Quali Cloud Sandbox & Big Monitoring Fabric: Bringing DevOps to Labs

Make your development and test labs more cost effective, scalable, and multitenant ready with Quali cloud sandbox software and Big Monitoring Fabric. The joint SDN based physical layer connectivity soution turns traditional development and test labs into dynamic infrastructure clouds that bring DevOps agility and faster product time to market.

The Challenge

Enterprises are facing market pressures to make their development and test labs more cost efficient and agile. This means lab managers need to minimize capital spending on equipment, reduce operating expenses, and at the same time make more lab resources available to more groups and teams more often. This is a huge challenge, because traditional development and test labs are typically composed of a widevariety of high-value infrastructure, and the complex scenarios they need to replicate often involve manual lab reconfiguration methods that can take days, weeks, or even months to complete. These kinds of delays lead to costly equipment underutilization as well as lost time for other groups and teams waiting for access to lab resources. Lab managers need a cost effective, automated, physical layer connectivity solution that serves as the building block to transforming their traditional development and test labs into dynamic, shared, infrastructure clouds.

The Solution

Quali and Big Switch have partnered to bring a costeffective, automated, Layer 1 connectivity solution that's built with SDN based open networking fabric. The solution brings the performance and speed with a 10G/40G a physical layer (Layer-1) fabric combined with the flexibility provided by SDN-based architecture.

Developers and testers can model complex infrastructure sandboxes and the solution will dynamically and automatically create the necessary interconnections between all the devices in the sandbox. Lab managers can allow multiple users and groups to simultaneously configure different environments for setting up various test or R&D scenarios – allowing true multi-tenancy. Because the solution is built on lower-cost open networking hardware, lab managers can scale out the capabilities of the lab in an extremely cost effective manner.

The Quali and Big Switch solution brings a cloud-like level of scalability and flexibility to how development and test data centers are configured, while preserving the performance advantages of a true automated physical fabric. This give continuous integration and continuous test processes the ability to dynamically provision full production like environments, allowing true DevOps agility.

CloudShell

Big Monitoring Fabric Controllers

VM

VM
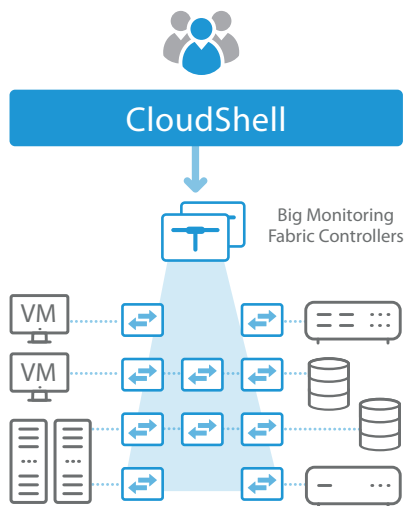
How It Works

CloudShell and Big Switch makes the process incredibly simple by automatically selecting the best point-to-point path, automating the provisioning, and abstracting the process from the end user. Users simply drag and drop infrastructure components onto the web based modelling canvas and the rest is handled by CloudShell and Big Switch.

Quali's CloudShell cloud sandbox software integrates directly with the Big Monitoring Fabric to provide automated provisioning of point-to-point connectivity between multiple infrastructure resources in an isolated sandbox environment. CloudShell supports the Big Monitoring Fabric Controller as a core component, which allows the Big Monitoring Fabric to be integrated into CloudShell's network orchestration. CloudShell configures the Big Monitoring Fabric Controller via the Big Monitoring Fabric REST API.

When a CloudShell sandbox is deployed (via the self-service catalog, or by an external tool via API) CloudShell runs setup orchestration to provision the resources in the sandbox environment, which can include spinning up VMs, configuring storage, network devices, cloud resources, network settings, and deploying applications. In addition, the orchestration engine will attempt to establish a point-to-point connection for resources that are connected to the Big Monitoring Fabric via the tap ports. The Big Monitoring Fabric is configured in a leaf-spine topology and allows dedicated, point-to-point connections between any two ports of any devices that are connected to any of the leaf switches of the Big Monitoring Fabric.

Benefits

Flexible and Scalable

The solution allows dynamically creating dedicated, point-to-point connections between 1000's of individual devices. A flexible leaf/spine architecture allows scaling out as needed.

Cost Efficient and High Performance

Based on open networking switches and SDN controller-based hardware, the solution provides the agility and isolated, point-to-point connectivity at a fraction of the cost of other solutions while maintaining the performance characteristics of the network.

Multi-Tenant

Multiple teams and groups can simultaneously deploy sandbox environments with dedicated point-topoint connectivity, guaranteeing that resources and network traffic in sandboxes are isolated from one another.

Fast and Simple to Use

Users model infrastructure sandboxes using a visual based tool and connectivity between resources is specified without having to be aware of underlying physical layer switch fabric; the solution automatically determines if/how devices can be connected using the Big Monitoring Fabric.

On-Demand and Self-Service

Sandbox blueprints are published to a shared catalog, allowing users as well as DevOps tools to deploy sandboxes on-demand. Resource and connectivity conflicts are resolved automatically.