

# Lights Out Business Process Testing

What It Is. Why You Need It.

Worksoft Inc.

**WORKSOFT**<sup>®</sup>

## EXECUTIVE SUMMARY

Test automation, especially for packaged applications such as SAP<sup>®</sup>, Salesforce.com, and Workday is quickly becoming a standard best practice to ensure business processes are not disrupted by frequent enterprise technology changes.

Providing a stable production environment means that business users can avoid the costly downtime associated with defects and unavailable systems. It also means that highly valued IT resources can avoid operating in constant crisis mode. As a result, business and IT teams can use previously unproductive time devoted to manual testing for more innovative activities.

Glitches, defects, and technology failures have disastrous impacts on customer satisfaction, user experience, and the bottom line. The headlines are filled with examples every day. Issues with the trading platform at a large financial services firm resulted in a flurry of accidentally placed buy and sell orders that cost the company upwards of \$450 million dollars<sup>1</sup> Inadequate testing crippled the website of a major online retailer – on black Friday.<sup>2</sup> And who could forget the \$6.99 round-trip airfare tickets to Hawaii?<sup>3</sup>

Still, it's easy to skimp on quality assurance, because testing has traditionally been an unbelievably costly and time consuming process. Manual testing and legacy script-based solutions require involvement from developers, analysts, and experienced QA professionals whose time is incredibly scarce. Labor-intensive testing also limits the changes a company can introduce, even though the number and frequency of updates and enhancements is increasing at an unprecedented rate.

**The solution to these problems is “lights out” testing.** Lights out testing virtually eliminates the need for human intervention by automating the execution of critical routine tests. Lights out testing yields these key benefits:

- Ensure flawless business process execution
- Accelerate every project by reducing test cycle times
- Boost test coverage with unused resources
- Promote innovation and efficiency
- Eliminate manual audit and compliance with automated documentation

<sup>1</sup> New York Times, August 2, 2012

<sup>2</sup> Fortune, November 28, 2014

<sup>3</sup> MarketWatch, December 27, 2013

## THE EVOLUTION OF TESTING

Testing was originally viewed as an ad-hoc manual activity, relying heavily on keyboards and keystrokes. This approach gradually led to the creation of software solutions using first generation scripted automation techniques. But whether manual or automated, effective quality assurance consistently required some form of human intervention, typically from highly skilled programmers and testing professionals.

At the same time, the rate of change in the enterprise technology landscape steadily accelerated. Annual releases gave way to quarterly updates, which then became monthly enhancements. In an era of Agile and continuous development methodologies, weekly or even daily changes to key applications are no longer uncommon.

These changes affect increasingly complex environments of interrelated applications across enterprises. Unfortunately, the rapid rate of change has outpaced the ability of traditional quality assurance approaches to manage risk. Manual testing is no longer feasible given its intensive resource demands and extensive functional requirements. Scripted automation can't keep pace because of high development and maintenance costs. In both cases, substantial human intervention introduces dangerous friction into the test/release cycle. That means changes often enter production untested, resulting in major risks to business continuity.

Lights out testing addresses these challenges by combining traditional testing best practices with next generation automation technology.

## LIGHTS OUT TESTING DEFINED

Lights out testing is the recurring, automated, and unattended testing of essential business processes. In this context, each of these terms has a specific meaning:

- **Recurring** - Testing is applied to every change regardless of frequency. Recurring testing can be repeated as often as needed (daily, weekly, monthly) without time-consuming setup or maintenance. This has special implications for test design, data management and implementation.
- **Automated** - Test execution is high-velocity, accurate, and consistent with a fully documented audit trail. Only script-free automation can provide adequate coverage within highly compressed delivery cycles without additional complexity or expense.
- **Unattended** - Tests can be performed at any hour of the day or night without human intervention. Unattended testing must be resilient enough to handle unexpected situations without aborting the entire test cycle or generating spurious errors.
- **Essential** – Testing is focused on business processes that enable, run, or control critical enterprise operations. Lights out testing is about mitigating maximum risk in the shortest time possible. This ensures the business can continue to function with the highest levels of quality and efficiency, even when underlying technologies and processes change.

**WHY DON'T YOU HAVE IT?**

Traditional approaches to testing no longer work in today's rapidly changing enterprise environment. Manual testing isn't practical because it's so labor intensive, while legacy scripted automation requires advanced programming knowledge to build and maintain – making it costly and slow.

