

# Soniers - ConfigValidator

- By
  - Xianglong Qin
  - Vasudev Rajan
  - Jayganesh Murugan
  - Sudhakara

# Problem Statement

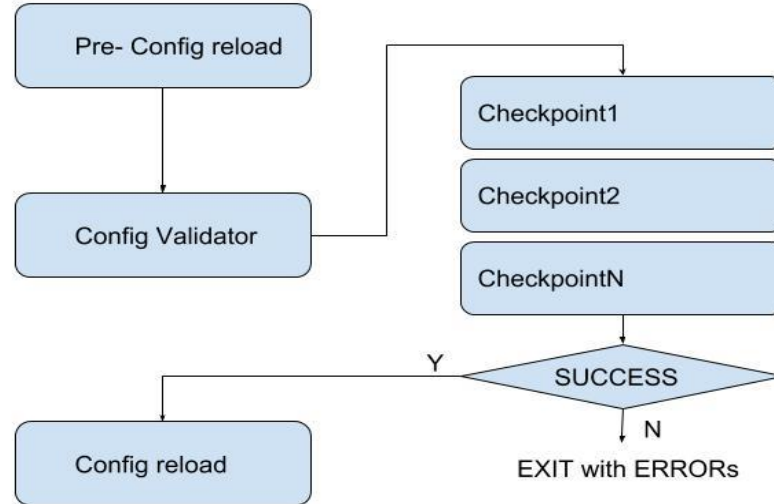
- No config validation in SONIC
- Error in config file may require reboot/DB re-initialize to recover
- No error message given in config reload, hard to debug

# Common Config Errors

- Syntax Error: goes ahead and stops all services/dockers, which is destructive.
- Duplicate Ip, duplicate route
- Router mac address
- Portchannel members as individual interface
- Port l2/l3
- SKU and speed mismatch
- Config mismatch hw info, e.g buffer size
- Hw limitation, e.g. number of POs
- BGP peers
- ACL
- ...

# Solution

- ▶ Extensible Config Validator
  - ▶ For each specific config, register a Checkpoint
  - ▶ Before perform “config reload”, run all the Checkpoints registered
  - ▶ If any Checkpoint returns failed, stop applying the config



# Result

```
root@switch120:~# config reload -y
```

```
Config validation in progress...
```

```
CONFIG ERROR: [u'interface PortChannel0032 have a invalid ip address  
32.32.32.256', u'Duplicate IP 28.28.28.1/24 configured for: PortChannel0048  
PortChannel0028']
```

```
CONFIG ERROR: Vlan member Ethernet20 configured as L3 interface
```

```
CONFIG ERROR: WARNING: BGP local addr 48.48.48.1 is not assinged to any  
interface Config validation is DONE
```

THANK YOU!