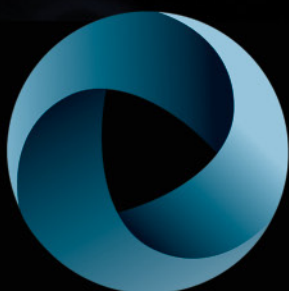


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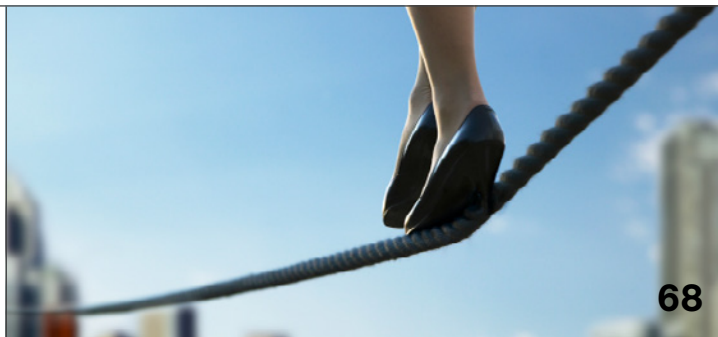


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In today's environment, we seem to have little time for either problem identification or solution implementation. What seems to work well instead (and is more fun) is to try small experiments. The idea is not to solve problems, but to try to learn in little steps.

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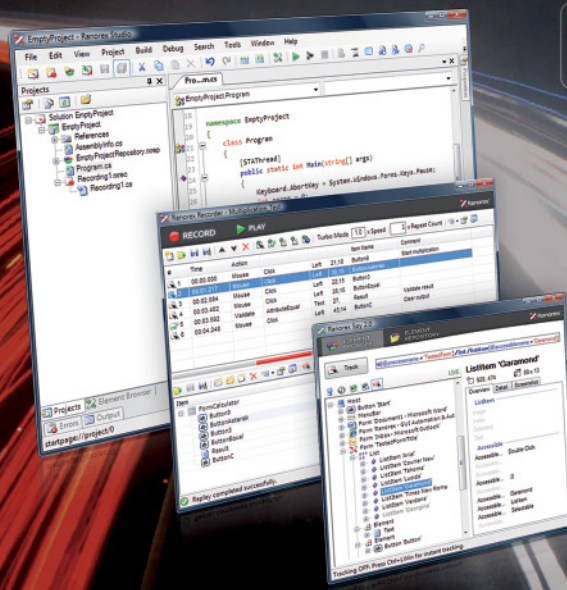
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HELLO, *BETTER SOFTWARE* MAGAZINE READER!

Editor in chief Heather Shanholtzer has graciously offered me the opportunity to write the editor's note for this issue of *Better Software* magazine as an opportunity to tell you about a project we've been working on for a while. We at Software Quality Engineering are quite fond of the content, contributors, and community at StickyMinds.com, but we recognize that even the finest houses eventually will need at least a fresh coat of paint.

In 2011, we're taking our redecorating plans to the next level. In fact, we're opening entirely new annexes to our online home, and we're naming the whole thing TechWell. In addition to the ongoing, testing-focused content of StickyMinds.com, TechWell also features sections focusing on agile development and the management of projects, people, and teams. You'll find a lot of familiar experts in the bylines and some new ones, too.

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You'll also see a close connection between the pages of *Better Software* magazine and TechWell, as print articles and digital media intertwine to make your experience with us even more educational and enlightening.

So, thank you for reading *Better Software* magazine. We hope you'll come visit us in our new home at TechWell.com and help us decorate the place.

Happy Reading!

A handwritten signature in black ink that reads "Joey McAllister". The signature is written in a cursive, flowing style.

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Negotiating Our Relationships

Your relationship to a project or team is not happenstance. To be most efficient, positions must be negotiated and formally discussed.

by Lee Copeland | lcopeland@sqe.com

Over my career, I've been involved in a variety of consulting engagements. Some were to create new operating system and utility software, some were to evaluate the potential use of technology to improve organizations, and others were directed toward process implementation and improvement. Let me describe three of these engagements.

In one of my first consulting engagements, I was tasked with modifying an operating system from one that performed only single-threaded disk I/O (waiting for one read/write operation to complete before starting the next operation) to one that performed multithreaded, overlapped I/O. The hardware already had that capability; it was the software that needed improvement. The requirements were clearly defined, I worked by myself, and the customer had no interest in how I accomplished the task—only that I was successful.

Some years later, I was involved in a very different sort of engagement. Our client was moving to the object-oriented development paradigm and needed assistance. Often, a consultant is called in just as the organizational ship is sinking, and the clients hope that the consultant can perform great feats of magic. However, in this case, I was invited to join the project at its inception and help the team through the requirements, design, coding, and testing processes. My relationship with this project and team was different from my first example. In this project, the goal was to learn and internalize as much as possible without outside help. I was simply to observe the team, commenting or correcting only at the last responsible moment before the project went off the rails. I recall that we were weeks into the testing phase—writing test strategies, test plans, test cases, and test scripts—when I could no longer restrain myself. In the next team meeting, I asked who was creating all the test data needed to implement the tests. After an embarrassed silence, the team realized that an important task had been forgotten. One of the team members was designated the Data Tsar and assigned to that work full time.

The third example involved performing a formal assessment of an organization's testing process. In this instance, my consulting partner and I were to perform the assessment on one part of the organization, and, at the same time, teach the

internal assessors how to perform assessments on other parts of the organization in the future.

Note that in each of these engagements, my relationship with the project and the team was different. These relationships were not randomly selected; they were not just happenstance. They were negotiated. And, no matter whether you are an outside consultant, an internal advisor, or a team member, you should negotiate your relationship with the project and the team. Don't assume that a specific relationship is appropriate. Rather, make it an item for formal discussion.

I've identified five important roles that combine to make up these relationships:

Educator: In this role, the consultant brings new knowledge into the organization. In many situations, the consultant is expected to share this knowledge with the project team, either through formal training or by osmosis as the consultant performs various tasks. On the other hand, a few organizations are not interested in knowledge transfer to their staff. Instead, they are simply buying the consultant's knowledge.

Diagnostician: Some organizations understand exactly what their situation is and how to improve it. Others know that *something* is wrong but

need help identifying their problems.

Analyzer: In this role, the consultant analyzes the organization's goals against its current situation and proposes improvement suggestions.

Implementer: Some individuals, teams, and organizations are excellent diagnosticians and analysts but fall short when it comes to implementation. In this case, the consultant must become a coach and facilitator.

Cheerleader: The road to a more effective organization generally is made up of twisty turns, sharp drop-offs, and deep potholes. It is easy for any individual, team, or organization to become discouraged. The cheerleader infuses energy and hope when progress slows.

To be the most effective consultant possible (and we're all consultants when we're trying to influence others), we should evaluate and choose our position along the continuum of these five roles. Discussing them formally with your client—whether internal or external—will help ensure your success. **{end}**

“After an embarrassed silence, the team realized that an important task had been forgotten.”

Enterprise Agile and the Business Analyst

Agile is making its way into the enterprise. How does this affect business analysis and requirements management in producing value?

by **John C. Goodpasture** | john.g@sqpegconsulting.com

This is where it all begins:

Requirements must be stable for reliable results.
However, the requirements always change.

