

Filter-Based Forwarding

draft-kini-i2rs-fb-rib-info-model

draft-hares-rtgwg-fb-rib-data-model

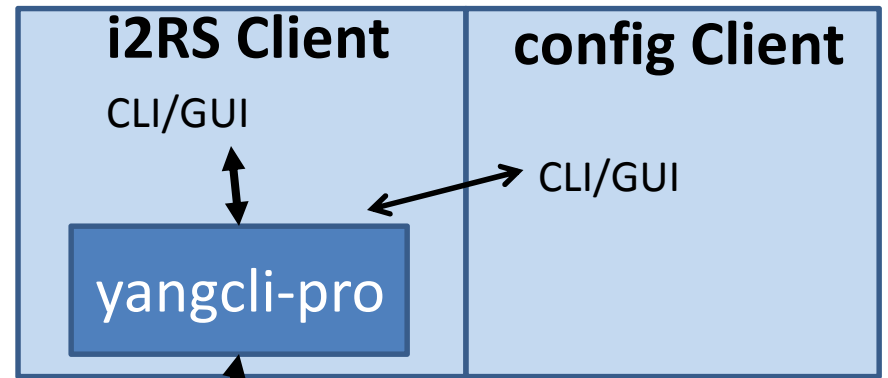
draft-hares-i2rs-

Filter-Based Forwarding Policy

- **Packet Filter (Forwarding)**
 - Configuration level: ACLs + order, **this proposal**
 - Ephemeral: I2RS Filter-Based RIB
 - BGP Session Level: **FIB installed** BGP Flow Specification
- **Filter-Based Forwarding is Minimalistic ECA Policy**
 - **Event** = packet reception on interfaces
 - **Match Condition** = Match on Filters
 - **Actions** – Modify packet, and Forward (or Drop)
- **ACL + augments by companies \approx packet ECA policy**

