

I2RS Update

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I2RS Co-Chairs

I2RS Status

- I2RS problem + architecture → RFC track
- Finalizing Requirements:
 - At IESG: Traceability, pub/sub, protocol-security
 - **New:** Data Flow Requirements
 - Ephemeral/Protocol Strawman
- Next Steps in April
 - Data Flow Requirements (WG adopt/WG LC)
 - Ephemeral/Protocol strawman (WG adopt/WG LC)
- *Protocol Strawman + Requirements → NETCONF*

I2RS Session 1 on Data Flow

- DF-REQ-01/10: (need more on list)
 - Choices: minimum, no-referential, full (full required)
- DF-REQ-02/03/09:
 - format: XML/JSON, transport selectable (in yang, by user)
- DF-REQ-06/08 I2RS should have resource constraints (memory, data flow) + related OAM

Not in v1

- DF-REQ-07 OAM to protocols OAM Later (v2++)
- DF-REQ-04/05: No IPFIX in v1, IPFIX possible in v2

Discussion of Protocol Strawman

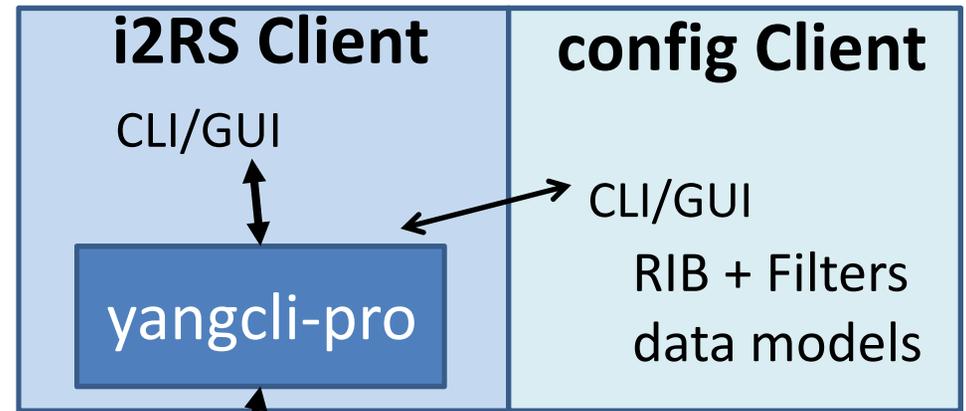
- I2RS meeting today at 16:20-17:20
 - Discussion today
- Questions to I2RS/NETCONF mail list
- I2RS Virtual interims
 - 4/27 – Requirements + Protocol Strawman
 - 5/18 – Protocol Strawman + Models + I2RS `

I2RS data models

- I2RS WG Data models stable
 - I2RS RIB
 - I2RS Filter-Based RIB
 - I2RS Topology
- Next Steps
 - Implement + Put in Open Source
 - WG LC

Hackathon IETF 96 Goals

NETCONF
with i2RS
data model



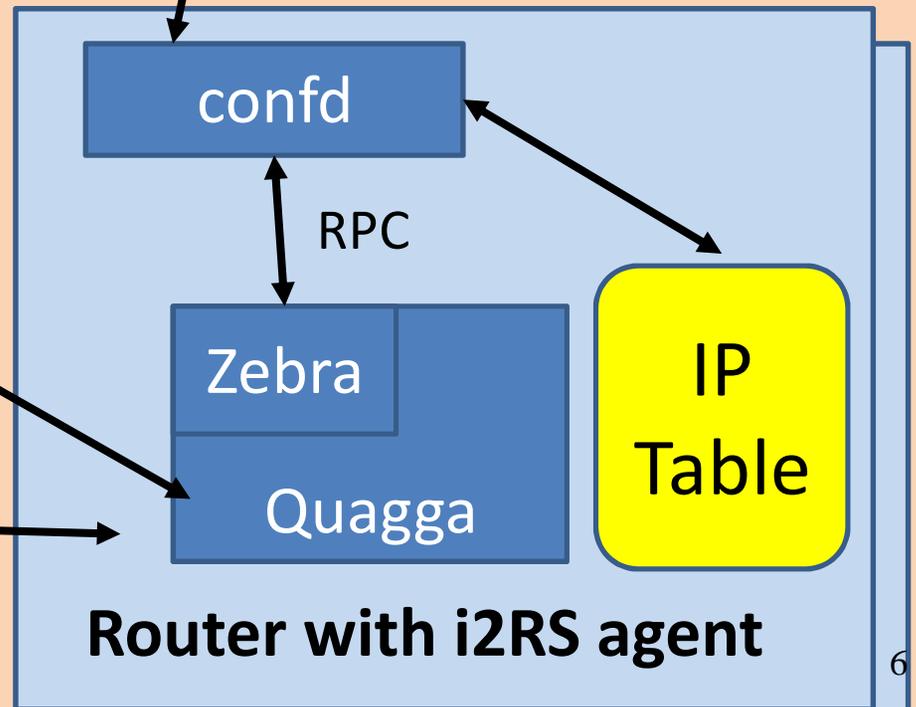
Network of routers
simulated using
mininet/mininet

