



Achieving Quality Software through Independent Testing

The answer to your question:
How can we do this better?

Introduction

You already know that software testing is a critical part of the software development life cycle (SDLC). And you already know that the traditional model of developers testing their own code doesn't yield the quality software and systems your organization needs. Whether it's causing dissatisfaction among customers or internal communications breakdowns among teams, you cannot afford to subscribe to the status quo on this particular issue. Innovative and cost-conscious companies are turning to a better alternative—*independent software testing*.

I've heard of it, but what makes independent software testing so different?

The distinction is within the term itself—*independent*. When you rely on others whose sole focus is to perform what they do well—*testing*—you are more likely to achieve a quality result that meets the expectations of both you and your customers. Think of this in terms of your own personal life. Do you do your own dry cleaning? Do you cut your own hair? *OK, maybe you do*, but do you achieve the same results as when working with the experts? Probably not...

Why choose independent software testing?

IT executives are under increasing pressure to deliver sound, top-quality applications quickly while keeping costs low. Independent testing is an obvious solution to this challenge for the benefits cited below.

Benefits	Features
Reduced Costs and Streamlined Operations	<ul style="list-style-type: none"> • Reduced costs for hiring, on-boarding, training, and supervising management, technical, and functional testing personnel • Opportunity to redirect internal management resources to higher value strategic projects and processes • Predictable, consistent costing structure via a variety of engagement pricing models, including fixed price, time and materials, and outcome-based pricing
Reduced Risk by Relying on the Experts	<ul style="list-style-type: none"> • Commitment to best-practice testing methodologies and techniques • Streamlined testing tools to generate test cases, and thus test results, more quickly • Re-use of successful testing artifacts via knowledge management libraries and repositories
Improved Flexibility and Productivity	<ul style="list-style-type: none"> • Reduced management and administrative time in dealing with on- and off-boarding personnel • Capability to flex resources up or down rapidly, as required by project needs • Flexible nearshore, offshore, onshore, and hybrid delivery models

Trust the Experts

It is naive to think that expert software developers are also expert software testers. Good software testing is a professional and highly specialized skill, and should not be a mandatory obligation to check off the list at the end of the SDLC. Application failures at crucial points in processes or transactions are expensive, resulting in revenue losses and customer dissatisfaction. *Why not trust the experts?*

Achieve Better Software Quality

Software testing experts know how to create objectives and scenarios that end-users will experience. More importantly, they are able to conduct technical investigations without bias toward the software, and therefore can reveal defects that otherwise wouldn't have been detected.

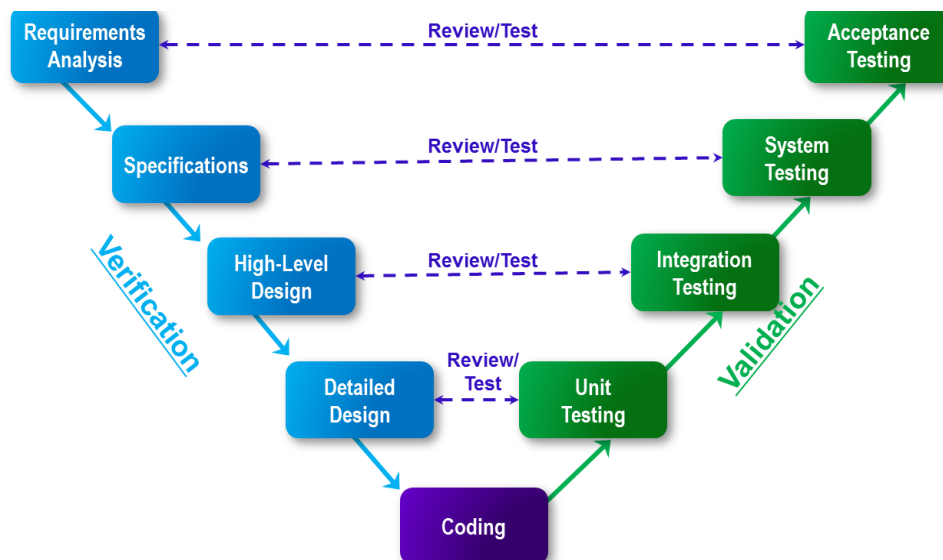
Save Money

Hiring your own full-time employees for testing can be expensive and ineffective. It means your company has to hire and train staff for a specific project, so you will likely have benchwarmers and surplus employees at some point. Hiring a scalable, independent testing team for a specific project is a smart, cost-effective alternative. By choosing independent software testing, your company can focus on productivity rather than headcount.

Rely on Best Practices

Best practices ensure your software is running as smoothly as you envisioned. One such best practice is the V-model, which significantly reduces post-production defects through a structured approach to testing; because of the verification and validation process, testing is planned from the early stages of the SDLC. The process ensures thoroughness: the verification phase checks that deliverables are complete, and the validation phase checks that the deliverables satisfy requirements specified in earlier or previous stages. Thus, defects are prevented rather than fixed, improving risk management while saving time and money.

