



SOLUTION BRIEF

# Deploying SDN & NFV Faster with Cloud Sandboxes

Quali

## KEY BENEFITS

### Deliver Network Services Faster

Dramatically reduce network test and certification times with automated provisioning of full end-to-end network environments.

### Scale out Your Network Labs

Consolidate and scale your network labs. Offer network lab resources “as-a-service” to testers, engineers, and vendors.

### Enable DevOps

Integrate with CI/CD and test tools to create a full network DevOps practice

### Optimize Efficiency and Reduce Costs

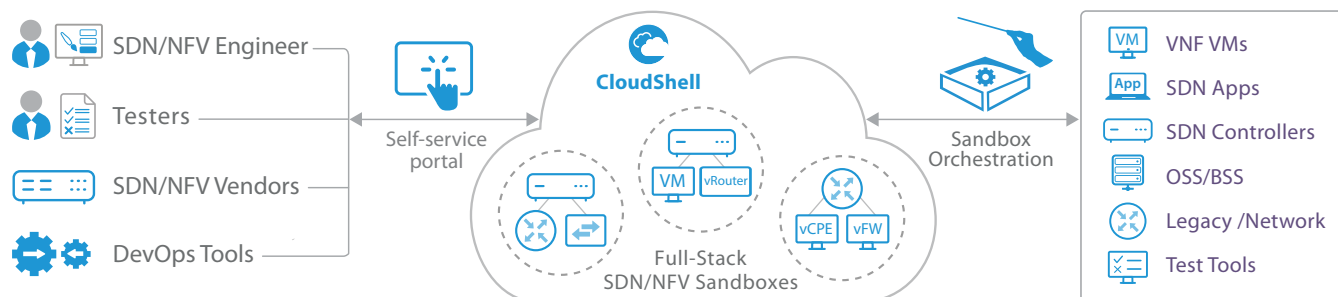
Maximize the utilization and effectively manage network lab resources for optimal cost efficiencies.

## Changing the Network Status Quo

Software-defined architectures are rapidly changing how networks are built and operated in the application economy. For the enterprise data center, SDN brings API based network programmability that promises more responsive, granular, and secure packet forwarding. SDDC, SD-WAN and Network Virtualization are bringing new ways of increasing network agility for datacenter, campus and WAN architectures. Likewise, for service providers, NFV is promising new levels of service agility through scalable, on-demand, virtualized network functions and cloud based service chaining. While the benefits are apparent, the proliferation of vendors, complexity of architectures, and interoperability with legacy networks makes the transition to SDN & NFV both challenging and risky. Being able to model and blueprint these new environments holistically and exposing them to architecture and Dev/Test groups can allow for rapid adoption of SDN and NFV with significantly lower risk and cost.

## Quali's Cloud Sandbox Solution

Quali's CloudShell provides a full solution for rapid NFV on-boarding, SDN vendor validation, and testing/certification of new network architectures and deployments. CloudShell combines innovative automation with visual network modeling and a self-service portal to bring “as-a-service” capabilities to your network lab. Give network architects, engineers, testers, and third-party vendors on-demand access to replicas of production-like network configurations. Rapidly model full network blueprints that can include a mix of physical/legacy equipment, virtual components (VNFs, SDN apps), cloud resources, and test tooling. Publish blueprints to a web-based self-service catalog for on-demand deployment. Powerful automation and orchestration handles all the provisioning – from configuration of network equipment and network connectivity, to deploying VNFs and SDN applications, configuring tools, and setting up test equipment. All of this means your network labs become innovation centers accessible across multiple groups and teams that will help you onboard new network technologies and deliver network services faster.







## Partner Snapshot Okinawa Open Labs

Okinawa Open Labs uses CloudShell as the network DevOps orchestration platform for integrating and validating new NFV, SDN, and cloud based network architectures.

