222
#HS_DNS2=208.67.220.220
```

- Use the following /etc/chilli/ipup.sh file as a guideline

```plaintext
UAM server specified as 10.1.0.1
iptables -I INPUT -i tun0 -p tcp -m tcp --dport 80 --dst 10.1.0.1 -j ACCEPT
iptables -I INPUT -i tun0 -p tcp -m tcp --dport 443 --dst 10.1.0.1 -j ACCEPT
```
Add NAT support

- By default CoovaChilli does not do NAT between the two interfaces. We have to add NAT support during start-up in order to have a working system.

- Use the following `/etc/chilli/ipdown.sh` file as a guideline

UAM server specified as 10.1.0.1

- Test it out
  - Restart CoovaChilli for the latest changes to be effected.

```
sudo /etc/init.d/chilli stop
sudo /etc/init.d/chilli start
```

- Confirm it started fine

```
sudo tail /var/log/messages
```
Making things permanent

- Ensure that CoovaChilli will start up after reboots.

```
sudo update-rc.d chilli start 99 2 3 4 5 . stop 20 0 1 6 .
```

- Reboot the system and make sure CoovaChilli started up fine