Hackathon IETF 96

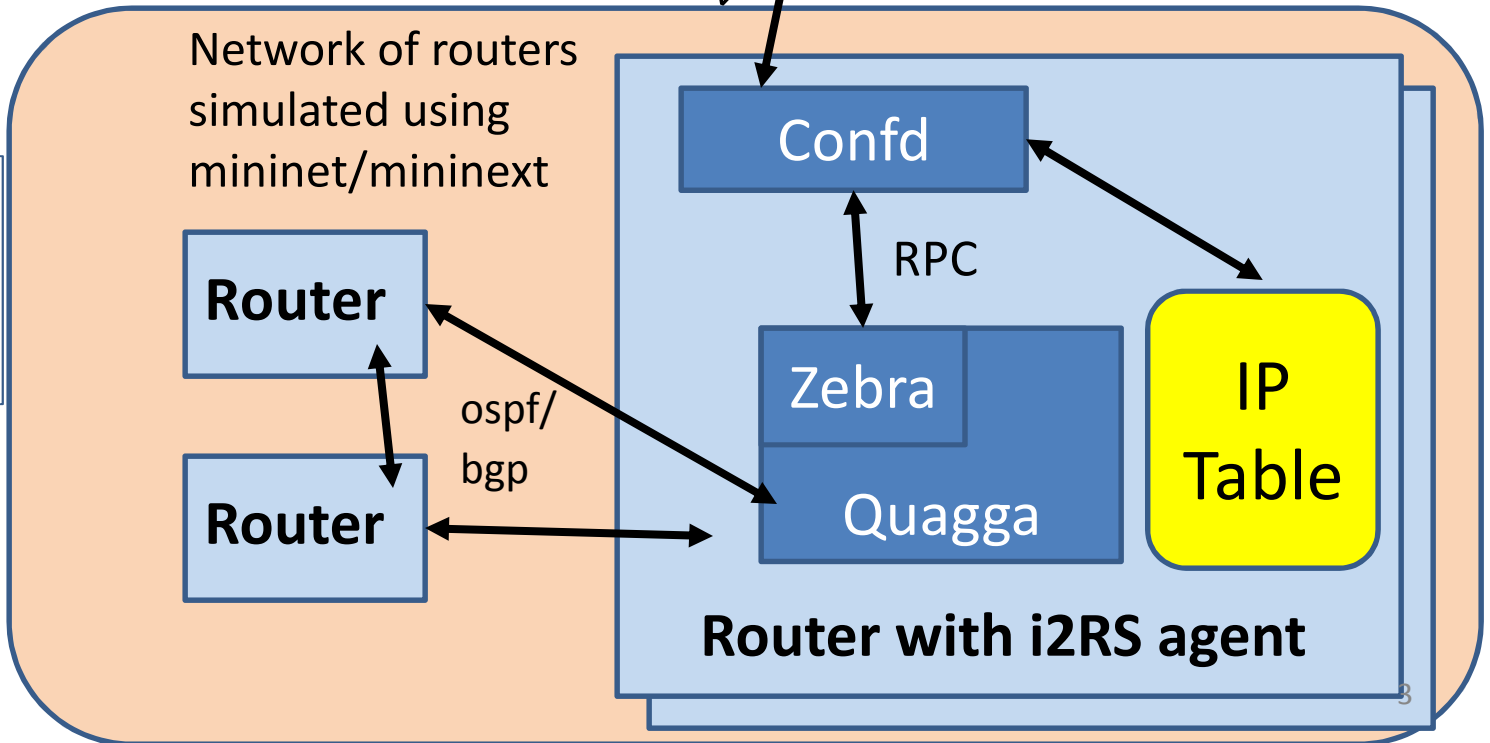
NETCONF
with i2RS
data model



<route-add>

Network of routers
simulated using
mininet/mininext

static route
IP table



IP Tables = Filter Rules

- **iptables [-t table] -[AD] chain rule-specification**
[options]
- **iptables [-t table] -I chain [rulenum] rule-specification**
[options]
- **iptables [-t table] -R chain rulenum rule-specification**
[options]

