

The logo for ApriorIT is centered within a large orange oval. The word "ApriorIT" is written in a bold, sans-serif font. The letter 'A' is green, 'prior' is black, and 'IT' is green. A white outline surrounds the text, and a horizontal orange bar is positioned beneath the 'prior' portion.

ApriorIT

**Quality Assurance and Testing
Services**

*We have always concerned quality as one of the key moments in the project development. Years of productive work, a number of various non-trivial projects gave us wide experience in Quality Assurance procedure. Our QA Specialists used to solve a lot of complicated testing tasks and they succeed in it. That is why we detached **Quality Assurance** as independent branch of Services we provide.*

Quality Assurance and Testing Services

We perform Quality Assurance and Testing procedure for such types of software:

- **Drivers** (e.g., virtual device drivers, network drivers).
- **Client-server applications.**
- **Remote Control and Remote Access Systems.**
- **Corporate Security Software.**
- **Mobile and Pocket PC applications.**
- **Backup and File Compression utilities.**
- **Networking tools** (e.g., Firewall, Monitoring, Encryption, etc.).
- **WEB Projects.**

The Testing Service, which we provide, includes 3 main lines. Work on them is conducted simultaneously. They are:

1. Writing and Reviewing the Test Documentation.
2. Testing.
3. Process Monitoring and Client Support.

Test Documentation

Creation of the **Test Documentation** includes:

- Developing *Test Strategy*, composing *Test Plan* and *Test Schedule*.
- Writing *Test Cases*, preparing *Test Sets*, *Test Lists*, and *Test Beds*.
- Composing *Test-Suits* (testing scenario).
- Reporting bugs in *Bug Tracking System*.
- Writing *Test Reports*.
- Creating *GUI Design*.
- Writing *Use Cases*.

Our QA Specialists also perform the review of the project documentation such as Design Documents, Project Plans, and Functional Specifications.

Testing

The **testing** procedure consists of the following steps:

- Choosing and deploying of the testing platform.
- Test Environment Planning.
- Black Box Testing.
- Grey Box Testing (project with known architecture, for example UML diagrams).
- Mock Up Testing (testing of the early stage site or GUI prototypes).
- Functional Testing (including Usability and GUI Testing).
- Automated Testing (writing, providing, and execution of scripts, providing reports and analysis).
- Performance, Load, Stress Testing.
- System Resource Usage Testing.
- Regression Testing.
- System Testing.
- Embedded System Testing.
- Security Testing.
- Integration Testing.
- Interoperability Testing.
- Compatibility Testing.
- Network Testing.
- Unit Testing.
- Installation and Licensing Testing.
- Verification of compliance to specifications.

Process Monitoring and Client Support

Process Monitoring and Client Support are provided by our Product Specialists who have great experience in working on projects in the certain area (Product Specialists for Drivers, Product Specialists for Remote Systems, and so on). Whatever project we have, there is a Product Specialist responsible for it. This team member represents client interests in the project team. He performs:

- Marketing research of the product market area.
- Composing Project Estimates based on the Risk Analysis, the current team potentialities, and our corporative experience.
- Discussing priorities with the client.
- Monitoring Project Status and Progress.
- Writing regular Reports to the client.
- Presentation of client interests on each team meeting.
- Work on suggestions for product development and evolution.

Additional Services

Our experienced QA Team can provide you with consulting services:

- **Communication and Process Improvement:** We can help your in-source Testing Team to work better and cooperate with other teams more effectively.
- **QA Department Arrangement:** If you are a start-up in software development our specialists can help you not only with your current projects but also with organization your own in-source Testing Team.

Driver Testing Services

In **Driver Testing** special attention is focused on:

- **Functional testing.**
- **Stress testing.**
- **Configuration testing** (Different Operating Systems – Windows 2000/2000 Server/XP/2003 (Standard, Enterprise, Small Bussnes)/Vista/2008 Server with different service packages, version builds, Checked build OS; Different configuration of hardware).
- **Automatic testing** (Windows Shell scripting).

