Works On My Machine!
How to Validate Performance of VNFs and CNFs in a Reproducible Testbed
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Challenges

• Elasticity w/All Open Source
• New network capacity?
• Provisioning/Dataplane Configuration difficulties
• Realistic, manageable use cases
• Testing methodology
Provisioning

- Act of setting up hardware
- No specialized ASICs
- Network Specific Bios Options
- CPU usage
- DPDK
- Terraform
  - Hardware, OS
- Ansible
  - Bios, Host Networking
Dataplane

- Software based
- Forwarding plane
- Examples
  - OVS
  - VPP
Use Cases

- Audience
  - Data Centers
  - Telecom
- CNFs/VNFs
  - IPV4 routing
  - Segment routing (IPV4 and IPV6)
- VPNs
  - Layer 2/3
  - MPLS
Deployment

- Helm Charts/Heat Templates
- Configuration
  - Container/VM networking
  - Network Dataplane
Testing

- Multiple Environments
  - Packet.net
  - CSIT
- Clusters
  - K8s and OpenStack
  - KVM and Docker
- NFVBench
  - Packet metrics
- Trex
  - Packet generator
Packet Flow

- Packet Generator
- Host VSwitch
- VPP Dataplane
- 2 Containers W/2 Virtual Nics
Demo - Performance Tests

• Documentation
  • https://github.com/cncf/cnf-testbed/tree/master/docs
Ways to contribute

• Github
  • https://github.com/cncf/cnf-testbed/tree/master/docs
  • https://github.com/cncf/cnf-testbed/issues

• CNF Zoom meeting
  • 1st, 3rd monday every month 8 am PT
  • https://github.com/cncf/cnf-testbed#meeting-time

• Slack
  • slack.cncf.io #cnf
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