

ons
NORTH AMERICA
OPEN NETWORKING //
Enabling Collaborative
Development & Innovation

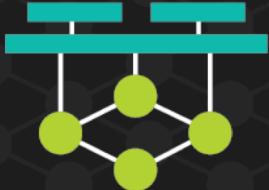
Works On My Machine!

How to Validate Performance of VNFs and CNFs in a Reproducible
Testbed

W. Watson and Denver Williams

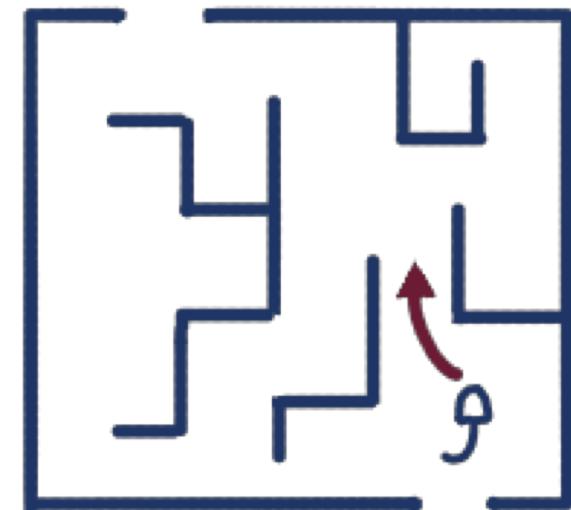
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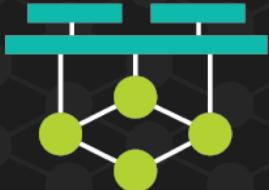
Challenges

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



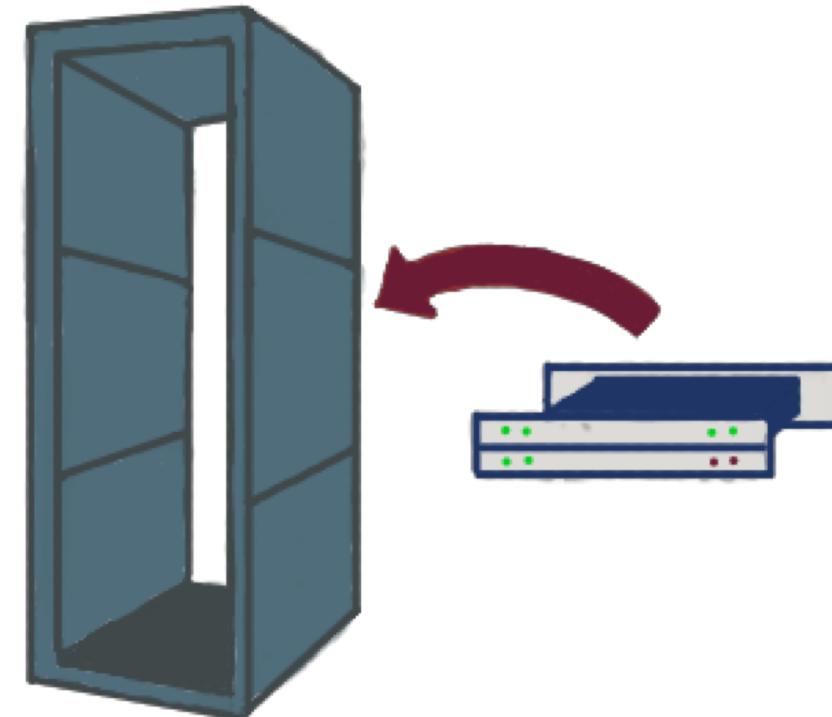
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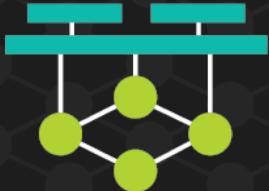
Provisioning

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



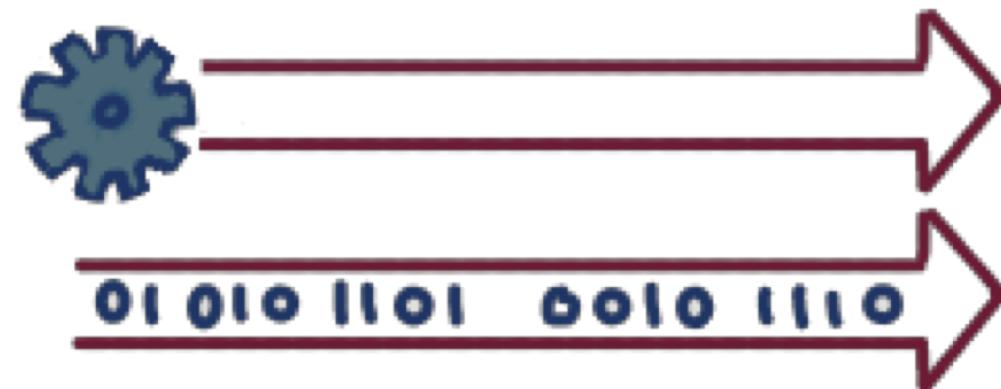
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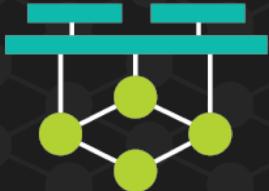
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Dataplane

