Continuous Integration for Networking

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Disclaimer (ugh)

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Existing Network Challenges

- Manual changes inevitably lead to config drift

- Increased scale == greater chance and severity of problems

- RANCID is used SOMETIMES - really only a backup + diff

DevOps for Networks
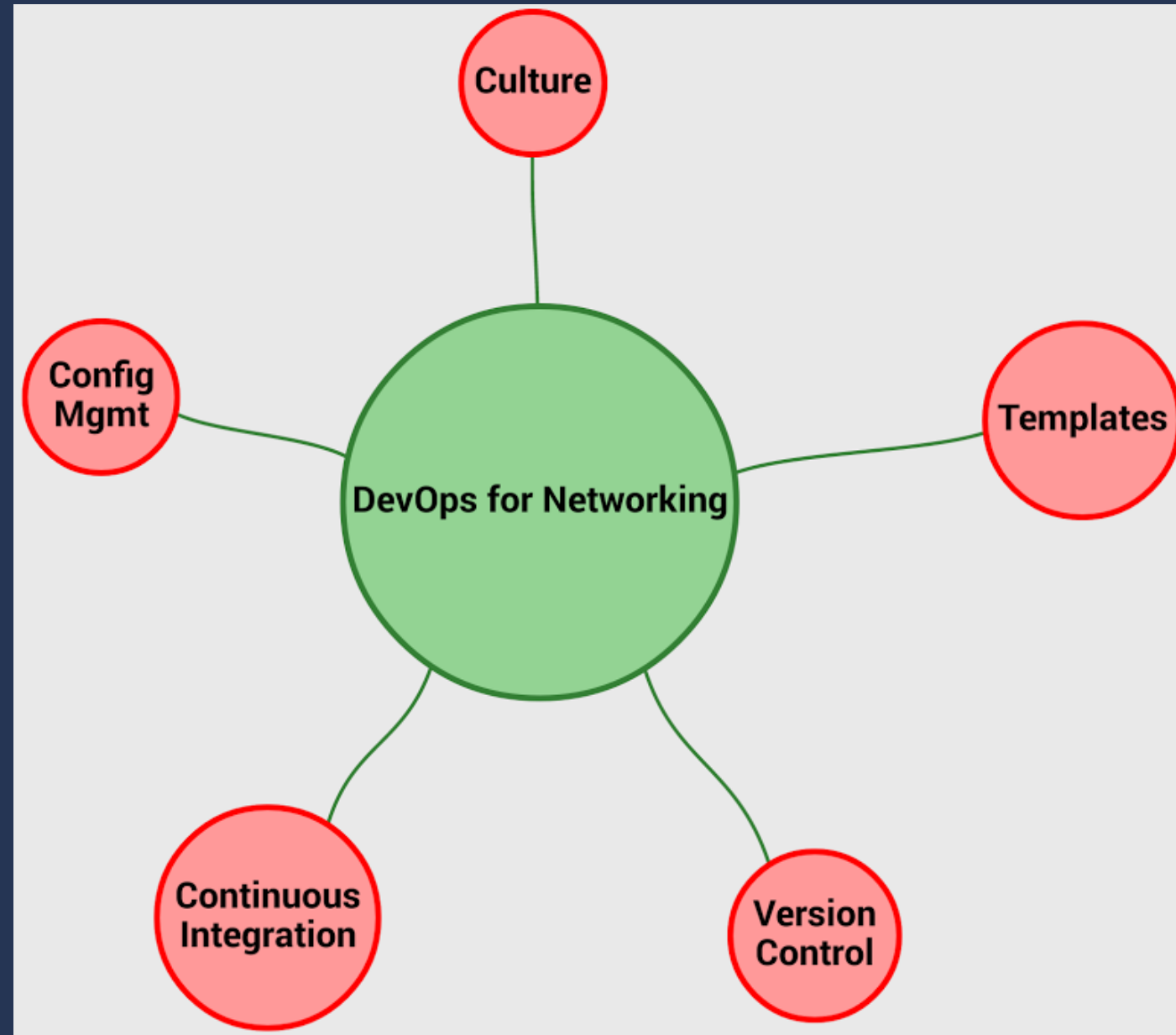
The Community is Growing

Culture

- Culture is KEY; must have buy-in.

- Start simple. Hostnames, snmp, etc.

- Network Automation Meetup - Tyler Christiansen

Git

- Typically used for software projects but.....

- ....can version anything you want! Even binaries! (kind of)

- Relatively steep learning curve, but worth it.

