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Leading International Switch Manufacturer Cuts QA/Test Engineering Lab Costs by 30% with Tokalabs

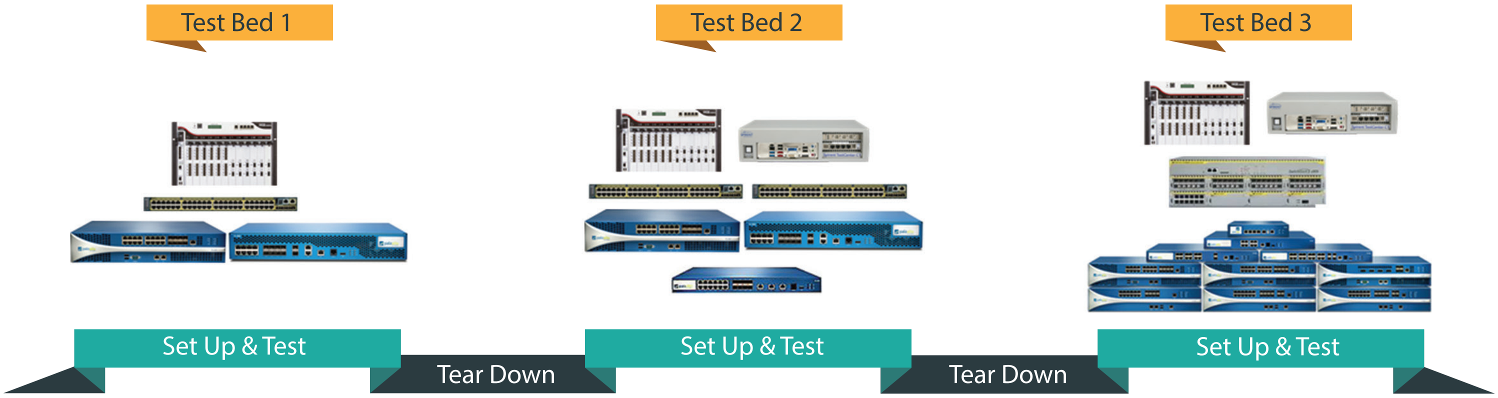
QA/Test Engineering teams act as a buffer between development and production. This means constant interaction with multiple engineering teams within the organization while guaranteeing product quality for the customers. At the same time, as management looks for ways to cut costs, QA/Test teams must design, develop, and implement cost-effective methods of testing and troubleshooting.

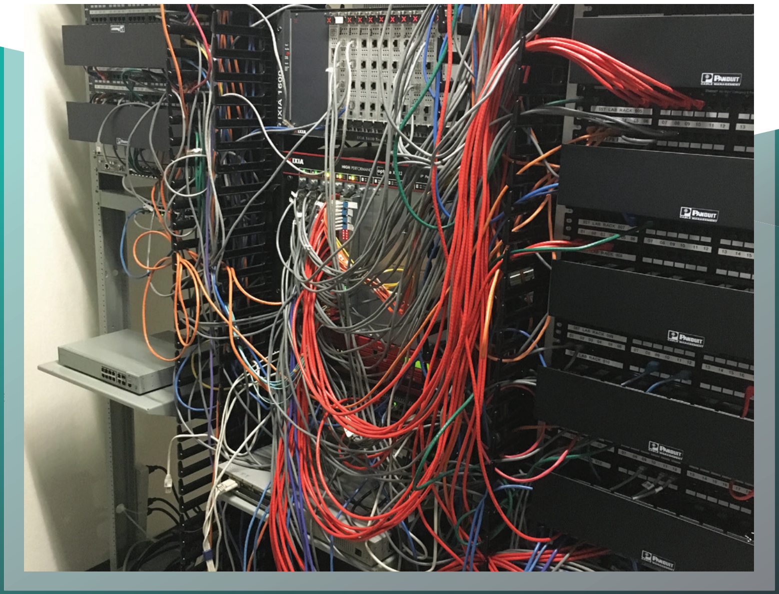
Shorter time-to-market in today's competitive landscape of networking means QA/Test teams are increasingly under pressure to execute while maintaining the quality of the final product. These are the reasons why a leading networking technology vendor partnered with Tokalabs, which helped it improve test processes, cross-collaboration, and ultimately increased the overall quality of the products in the vendor's portfolio.

The Challenge

The QA/Test team is responsible for ensuring quality across all new and existing product SKUs and software for a large portfolio of L2/L3 switches, routers, and virtual network functions (VNFs). As such, QA/Test team members need to test new products, maintain regression for existing products, and work with software development and product teams to help define benchmarks and with support teams to debug and escalate incoming bugs.

The QA/Test team faced a number of challenges that made it a struggle to keep up with the product delivery deadlines. Among those challenges included time-consuming efforts to set up and tear down test beds, automation bottlenecks, and difficulties collaborating with developers and support engineers to troubleshoot problems. Due to the large number of product releases, the test team was divided into two groups; one was solely focused on manual testing and debugging while the other was tasked with automating test cases and maintaining regression.