We don't want requirements to change.
However, because "requirements change now" is a *known risk*, we try to *provoke* requirements change as early as possible.

—Niels Malotaux
"Evolutionary Project Management Methods"

It's been almost ten years since a group of seventeen met in Snowbird, UT to "invent" agile—their name for a loosely related group of methodologies variously termed "light," "rapid," and "extreme." In point of fact, more than twenty years earlier, developers—hardware developers at that—were doing "agile" projects in Japan, and they even called their practices "Scrum." Some say that key agile management ideas reach back yet another generation to the US Space Race to the moon.

The connection between hardware and space development methods and current agile methods—which are largely centered in software development—is risk. The original motivation for most agile practices was to reduce risk—the risk that the product being developed might not work as advertised, the risk that the product might not do the job the customer needed doing, and the risk that overcentralization of project control might dampen innovation.

Points of Focus

Notice from the discussion thus far that cost, schedule, and scope—the traditional points of focus for most managers and analysts—are not the main points of risk management and control in an agile methodology. Agile projects focus more

keenly on those things that produce value for the customer, and business analysts focus on the specification and measurement of the value delivered and the value impact on the business.

In the Beginning, There Is a Concept

In the beginning, there is a concept, and the concept may not be fully formed or internally consistent. Thus begins enterprise analysis of what the enterprise intends to gain from the project. In the beginning, the concept represents only a top-down value allocation to what will be the likely detailed requirements. It takes some clever elicitation to draw out the end-state and begin to assemble actionable requirements. But, there is a hazard to which business analysts must be alert: anchor bias.

Anchor bias arises when questions are asked for which there may be an initial position, assumption, experience, or just a setup in the question. The initial conditions are called the *anchor*, whether it is held by the interviewer or the person answering. The problem is that even knowledgeable people begin the thought process of answering by making mental adjustments to the anchoring position. Too often, these adjustments are self-limited,

thereby foreshortening the range of possibilities envisioned in the scope of the concept.

Consider this example faced by many business analysts: **Validate a requirement priority:** A stakeholder presents a need for a particular project feature; the business analyst asks for the most pessimistic and optimistic market reaction to this feature, because there are other features competing for the resources. The stakeholder "anchors" his thinking at a sales figure he has already proposed: 100,000 units will be sold because of this feature. However, to be responsive, the stakeholder responds with an "adjustment" for pessimism and for optimism and gives a range of 80,000 to 150,000 units. What

“Because of anchoring effects on requirements analysis, as well as similar effects in budget estimates, anchor bias affects concept development, it affects cost and schedule estimating, and it affects risk estimation.”

he considers safely “inside the box” of a reasonable range around the 100,000 estimate.

Another analyst approaches the validation assignment differently. In an interview with the same stakeholder, the analyst offers an anchor, saying: “Information from our benchmark database shows similar features have had little sales impact in the past. Please justify your 100,000 estimate.”

“Little sales impact” is outside the box, beyond what the stakeholder would have thought reasonable. Won’t everyone like this feature? Faced with “facts,” the stakeholder abandons the 100,000 anchor and anchors his thinking at “little impact,” trying to work out adjustments from this new benchmark. The stakeholder will either try to work upward from nearly zero to make the case for the 100,000 unit impact or will lower the estimate to get closer to the historical record.

Did the first analyst to go into the interview just accept the stakeholder’s anchor? Was the second analyst gaming the situation? Was “little impact” just a test of the strength of the anchor at 100,000 units, or was it a valid benchmark, suggesting something was missed when formulating the 100,000 unit estimate?

Would a smart analyst ask both questions in the same interview in order to triangulate the real priority?

Anchor bias is a form of “the power of suggestion.” Even though anchored with our own beliefs, a suggestion may well shake our beliefs and establish an entirely different point of reference for adjustment. Because of anchoring effects on requirements analysis, as well as similar effects in budget estimates, anchor bias affects concept development, it affects cost and schedule estimating, and it affects risk estimation. Anchor bias is present throughout the project lifecycle. Anchor bias is what inhibits “thinking outside the box.” Sensitivity to this phenomenon on the part of the business analyst is required to mitigate its effects.

Freeze and Bundle; Rank and File

Agile really kicks in when requirements analysis, assessment, and management get underway. Agilists think in terms of a requirements backlog that is ever changing—thus the term “dynamic backlog.” Although the arching concept may well be fixed and understood, the detailed scope—as represented by the dynamic list of requirements—is unlikely to be stable over the course of the project.

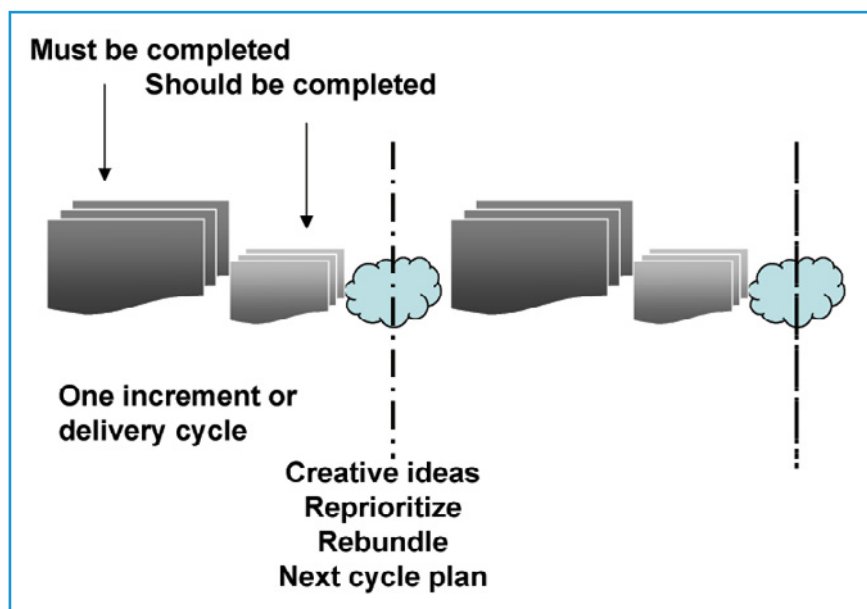


Figure 1

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The solution to the stability dilemma is to freeze requirements during development. To make this practical, development must be parsed into discrete periods called “increments,” “sprints,” or “delivery cycles.” Parsing requires ranking requirements, insofar as they are known, according to sequence logic, importance, urgency, and practicality. Once ranked, requirements are filed in folders for each increment of development.

The governance rule is: During the incremental development, backlog cannot and does not change. The corollary is: Between increments, change is provoked. The backlog changes according to the assessment and evaluation of analysts who keep an eye toward value for the customer. Some backlog requirements are deleted as obsolete or not needed; new ones, not thought of before, are added. The whole deck is reprioritized and rebundled.

Benchmark Performance

Requirement bundles and development increments don’t work very well without benchmarks to establish the likely performance of developer teams. Business analysts assist in gathering and evaluating benchmarks, the most important of which is to establish a throughput metric to be used in “throughput accounting.”

