OCP
CBW Affairs

Big Picture - Open CBW (Campus , Branch , Wireless)

Thin Branch (L2 Overlay)
OR
Thick Branch (L3 termination at Branch)
OR
Hybrid Branch (L2 / L3 combo)

SSID n

SSID 2

SSID 1

192.168.1.0/8

172.168.1.0/8

10.0.0.0/24

Wi-Fi AP

802.11

WAN I/F

802.1q (vlan) , or

VLAN

IPv6, IPv4

PoE Branch Switch

Broadband
Service
Provider

GRE, VXLAN

Data Center

Inter-Spine

Spine

ToR

Wireless Manager

FBOSS / ToRC /
SoNIC

Automated Network Provisioning
Firmware, Tunnel, FIB, 802.11 params.

Two Perspectives

Networking centric perspective

Special CLI or UI

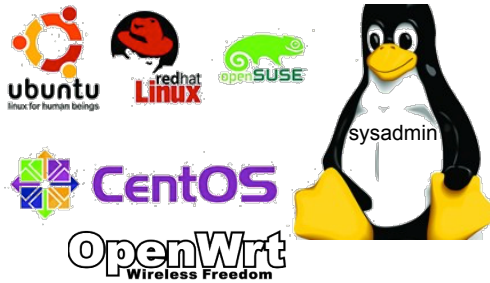*I have to be certified by a Networking university !*

SNMP, TR-069

Old world

New world

IT centric perspective

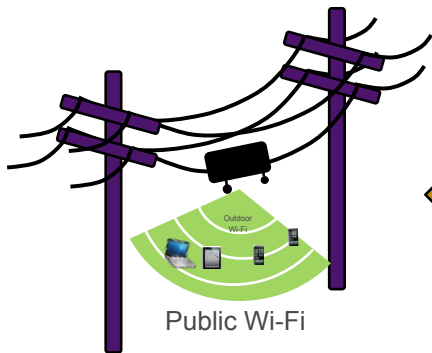Meh, Just another Linux server with a Wireless interface !

ubuntu
linux for human beings

redhat Linux

openSUSE

CentOS

OpenWrt
Wireless Freedom

sysadmin

Linux Server on a pole !

Linux server on a Balloon !

Flying Linux server !

Public Wi-Fi

sysadmin

Why Linux ? Why Open ?

- Verified Secure Boot
- Secure Rolling Auto Updates / Patches
- Continuous Build, Test, Deployment
- Modern Kernels
- Provenance and Audit for all Code
- Open Source Resilience
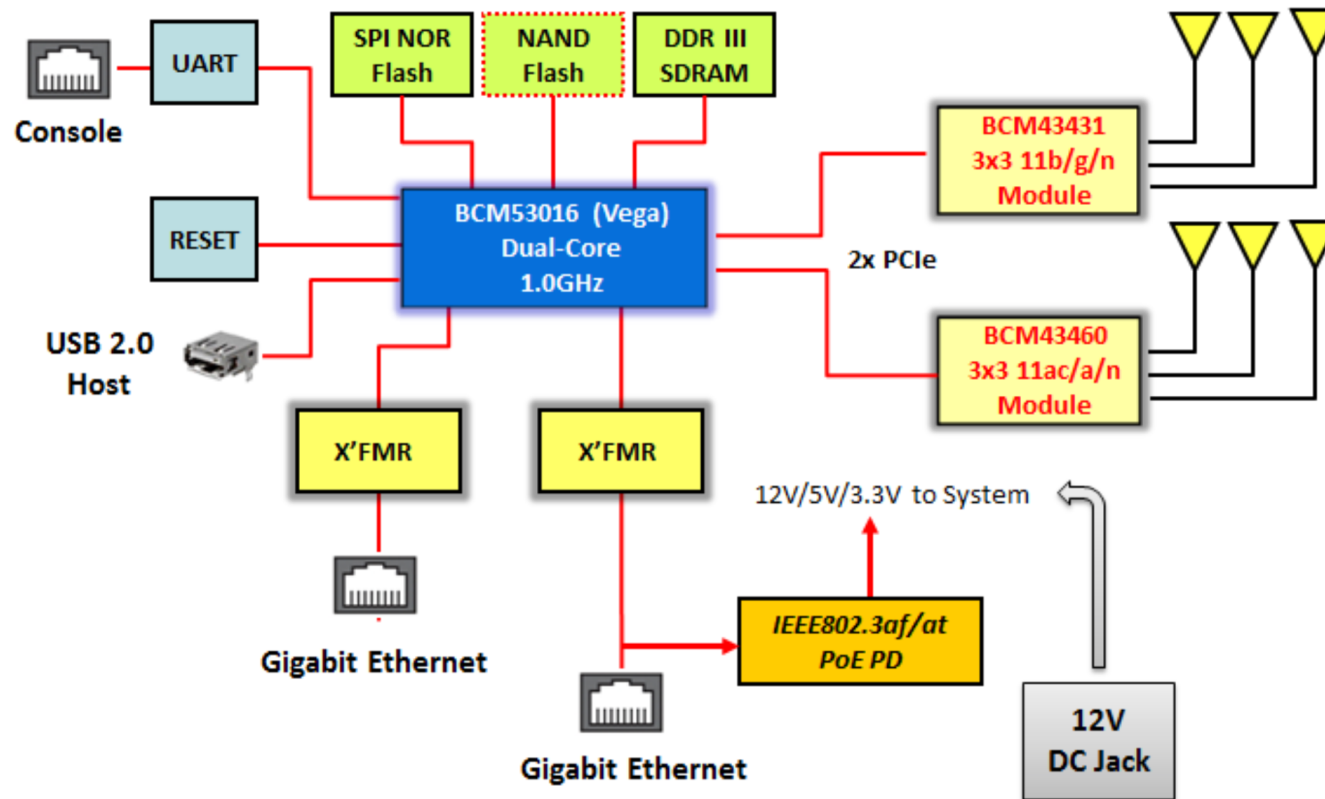- Zero touch Cloud management

