SDN/OpenFlow Installation

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Agenda

- Environment & housekeeping

- What is SDN and Openflow?

- Understanding Open vSwitch and RouteFlow

- Understanding RYU and SDN applications

- Simple SDN programming
  - python vs IOS or Junos!

- Building a (distributed) switch

- Building a (distributed) router

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Environment & housekeeping

- WIFI details:
  - SSID: nsrc
  - Password: see the whiteboard
  - Security: WPA2
- Pointer to local wiki:
  - https://nsrc.org/workshops/2014/nznog-sdn/wiki
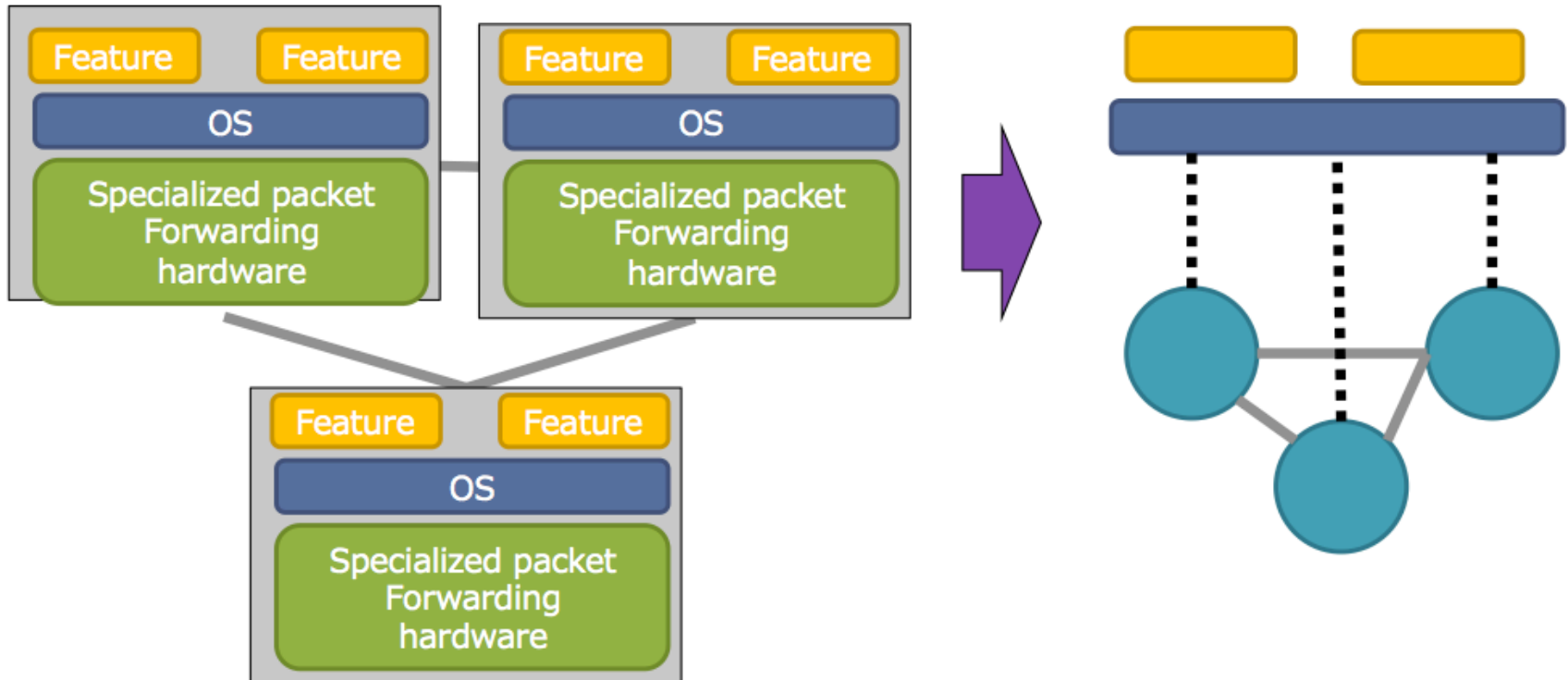- When in Nelson, the instructors like to drink at the Free House, Collingwood Street
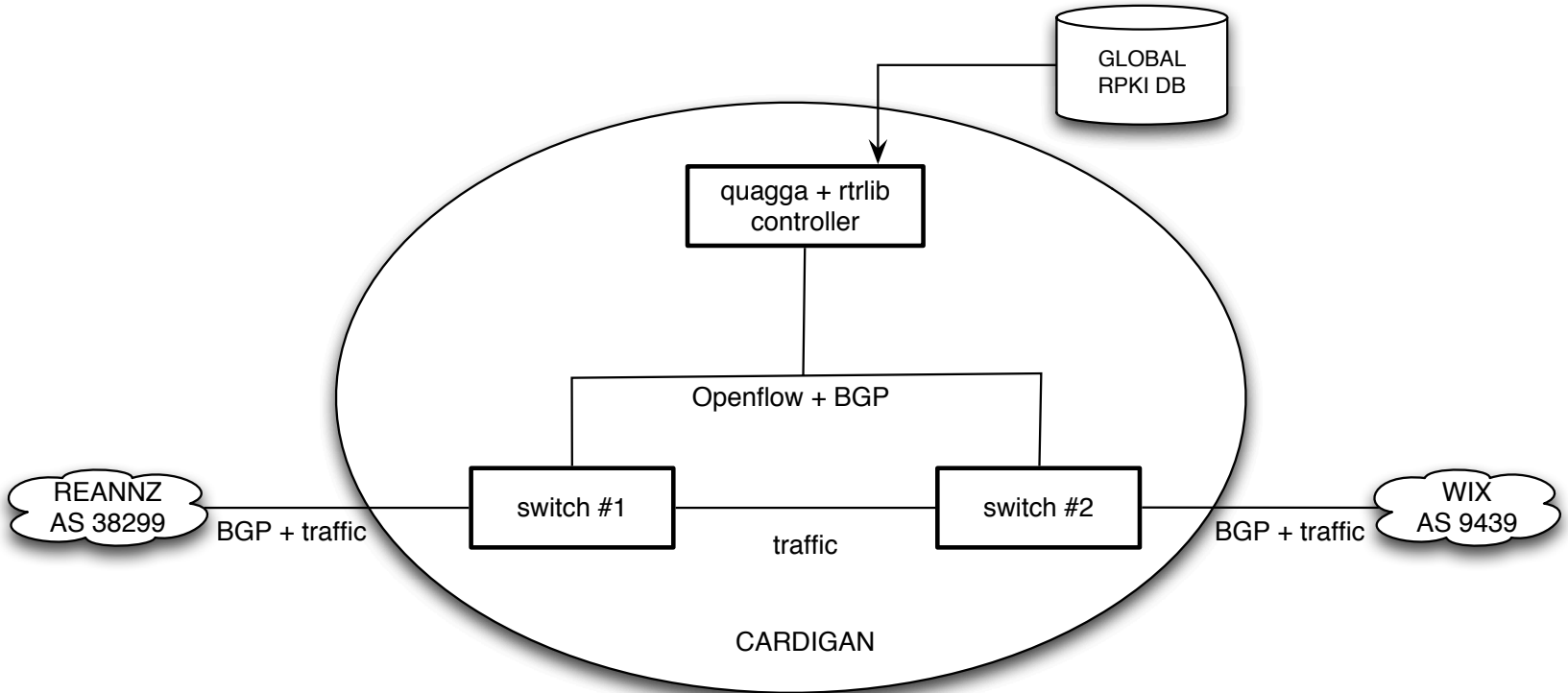
Software defined networking (SDN)