But, benchmarks also serve as a tool for establishing two categories of requirements within each increment, as illustrated in figure 1:

Must-be-completed requirements: This bundle is made no more sizeable or complex than what the benchmark forecasts as “doable” in the duration of the delivery cycle.

Complete-if-possible requirements: These fill out the white space in the bundle. Any requirements not completed go back into the dynamic backlog to be rebundled and reprioritized.

The essential matter is that the benchmarking and requirement-categorization process establishes an assurance of minimum completion—minimum throughput—and this process forms the core of the ongoing business analysis tasks of enterprise analysis and solution assessment.

Throughput Accounting

Throughput, as a business metric, first came to prominence with the popular acceptance of the Theory of Constraints (TOC), postulated by Eliyahu Goldratt in the 1980s, a generation before “agile” was coined. In TOC, the essential matter is to optimize at the enterprise level—rather than the departmental level—the production of products and services that customers and users, either internal or external, want to buy and use. That is our definition of project throughput. In the agile world, throughput is produced in each delivery cycle.

Returning to the wisdom of Niels Malotaux: “If the customer is not satisfied, he may not want to pay for our efforts. If he is not successful, he cannot pay. If he is not more successful than he already was, why should he [pay]?”

“More successful than he already was” is the source of our throughput metric. Note this distinction: Throughput produces “output,” the application of which—to the business or by the customer—produces “outcomes,” like efficiencies, revenues, cost, or other scorecard results. Output is products or services. Outcome is the business effect of output.

Although project managers must, of necessity, be concerned for output and its cost and schedule, business analysts are most concerned with measuring throughput effects as improvements in the business. Agile business analysts focus on the difference between the value of the business before the project was executed and the value of the business after the project was executed. After all: “If he is not more successful than he already was, why should he [pay]?”

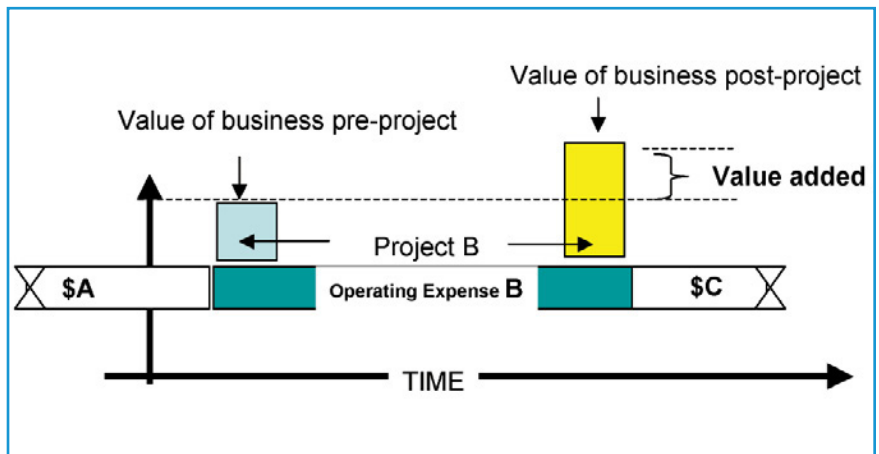


Figure 2

In figure 2, we see projects A, B, and C; the value of project B is built on top of cost expenditures. The overall cost of resources that a business chooses to dedicate to all projects is assumed fixed in the short term; any one project consumes some part of these fixed costs. Thus, value is shown as an “add” on top of a fixed cost base.

Agile is a response to requirements instability. In that sense, it is a risk-management strategy. The focus of agile is value delivered to the customer or user. The tactics within agile to deal with requirement instability are to freeze requirements incrementally, bundle them for short durations of development, and then reevaluate bundles after each delivery cycle. In the end, it’s all about throughput. Agilists measure success by the improvement in the lot of the customer and in the difference in business value before and after project execution. {end}



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Q: What do you do well?

In anticipation of the launch of TechWell, our new interactive community, we asked this issue's authors and the *Better Software* magazine editorial team to tell us what they do well.

I Adapt Well.
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**I Play Well
with Others.**
–Heather Shanholtzer

**I Do
Patterns Well.**
–Linda Rising

I Run Barefoot Well.
–Guy Beaver

I Care Well.
–Lee Copeland

I Cook Well.
–Cathy Clinger

I Automate Well.
–Linda Hayes

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James Bach

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It's fine to want to discover every important bug, but it's hardly a simple matter to do that. You don't fight crime by achieving "complete coverage" of a city with cameras or cops.



When you learn how to test and you gain a lot of experience being fooled and recovering from that, you eventually find a stable emotional place within you that feels confident and powerful.



I am contentious. It's a side effect of caring about my work and about the testing field. I can be patient with fools, but not so much with the fools who pretend to be experts.

There are certainly practices that are good in any context I am likely to encounter in the normal course of my life. Informally, I treat certain practices as if they were always good. And yet, if pressed, I could tell you why and when they might be bad.

The best debater I have ever faced is Cem Kaner, for sure. Jerry Weinberg is also very good. When I argue with myself, I try to imagine what they would say.

My last interview for a short-term gig was a conference call where I was asked questions about rapid testing and I ranted for an hour about it, doing my best to stop talking once in a while so that a new question could be asked.

The most common question I've been asked at testing talks is probably "But, how can you manage this?" So many people seem to think that thinking for yourself is somehow unmanageable, despite the fact that all of us do it every day.

I used to believe in monolithic test teams—that everyone should have the same personality and the same skills on my teams. That meant everyone should be like me. Slowly, I had experiences that made me warmly appreciate people who do things I don't do and think things I don't think. Now, I believe in diversified test teams.

If tomorrow were my last day on Earth, my last tweet would depend on why I'm leaving. For instance, if I were going on the trans-dimensional express to the Unicorn Planet, I might make a witty remark about unicorn culture. The problem with planning tweets for the last day on Earth is that so often you only know it was your last day on the next day.



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BY JAMIE CAMPBELL

improving
software
quality
through
telemetry

a Microsoft
case study

“Measure what is measurable, and make measurable what is not so.” –Galileo Galilei

How do you build software that will delight millions of customers around the globe, run reliably on a mind-boggling array of disparate hardware configurations, play well with a vast third-party ecosystem, and behave predictably under a near-infinite number of distinct usage scenarios? This is the challenge we tackle each time we start a new release of Microsoft Office.

A decade ago, our approach was to engineer the product to be as reliable and user friendly as possible, test it as well as we could, release it, and then wait to see if we’d hit our mark. At that time, our primary metric for measuring reliability was based on how many people called product support to report problems. Now, despite the fact that we have a team of top-notch testers working on Office, we know that we’ll never catch every bug before shipping, and waiting for customers to pick up a phone to tell us what problems we’d missed was clearly not an optimal system for getting feedback. Although we didn’t know it at the time, what we needed was a better way to architect our software to self-diagnose and report problems. Fortunately, we’ve come a long way since those Dark Ages of user feedback. In this article, I’ll outline some of the key telemetry we’ve built into Office over the past decade to better connect customers with the engineers who develop the product. While the technologies discussed here are sometimes specific to Office, the concepts are universal and could be applied to any software product.

