SDN/NFV Assurance
Automated NFV Lab and NFV Testing

The SDN/NFV Testing Challenge

Network Functions Virtualization offers a way for service providers to achieve greater service innovation and deployment agility, by moving from dedicated hardware appliances to virtual machines and virtual switches running on scaled-out, commodity datacenter infrastructure.

One of the key challenges of NFV is sufficiently understanding the performance characteristics of virtualized network functions (VNFs) to ensure a high quality of user experience (QoE). Fortunately, the ETSI NFV ISG, as well as organizations such as the OPNFV project, address the functional, quality and performance characteristics for NFV deployments. The difficulty derives from initiating the practice of these specifications, since NFV requires a much higher degree of automation than physical network function appliances - which could be assembled into testbeds and tested manually. Unlike those physical testbeds, the NFV lab is entirely software-driven, meaning that lab orchestration is required to assemble the underlying NFV infrastructure and VNF service chains, and virtualized and physical test devices into test topologies.

Given the sheer size of the potential service chain interoperability matrix, due to the increased flexibility and agility of NFV service design, manual testing is insufficient to keep pace with time to market requirements, and NFV must become an automated set of regression tests. Together, the orchestrated lab and automated tests become a Lab as a Service (LaaS) clouds paired with high throughput NFV automated testing.

Automated NFV Lab

Quali and QualiTest have partnered to offer the industry a unique solution, pairing Quali's lab and test automation technology with QualiTest's deep NFV testing expertise, test automation understanding and services capability. This solution aids service providers in quickly and efficiently building out LaaS clouds and TaaS cloud that can achieve high degrees of coverage, rapid test cycles, fast time to market and a high QoE for end-users. The solution is comprised of the following components:
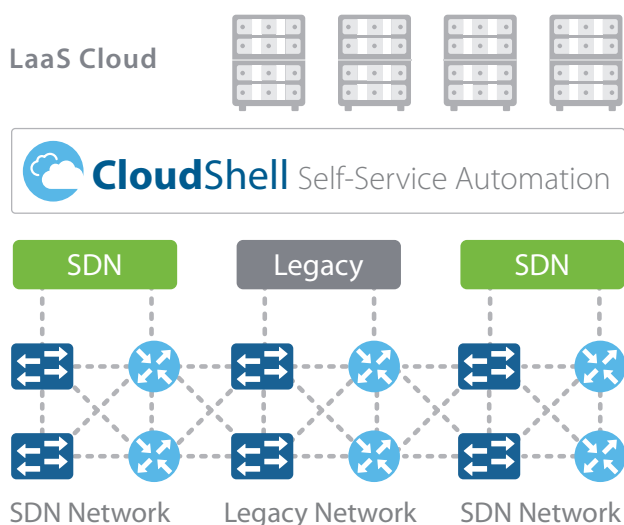
The Technology

CloudShell

CloudShell is Quali's Cloud Sandboxing Platform for DevOps Automation that turns diverse lab infrastructure into a DevOps-friendly cloud.

CloudShell provides

- Centralized resource management and automated provisioning of all legacy and SDN/NFV network resources
- Visual network topology and service chain design
- A user-friendly, web self-service portal with catalog and live sandboxing options

LaaS Cloud

CloudShell Self-Service Automation

SDN   Legacy   SDN

SDN Network   Legacy Network   SDN Network

TestShell

TestShell is a network test automation platform that features a patented, object-based automation methodology for high reusability and sustainability.

TestShell deeply integrates with CloudShell, allowing for continuous network certification cycles based on automation suites that coordinate scheduling live testbed environments from Cloudshell and automated launch of test automation suites from TestShell to ensure the highest throughput and quality coverage.

SDN/NFV Testing Solutions

- ETSI ISG Compliance
- Build NFV Test Policy for third parties
- Build NFV Test Environment & Simulators
- Management and Orchestration Testing
- NFV Scalability and performance Testing
- Failover Convergence Testing
- VNF Testing

Leading the world in NFV Assurance

QualiTest is part of the Open Platform for NFV project. Utilizing our comprehensive NFV testing methodology, our solutions consist of NFV Test Accelerators, including pre-defined test assets constructed from over 580 test requirements and over 6,000 test cases. Our test automation includes over 1,000 test scripts to fully test MANO, NFVI and VNF. We partner with most major NFV and SDN vendors to provide you with the right technical knowledge and test tools to insure smooth migration. We understand that a critical factor in making NFV and SDN initiatives successful resides in Service Assurance, which is why we ensure that all products meet a pre-defined service quality level.

About QualiTest

As the world's second largest pure-play QA and testing services company, and the largest independent software testing company in the U.S., QualiTest offers unparalleled experience in supporting many industry verticals, including telecom carriers and network equipment manufacturers. QualiTest is committed to the highest standards of quality in every project, as can be demonstrated by our success in the implementation of Results Based Testing (RBT). QualiTest's corporate objective culminates with the provision of superior automated QA solutions to customers and partners worldwide and the advancement of international QA and testing methodologies.

QUALITEST
software testing experts

www.qualitestgroup.com

About Quali

Quali is the leading provider of Cloud Sandboxes for automating the DevOps lifecycle. We give innovators control over their world by enabling them to create personalized replicas of even the most complex production environments inside of Sandboxes. The Global 100 depend on Quali to help them deliver their products and services faster to market with better quality.

Quali

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