Even if unlimited resources could be provided for manual testing, there simply isn't enough time in the day to cover every critical business process. Manual test execution is too slow, inconsistent, and error prone to be effective in a fluid technology landscape. Further, tests developed by a single person usually fail to capture the entirety of an end-to-end process, resulting in poor overall test coverage.

Traditional automation is also inadequate. Despite advances in component design, script-based tests can take weeks or months to fully develop and are frustratingly difficult to maintain. The need for specialized programming skills in script development excludes business users and subject matter experts familiar with the actual business processes from test design. This creates added expense and a host of burdensome extra steps. Once it's finally completed, the resulting script code is brittle, breaking easily when it encounters new or unexpected conditions.

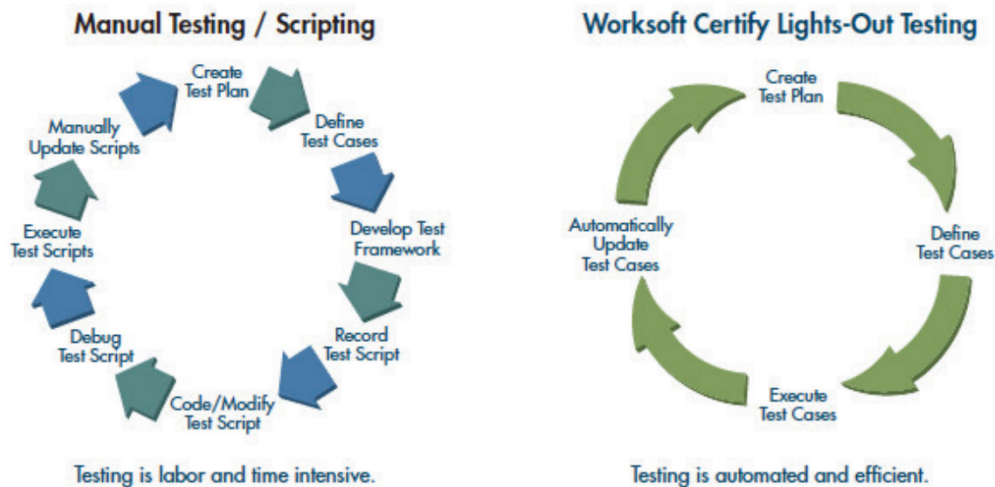


Figure 1: Worksoft Lights-Out Testing reduces both the time and technical expertise required for thorough and accurate testing, reducing both cost and risk of deploying software updates and changes.

After the initial investment in script development ends, the endless cycle of script maintenance is just getting started. Coded components must be examined and re-examined for impact, then modified, tested, and debugged each time they are run. While legacy scripted automation may provide some minor productivity gains, writing code to test code just doesn't make sense. Despite recent advances in automation technology, many companies continue to employ this dated approach to testing.

### HOW DO YOU GET THERE?

For companies struggling to keep up with enhancement backlogs and digital projects, implementing lights out testing may seem impossible. The good news is that by adopting the right set of attitudes, processes, and technology, you can quickly begin achieving the benefits of a top-notch high velocity testing program.

- **Embrace Change** – Embrace change and innovation as the necessary ingredients for achieving success. Recognize that intelligent test automation can help facilitate the change process by reducing the risk of production failures or defects.
- **Empower Critical Resources** – A company’s greatest assets are always its people. An effective continuous testing program leverages the insight, skills, and experience of both IT and business resources. While implementing lights out testing requires an initial investment, the return is well worth the effort. Firms employing these testing scenarios routinely save more than 50,000 hours of time (and millions of dollars) per year.
- **Take an Outside-In Approach** – Tests should be designed to reflect the actual end-to-end processes your customers and business users rely on to complete high value tasks. As the pace of fragmentation in the enterprise software landscape grows, it’s no longer enough to test siloed functionality and individual applications.
- **Adopt World-Class Technology** – Successful and effective lights out testing requires a platform that automates testing by analyzing actual business processes instead of code. Using intelligent automation for continuous testing simplifies the development and maintenance of test processes. Because a change in any element can be instantly traced, it’s possible to quickly analyze the impact of even the smallest changes on all affected test assets and then automatically update them.