- Separates control and data plane:
  - Open interface between control and data plane
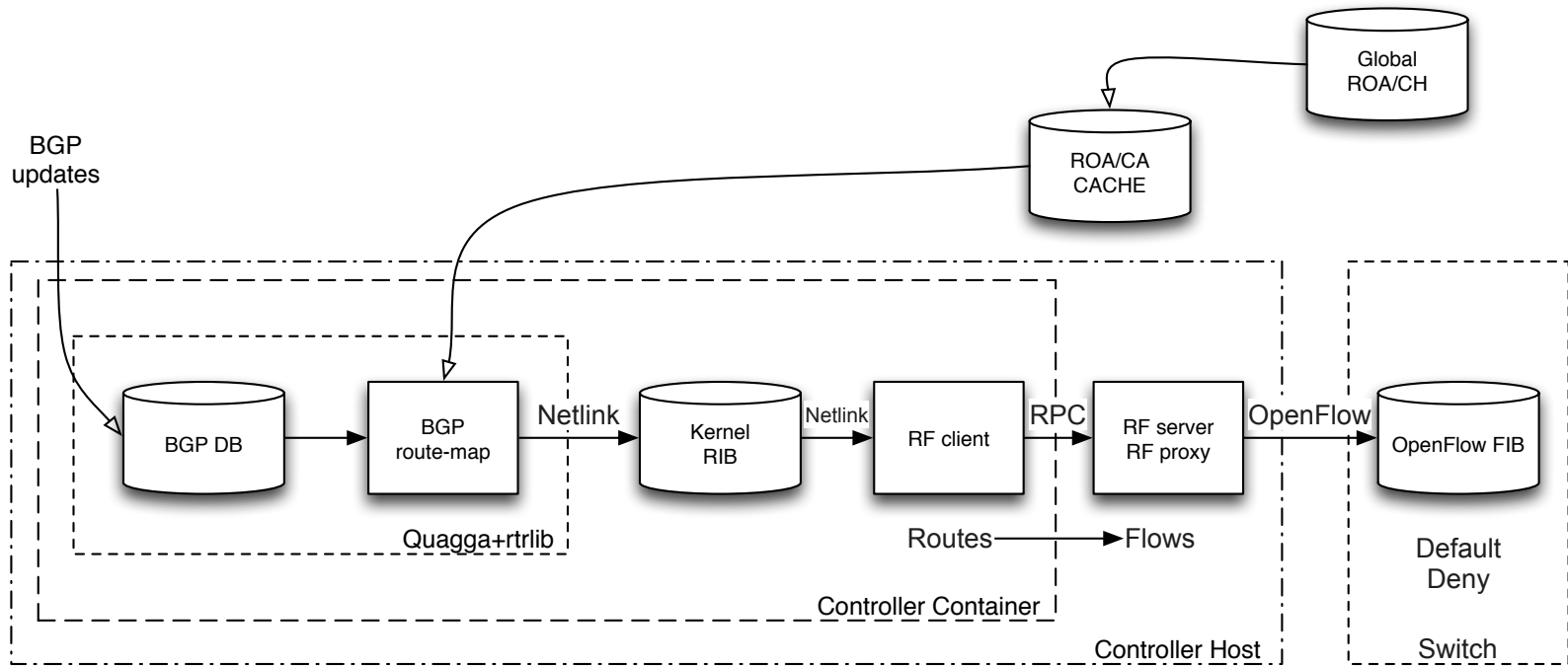 - Network control and management features in software

