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

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

Networking centric perspective

Special CLI or UI
*I have to be certified by a Networking university!*

SNMP, TR-069

IT centric perspective

*Meh, Just another Linux server with a Wireless interface!*

Old world

IT centric perspective

New world

Old world

IT centric perspective

New world
Linux Server on a pole!

Public Wi-Fi

Flying Linux server!

Linux server on a Balloon!
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

Open Source Cloud wireless Manager (in Data Center)

Open Source H/W & S/W

User Land

Kernel Space

ONIE

White box AP H/W, SoC

NOS (a)

NOS (b)

NOS (c)

DHCRELA

Wi-Fi ICM

Provisioning

L2 stack

L3 stack

WAN provisioning

802.11 FT

RADIUS

Wi-Fi Mesh

Telemetry

802.11 FT

802.11 FT

Open Source wireless Manager (in Data Center)
ONIE - CBW

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

• Any other requirements?
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.