### WHAT IS IT WORTH?

Lights out testing ensures critical business processes function as planned, even in the midst of change. Since implementing any new test program or methodology involves discipline and effort, it’s important to assess goals and expected benefits. So, what can lights out testing do for your organization?

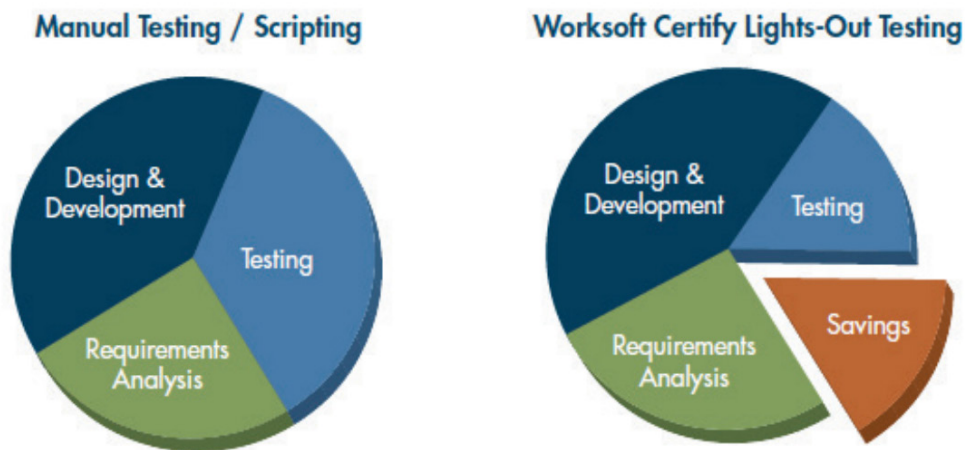


Figure 2: By compressing test cycles, Worksoft Certify enables a complete testing suite to be implemented at far less cost than manual or script-based testing.

### ENSURE FLAWLESS BUSINESS PROCESS EXECUTION

Ensuring flawless execution of critical business processes is perhaps the most obvious benefit of lights out testing. Although it can be difficult to quantify savings directly attributable to preventing production defects, the value of ensuring uninterrupted business execution is enormous. Technology glitches on consumer-facing websites create PR nightmares. Supply chain errors can easily grind operations to a halt. Unscheduled downtime drastically reduces employee productivity. An IT team in constant crisis mode slows innovation. Each of these common scenarios can have a chilling impact on consumer trust, brand value, and ultimately on profitability.

It is less difficult, of course, to measure the cost of major technology failures. Consider the impact of the 2015 New York Stock Exchange glitch reportedly caused by a faulty routine system upgrade. The defect rattled already anxious investors and caused a nearly four-hour delay in trading. On the same day, United Airlines was forced to ground all flights worldwide – nearly 5,000 total - for more than an hour not because of hackers, but due to a software glitch.<sup>4</sup> These are just two examples in an ever-growing list of preventable public technology failures.

In addition to the immediate impacts of a production failure, the opportunity cost of diverting time and resources towards defect correction is substantial. While most businesses don't directly track these costs, they are reflected in lower productivity, missed project milestones, and sluggish innovation.

### ACCELERATE EVERY PROJECT TIMELINE

A streamlined and comprehensive testing process translates into increased innovation and improved organizational agility. Lights out testing converts daily software updates from a haphazard game of Russian roulette into a competitive weapon, leading to greater market share, stronger customer loyalty and solid bottom line profitability.

In a recent example, a major national insurance company found that its roll-out of a new dental coverage plan was being slowed significantly due to the testing required to meet unique regulatory requirements in each of the 50 U.S. states. After implementing a lights out testing program, the company was able to accelerate rollout from a pace of one state every four months to 8 states every month, rapidly expanding market access and revenue potential. Fast, predictable test cycles help companies provide stability so they can focus on improving customer experience and delivering new features.

### BOOST TEST COVERAGE WITH UNUSED RESOURCES

Running tests during off-peak hours reduces the system downtime often associated with effective quality assurance. It also opens access to an array of computing power and resources that typically can't be dedicated to testing.

Intelligent automation of lights out tests empowers companies to do more with less, achieving greater coverage and reliability without a corresponding cost increase. For example, a global luxury goods manufacturer now tests 500 critical end-to-end processes in less than 2 hours every night. This dramatic improvement in speed, efficiency, and test coverage was achieved with significant financial savings to the business.