State of the Union

Phase 1 : Open Source the Access Point H/W design (Done !)
           4 H/W designs made public (entry level AP to high-end 3x3 MIMO 802.11AC)
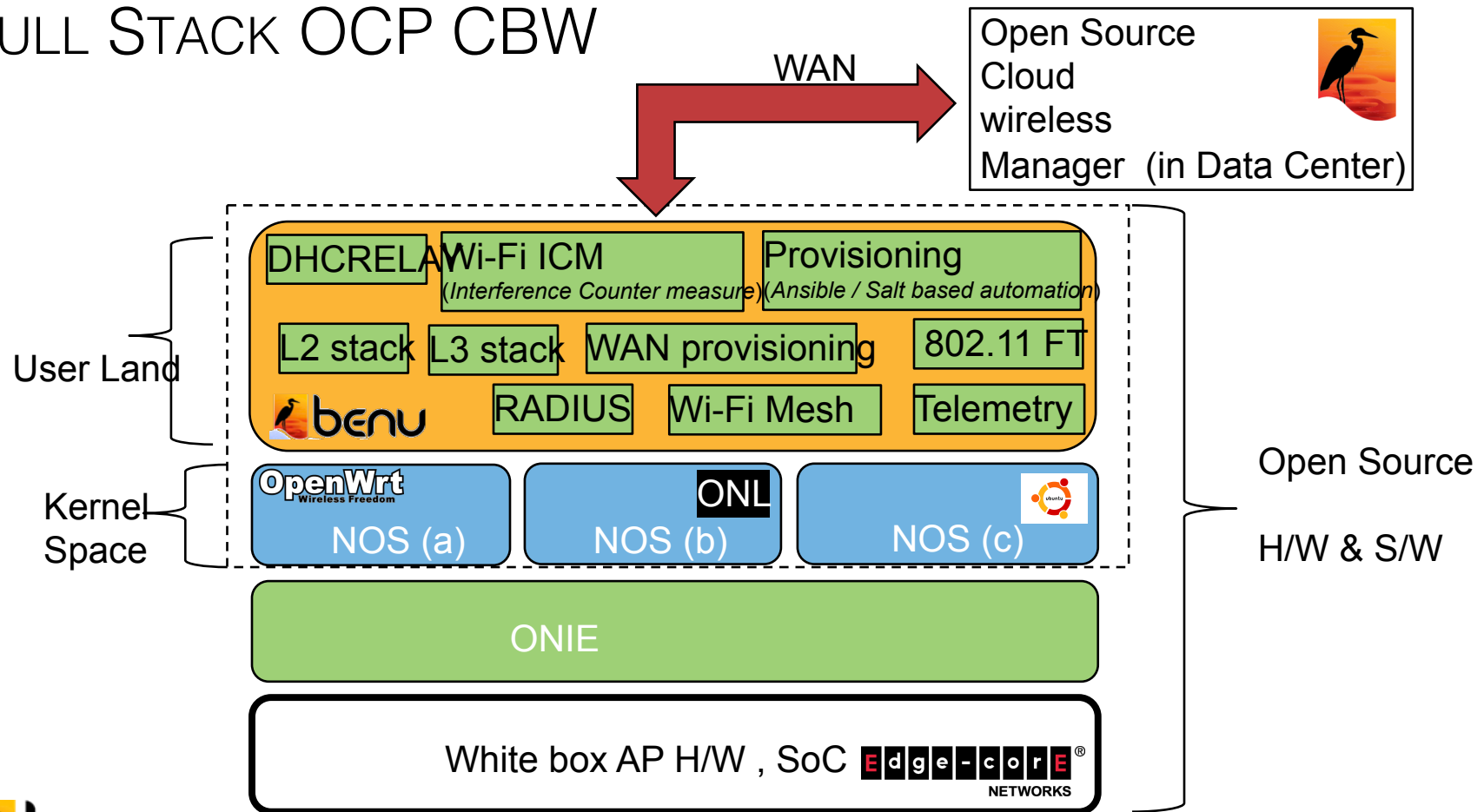
@ http://www.opencompute.org/wiki/Networking/
SpecsAndDesigns

