Open for All.
SONiC test

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Agenda

SONiC test eco system
Challenges
Shifting to the left
Road to future
SONiC test eco system

- Build test (Build time)
- Virtual Switch Test (PR time)
- KVM Virtual Switch test (PR time)
- Pytest / ansible test (Nightly integration test)
PR tests - buildimage
Nightly tests
Challenges

- Stabilize Master Branch
- Reduce Feature Branch Stabilization Time
- Roll Out New Feature Branch Faster
Responses – Redefine test

Shift to the left  
Shape development behaviors  
Test Driven Development
TDD: Reshape development behaviors

```python
def one_plus_two():
    return 5

def one_plus_two():
    return 3

@must_fail('Bug detected')
def test_one_plus_two():
    result = one_plus_two()
    assert(result == (1 + 2))

def test_one_plus_two():
    result = one_plus_two()
    assert(result == (1 + 2))
```
Road to the future: improve tests

• Improve test infrastructures
• Improve test predictabilities
• Add more test cases
• Run more test cases in PR tests
• Shorten test execution time
• Visible, auditable test results
• CICD
Near future

- Improve PR test wait mechanism (February 2020)
- Improve PR test stability (March 2020)
- Run PR test for sonic-mgmt repo. (April 2020)
- Multi-DUT deployment support
- Embrace community test infrastructures and test cases
Mid to long term

- Embrace more community test infrastructures and test cases
- SONiC fanout switch link state propagation support
- Test coverage
- Combined PR test across repos