Gerrit

- Allows humans and robots alike to provide feedback on changes

- Could function as a basic change management system

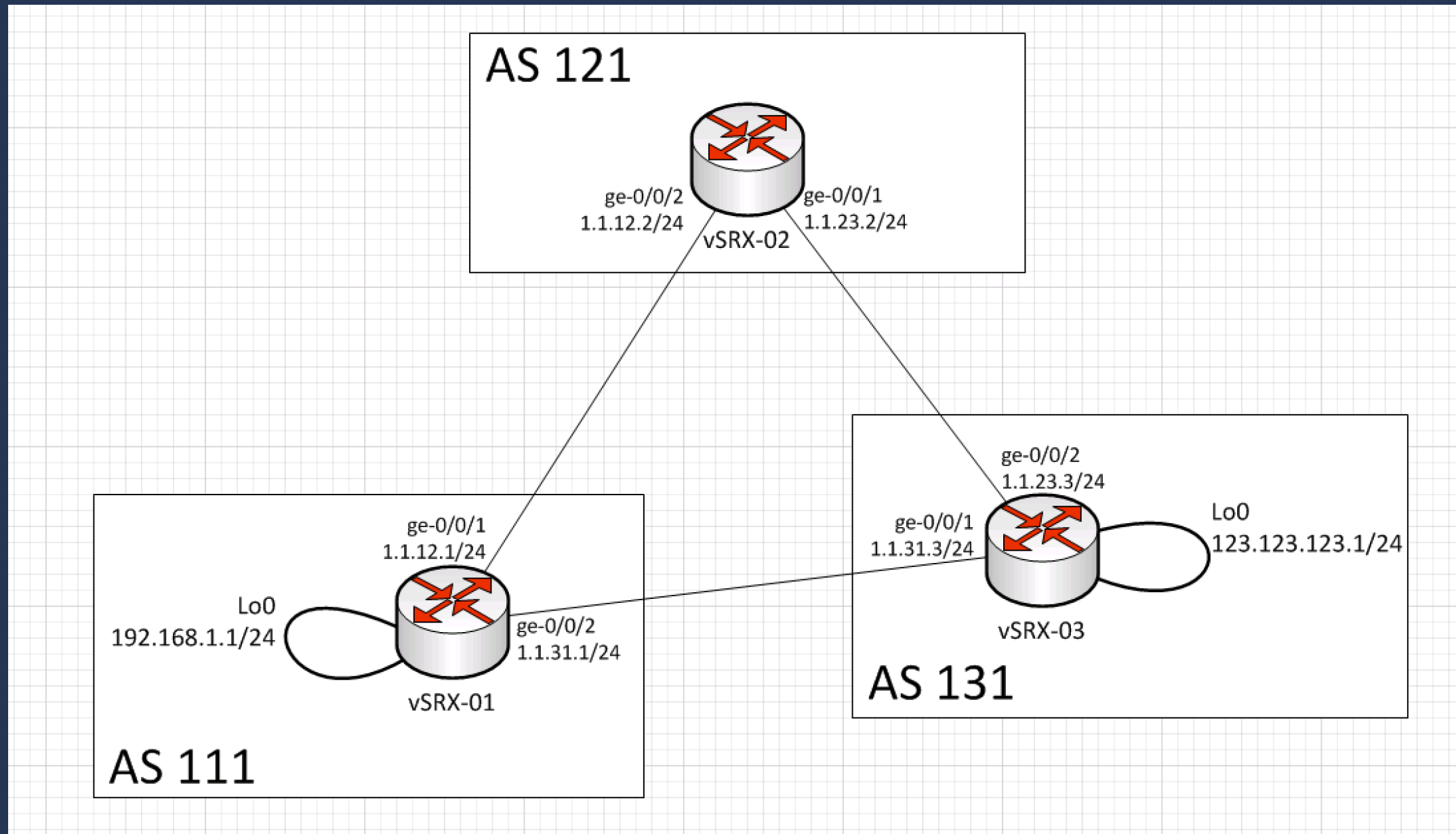- Unique approval workflow (vs PRs)

Jenkins

- Build Automation "Swiss Army Knife"

- Testing of changes to Gerrit repo

- Calling test scripts

Ansible

- Simple, easy configuration management

- Builds templates

- Deploys config to routers via Juniper's modules

Build Environment

Demo Topology

Demo Outline

- 3x vSRX / BGP up but no adverts

- Need to advertise loopback on vSRX-03

- Need to ensure vSRX-01 sees at least this one route

- Need vSRX-01 to prefer path through vSRX-02

Resources

- Github Repo - http://github.com/Mierdin/ci-networks

- Original vSRX Demo

  - https://github.com/jeremyschulman/ansible-vsrx-demo

- Blogs

  - http://blog.tylerc.me/

  - http://keepingitclassless.net/

- Questions? - @Mierdin