...SDN

Cardigan overview

GLOBAL
RPKI DB

quagga + rtrlib
controller

Openflow + BGP

REANNZ
AS 38299

switch #1

switch #2

WIX
AS 9439

BGP + traffic

traffic

BGP + traffic

CARDIGAN

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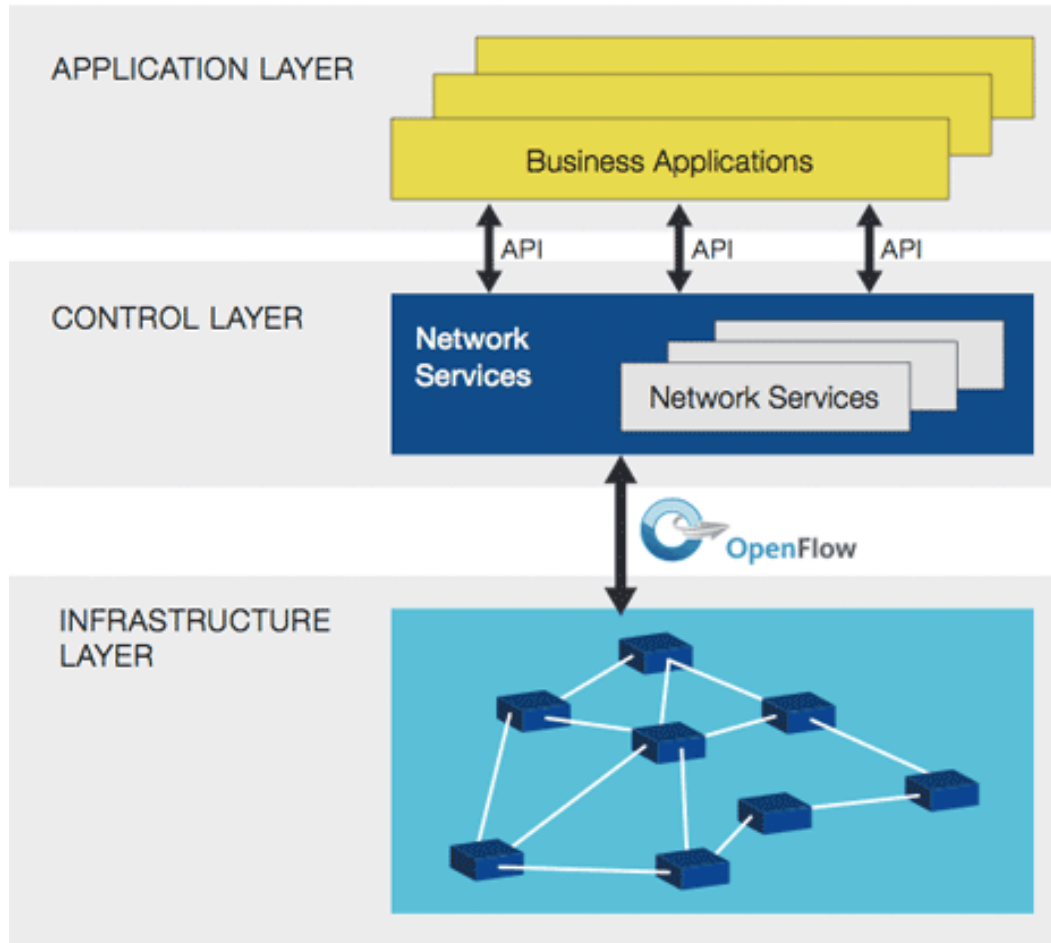
Cardigan details