static route
IP table

Router

Router

ospf/
bgp



Router with i2RS agent

Hackathon details

(for Q&A only)

YANG Subscriptions & Push (PubSub) Using OpenDaylight and XRVR IETF95 Hackathon Results

5 April 2016

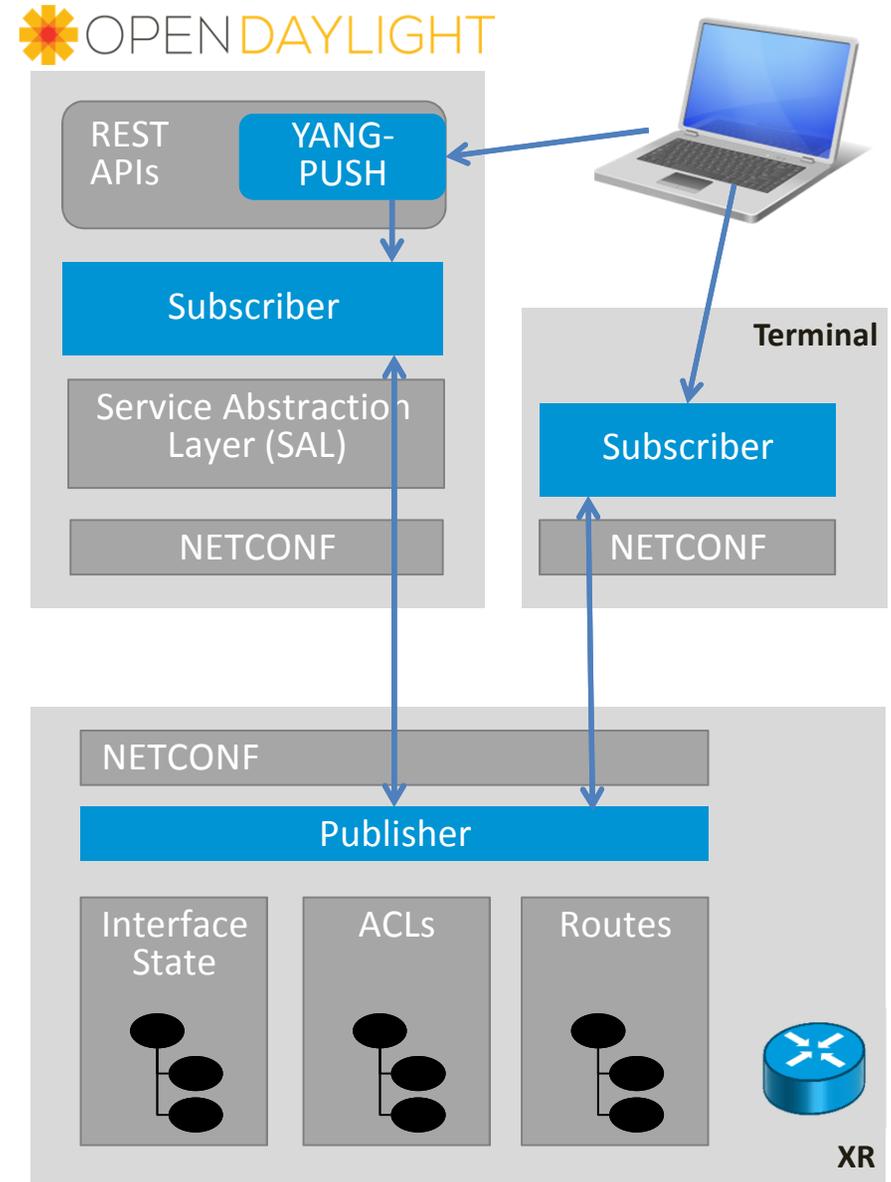
Ambika Prasad Tripathy - ambtripa@cisco.com

Eric Voit - evoit@cisco.com

Walid Elbokl - walid.elbokl@nokia.com

Hackathon Set up

- YANG-PUSH Client in OpenDaylight
- XR Router Demo Code
- draft-ietf-netconf-yang-push for interactions
- Netconf as a transport



Hackathon Objectives & Results

- Intended

- Extending OpenDaylight's [YANG PubSub Client implementation](#) released in Beryllium with <delete-subscription>.