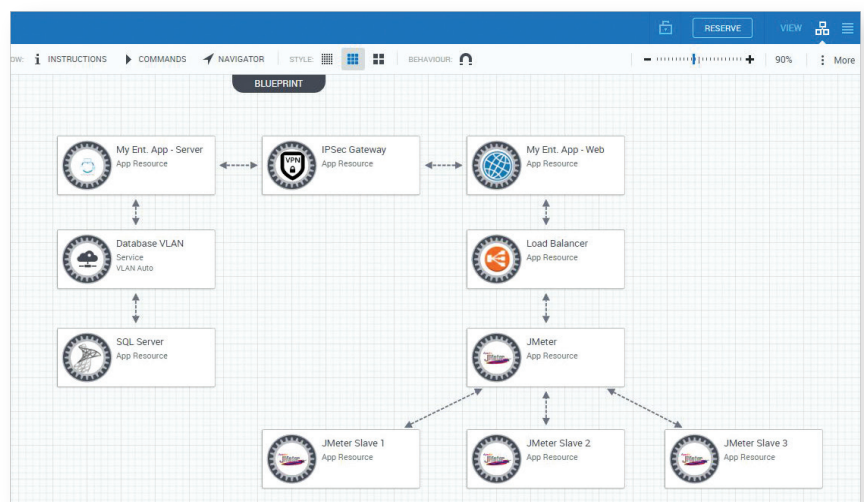
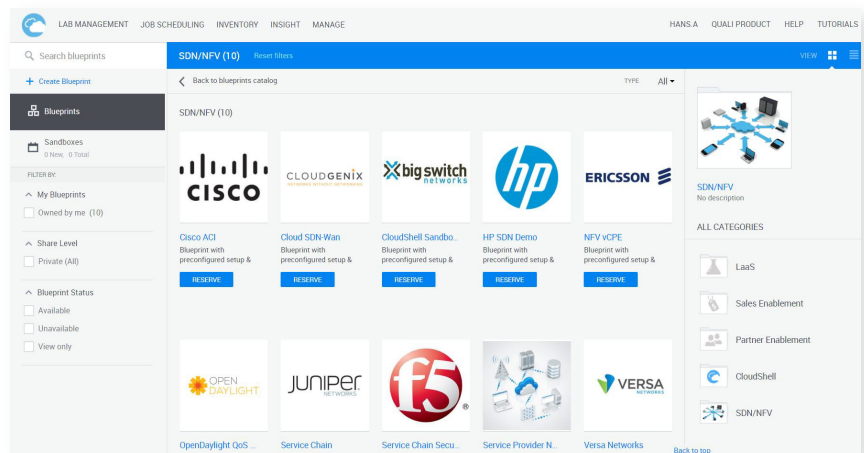
“OOL uses Quali to enable the broader ICT community to achieve and transform cloud computing, SDN, and NFV”

Technology Lead, OOL  
Technology Group

## Orchestration for SDN, NFV, & Cloud Architectures

CloudShell makes it easy to rapidly certify SDN applications and network architecture. Model SDN applications using CloudShell's "app modeling" feature and seamlessly deploy those apps onto SDN controllers via Ansible, scripts, or Powershell. CloudShell supports SDN controllers like OpenDaylight, HP, Huawei, Juniper, Big Switch, and others.

Similarly, end to end NFV network service chains can be easily modeled in CloudShell. Deploy VNFs like vCPE, vEPC, vFW, vPGWs alongside legacy network equipment to certify end-to-end SLA's and NFV vendor compliance. Support for cloud platforms like OpenStack (Neutron and Nova), as well as AWS and Azure allows you to validate new architectures across various cloud platforms.



## Key Features

### Self-Service End-To-End Network Service Modelling

- Easily model complex end-to-end network environments
- Publish environments as blueprints to web-based catalog
- On-demand deployment of network blueprints for Dev/Test

### Provision Legacy Equipment alongside SDN, NFV, & Cloud

- Support for all major network equipment vendors: Cisco, Brocade, Ericsson, Huawei, HP, etc.
- Full Layer 1 Connectivity automation allows zero-touch dynamic re-provisioning of lab equipment connectivity
- VLAN, VXLAN, IPSEC VPN, and other L2/L3 connectivity
- Model NFV and SDN apps and deploy on cloud platforms

### Intelligent Automation and Provisioning

- Automated save and restore of network environments
- Full network environment setup and teardown
- Visual automation authoring, Python, or Ansible

### Remote Network Lab Access and Consolidation

- Multi-tenant to access network lab resources
- Consolidate multiple labs into a single super lab
- Optimize access to lab resources across geos

### DevOps Tool Integration

- Integrate with CI/CD tools like Jenkins or Team City for enabling DevOps and Continuous Test initiatives
- Native support for Ansible; support for other configuration management like Chef and Puppet

### Reporting and Analytics

- Web based, sharable analytics dashboards provide immediate insight into network lab usage
- Track who and how resources are being used and what equipment is over/under utilized
- Get better insight into resource planning and scale out