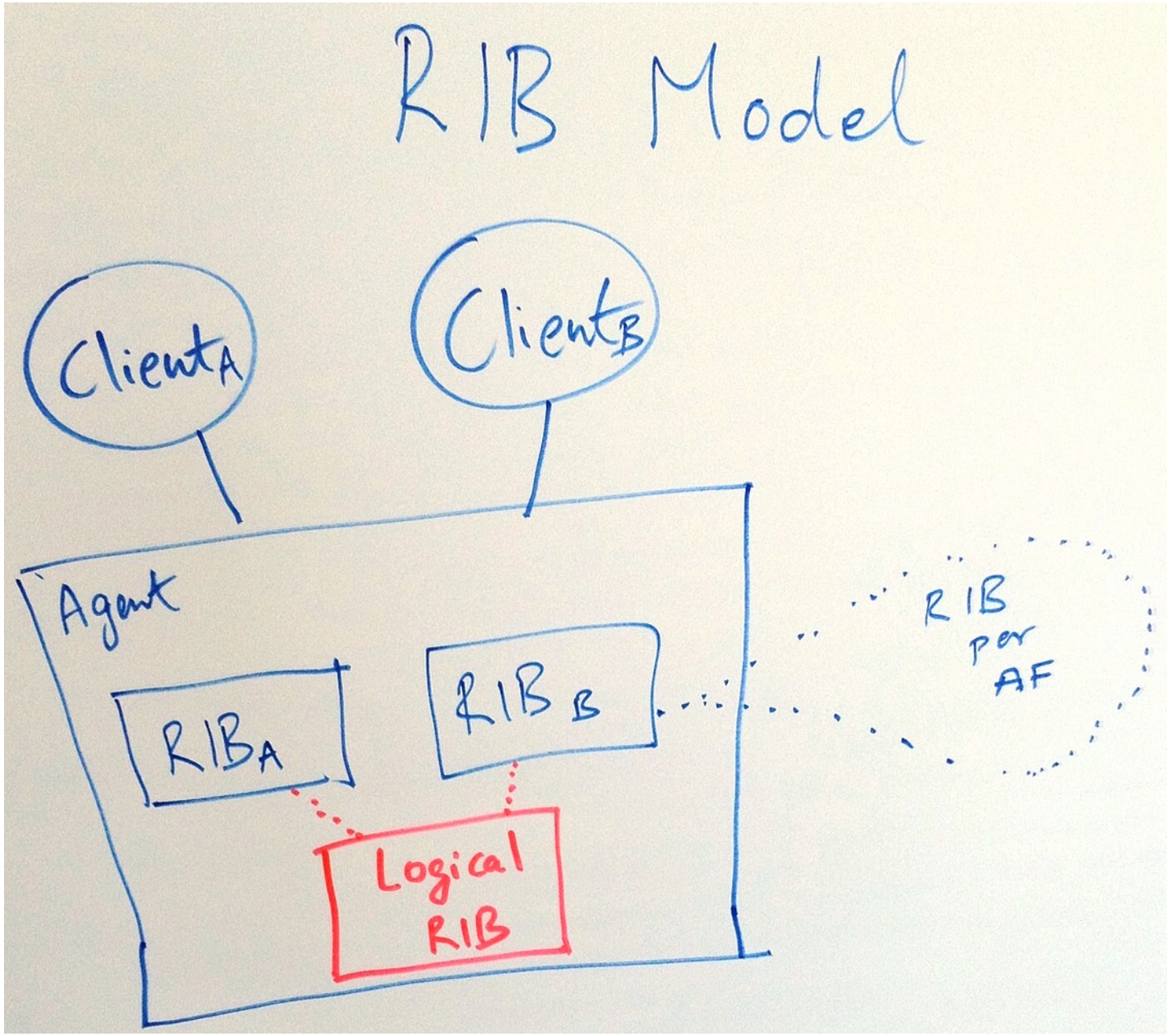