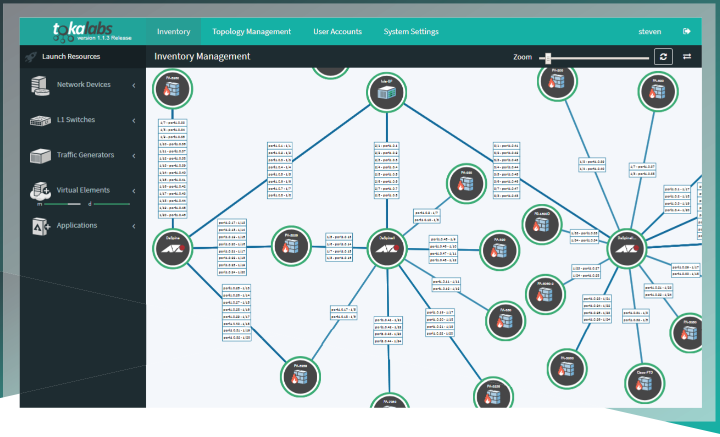
Prior to their introduction to Tokalabs, the team was required to set up and physically cable the devices-under-test, execute their test cases, and then tear down the environment in preparation for the next set of tests and/or firmware or hardware versions. This same process was repeated for the various responsibilities of the team such as the recreation of customer environments and customer issues, or setting up environments for regression. In the case that a critical issue was escalated from the field, resources were repurposed and configured.

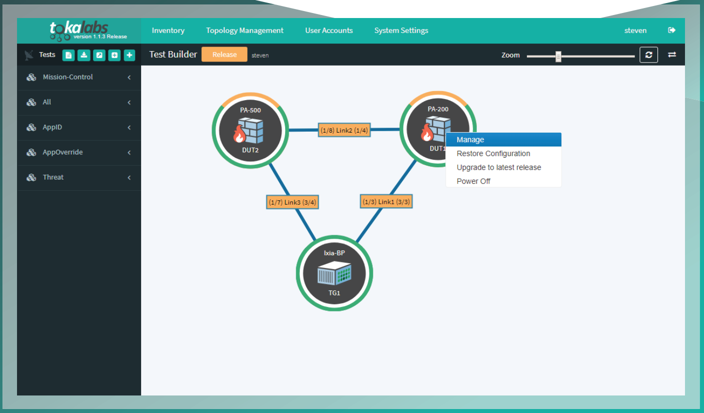
All of this meant the QA/Test team was spending more time configuring rather than actually testing, severely impacting product release dates. The first attempt to resolve the issue was to procure more resources but this quickly became a growing cost for management.

Furthermore, sharing test beds among team members and across teams for debugging purposes was a challenge because of limited resources. A QA/Test engineer's test bed was occasionally lent to the development team when reproduction was an issue causing s/he to halt testing. All these bottlenecks hampered the test objectives all while the automation backlog struggled to keep pace.

The Solution

The QA/Test team now uses Software Defined Labs™ (SDL) for their entire test process. All the devices owned by the team are abstracted and managed centrally by a Tokalabs SDL Controller. The devices are connected to a Software-Defined fabric and an exponential number of test beds are created, managed, and used for testing, debugging, recreation, and regression. Resources are also easily shared in software.





Every engineer is able to dynamically create and reserve a test bed on-demand, save them as templates or snapshots, and release them back into the inventory once completed.

Using the controller's Automation Builder, tests are now automated while manually being executed and the controller has even enabled the ability to schedule automated test runs.

Less Setup, More Testing

A test engineer now creates hundreds of test beds using the SDL Controller and can load specific configurations or firmware on each device. A test bed can be saved as a snapshot and then incremental changes can be made and additional snapshots can be saved. By offloading the task of cabling as well as automating the configuration of devices, a substantial amount of time has been saved, which can now be used to test the products and meet the deadlines.

Automating Faster

Each SDL Controller has an Automation Builder that allows test engineers to automate their test cases using codeless automation. This has allowed the test team to finally catch up on their automation efforts by automating cases while they do their manual testing. The scripts and framework that were already built prior to adopting Tokalabs have also been easily integrated as the SDL Controller can import and run those scripts as well. Both the scripts written using Tokalabs and those written externally are run using the SDL Controller's scheduler and test results are stored in the same results database for easy tracking and analysis.

Improved Collaboration

The SDL Controller has made sharing resources and test beds much simpler and more controlled. Test beds are reserved by users and can be released and shared with other team members or teams. The controller's Web UI enables a visual view of the test bed and the entire bring-up and tear-down processes can be automated. Support engineers can share the customer issues they recreate with test engineers with a click of the mouse and test engineers can share their test beds with developers.

Cut Costs

Along with cost savings due to the ease of sharing resources, the SDL Controller includes a robust set of logs to track device usage, users, test runs and results. Graphs based on these logs allow management to make business decisions such as transferring equipment across teams and team members or procuring additional needed equipment.

Deploying Software Defined Labs enabled the QA/Test Team to:

- Cut Infrastructure Costs by 40%
- Doubled number of quarterly test runs
- Reduced OPEX by 30%

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