Windows Error Reporting

Our first foray into telemetry began in 1998 when Kirk Glerum, an Office developer, published an internal “manifesto” lamenting how difficult it was to investigate crashes being encountered by our customers. At the time, calls related to crashes were our No. 1 support cost, making up 10 to 15 percent of the time that support engineers spent on the phone. Even for an easily reproducible crash, a support engineer might spend hours working directly with a customer to gather enough information to allow us to reproduce and debug the problem from our offices in Redmond. Kirk’s memo illuminated the need for an efficient mechanism for automatically gathering the information needed to debug an issue and a way for customers to easily get information about their crashes directly to the developers who could fix the problem. With network connectivity becoming ubiquitous, the time was ripe for a solution that would package relevant data and allow a customer to submit his information directly via the Internet. Problem statement in hand, a new Office team was formed to design and deliver a

solution. Two years later, we released Office XP, introducing our first telemetry system—the foundation of what is now known as Windows Error Reporting (WER).

The most visible change of WER was the introduction of a crash dialog, as shown in figure 1, which appears at the time of a crash and allows a customer to send an error report to Microsoft. If a customer elects to send the report, then relevant information is packaged in a CAB file and sent as encrypted data. This process effectively results in information about the crash being added to a database that Office developers can easily access to find and debug crashes.

A key finding in the development of WER was the ability to group similar crash reports together, a process we refer to as “bucketing.” By choosing a small set of parameters, we are able to automatically classify issues as they come in, as shown in figure 2. With this as a foundation for our reporting tools, we can identify which crashes are getting hit the most by customers in their usage. Ordering these buckets by descending hit count results in a data-driven prioritization of which bugs to fix and gives us an understanding of what impact a given

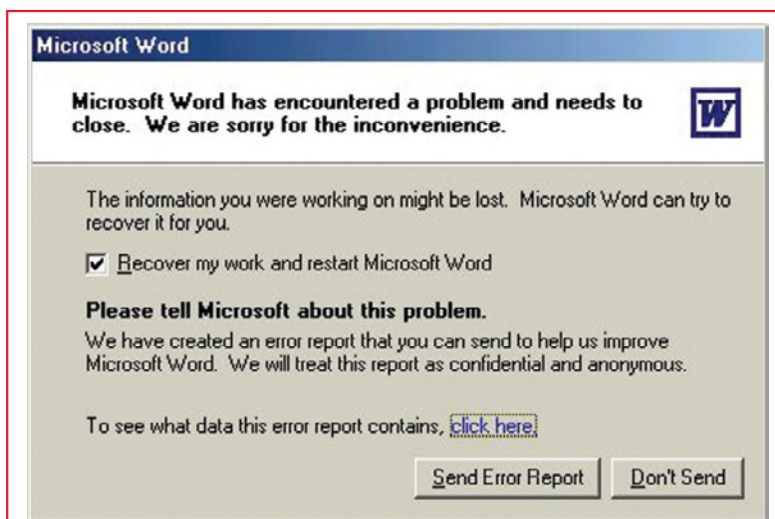


Figure 1: Pre-Vista WER dialog



Figure 2: Sample parameters for a WER bucket

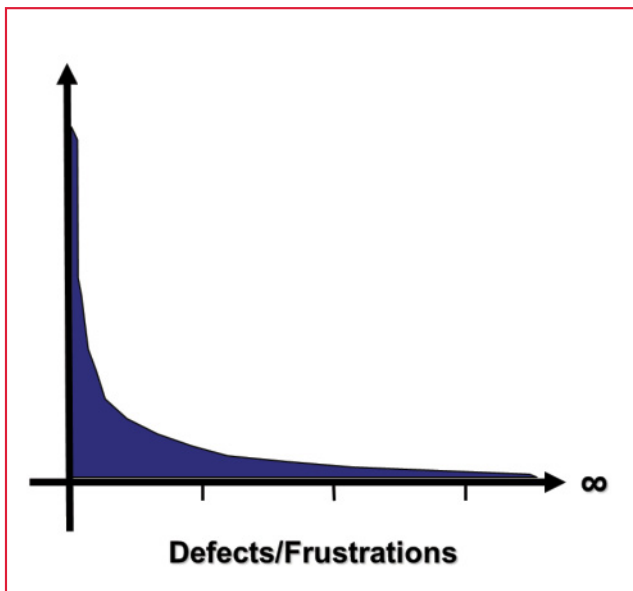


Figure 3: Pareto curve

set of fixes will have. I like to think of this as the democratization of bug prioritization, as submitting a crash report is basically voting for which issue you'd like Microsoft to address.

Another advantage of bucketing is that we can vastly reduce the amount of data collected from customers. For any given issue, a handful of crash reports is usually sufficient to fix the problem. Rather than collecting data from every customer who hits Send, we only collect CABs for the first few submissions. While a common crash may be reported thousands of times, we just increment our hit count on the bucket rather than collecting thousands of CABs.

When the Office XP beta shipped, we weren't quite sure what to expect. Would customers be willing to send data to Microsoft? How many crashes were customers encountering and what would the bucket distributions look like? As data began to roll in, it quickly became apparent that WER was working. The distribution of the bucketed crashes resembled a classic Pareto curve with roughly 80 percent of the hits falling into the top 20 percent of unique crash buckets, as shown in figure 3. More surprisingly, the top 1 percent of crash bugs accounted for the top 50 percent of hits! In other words, fixing just 1 percent of the code defects could eliminate half of the crashes being encountered.

When WER was initially rolled out, there was still some skepticism as to how useful it would be. Could we really debug crashes without knowing how to reproduce them? Would the crash dumps contain enough information to fix bugs? These were challenging hurdles, but as developers dug into the data, we were able to identify and fix a few key crashes using only the information contained in the crash reports. These fixes resulted in increasing momentum around debugging crash reports and improved confidence in the system. Over time, knowledge in this area was codified into best practices and more developers were taught how to do WER analysis. Today, the ability to debug crash reports is no longer considered a special skill and is a core part of every developer's job. Knowl-

edge in this area has also resulted in automated debugging tools, which can identify the likely defect location before a developer even gets involved.

The ability to debug issues without reproducing them has played a critical role in the success of WER. Customers often report crashes that we have never hit internally. Crashes of this type are often difficult to catch in testing, as they are related to obscure machine configurations or third-party software. In many cases, we can work backward from the crash report to reproduce the problem, but we've also fixed a number of bugs that we've never reproduced without forcing the problem in the debugger. When we see these problems, we can release a putative fix and then monitor to see if the issue appears again in subsequent releases.

The biggest impact of WER on our engineering processes is the introduction of dedicated time to address crashes being reported. Each release, we do multiple pushes centered around fixing the most commonly reported issues. For instance, before shipping the Office 2010 Technical Preview, we did an internal deployment of a release candidate build. As Microsoft employees used the build, we closely monitored the data and used it to fix roughly 30 percent of the crashes being reported. The ability to quickly find and fix top crashes in this manner resulted in a more reliable Technical Preview build that ultimately went out to customers. However, investigating data from internal usage is just the beginning of the process. After the Technical Preview shipped, we started a larger push in which we fixed more than 50 percent of the remaining crashes. Similar pushes were completed on data from the beta build and, later, internal builds, resulting in fixes right up to the day we shipped Office 2010.