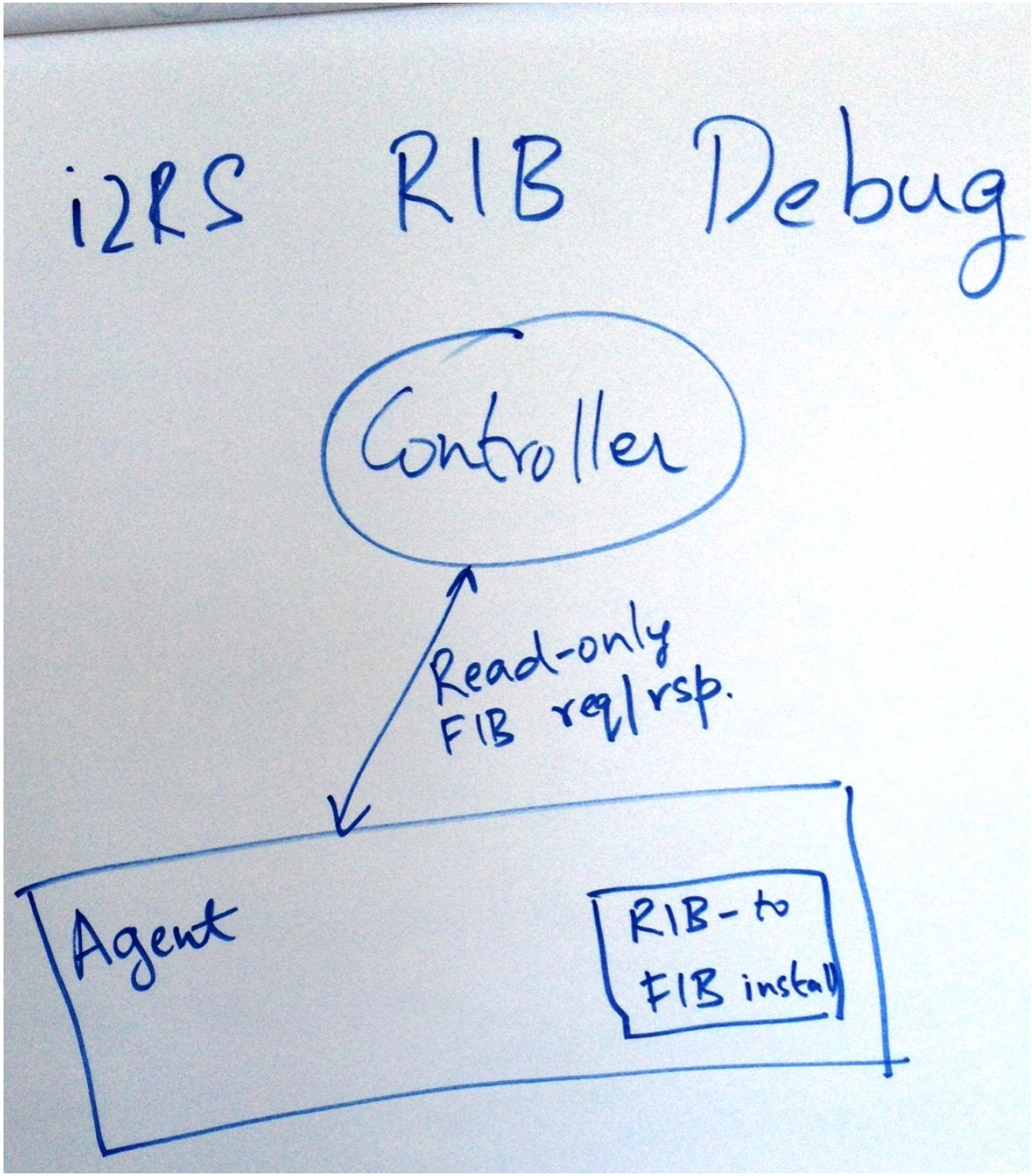
# Group 2-5 – RIB

