Introduction

Cyber and security testing is an intensive process that grows in importance with each new security threat that is discovered. Testing for security flaws in network devices and applications requires the use of specialized tools and analyzers in addition to the traditional test tools more commonly found in labs. Coupled with a wide variety of tools, security testing requires countless topology changes in order to stress and analyze different components of the system. NetScout Test Optimization solutions are designed to meet these challenges by providing centralized functionality that includes layer 1 switching and layer 2-4 intelligence in a single platform.

Cyber & Security Test Lab Challenges

Cyber and security testing, however, presents unique challenges for the test lab. Complex topologies need to be configured in a timely fashion in order to execute test scenarios without increasing OPEX due to labor intensive and error prone methods. Often times, network topologies need to be re-created on very short notice in order to validate that a security update functions correctly in all scenarios. User authentication, logging, and audit trails are often required to meet strict regulations associated with lab management.

NetScout Cyber & Security Testing Solutions

NetScout delivers a proven solution for creating a high-performance cyber and security testing infrastructure. By providing scalable and secure technology, the productivity, optimization, and scale of a cyber and security test infrastructure can be significantly improved – saving valuable time, space, power and, most importantly, capital.
NetScout Test Optimization solutions allow cyber and security and test labs to provide instant equipment sharing, remote monitoring, multiplied DoS attack scenarios, and topology management via an easy to use software interface.

**NetScout Test Optimization Benefits**

The NetScout nGenius® 3900 Series Packet Flow Switch, along with our TestStream™ Management Software, provides the ideal platform to enable cyber and security test labs to meet the key objectives of performing rapid and secure topology changes, increasing utilization of all resources, reducing cycle time for tests, and realizing significant savings on CAPEX and OPEX.

**A Test Optimization Solution from NetScout Can Help:**

**Increase Utilization**
- Improve access to expensive security and monitoring tools
- Securely monitor and reconfigure network infrastructure from any location
- Increase personnel efficiency during operation, configuration and troubleshooting

**Reduce Time**
- Improve response time by quickly creating complex network topologies
- Quickly deploy and access monitoring and test tools
- Automatically generate reports and audit trails

**Save Money**
- Lower capital costs by purchasing less test equipment and security tools
- Lower operational costs by enabling a simplified network architecture, and increasing reliability
- Reduce manual operations with increased automation and standardization

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**Traditional Labs**

![Traditional Labs Diagram](image)

**NetScout Solution**

![NetScout Solution Diagram](image)

Figure 1: Traditional labs can be exceedingly wasteful of CAPEX and OPEX due to ongoing infrastructure costs coupled with poor utilization. Cyber & security testing adds additional stress due to more demanding time constraints and increased demands for efficient topology changes.

Figure 2: A NetScout solution enables customers to optimize cyber & security labs by providing innovative functionality combining layer 1 switching with layer 2-4 intelligence. With such a solution, customers can improve the efficiency, speed, and performance of cyber & security labs.