Over the years, WER has spread throughout Microsoft. It's now a part of the release criteria for every product we ship. Developers and testers have come to love it, as it helps us do our jobs better. Although it's always painful to see a crash causing problems for customers, it at least makes us feel a bit better when we can identify the problem, quickly produce a fix, and see the new data coming in, validating that we have addressed the issue. Customer data is clearly the key focus of WER, but we also use the data as a tool in our testing. For instance, when a tester finds a crash, he can leverage WER data to show what impact a fix would have. Testers also submit their own crash reports, which can be useful when trying to track down information to investigate an elusive problem. As our tools mature, we've been looking into new ways to utilize WER data, such as targeting our testing to focus on troublesome areas.

The end result of our crash telemetry work is significantly improved reliability. Crashes are no longer a common call generator, with 99 percent of customers now seeing fewer than one crash a month. Perhaps best of all, WER includes the ability to respond directly to customers when a report is submitted. With this mechanism, if you hit a crash that has a patch or known workaround, we can quickly point you to the solution. So, overall, customers are now crashing a lot less, and when they do, they can often solve the problem with no need to call support or dig through documentation.

Over time, WER has evolved from its Office roots into a feature available to all developers building applications on the Windows platform. Since Windows XP, most client applications get built-in error reporting with no additional coding needed. Applications requiring customized error reporting can leverage the WER APIs introduced in Vista. See the StickyNotes for more information. Depending on the level of customization, this support can be added with very little development cost.

To date, we have received more than a billion error reports, so if your application runs on Windows, it's likely that we have data available that you can use to improve your product's reliability. Data is made available to applications owners through Microsoft or similar technologies such as Google's Breakpad, Mozilla's Crash Reporter, and other open source projects such as Bug-buddy. See the StickyNotes for links.

Extending Telemetry into Other Areas

Based on the success of our crash telemetry, we started looking into expanding the same concepts into other areas. If telemetry works for crashes, then why not for things such as error messages, performance problems, security issues, managed code exceptions, setup failures, server errors, asserts, etc.? With that in mind, in Office 2003, we introduced new telemetry for a number of these areas, and we have been building on them since.

The approach we used for analyzing and fixing crashes has worked with varying degrees of success in these other areas. Namely, when our telemetry is done well, we still see a Pareto curve for most types of problems. Once we can bucket similar issues and draw a curve, we can prioritize and fix issues using the same "lather, rinse, repeat approach." By iterating on this data release over release, we can drive quality improvements in any area we can effectively instrument.

As we've expanded our telemetry into these areas, the biggest challenges have been determining what information is needed to fix issues and how to define the bucketing to get good categorization. Each type of failure is unique and requires in-depth planning about how to set up the right data collection. Some areas (e.g., error messages) are relatively straightforward to group while others (e.g., performance problems) require more thought. Bucket on too many parameters and you end up with a fat curve and no prioritization. Bucket on too few or the wrong parameters and you end up with different issues being lumped together as one problem. Once good bucketing is in place, the next challenge is collecting the right data to fix problems while ensuring that the data collection doesn't negatively impact the user experience. Often, the bulk of the work here is adding instrumentation to your product to expose the diagnostics needed for debugging. For instance, for a setup failure, you may want to collect a log detailing which files and registry keys were written and error codes for anything that failed. A side benefit of telemetry work is that the same diagnostics needed for debugging are often useful for testers and support engineers who can use it to troubleshoot issues.

Nothing we do in the telemetry space should ever compro-

mise the customer's right to privacy or result in a degraded user experience. With that in mind, we always consider privacy first before adding telemetry. Central in this approach is avoiding the collection of any personally identifiable information (PII). If our data collection could gather PII, even inadvertently (for instance in a memory dump), we default to not collecting anything and require customer consent to opt in. All of our telemetry features link to a clear, easily accessible privacy policy and provide an opt-out mechanism for customers who choose not to participate. From the usability side, we require each telemetry feature to behave in a reliable and performance-conscious manner. If we can't collect the data without negatively impacting the user experience, we don't add the telemetry.

Customer Experience Improvement Program

WER works great for collecting information on software failures and unexpected events, but that only paints part of the customer-experience picture. For instance, when evaluating usability, we may want to understand whether we've got the right commands on the ribbon or what screen resolution size we should be optimizing for. In Office 2003, we introduced another telemetry pipeline called the customer experience improvement program (CEIP), which helps us address these kinds of questions.

You can think of CEIP as instrumentation in the code that allows us to collect anonymous data on how customers use the product, what kind of hardware they have, etc. This information is gathered in the background as a customer uses the product. A session is started whenever you boot an Office application, and a subsequent session file is written to disk whenever you exit. When enough session files are queued up, we upload the data to our servers, where the data is added to a large database that engineers can query to answer complex product questions, as shown in figure 4.

CEIP includes a number of core data points that are of common interest (ribbon and menu clicks, reliability, performance, hardware configuration), but engineering teams can also define their own to collect information about scenarios of interest. For instance, Word may want to know how many pages are in the average Word document or how often customers open documents with more than 1,000 pages. CEIP provides enough flexibility for teams to answer just about any question they may have about how their product is used, providing teams with a rich resource for designing or modifying features. This kind of data is leveraged to help us measure the success of new designs and to tweak designs when needed.

In addition to CEIP's value as a design tool, we get significant benefits from having the data available for optimizing our testing. For instance, with CEIP we can target our resources to ensure we're getting adequate test coverage on common hardware configurations. If the data indicates that a large percentage of customers are running with low screen resolutions, we can be sure to spend more time testing that configuration. Similarly, CEIP is useful when we're trying to decide which bugs to focus on fixing. Rather than conjec-

turing about the importance of a fix, we can often leverage CEIP to make a data-driven decision on whether or not the impact of making a change is worth the risk.

CEIP allows us to cross-reference data with WER to measure the impact of our reliability work. With WER, we can see how many crashes are being reported, but prior to CEIP we never had a way to correlate that data to usage. With CEIP, we can measure reliability metrics like mean time to failure and crash ratio (crashes count/session count). The combination of these tools gives us the full picture needed to accurately measure reliability and identify the issues we can address to improve it. See the StickyNotes for more information.

Verbose Feedback

In Office 2010, we've continued to utilize our existing data pipelines, adding new WER event types and instrumenting more scenarios via CEIP. While we build on these proven mechanisms, we've also started investing more in technologies for collecting and analyzing verbose, qualitative feedback. Verbose feedback is a harder problem to solve than our prior investments, but doing it effectively is necessary to break through the next wall of user feedback.

Our biggest investment in this area is an application called Send-a-Smile (SaS), shown in figure 5. SaS allows customers to easily send free-form feedback, including a screenshot of any problem they might encounter. Although similar feedback is available via newsgroups, blogs, forums, etc., coalescing the data and getting it to the right product team has always been a challenge. SaS makes it easier for customers, allowing even the most novice user to make his voice heard.

When SaS data is received, we automatically analyze comments and categorize them into reports that product engineers can investigate. Customers submitting feedback can optionally include an email address, which allows Office engineers to follow up when more information is needed to understand the problem. We're still early in our usage of verbose feedback in Office, but results so far have been good and have resulted in a number of customer-driven improvements in Office 2010. See the StickyNotes for more information.