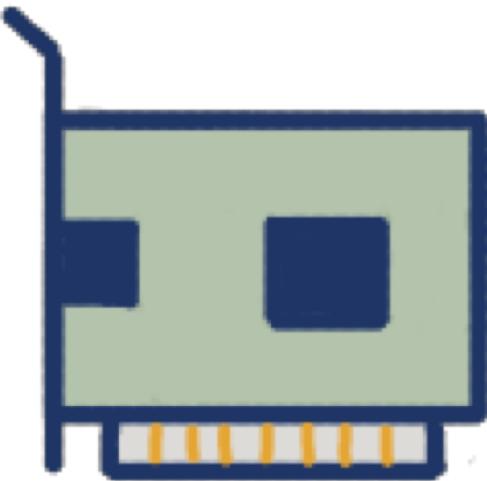
- Software based
- Forwarding plane
- Examples
 - OVS
 - VPP





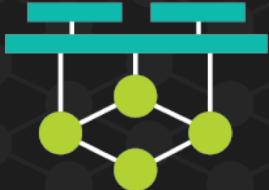
Use Cases

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



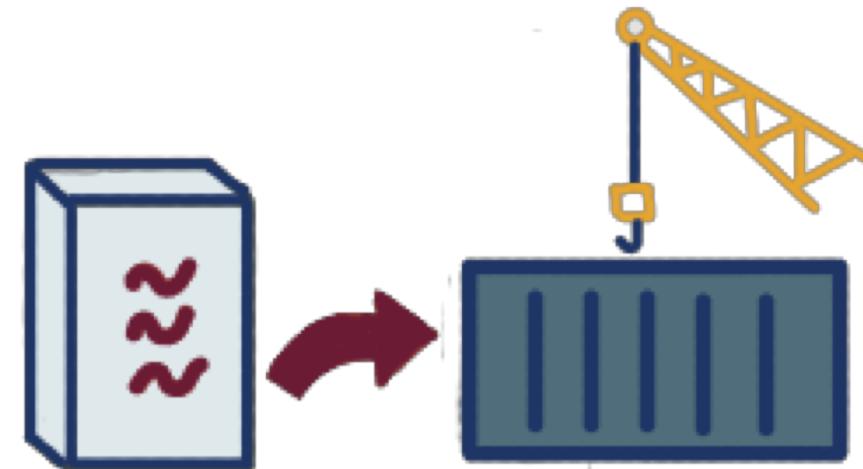
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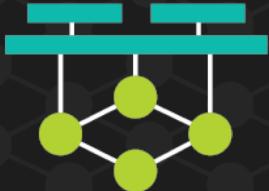
Deployment

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



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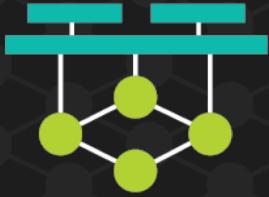
Testing

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



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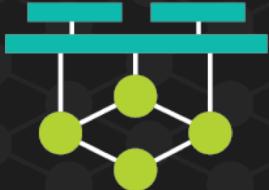
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Packet Flow

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





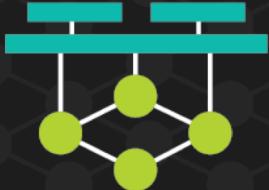
Demo - Performance Tests

- Documentation
 - <https://github.com/cncf/cnf-testbed/tree/master/docs>



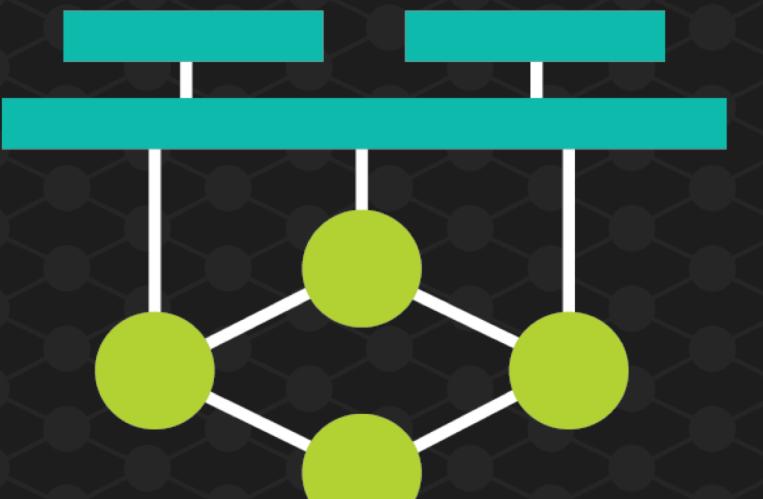
Ways to contribute

- 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



Contact Information

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