The V-Model

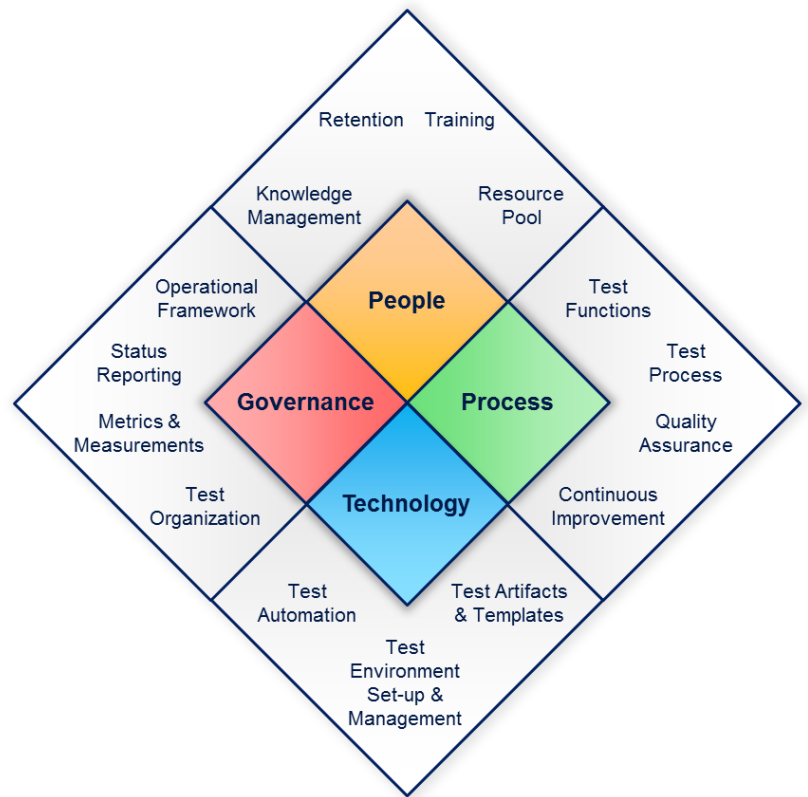


What is a Testing Center of Excellence?

There are a lot of independent software testing options out there. Choose one that has standards and regulations. A Testing Center of Excellence (TCoE) is a unique framework for software testing, integrating strategic assets—people, process, tools, expertise, and technology—to govern how a testing organization engages and delivers highly efficient testing services to the larger enterprise. It has established goals, well-defined processes, multi-disciplined skill sets, and common tools and technologies.

TCoE Frameworks and Benefits

- Scalable framework based on standardized and repeatable processes
- Earlier detection and resolution of defects lowers costs of repair/rework
- Resource and tool optimization improve productivity and efficiency
- Transparent governance ensures accountability and results
- Flexible resource pool to support multiple projects ranging in complexity



Testing Center of Excellence Framework

Geographic Considerations: Onshore, Nearshore, or Offshore

Companies are looking beyond the constraints of geography to address their independent testing needs. *Why?* Because there are more geographical options than ever. Offshore and nearshore are now viable options thanks to excellent overseas IT certifications and universities. In fact, Forrester and Gartner report that out of the total outsourcing business generated, 32% of it is shared by testing alone. The chart below identifies the most important differences in the options.

Onshore	Nearshore	Offshore
Testing takes place in the United States	Testing takes place in Latin America	Testing takes place in lower-cost locations such as India, China, the Philippines, and Singapore
Most expensive	Moderately expensive	Least expensive
No language barrier	Close proximity = similar time zones; some language barriers	Time-zone differences; some language barriers
Shortage of IT professionals	Similar cultures	Abundance of IT professionals

The Benefits of DISYS' Testing Services

DISYS' proven testing and quality assurance approach ensures that expected system requirements and outcomes are delivered. We promote the implementation of automated testing to achieve testing results at a lower cost, in a shorter period of time, with increased ROI.

We conduct independent functional testing and quality assurance by applying a wide range of automated and manual test designs. Our significant experience with software testing tools includes Hotsos, tkprof, SQL Navigator, HP, QC, QTP, Rational, Mercury, TAO, SolMan, and Worksoft. DISYS also has experience using scenario creation and execution for Non-Functional Testing such as volume testing, stress testing, spike testing, and endurance testing. And because DISYS believes in fostering partnerships through communication, you'll be kept updated on our testing status daily, weekly, and monthly.

Of DISYS' global locations (pictured), we have testing facilities nearshore (Brazil), offshore (Hungary and India), and onshore (Dallas).



Case in Point: A DISYS Case Study

Industry

Banking

Business Challenge

- Immature development and testing processes for ERP
- Integration of legacy system with the ERP
- Developers were unit testing their own code and not including/considering integration tests
- Numerous and rampant problems found during User Acceptance Testing requiring significant rework

The DISYS Solution

- Outsourced entire testing function to DISYS' Porto Alegre, Brazil Test Factory
- Testing Methodology for Verification and Validation implemented; leveraged from a best-practice V-Model
- Independently tested all developed code

Results

- Streamlined the implementation of testing cycles, increasing efficiency by 80%
- Implemented weekly and monthly reporting of test results and defects, collecting metrics for trends analysis and process improvement, and following up with face-to-face meetings
- Improved quality of testing through independence, thereby improving internal working relationships between IT and Business Line personnel
- Business/technical documentation, including regression test reports
- Test artifact re-use for better productivity in future implementations
- Provided test scripts for software developers to improve their own unit test quality before moving to independent testing cycles, decreasing rework and development cycles

DISYS Offerings

DISYS offers the full spectrum of software testing:

- Automated Testing
- Manual Testing
- Performance Testing
- Test Process Consulting
- Defect Management
- Reporting and Metrics

About DISYS

Digital Intelligence Systems Corporation (DISYS) is a global firm specializing in delivering Business and IT Consulting Services and Strategic Sourcing Solutions to commercial and government customers. A certified Minority Business Enterprise (MBE), DISYS offers services across various industries and disciplines, with a core capability in delivering IT Support and Maintenance, Testing, Upgrades, Enhancements, Implementations and Rollouts, and Mergers & Acquisitions support. With high-quality resources in regional offices and delivery centers across the United States and around the world, our "A-Team" ensures your IT and business goals are achieved.