These are just a few of the ways we've used telemetry to help improve Microsoft Office over the past decade. Hopefully, the ideas here are relevant to you as you think about ways in which you can instrument your own products to improve reliability and customer satisfaction. As with any engineering practice, there's no one-size-fits-all solution, but I believe that some form of telemetry is essential to building and maintaining a high-quality product and, as such, deserves inclusion as part of the software development lifecycle. As the saying goes, you can't manage what you can't measure.

	Command	ID	%Users	%Sessions
1	Open	23	90.0%	79.2%
2	TabHome	11954	76.3%	33.8%
3	OutSpace	19951	57.3%	20.7%
4	Typing	20577	55.0%	20.7%
5	Copy	19	53.5%	16.4%
6	Save	3	49.3%	17.4%

Figure 4: Sample CEIP report

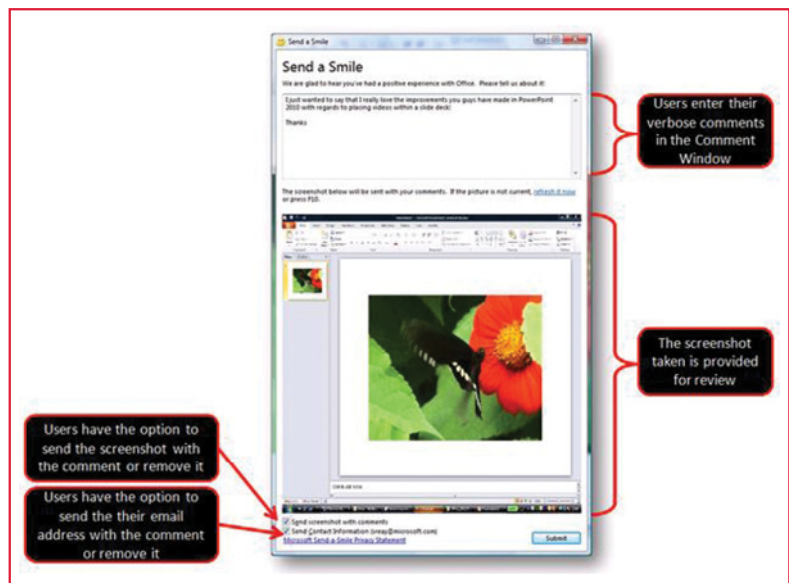


Figure 5: Send-a-Smile screenshot

The past decade has seen a quantum leap for us in terms of using telemetry. The next ten years are likely to be even more exciting. As we move more into a world of “software plus services” and cloud computing, our telemetry solutions will need to continue to grow and evolve to meet changing needs. New kinds of instrumentation will be possible and necessary. The challenges will be plentiful, as telemetry will no longer be about collecting data from a single machine, instead requiring the correlation of data across farms of servers talking to cross-platform, cross-device clients. The products that are able to rise to this challenge and use telemetry to improve their offerings will be the ones that thrive and delight the next generation of customers. **{end}**

jamieca@microsoft.com

Sticky Notes

For more on the following topics go to www.StickyMinds.com/bettersoftware.

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10 WAYS TO IMPROVE YOUR RISK-BASED TESTING

BY ERIK VAN VEENENDAAL

ISTOCKPHOTO

Risk-based testing is the foundation of almost every testing activity, as we strive to strike a balance between product quality and tight deadlines. Whether you are involved in a traditional waterfall or V-model environment or you're applying agile development methodologies, establishing testing priorities is always a challenge. Of course, risk-based testing should be driven by business objectives. Testers do not determine business risk—the products' stakeholders do. It is our responsibility to provide information on product and project risk status to enable stakeholders to make better decisions.

These ten essential ideas will improve your risk-based testing.

START RISK-ANALYSIS BY IDENTIFYING THE FULL SET OF STAKEHOLDERS

Since stakeholders provide the essential information for the identification and analysis of risks, having the right set of stakeholders is essential. Stakeholders include those who are responsible for the new system (e.g., product owner, project manager), those who are affected when the product doesn't function correctly (e.g., maintenance, help desk), and those who use the system in their work (e.g., end-users, management). In Utopia, thorough stakeholder identification has already taken place during the requirements phase. In our world, stakeholder identification may need to be done as part

of the risk-analysis process. Remember, a forgotten stakeholder means forgotten product risks.

STATE THE PRODUCT RISKS IN THE LANGUAGE OF THE BUSINESS

Communication is vital to a successful project. Product risks should be stated in such a way that they are understood by the business stakeholders. It should be clear to them what it means if a risk becomes reality. Product risks will only receive the full attention of the stakeholders when they understand all the consequences. Often, when too few business people are involved in a product-risk analysis, the result is a list of risks that has no meaning to them. Specify product risks explicitly in terms of both the failure and the resulting negative impact.

RECOGNIZE THAT IMPACT AND LIKELIHOOD ARE DIFFERENT

Some risk analysis techniques calculate the level of risk by multiplying impact by likelihood to create a risk level. An extremely high impact risk (e.g., safety) with a low likelihood may then receive too little attention. Consider table 1, where impact and likelihood are both rated on a scale from 1 to 5.

	Impact	Likelihood	Risk level
Product Risk A	5	2	10
Product Risk B	2	5	10

Table 1



Although the risk level for A and B is the same, the nature of risk A and risk B is very different. Just looking at the risk level (10) and sorting the product risk list by risk level is very dangerous. Vital information is lost using this approach. Impact usually relates to business factors and business risks; likelihood relates to technical factors and technical risks. These types of risks are by nature very different and should have different mitigation approaches.

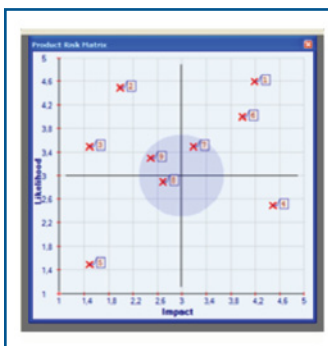


Figure 1

VISUALIZE THE RESULTS OF THE PRODUCT-RISK ANALYSIS
A picture is often worth more than a thousand words. Presenting risk-assessment results in a diagram is usually much more effective than in tabular form with many numbers. The table becomes indecipherable very quickly, and often stakeholders lose themselves in a number-based discussion. Presenting the results of a risk analysis in a matrix format, as shown in figure 1—where impact is on the horizontal axis, likelihood is on the vertical axis, and the four squares each represent a level and type of risk—

generally provides a much better basis for discussing the product risks [1].

CONSIDER BOTH FUNCTIONAL AND NONFUNCTIONAL RISKS

Some requirements documents omit nonfunctional requirements. When nonfunctional quality attributes such as performance, reliability, and usability are not well specified, the product built from those requirements may not satisfy stakeholder needs. When nonfunctional risks are forgotten, additional problems can arise. Standard checklists for nonfunctional risks are available [2, 3], but don't go overboard and lose yourself in a detailed list of nonfunctional quality attributes that no one understands. Focus on a small set of nonfunctional attributes that are important and that you are able to test.

