

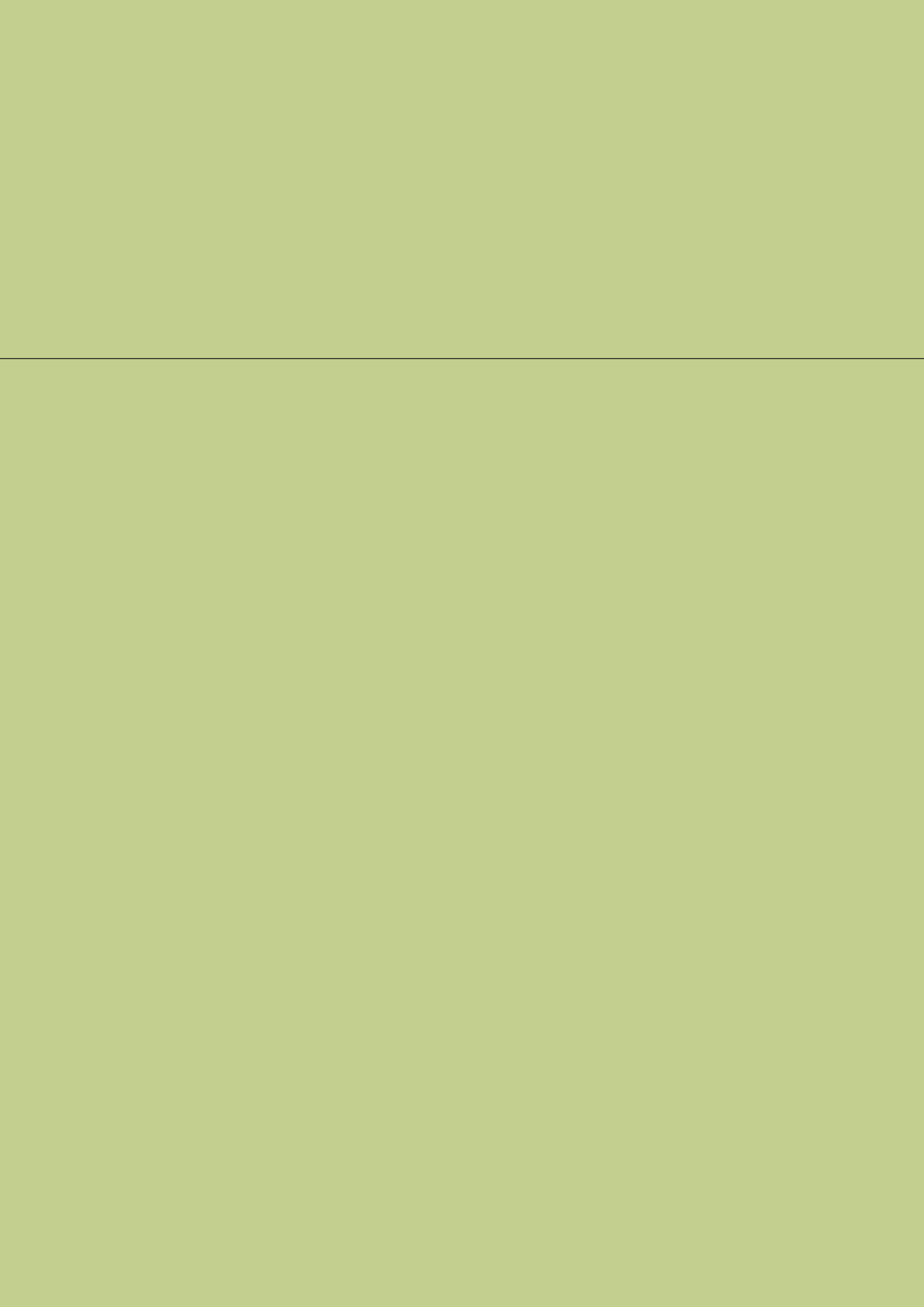
ENEX TESTLAB

SOFTWARE TESTING CAPABILITY STATEMENT

ENEX SOFTWARE TESTING DIVISION

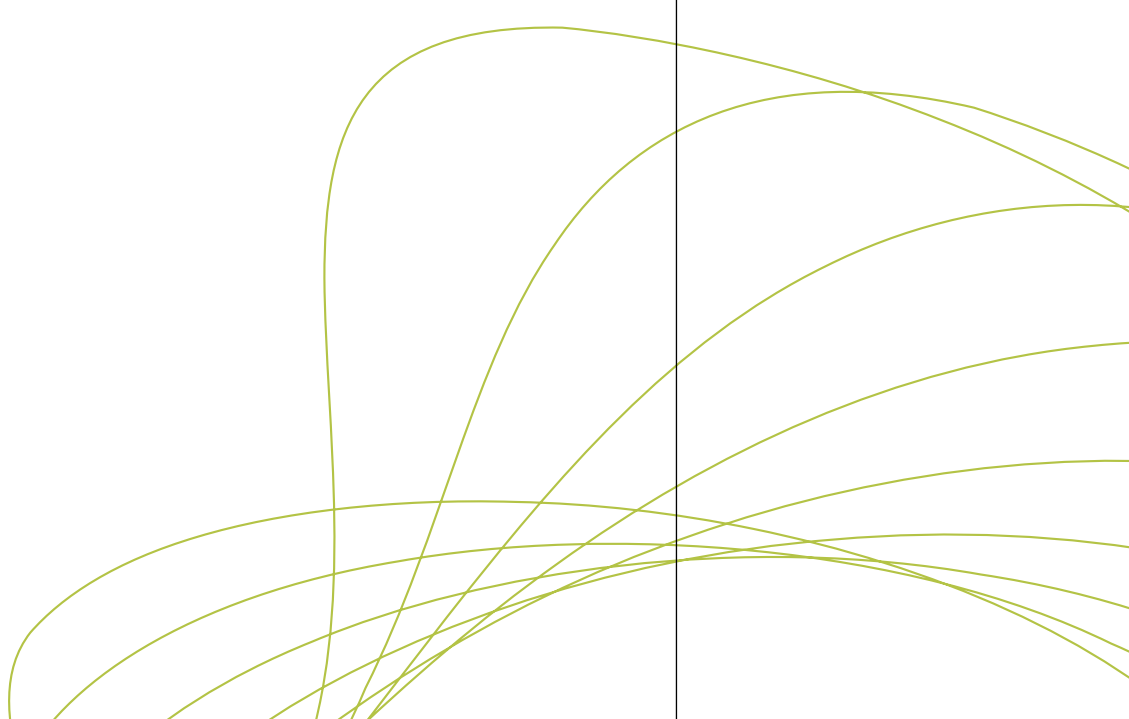
testlab
an enex enterprise





contents

INTRODUCTION TO ENEX TESTLAB	2
WHY TEST SOFTWARE?	3 - 4
TEST PLAN AND TEST SCRIPT PREPARATION	5
PERFORMANCE TESTING	5
FUNCTIONAL TESTING	5
PROCESS EXAMPLE	6
REGRESSION TESTING	7
COMPATIBILITY TESTING	7
LOAD AND STRESS TESTING	7
MAINTENANCE TESTING	8
TEST AUTOMATION	8
SUMMARY	8





Enex TestLab has achieved an enviable reputation drawing on decades of independent ICT product testing.

Introduction to Enex TestLab Software Testing

Enex TestLab is renowned globally for providing innovative software testing services.

Since 1989 Enex TestLab has been contracted to perform rigorous and detailed tests on countless examples of software. We have saved organisations, both large and small, a fortune by accurately and scientifically testing their products and applications - highlighting issues before their release.

We are passionate about our ability to reduce risk and save you time and money when developing or deploying software, but Enex TestLab offers far more. With our history, independence, experience, rigor, accuracy and diligence together with a clear focus on customer requirements ensures Enex TestLab one of the world's leading ICT software, firmware and converged technology testing services.

Add to this our extensive resources, cutting edge facilities, custom test software, comprehensive reporting and proven delivery. Enex TestLab delivers a demonstrable return on investment and strategic edge to your software.

why test software?

Why test software?

The only way to ensure the quality of any software product is to test it!

Software development is, of course, a complex process and human error is typically factored in to most development cycles – far from ideal.

Testing any new product will decrease the risk of your product failing in the marketplace. Software is costly to fix once released.

Testing proves the quality of your product. It empowers you to maximise its potential in the marketplace.

It is far better to involve Enex TestLab in your product development than to discover your customers complaining, failing to convert, or worse – leaving. Not to mention the costs associated with rectification of faults and distribution of patches and updates to integrate with the product once it has been deployed.

The advantage of testing with Enex TestLab

Outsourcing your software testing to Enex TestLab offers distinct advantages including:

Independence: Enex TestLab provides objectivity and independence ensuring a realistic appraisal of where you are now with your product quality, and what is required to improve it.

Expertise: Enex TestLab employs experienced

software engineers. We understand the technology development lifecycle and how testing methodologies are applied to maximise results through lowering risk.

Outcomes focus: We determine a clear, practical and commercial series of action steps to increase the value created by your product.