We perform Driver Testing at the professional level so we use the followings instruments:

- Windows Driver Verifier.
- WINDBG
- VMware Workstation

In the process of software testing in particular driver testing we actively use such practice as:

- Analysis of the memory dump via Debugging Tools for Windows: *windbg*.
- Manual dumping of the system memory via hardware/software.
- Testing on *Virtual Machines (VMware Workstation)* and on the real machines with different configurations of hardware.
- Writing scripts for testing automation in *Windows Shell*.
- Remote debug using *WINDBG* (if required).

We have wide experience and produced schemes of testing for the followings types of drivers:

- File System Filter Driver.
- File System Driver (including Network redirector).
- Storage Filter Driver.
- Virtual Storage Driver.
- TDI filter Driver.
- USB Driver.

WEB Project Testing Service

Testing of WEB projects has its own special features. There are several special moments we pay attention on.

Compatibility with browsers

It is obvious that the same page can look differently in different browsers. To be sure that any user will be able to obtain all necessary information, we conduct testing of all Web-pages in different browsers. Also there are distinctions in the different versions of the same browser. It is also taken into account during testing.

Here is the classic list of browsers we test the site with:

- Internet Explorer version 5.0 and higher.
- Mozilla Firefox 1.0.1 and higher.
- Mozilla 1.3 and higher.
- Opera 7.54 and higher (extremely rarely - Opera 6.0).

Unity of Design

Under the Unity of Design we understand not only the compatibility of element colors but also observance of the selected color scheme, a size of font used for the different levels of the text (headings, content text, links, notes, etc.) and so on. Here we test compatibility with the design of sounds, pictures and animation, and also check good appearance with different browser and monitor settings.

Capacity Testing

Checking for Capacity implies the estimation of loading speed for both the site in general and every element individually. Size of pictures, html-files, audio and video files is estimated, their adaptation to the different types of connections (from ordinary modem dial-up connection, since 14400, to high bandwidth ones) is estimated also.

Navigation Testing

Verification of Navigation supposes testing of site transitions, links, menus etc. Here we estimate also the user possibility to find necessary data.

Functional Testing

General approaches to test a website functionality are used. We perform all-round testing of each element type (links, search, media, flash, caching, frames etc.).

Tools

We use such standard tools:

- Tools for Firefox (Page Info, Error Console, Page Source).
- WEB Developer Toolbar.
- Google Analytics.
- Google Webmaster Tools.
- Selenium IDE for automated functional testing.

Quality Assurance and Testing Process

Getting Started

When you decide to use our Quality Assurance and Testing Services you simply get in contact with us (sales@apriorit.com). We discuss your project and get to the agreement about what particular services you need (the full list of these services can be reviewed at **QA and Testing Services** page). After cost estimation we sign NDA and start to work – get acquainted with all team members, develop strategy, estimate time, etc.

Business Models

We offer 3 business models.

Fixed cost testing projects

Usually we use this model for relatively small projects (no more than 2-3 man-months) or projects with stable and clear requirements.

Hourly-based testing projects

This model is used for the projects where the total effort cannot be estimated accurately enough in advance and/or the scope of work can vary during the implementation. The payment is made on the time rate basis.

Offshore testing teams

Separate offshore testing team is a good solution for software development companies as well as for IT departments of large companies. It helps to cut down their testing costs and concentrate on core activities.

Different pricing models can be used here:

- Hourly scheme with discount.
- 'Cost+' scheme: a customer payment = tester's salary + overhead costs.

Overhead costs include facilities and infrastructure maintenance, taxes, accounting support, etc.

Tools We Use

Special tools: WinDBG; VMWare; Mercury Test Director.

Version control systems: SVN; Vault.

Defect (bug) tracking systems: Bugzilla; TRAC; Mantis; DCL; Eventum.

Tools for Automated Testing: Segue SilkPerformer; AutomatedQA TestComplete; Selenium; Windows Shell Scripts.

Technologies We Work With

Platforms: Java (J2EE/J2SE/J2ME); Microsoft.NET; Win32/64; WinCE; Windows Mobile.

Databases: MS SQL; MySQL; Firebird 2.0.

Application Servers: BEA WebLogic; IBM WebSphere; MS IIS; JBoss; Apache Tomcat; Oracle Application Servers.

Operating Systems: Windows (98/NT/Millennium/2000/XP/2003/2008/Vista); Linux; uBuntu.

Browsers: IE 5.0 - 7.0; Firefox 1.0-3.0.1.

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