



Performance Testing Services

AppLabs' Performance Testing Services are designed to support the delivery of all types of IT software and hardware change, ensuring they fully meet the performance requirements for all key stakeholders.

Performance issues are traditionally difficult to identify prior to live operation of a new system, but, when detected after launch, often involve costly remedial work. By using advanced testing services and tools, AppLabs can undertake realistic proving of the customers' new systems in the development stages and provide important feedback to ensure problems are rectified at an earlier stage.

Once a new system is in live operation, performance continues to become a critical factor. AppLabs provides

a bespoke solution using our remote web load testing infrastructure, enabling the customer to select the performance test and quickly verify changes prior to implementation.

AppLabs also recognize that identifying problems only provides part of the solution. AppLabs' in-depth experience in technology development and testing ensures that the source of the problem is always identified and a remedial course of action is recommended.

No matter what stage the customers are at in the lifecycle of their IT systems, AppLabs can provide performance testing services that optimize the systems' performance.

Customer Speaks

on AppLabs' Services

“If I were to choose one major positive as to why AppLabs has been paramount to Turquoise’s successful launch, it would be that from the outset they were committed to help us and our other partners deliver a 14 month testing project in 8 months, without compromising quality or integrity of the solution.”

**Yann L’Huillier, Chief Technology Officer,
Turquoise (London Stock Exchange)**



Performance Testing Services Summary

Performance Expertise

AppLabs can help you determine the best approach and methodology for performance testing and validation of your business critical software projects. AppLabs brings a substantial amount of performance testing knowledge and expertise for many different types of applications, technologies, and business objectives. Leveraging AppLabs' Performance Testing Center of Excellence will assist with the delivery of software products, accelerate your testing success, and confirm compliance with your performance requirements.

Development Life Cycle	Performance Life Cycle
Dev and Functional Team	Performance Team
End-to-End	Full Transaction Performance Testing
Functional	Business Process Performance Testing
Integration	Modular Integration Performance Testing
Unit / Component	Load / Stress Component Level

Performance Lifecycle

It is commonly assumed that system performance can be addressed after the software functionality has been developed and tested. While this approach can sometimes produce adequate results; it is often inefficient, carries a high risk of failure, and may ultimately lead to costly remediation late in the software life cycle. AppLabs' lifecycle Performance Services are designed to meet your needs at any stage of the software development lifecycle to target and solve performance defects early in your project's development lifecycle.

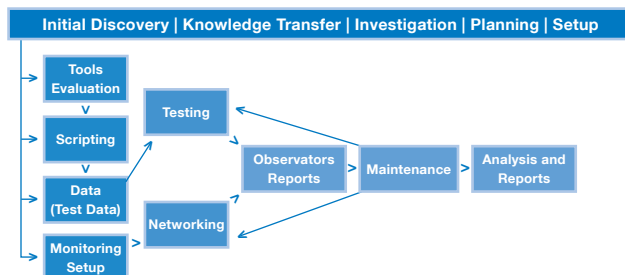
Performance Testing Approach

Performance testing is an iterative process with specific steps and activities where discovery, planning, testing, analysis and performance related defects are found and remedied.

As each successive test iteration is completed, progressively lower-level performance defects will be uncovered and the testing activities themselves can be adjusted for more detailed monitoring and script fine-tuning to address specific business objectives

Performance Scripting

AppLabs leverages offshore resources to design and develop performance test scripts. This scripting factory approach allows complex interactive scripts to be economically designed and developed offshore. The AppLabs team has expertise in most of the enterprise and open source performance testing tools (Loadrunner, Silk Performer, QA Load, Webload, OpenSTA, JMeter, etc).



AppLabs uses a combination of enterprise, full featured, tried-and-tested performance testing tools and avoids the uncertainty of amateur or home-made tools. Everyone wants to be absolutely certain that the performance tools used provide consistent and valid results. AppLabs can leverage

relationships with many of the different enterprise tool vendors and provide skilled engineers to increase the quality of the testing results.

Performance Load Testing

AppLabs can help you determine the best approach for performance testing (load characterization, user roles, critical paths, ramp rates, tools, protocols, injection points, load origination, key measurements, etc).

AppLabs maintains a state-of-the-art load injection infrastructure capable of generating substantial amounts of traffic from geographically distributed locations. When needed to validate systems using realistic patterns and usage; AppLabs provides defined, consistent, repeatable, and re-usable load generating infrastructure eliminating the inconsistency of virtual or cloud environments.

Performance Analysis

AppLabs has skilled performance testing engineers who can help you evaluate the end-user experience under varying amounts of traffic and evaluate the impact of different load and usage patterns on your system. During the testing, if the measured response times fail to meet their targets, the timings will be reviewed and compared to system side data that is gathered to get an understanding of the capabilities and limitation of the system. Response times that exceed failure criteria will be thoroughly analyzed. As these critical slowdowns are experienced from the user perspective, the system performance counters are evaluated for identifying the cause of the slowdown or failure.

AppLabs has experience in testing a wide variety of systems built on varying technologies ranging from email systems, web applications, trading platforms, travel, ticketing, resource management, supply chain, ecommerce, and many others. Contrasting the load and response time to evaluate impact of load in end-user experience, compare the impact of varying load on the system under test to look for bottlenecks and potential for improvement.

Performance Services

Different types of performance testing services available:

- ▶ **Load Testing** – evaluate the capability of a system or application up to predefined goals;
- ▶ **Stress Testing** – evaluate the capability of a system or application up to saturation or breaking point
- ▶ **Volume Testing** – load testing with varying volumes of system data to evaluate the impact on responsiveness and system utilization
- ▶ **Soak Testing** – investigate the impact of load over long durations on responsiveness and system performance
- ▶ **Scalability Testing and Capacity Planning** – evaluation of different elements of a system to determine its ability to handle changing and future needs
- ▶ **Performance Consulting** – need based staff augmentation of performance testing experts
- ▶ **Performance Code Reviews/Profiling** – review application for performance related issues at code level
- ▶ **System Characterization** – activities to identify specific performance characteristics of systems and hardware under test