

Adding CPEs as clients to a MESHdesk mesh

- So you have just finished deploying a nice mesh at a gated community. (http://en.wikipedia.org/wiki/Gated_community)
- The body corporate is very happy with their investment until one of the customers started the following conversation:

What about my wireless printer? and the kids games?

Mam, I'm sure there is a way to fix this up. We just need to investigate our options.

Very good. 😊

- Back home you grab some of those super cheap Atheros based Access Points lying around; flash it with OpenWrt and do the following changes:

Do the following changes to a clean install of OpenWrt

- We will run the radio in both **Station** mode and **Access Point** mode simultaneously.
- We will use it in **Station** mode to join the mesh network which has an open SSID.
- We will use it in Access Point mode for the house to connect to this private fire-walled network.
- So in essence we simply replace the WAN interface that is traditionally eth1 with the one virtual WiFi interface running in station mode and is connected to the mesh's open SSID.
- See the following files and the comments inside them to explain what we are doing:
- /etc/config/wireless

wireless

```
config wifi-device radio0
    option type mac80211
    option channel 11
    option hwmode 11g
    option path 'platform/ar933x_wmac'
    option htmode HT20
    # REMOVE THIS LINE TO ENABLE WIFI:
    option disabled
    #This is the private SSID for the user's home
config wifi-iface
    option device radio0
    option network lan
    option mode ap
    option ssid OpenWrt
    option 'encryption' 'psk2'
    option 'key' 'passphrase'

    #This is the uplink station mode interface joined to the wan network
    (where we removed the eth1 interface)
```

```
config wifi-iface
    option device    radio0
    option mode      sta
    option ssid      "Cheetah guest"
    option encryption none
    option network   wan
```

- /etc/config/network

network

```
config interface 'loopback'
    option ifname 'lo'
    option proto 'static'
    option ipaddr '127.0.0.1'
    option netmask '255.0.0.0'

config globals 'globals'
    option ula_prefix 'fda0:c846:c916::/48'

config interface 'lan'
    option ifname 'eth0'
    option force_link '1'
    option type 'bridge'
    option proto 'static'
    option ipaddr '192.168.1.1'
    option netmask '255.255.255.0'
    option ip6assign '60'

#We replace the eth1 interface with the wlan0 interface
#This is the 'uplink' interface
config interface 'wan'
#    option ifname 'eth1'
    option proto 'dhcp'

config interface 'wan6'
    option ifname '@wan'
    option proto 'dhcpv6'
```

* /etc/config/dhcp

dhcp

```
config dnsmasq
    option domainneeded '1'
    option boguspriv '1'
    option filterwin2k '0'
    option localise_queries '1'
```

```
option rebind_protection '1'
option rebind_localhost '1'
option local '/lan/'
option domain 'lan'
option expandhosts '1'
option nonegcache '0'
option authoritative '1'
option readethers '1'
option leasefile '/tmp/dhcp.leases'
option resolvfile '/tmp/resolv.conf.auto'

config dhcp 'lan'
option interface 'lan'
option start '100'
option limit '150'
option leasetime '12h'
#NB change from 'server' to 'disabled' for NAT through the CPE
to work right
option dhcpv6 'disabled'
option ra 'server'

config dhcp 'wan'
option interface 'wan'
option ignore '1'

config odhcpd 'odhcpd'
option maindhcp '0'
option leasefile '/tmp/hosts/odhcpd'
option leasetrigger '/usr/sbin/odhcpd-update'
```

- After these changes its time to reboot and test

From:
<http://www.radiusdesk.com/docuwiki/> - **RADIUSdesk**

Permanent link:
http://www.radiusdesk.com/docuwiki/user_guide/md_adding_cpe

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