DEFINE A DIFFERENTIATED, RISK-BASED TEST APPROACH

Product risks that are more critical than others should be tested differently, with greater coverage and stricter exit criteria. This could involve using different test-design techniques, performing reviews, doing additional regression testing, and having users perform tests that utilize their knowledge. This differentiated, risk-based test approach should be clearly defined early in the testing process to allow for effective allocation of test resources. If such an approach is not explicitly taken and it is up to the individual tester to

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decide how much testing is enough to cover a product risk, the whole structure of risk-based testing falls apart.

REPORT AGAINST THE IDENTIFIED PRODUCT RISKS

Even with an effective product-risk-analysis process, many test reports remain defect based. Test reports should be organized around the product risks that have been identified. This allows stakeholders to make an informed decision regarding product release. In practice, detailed defect-based reports are often not meaningful to business stakeholders. A short, focused test report in a stakeholder's language provides real value. This report should define the product risks, the planned test coverage, the actual test coverage, and the risks mitigated.

CHOOSE THE PRODUCT-RISK-ANALYSIS METHOD THAT MEETS YOUR NEEDS

Many methods of product-risk analysis are extremely thorough but take a substantial amount of time. This may be appropriate when testing a safety-critical system. In an agile context, risk-based testing is still important and may be more important due to strict delivery deadlines. However, the product-risk analysis should be lightweight and very focused. A simple brainstorm session at the beginning of an increment may suffice. In general, don't make the analysis more complex than necessary. When defining a process for product-risk analysis or choosing a method, keep in mind why you are doing it and what you are trying to achieve. The result that you are trying to achieve—not the process—should be leading.

REVISIT PRODUCT RISKS ON A REGULAR BASIS

Many testers perform one product-risk analysis at the beginning of a project and then act as though risks don't change throughout the project. Remember, the product-risk identification and analysis are based on stakeholders' perceptions and expectations. These will almost always change over time. Early testing will reveal some new risks while mitigating others. Evolving requirements usually means evolving product risks. It pays to revisit the risk analysis on a periodic basis, at least at every major milestone. This will make testing more effective by addressing the newly identified product risks and more efficient by not wasting precious time testing for risks that have become less important.

ESTABLISH CLEAR RISK OWNERSHIP AND RESPONSIBILITIES

In many organizations, testers identify and analyze risks. This is wrong. Testers are not the owners of risk. Our responsibility is to facilitate the risk-analysis process and inform our stakeholders of the status of product risks. When stakeholders are asked to identify product risks and indicate the level of testing to be performed, they become aware that they are the deciding factor. If the stakeholders miss a product risk, it is their—not the tester's—responsibility. It is important to keep this in mind when faced with a stakeholder's resistance to becoming the risk owner.

Doing a thorough product-risk analysis is easier said than done. Some text books make product-risk analysis much too theoretical and difficult, others do not really address the issue and only skim the surface. These ten practices should make you aware of some of the most critical issues that need to be dealt with in the real world when doing a product-risk analysis. Remember, without product-risk analysis, a tester may develop great test cases—e.g., using formal test design techniques—but the test cases may well be directed toward the less critical test items and features. **{end}**

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Sticky Notes

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Forget What You Think You Know

Transitioning to

LEAN-AGILE PROJECT MANAGEMENT

by Guy Beaver

The transition to lean and agile approaches is gaining popularity in IT software development organizations [1]. But, many organizations embark on an agile transition with early team successes, only to struggle later to institutionalize both the processes and their benefits. Often, this is because the underlying reason of why agile approaches work is not well understood.

The transition to lean and agile approaches is gaining popularity in IT software development organizations [1]. But, many organizations embark on an agile transition with early team successes, only to struggle later to institutionalize both the processes and their benefits. Often, this is because the underlying reason of why agile approaches work is not well understood.

Managing agile projects requires an understanding of what initially appears to be a paradox—the management of self-organizing teams. It is common to conclude that agile implies management is unnecessary or something to be eliminated. The reality is that successful, scaled implementations of lean-agile software development require that managers learn new competencies and approaches. This article describes five key lean-agile competencies that seem counterintuitive when compared with conventional project management practices.

CYCLE TIME IS MORE IMPORTANT THAN THROUGHPUT

Enterprise agility is defined as the ability of an IT organization to deliver a steady stream of products and enhancements that bring the highest ROI to the business. This steady-stream approach means committing to and focusing on minimal feature sets that, when consumed by the end-user, bring real, measurable value to both the user and the business. This goes against the normal project mindset in which large batches of features and enhancements are aggregated into projects, which only deliver value when the entire project is completed.

Queueing theory gives us a perspective on throughput (defined here as number of features delivered per unit time—i.e., features per year). Cycle time (CT) is the actual time it takes to deliver each feature, and it is simply related to throughput (TP) by the equation $CT = WIP/TP$, where WIP = work in process, or the number of features currently being implemented.

Organizations can get lulled into believing that throughput is a valid measure of productivity when projects are large and create large batches (queues) of work to complete. For example, if a year-long project delivers sixty features, sixty features per year could be deemed an acceptable productivity measure. One can claim sixty features per year is equivalent to five features per month. If we focus on cycle time, we see that the average cycle time for all sixty features in this example is twelve months, since each feature was in process for the duration of the project. What lean and the principle of flow teach us is that focusing on decreasing cycle time is the most effective way to eliminate waste in a complex process. In doing so, the outcome will be increased productivity.

Referring back to the equation, this means that a reduction in cycle time can be achieved simply by reducing WIP, or the number of projects, activities, etc., that are in process. This “gain” is much cheaper to implement than going after

increased throughput, especially since most throughput-efficiency attempts involve increasing batch sizes (WIP) in order to leverage economy of scale. Holistically, we should be driving efficiency at the highest level—flow of completed work through the organization, instead of flow of work through sub-processes.

The business benefit of lowering cycle time is that ROI can be achieved at a faster rate. Transitioning to this thinking is usually challenging, because the business benefit comes at the cost of having to do more frequent prioritization to ensure that the most important “minimum releasable” scope is identified and committed to by the development organization. The impact of this frequent prioritization is not as great as it might seem, since more frequent project-steering activities are easier to plan and manage than large batch planning cycles.

GETTING AHEAD CAN BE WASTEFUL

Lean thinking emphasizes looking for delays and impediments in all development activities. A fundamental approach to finding delays is to look for batches and queues of unfinished work that may pile up during a delivery cycle. This is where the waterfall lifecycle has a blind spot, since activities are considered on track if phases are completed on their planned milestone date—for example, “code complete” but not tested. Lean thinking places a premium on fully integrated, tested, and usable by the end-user, so that code complete is a meaningless phrase. In fact, if a large queue of features is in a code-complete state, the cycle time of all the features is compromised and no prioritization based on business-value decisions is being made.

There is more hidden waste in code complete—untested code is worse than unwritten code. The basis for that statement lies in the false sense of security that code complete brings, especially if complex integration remains. Untested code hides unplanned work involved in troubleshooting all the discoveries that are common to integration phases. In other words, the time spent on getting to code complete would have been better spent on getting all the way to “done” for a much smaller batch, where “done” means fully integrated, fully tested, and releasable. So, unwritten code is better, because there is a 100 percent certainty that unwritten code is bug-free, but that is not the case for untested code.