Resources: Our test environments represent the vast range of hardware and software that comprise your marketplace. This includes a great variety of processors ranging from Intel single core Pentiums to multicore, from 680x0s to the latest Power and Intel Macs, as well as various video, sound cards and other peripherals. Operating systems range from Windows 95 to Windows 2000, XP and Vista, Mac OS 8.5 upwards, as well as other language operating systems, Linux, Solaris, FreeBSD (Unix) and all web browsers. We also have a wide range of automatic test tools that speed up the testing process or provide specific testing services.

Confidentiality: Enex TestLab adheres to strict security, confidentiality and non-disclosure agreements protecting your technology investment and edge.

Quality: Not only does Enex TestLab harp on about quality processes and improvements, but we also practice what we preach. Enex TestLab is both ISO 9001:2000 certified and ISO 17025:2005 accredited.

why test software?

Our testing services can be tailored to your exact requirements and business needs.

Real World Examples;

Functional Testing

This government law enforcement department wanted a comprehensive range of testing services throughout the development of their 10,500 user, 334 site web application. Enex TestLab was able to ensure that the functionality of the system was stable and operated as specified. Testing focused on the system's usability and the integrity of its integration with other interfaces, as well as its performance and robustness under stress. Enex TestLab also tested its performance when subjected to large volumes of data and user or environmental instigated system failures.

Compatibility Testing

A well known banking organisation required compatibility testing of their website. Testing was undertaken across a diverse range of platforms with varying combinations of hardware, operating systems and browsers. Enex TestLab revealed that customers using Mac/Safari and Windows/Firefox were not able to successfully perform a financial transaction. Enex TestLab lead directly to an increase in revenue for this organisation. Enex TestLab also carried out Internet connection speed testing. We showed how certain objects in some of this bank's web pages substantially increased the time it took to load the page. They were able to optimise their site providing far greater value to their customers.

Performance Testing

A substantial government department wished to determine the performance of their PC hardware and software configurations. Enex TestLab were able to evaluate and advise the department on the suitability and relative performance of any new systems proposed by the department's outsourced IT provider. This included the impact of any subsequent changes to the Standard Operating Environment (SOE) software, applications and versions for the lifetime of the outsourced contract. We continue to provide detailed evaluations as the department plans its migration to Vista.

Acceptance Testing and Regression

A corporate enterprise was developing a high priority software application. They were using an agile methodology in their software development. As part of the process, Enex TestLab provided acceptance and regression testing phases at the conclusion of each development iteration. Through close liaison with the development team, issues identified were reported on a daily basis and updates applied. Good cooperation and configuration management ensured synchronisation for the development/test phases. This project was completed successfully and within an extremely tight timeframe.

detailed description of test services



Test Plan and Test Script Preparation

To ensure test coverage, test reproducibility and to provide a testing audit trail, Enex TestLab develops a specific Test Plan and associated Test Scripts. In accordance with your product functional specifications and business requirements we analyse the complete set of functions, create a test plan, test scripts, test scenarios and, as required, test data.

Our test documentation incorporates IEEE 829 standards for Test Plans to ensure issues are reported in a structured and concise way. This maintains the best possible information for your programmers to reproduce and fix any issues.

You are then able to either use our Test Scripts to test in-house, or our experienced engineers can continue the testing for you.

Performance Testing

Performance testing determines whether the performance of your product actually meets its specifications on the range of platforms you are targeting.

Based on our tests, Enex TestLab can recommend minimum target platform specifications for your product.

Enex TestLab has developed a number of its own specialised performance tests for web based applications.

Functional Testing

Software systems require thorough functional testing to ensure their services and functions are reliable before they are released to customers.

Functional specification testing ensures that all design functionality is actually in place and that a system's operation adheres to its specification.

Enex TestLab uses a systematic approach to test coverage, including the use of standardised checklists and basic requirements verification techniques. Our feedback provides evidence supporting the quality of your product. It will help you make informed business decisions about your product release.

detailed description of test services

Process example:

Enex TestLab offers a scalable testing service to fit your development lifecycle.

A basic web test services, for example, measures your site against common web issues and the configurations mostly likely to be used by your customers.

Generic tests conducted in our Basic Web Test Package include:

Test type	Implementation
Navigation tests	Navigation and link integrity tested using a combination of automatic and manual testing techniques. The manual tests will confirm that the links are not only alive but accurate.
Compatibility tests	Compatibility testing conducted using range of typical configurations.
Field checking	A range of positive and negative data is used to check that the system produces results as required and that error handling occurs with meaningful error messages and graceful degradation and recovery. Validation rules provided by the client are used as a systematic basis for these tests.
Security tests	Testing of security for items such as user login.
Presentation and content	Basic spelling, grammar or any other issues identified will be reported.
Regression tests	A round of regression testing conducted on one test configuration - based on a second release of updated software from the client, following defect fixes.
Exploratory tests	Unusual actions typical of inexperienced customers (multiple mouse clicks for example).