- Demonstrated

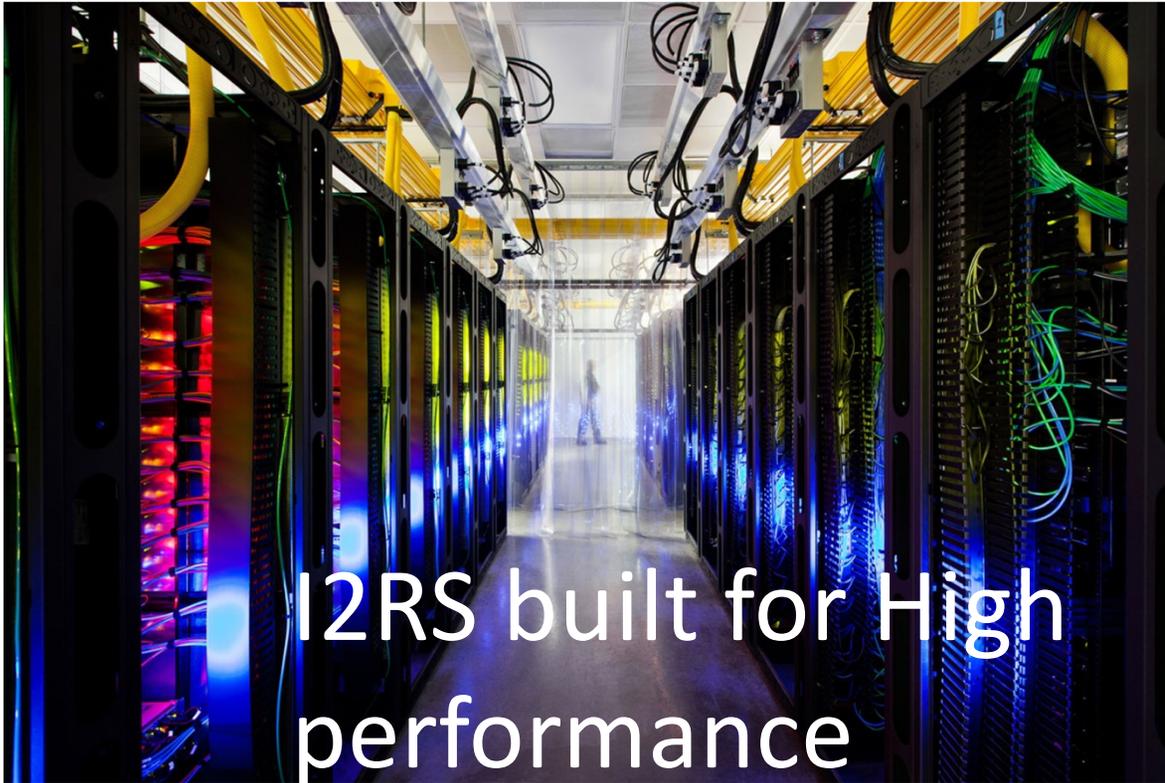
- new {
- Create Subscription, Periodic (via OpenDaylight)
 - Delete Subscription, Periodic (via NETCONF session)
 - Create Subscription, On-Change (via NETCONF session)
 - Delete Subscription, Periodic (via NETCONF session)

- }
- ACL changed
 - Route Added
 - Interface up/down

- New Code will be included in OpenDaylight Boron release
- Come for a Hands-on Demo during Thursday night's Bits-N-Bites

I2RS

Building the NG routing interface



**Not the Pizza
box CLI**

Sue Hares, Eric Voit, and others

What we Did

1. Try to get a Good environment
 - Build and run VM Edwin Cordeiro's I2RS VM
 - Worked on Alternate Build (Don Fedyk + Mamadou Tahirou)
2. Try to get <route-add> working via I2RS RIB
 - Sue Hares, Jason Sterne, Lucy Yong