Option 1: Pkt-eca-policy

Policy-rule =

rule-specification

Policy-group = chain

Policy set = table

Option 2: Pkt-eca-policy

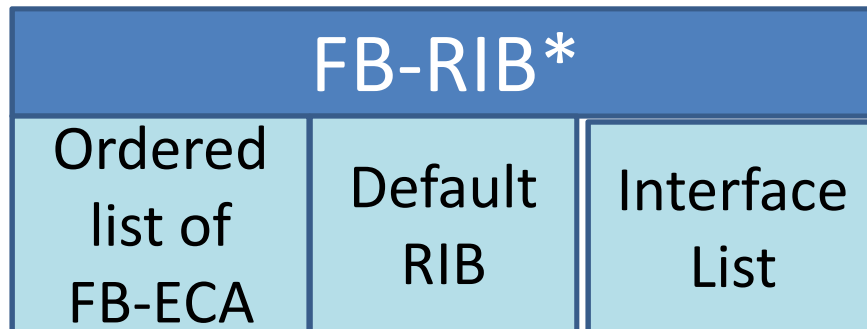
Policy-rule =

rule-specification

Policy-group = set of rules

Policy set = table

Routing instance

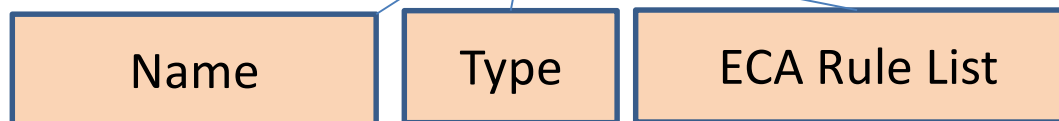


Interface 1

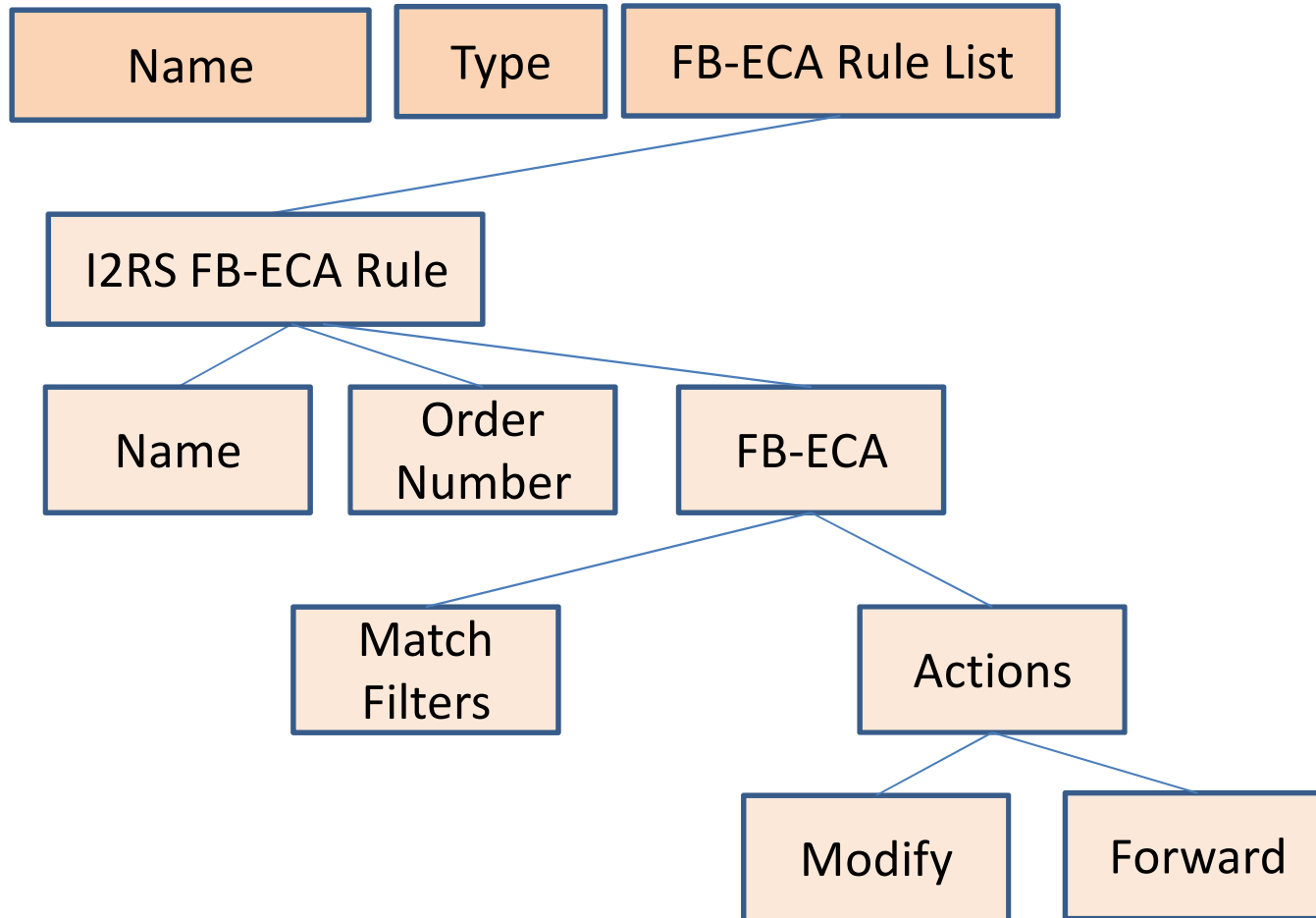
Interface 2

Interface 3

Interface 4



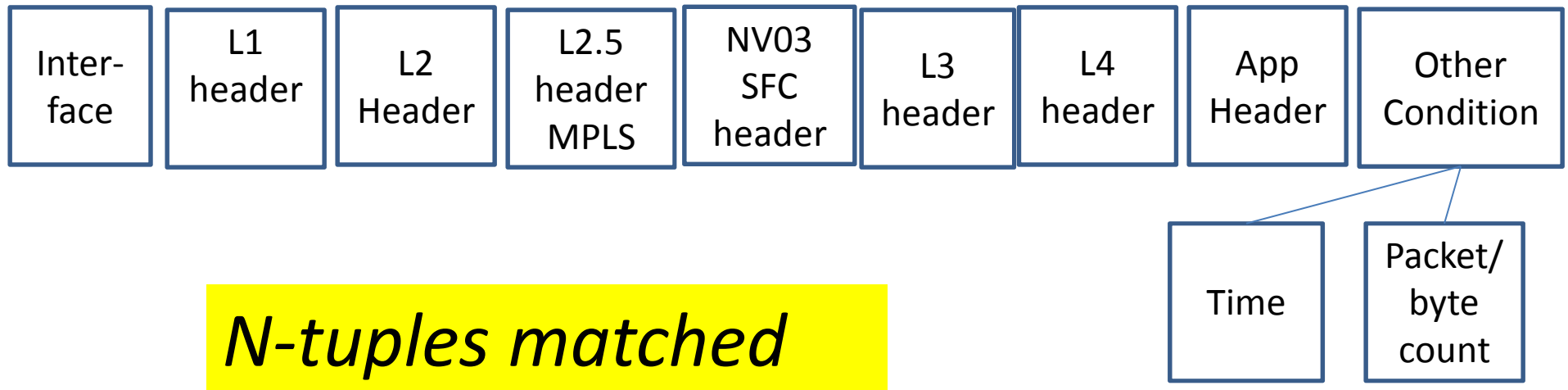
FB-Rule List



Contained in draft-hares-i2rs-pkt-eca-data-model

Match Filters in I2RS FB-RIB

Match Condition
n-tuples in packet



Draft-i2rs-kini-fb-rib-info-model

Routing/Forwarding Instance

Config-fb-fib

i2rs-fb-fib

Bgp-fs-fb-rib

Type
fb-rib

Top level Yang aligns

ietf-fb-rib module

+--rw ietf-fb-rib

+--rw default-instance-name string

+--rw default-router-id rt:router-id

+--rw config-fb-ribs

if-feature "config-filter-based-RIB";

uses fb-rib-t:fb-ribs;

+--rw i2rs-fb-ribs

if-feature "I2RS-filter-based-RIB";

uses fb-rib-t:fb-ribs;

+--rw bgp-fs-fb-ribs

if-feature "BGP-FS-filter-based-RIB";

uses fb-rib-t:fb-ribs;

Feedback Desired

- Where does Yang for IP-Table Fit?
- I2RS FB-RIB is ephemeral version