Documentation

Enex TestLab provide regular feedback throughout the testing process, usually via email.

At the end of the testing, we compile the results into a report featuring:

A summary of testing (showing test coverage)

A summary of the test results

Test configuration / administrative information

A list of all defects, including a description, the steps to reproduce, and a categorisation by severity level

Any conclusions or recommendations

detailed description of test services

Regression Testing

Regression testing is the process of verifying that issues reported and fixed by the development team have not compromised the existing functionality. Regression testing should be undertaken whenever a functional or environmental change has been introduced to any part of your system. It is important because new defects are often introduced when fixing issues already identified and reported.

Enex TestLab checks that any code changes do not introduce errors. We verify that the whole system continues to function correctly.

Compatibility Testing

With a wide variety of computers and technology products available, you need to be certain that your applications work in each environment. This means testing your product on a range of different hardware, software, web browser and operating system combinations used in your target market. This should include a range of servers, network types and databases. All of this can be done at Enex TestLab.

We test your application under different conditions, changing operating systems and combinations of hardware and software, databases or servers to determine if your product will be cross-platform friendly.

Compatibility testing by Enex TestLab eliminates any need for you to buy and maintain your own costly test hardware or software. Enex TestLab has all these physical and virtual resources ready for testing.

Load and Stress Testing

Enex TestLab can ensure your application server or database server is able to meet its expected demand. We perform server load and stress testing to show you exactly how your applications perform under real-world conditions.

Load testing determines a web and/or web application server's capacity to service an expected number of customers. Stress testing determines the server's behaviour as it operates under sustained peak load conditions.

Load and Stress tests require the simulation of significant numbers of customers connecting to your application simultaneously.

Load testing will typically be performed using scripts that generate numerous requests for web pages or application data. The scripts collectively measure the performance of various functional areas in your website or application. Requests for static content are separated from search requests and requests that require database retrieval.

Load testing progressively increases the number of simultaneous connections while monitoring server response times and CPU loads. This data is analysed and presented against your objectives. For example:

- Can the server support anticipated loads without performance degradation?
- What is the maximum number of simultaneous clients that the server can realistically support?

Stress testing can be performed to evaluate how your server will be able to respond to load conditions. The number of simulated customers is increased beyond the point where degradation occurs, and the systems recovery behaviour is observed.

detailed description of test services

The number of simulated customers is then reduced to normal levels and its behaviour observed again. This test verifies that the application can gracefully withstand and recover from load conditions. As the project requirements move towards these tests then Enex

TestLab's software testing group can work closely and consult with the Enex TestLab hardware testing, and systems testing, groups when working on server and network load testing of software applications. Thereby pulling the expertise and resources of other areas within the Enex TestLab enterprise.

Maintenance Testing

Testing should ensure that major issues are identified before a product is launched and prior to users/customers discovering them. However, Enex TestLab can also perform regular maintenance testing of a production application.

Testing on a regular, ongoing basis assists in identifying minor changes and major breakdowns before your customers discover them. This service is strongly recommended for e-businesses as this alone can represent dramatic savings when any downtime is extremely expensive.

Because of the dynamic nature of many websites we recommend regular maintenance testing. This will ensure that any changes or updates do not introduce new defects. This is particularly important for hyperlinks that may suffer 'linkrot' - where the site referred to by a link is no longer there, or its content no longer relevant.

In addition, during maintenance testing Enex TestLab can also conduct performance tests to ensure that your site continues to meet its performance criteria.

Test Automation

Test automation saves time and eliminates the possibility of human error. Enex TestLab will analyse the testing requirements and develop a custom package of automated tests which will not only be fast and accurate, but easy to maintain and cost-effective.

Summary

Software testing by Enex TestLab lowers your requirement for ongoing technical support. You will encounter far fewer client problems or compatibility issues and suffer much less downtime. Early testing by Enex TestLab ensures that your software spends less time enduring redesign and repair in development, performs reliably for you and performs better for your customers. Your return on investment (ROI) is maximised, and your reputation protected.

Website:

www.testlab.com.au

Australia Wide

1300 662 592

enquiries@testlab.com.au

VIC

+61 3 9436 7454

ACT

+61 2 6100 8332

NSW

+61 2 8920 3882

HK/CN

+852 8125 2550

US

+1 408 512 2038

UK

+44 20 8123 2329