<sup>4</sup> Chicago Tribune, July 20, 2015

**PROMOTE EFFICIENCY AND INNOVATION**

What would your company do with 50,000 extra hours every year? Traditional testing methods relegate large numbers of highly skilled developers and analysts to tedious, time-consuming work. High speed lights out testing gives your most valuable people their time back, freeing them for more productive, interesting, and profitable activities.

An equally valuable benefit comes from faster defect elimination. By ensuring a stable always-on production environment, end users avoid downtime associated with unavailable systems or broken functionality. As a result, IT resources can focus less on continual crisis management, and more on addressing the real needs of the business.

**ELIMINATE MANUAL AUDIT AND COMPLIANCE**

Many companies dedicate significant resources to the verification of internal controls, and then pay outside auditors to confirm compliance. Simple costing methods can quantify the savings of using an automated approach instead. In one case, a Worksoft customer saved over \$250k per year in audit fees—every year—by substituting automatically generated detailed documentation.

What is less obvious is the opportunity cost of performing or paying for these tasks and the opportunity benefit of making them available for other purposes. In the example above, the extra \$250k per year previously spent on outsourced auditing services was made available for investment in more productive initiatives. Similarly, the human capital previously consumed to support the manual compliance process has also been reallocated to revenue generating activities.

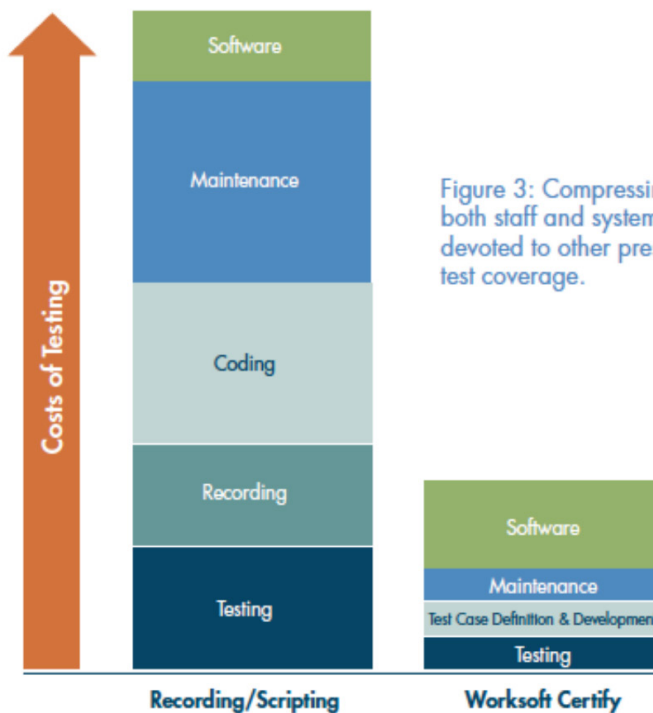


Figure 3: Compressing test cycles reduces stress on both staff and systems, enabling resources to be devoted to other pressing projects while improving test coverage.

## CONCLUSION

Lights out testing is a proven, successful approach that helps mitigate technology risk, accelerate enterprise application projects, increase productivity, and reduce the costs of quality assurance. Above all, it provides companies with the confidence that every business process is functioning as-needed.

Traditional testing methods only provide a partial solution and can't address the challenges of a quickly changing technology landscape. That's why successful companies in every industry are turning to Worksoft's intelligent automation technology to ensure the integrity of their enterprise applications and every business process.

The Worksoft platform provides a lights out technology infrastructure that meets the quality assurance needs of global enterprises by reducing test cycle times, improving resource efficiency, automating documentation, and ensuring that critical business processes perform without disruption – even when technology changes.

## ABOUT WORKSOFT

Worksoft® is a leading global provider of automation software for high-velocity business process testing and discovery. Enterprises worldwide use Worksoft intelligent automation to innovate faster, lower technology risk, reduce costs, improve quality, and deeply understand their real end-to-end business processes. Global 5000 companies across all industries choose Worksoft for high speed process discovery and functional testing of digital, web, cloud, mobile, big data, and dozens of enterprise applications, including SAP®, Oracle, and Salesforce.com.

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