Lessons from history ☺

- "If you know what you're doing, 3 layers is enough; if you don't, 17 layers won't help you."

- [B]eware of the panacea peddlers: just because you wind up naked doesn't make you an emperor.
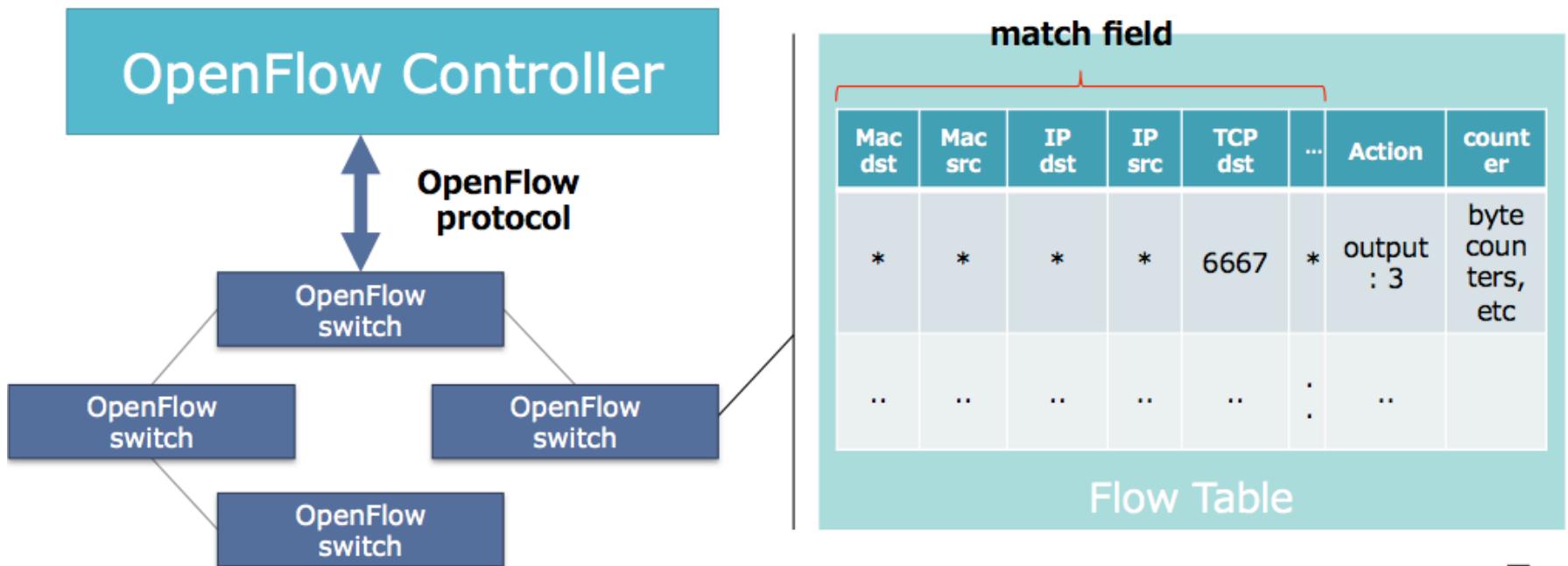
  – Michael A Padlipsky

3 Layers anyone?

Openflow overview

- One of the key technologies to realize SDN
- Open interface between control and data plane

Links

- http://openvswitch.org/
- http://openvswitch.org/slides/ OpenStack-131107.pdf
- https://sites.google.com/site/routeflow/
- http://osrg.github.io/ryu/