Wes George
Nitin Bahadur


RIB Model
Client A
Client B
Agent
RIB A
RIB B
Logical RIB
RIB per AF

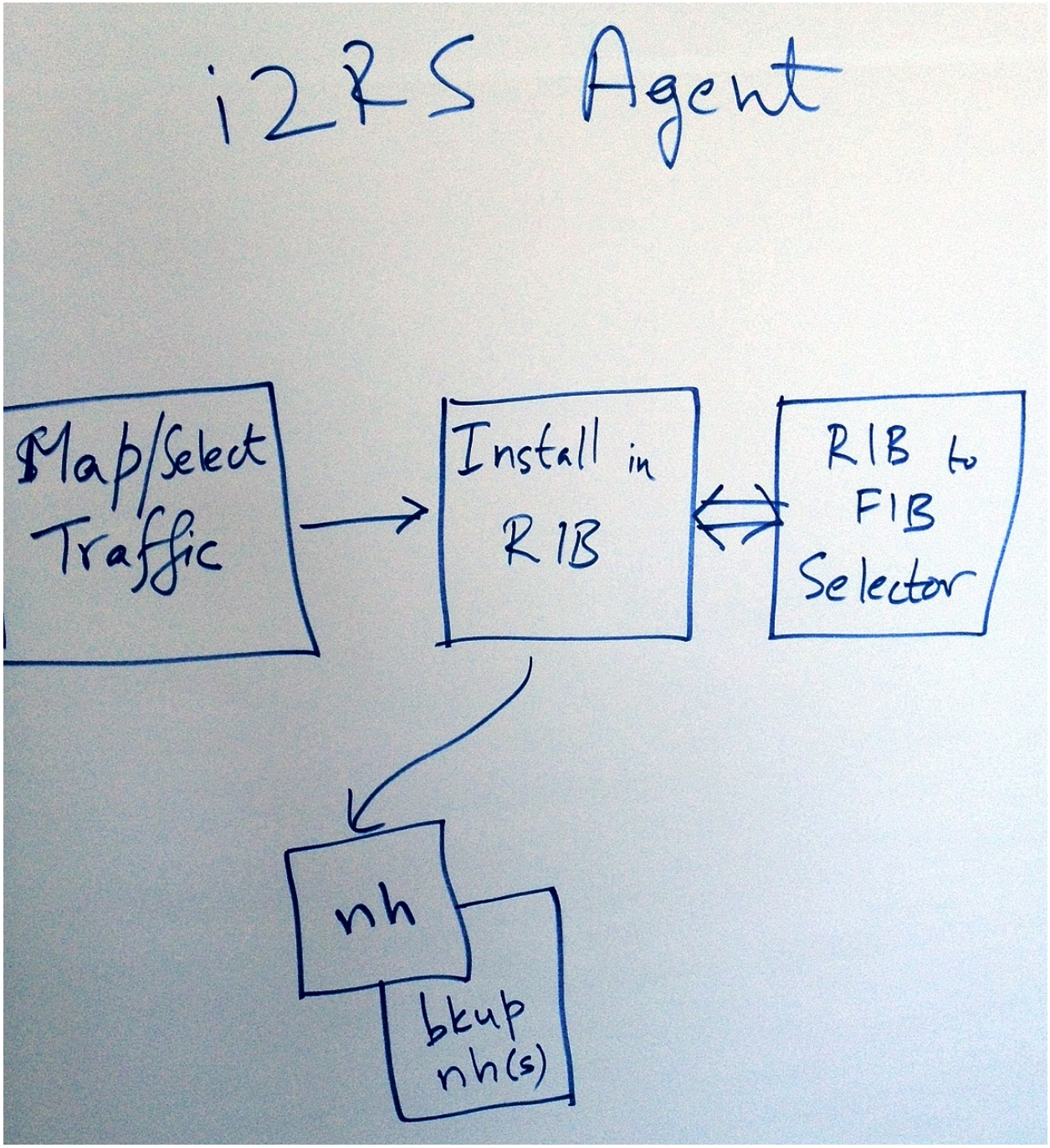
# RIB - Info

- Read data from RIB
  - Routes installed
  - Candidate routes
    - IP
    - LDP
  - RIB Tables
- Read-only data from FIB
  - Prefix + next-hop for verification (FIB programming success/fail)


i2RS RIB Debug
Controller
Read-only
FIB req/rsp.
Agent
RIB-to
FIB install

# Assumptions

- Controller (distributed or centralized) is the broker layer between Apps and network
  - Deals with prioritization/conflict
  - Signals pass/fail to app requests
  - Provides info to apps
- Controller has different RIBs for each AF
- Controller has only one RIB per AF
- Clients have different RIBs for each AF
- Clients have different RIBs within AF (different IGPs, BGP, etc)


i2RS Agent
Map/Select Traffic
Install in RIB
RIB to FIB Selector
nh
bkup nh(s)

# Building blocks

- Policy to direct traffic
- RIB NH selection
  - IP
  - IP + LDP
  - IP + LDP + VLAN
  - Interface to optical
- Mapping for traffic identification/separation
  - APP/Traffic type -> VLAN -> Label/route -> exit
- (optional) Interface to Optical control plane
  - Topology
  - Performance envelope
    - Latency
    - Bandwidth/Capacity
    - Time
    - SRLG

# Optimizing exit control

- Problem Statement:
  - Route traffic from a network device to a given edge device (or edge device's interface) based on certain business logic

- Solution
  - Controller programs path on a network device that specifies
    - Transport (Eg. LDP LSP) - optional
    - Path edge (Eg. path label) or Path edge +Egress-Interface (path-egress label)
    - Service network stack (stack that takes packet to final dest.)
  - Encap. type can be anything – IP, GRE, MPLS, etc..