

## PRODUCT TESTING SERVICES

*Reduce your risk of failure - have your application tested in IV&V's accredited test lab by our experienced testers*

### What is Product Testing?

Product Testing typically consists of a **one-off qualification test** in our Test Lab to determine the state of the product/software package.

We can test your software's functionality, compatibility with operating systems, website navigation, system stability & performance, and conformance to a range of technical standards.

We have experience in conducting qualification tests on applications such as:

- eHealth applications (HI and SMD conformance)
- web sites
- desktop applications
- biomedical applications
- client/server database systems
- financial systems such as EFTPOS and ATM
- PKI applications.

### How do we conduct Product Testing?

We recognise that different clients have different needs:

- If your testing must comply with stringent regulatory requirements, for example, then you may prefer our **detailed accredited process**
- If you want a systematic test of your application, for example to provide independent input to your release-readiness decision, then you may prefer our **standard process**.
- If you can make do with a quicker, less comprehensive test, we can exercise your application's main functionality using an informal, **light process**, which is a cut-down version of our standard process.

Our systematic process includes:

- **Test protocols:** Develop tests based on your requirements, existing tests, advertised features, and our own experience in testing similar products
- **Test environments:** Run the tests using a variety of hardware and operating system configurations
- **Test conduct:** Use a systematic approach to exercising the system the way your customers would, from an independent perspective
- **Test reports:** Provide you with a test report detailing the result of the testing, including a list of all problems found.

### Our Test Lab

Our Test Lab is accredited to ISO 17025 by the National Association of Testing Authorities (NATA). This accreditation enables us to issue a Test Report that contains a NATA endorsement indicating that the results were gathered using our accredited systematic testing process.

Our facilities allow us to set up a wide range of test configurations quickly and efficiently, and to test under controlled and reproducible conditions.

### What are the benefits of independent testing by an accredited test lab?

- Be confident that your application has been **systematically tested** by **experienced testers**
- Be confident that the test results are **accurate**
- Gain an **objective view** of product quality
- **Reduce the risk** of major "show-stopper" problems in your released product
- Test the product on the range of its **advertised configurations**
- **Understand** the state of your system prior to release
- Make an **informed decision** as to whether (and when) to ship the product
- Provide **accurate information** to users about product features and functionality
- Use testing experts to **quickly and effectively** evaluate your product.

### Who are our customers?

We have undertaken product testing for:

- Australian Taxation Office
- Australian Electoral Commission
- Applied Physiology
- Johnson & Johnson
- ImpediMed
- Micronix
- Polartechinics
- ResMed
- And many more.

## Testing Approaches

Testing in IV&V Australia's Test Lab follows one of three approaches: Light, Standard and Detailed (NATA). The scope of work for a job depends on the needs of the client, and is determined by factors such as release schedule, risk/impact of defects on release, and the amount of testing the client has done themselves.

We have a generic testing process that we follow, which we scale up or down depending on the approach that is used. The elements of the process are as follows:

1. Develop a set of tests
2. Establish the test environment
3. Develop test data (if not supplied by the client)
4. Execute tests and raise defects
5. Re-test to check fixed defects
6. Execute final regression test to ensure robustness
7. Produce a test report

### The Light Approach

<p>The <b>Light</b> approach is recommended when:</p> <ul style="list-style-type: none"> <li>• The application is fairly straightforward (no external interfaces, only simple functions)</li> <li>• You do not need a comprehensive test – you have already tested the functionality yourself and only need an independent perspective or a specialised test type (eg, compatibility test)</li> <li>• Defects that still exist in the application when you release it will have a minimal impact on the users and/or a low cost to repair</li> <li>• Your schedule leaves no time to develop a complete test specification, with a repeatable set of tests</li> </ul>	<p><b>The benefits of this approach</b></p> <ul style="list-style-type: none"> <li>• Shorter initial turn-around time</li> <li>• Lower cost in the short term</li> </ul> <p><b>The risks of this approach</b></p> <ul style="list-style-type: none"> <li>• This approach does not include detailed test procedures - so: <ul style="list-style-type: none"> <li>○ It is more difficult to isolate defects</li> <li>○ Re-testing is less precise</li> </ul> </li> <li>• Testing is less systematic and comprehensive, so defects are more likely to slip through</li> <li>• If lots of defects are found, we may need to change to the Standard approach of systematic assessment</li> </ul>
---	---

### The Standard Approach

<p>The <b>Standard</b> approach is recommended when:</p> <ul style="list-style-type: none"> <li>• The application has complex functionality and/or interfaces</li> <li>• You need a comprehensive test – you have not thoroughly tested the functionality yourself</li> <li>• Defects that still exist in the application when you release it will have a significant impact on the users and/or a high cost to repair</li> <li>• The application is likely to be upgraded or added to in the future – the test procedure we develop can be used for regression testing</li> </ul> <p><i>Note that some elements of our Standard approach are optional. The risks identified are those associated with declining to take an option.</i></p>	<p><b>The benefits of this approach</b></p> <ul style="list-style-type: none"> <li>• The systematic requirements focus ensures that all identified functionality and interfaces are thoroughly tested and the results are accurate</li> <li>• The repeatable test procedure ensures that: <ul style="list-style-type: none"> <li>○ It is easier to perform regression testing and identify test reuse at future upgrades</li> <li>○ The steps to reproduce defects are easier to identify and retest</li> </ul> </li> </ul> <p><b>The risks of this approach</b></p> <ul style="list-style-type: none"> <li>• If you do not opt for a full regression test at the conclusion of defect re-testing, you will not know if the defect fixes have caused another area of the software to malfunction</li> </ul>
---	---

### The Detailed Accredited Approach

<p>The <b>Detailed Accredited</b> approach is recommended when:</p> <ul style="list-style-type: none"> <li>• You want, or need, to be able to attest that your application has undergone an independent qualification test using a formal, rigorous process by an accredited testing laboratory</li> <li>• For example, testing of biomedical systems and CCA testing for Healthcare Identifiers and Secure Message Delivery</li> </ul>	<p><b>The benefits of this approach</b></p> <ul style="list-style-type: none"> <li>• As for the Standard approach, plus: <ul style="list-style-type: none"> <li>○ You will receive a Test Report that carries an endorsement from the National Association of Testing Authorities (NATA)</li> </ul> </li> </ul> <p><b>The risks of this approach</b></p> <ul style="list-style-type: none"> <li>• The process is more time consuming than for the Light and Standard approaches</li> </ul>
---	--