Goal 1: Tools / Environment Notes

virtual box: our laptops ran out of horsepower when trying to tackle the original project/goal #2 (6G memory, had lots of stuff in it, 5G ova gave us troubles on USB sticks – mystery)

confd: building confd requires: `sudo apt-get install libssl-dev`

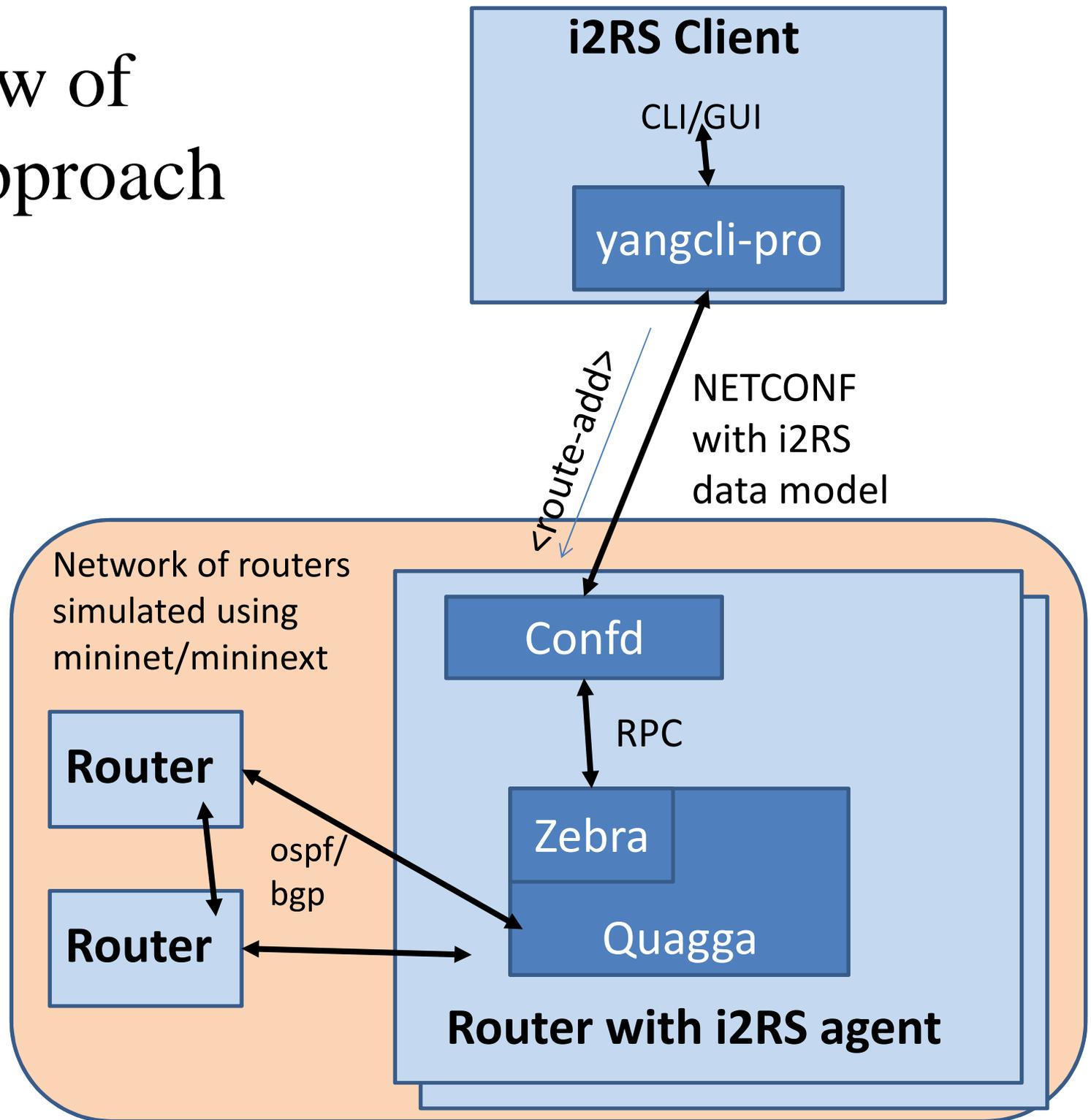
Goal 2

Challenge: Hack together an I2RS Client and Server and get an i2rs <route-add> RPC working

Tools , Environments & Code:

- Dev & execution environment: Linux (Ubuntu 14.3 native or in Virtual Box)
- mininet and mininext (simulated network of routers)
- yangcli-pro (YumaPro)
- Quagga 1.0.20160315 (including Zebra for route table access)
- Cisco/Tail-f confd 6.1
- ietf-i2rs-rib YANG model from draft-ietf-i2rs-rib-data-model-05.txt

Overview of target approach



Glueing Confd to Quagga