Sample 3x3 MIMO AC Unit

FULL STACK OCP CBW

WAN

Open Source
Cloud
wireless
Manager (in Data Center)

User Land

DHCRELAY | Wi-Fi ICM *(Interference Counter measure)* | Provisioning *(Ansible / Salt based automation)*

L2 stack | L3 stack | WAN provisioning | 802.11 FT

benu | RADIUS | Wi-Fi Mesh | Telemetry

Kernel Space

OpenWrt Wireless Freedom — NOS (a)

ONL — NOS (b)

ubuntu — NOS (c)

Open Source

H/W & S/W

ONIE

White box AP H/W , SoC Edge-corE® NETWORKS
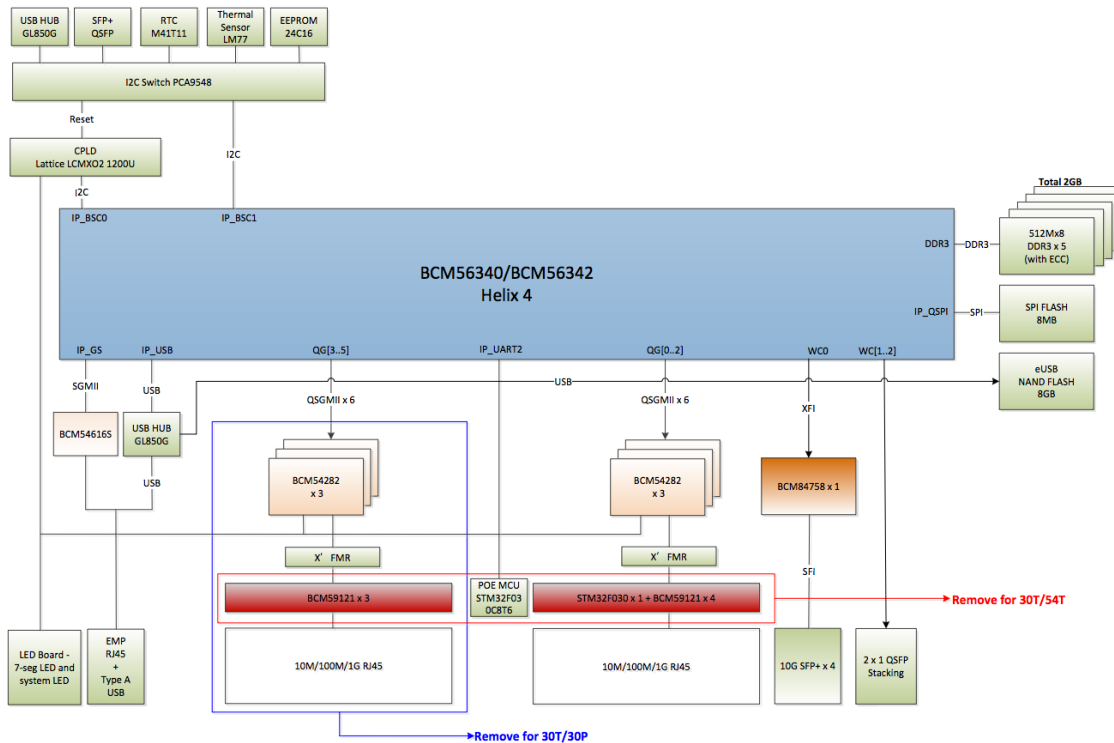
benu

ONIE - CBW

- Needed secure (SSL) option for fetching NOS from Public Cloud
    - Does that exist today ?

- Any other requirements ?

CBW - Branch PoE Switch

Anyone working on this ?

Branch PoE has different networking requirements than DC ToR .

Where is (will be) the S/W

Phase 2 : Open Source Linux based software stack on the Access Points   (starting)

@ https://github.com/ocpnetworking-wip

OpenWRT NOS work in progress ; Target Completion Summer 2016

NEXT ?

- Need volunteers to pick up user space modules
  - Generic WLAN interface configuration
  - Zero touch cloud management
  - Wi-Fi Mesh (campus / branch backhaul)

- H/W submission for LTE / Wi-Fi combo White Box ?
  - OCP-Telco would love to have that.
  - You think Enterprise Networking is closed ? Mobile Networking is the mother of closed end-to-end networking.