In *The Principles of Product Development Flow*, Don Reinertson explains lean concepts through economics, queueing theory, and capacity utilization. “Queues are the hidden source of most development waste. They are concealed from view in our financial systems. Because they are composed of information, not physical objects, they are hard to spot in the workplace. Queues increase cycle time, expenses, variability, and risk. They slow feedback, reduce quality, and

decrease motivation. Reducing queues is the key to improving product development performance.” [2]

Reinertson bases this statement on hidden cost of delays, which is normally hidden when we try to optimize the cost of capacity utilization by keeping people busy. Getting work completed greatly reduces the cost of delays (unplanned discovery) and actually increases overall efficiency.

SLOW DOWN TO SPEED UP

Enterprise agility refers to an organization’s ability to deliver fast enough to seize opportunities created by changing markets and react to competitive threats. It seems paradoxical to suggest that slowing down will increase agility. What is hiding behind the paradox is the extra work created when we delay quality assurance either through batching up lots of untested work or through delaying or avoiding design improvements.

Slowing down and attending to these needs results in sustainable speed because less rework and fewer bug fixes are needed to deliver solutions to meet business needs.

The “secret sauce” to implementing this discipline is to begin with testing, instead of ending with it. This simple change in thinking allows QA to focus on its true mission, which is to prevent bugs instead of finding them. This thinking, combined with knowledge that a requirement’s precision is increased if we define how we test it, leads us to the test-driven-development approach. The surprising benefit of defining tests as part of the requirement definition is that technical teams better understand actual context for the defined business need, which serves as a foundation for improved analysis and design. Thinking about how one tests infrastructure often improves its design, as poor designs—like poor requirements—are hard to test.

These approaches require more up-front time, but the payback is quickly achieved as better designs and fewer defects emerge from the flow of completed working requirements coming out of the organization.

STOP STARTING STUFF (FINISH STUFF FIRST)

David Anderson, author of the book *Kanban*, presented a case study on the use of visual queues to show large hand-off organizations how too much WIP was impacting their ability to complete anything in a reasonable amount of time. The crescendo of his talk was his declaration “... looks like you need to stop starting stuff and start finishing stuff.” This thinking can be institutionalized by making business priorities the driver of all work that is in process. All work that is in process should be clearly visible and aligned with a business-driven roadmap that defines the near-term and strategic priorities. Visibility of this roadmap should bring organizational attention to the sequence of feature requests so that WIP can be limited upstream. This is the place for priorities to be set by business vision rather than by throwing requests over the fence to IT and allowing technology to define priorities. Roadmaps of prioritized features become a “lean portfolio” [3] that includes sequence, time, and effort.

EFFECTIVE WORKFORCE IS MORE IMPORTANT THAN EFFICIENT WORKFORCE

In order to make productivity gains, management often focuses on capacity utilization of resources. For IT organizations, this often means keeping highly paid specialists busy so that their time is not wasted. While this is a very rational thing to do, especially for managers of highly skilled specialists, it is tactical and is optimization at the wrong level. When keeping people busy drives workflow, it becomes acceptable to open up as much work as possible, which is equivalent to focusing on throughput. In a recent article, I cautioned managers to be wary of “The Professional Syndrome”:

[The Professional Syndrome] occurs when large groups of highly skilled professionals are individually tasked with multiple projects and make progress each and every day against what they individually perceive as the “most valuable” way to fill their productive time. With large batches of non-prioritized (but important) work “pushed” through the professional organization, individuals can easily be blocked due to waiting, delays, etc. But their professional behavior (and skills in multi-tasking) drives them to work on the next most important task. Integrate this over time for the large number of projects that are pushed through the organization and the unexpected result is the biggest cause of unnoticed waste—everyone “almost” working on the most important thing. There is even a well-documented approach for managing this pattern known as “project portfolio management,” which by its very nature, batches up large volumes of work with little or no visibility into priority, other than “it all has to be done.” [4]

If line of sight to completing the most valuable work is the driver, then specialists are motivated to contribute to areas outside their subject area, even if it feels wasteful. As a manager, it is critical to set up an environment where flow of completed work trumps keeping busy. The unexpected result will be that a learning organization emerges, since people will be strongly motivated to work with others to help complete delivery of the most highly valued request. In this environment, corporate learning takes place, and the entire workforce becomes more agile in what it can accomplish.

Managers involved with lean-agile project management should be prepared to have their belief systems challenged. This article outlines areas where counter-intuitive beliefs need to be understood in order to ease the transition roadblocks that are usually encountered. By focusing on cycle time, flow, and quality, faster ROI will emerge and help sell the transition to the organization. **{end}**

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AgitarOne 5.2

CRANSTON, RI—Agitar Technologies has announced the release of AgitarOne 5.2. AgitarOne now provides support for Eclipse 3.6 (Helios) compatible IDEs with the use of Sun JDK 1.4.2 through 1.6 and IBM JDK 1.4.2 through 1.6. This includes IBM Rational Application Developer and Rational Software Architect 8.0, which use IBM JDK 1.6.

This latest version also provides a Hudson continuous integration export wizard plugin. Hudson provides an easy-to-use continuous integration system, making it faster to integrate changes to the project, and obtain fresh builds.

AgitarOne 5.2 has improved concrete mock analysis for even higher coverage, and has enhanced processing of generics to provide better tests for certain syntax. For those who prefer working from the command-line, AgitarOne now has a command-line export tool for ant builds.

For more information, visit www.agitar.com.

MKS Integrity with MathWorks

WATERLOO, ON—MKS Inc. has announced the availability of a solution that integrates the engineering change management capabilities of MKS Integrity with MathWorks modeling and simulation environments, MATLAB and Simulink. This integration delivers end-to-end engineering lifecycle management with full control and traceability over requirements, models, simulations, source code, and tests.

The integration between MKS Integrity and MATLAB/Simulink enables connectivity between models and simulations with other work products such as requirements, source, and tests as well as engineering change management that harmonizes change activity across all such work products.

The integration of MKS Integrity with MATLAB and Simulink frees engineers from lower-level design tasks to engage in abstraction and innovation, resulting in lowered design costs and shortened development cycles. This is further reinforcement of the commitment of MathWorks and our partners to identify and resolve engineering challenges across industries and applications.

For more information, visit www.mks.com.

LiquidTest 2.0

SANTA CLARA, CA—JadeLiquid Software, developers of LiquidTest, the web 2.0 application testing framework designed for developers, has announced the release of LiquidTest 2.0.

LiquidTest 2.0 is stacked with new features including new IDE integrations, languages, and massive core engine improvements. LiquidTest now ships with specific support for web 2.0 frameworks such as ExtJS, Dojo, GWT, ASP.NET, and more.

Features include:

- The industry's leading web testing engine
- Robust XPathing and object recognition for greater test stability
- Platform support including Java (Eclipse) and Micro-

soft Visual Studio .NET

- Multiple browser support (Internet Explorer and Firefox)
- Compatibility with web 2.0 frameworks
- File upload and download support

For additional information, visit www.jadeliquid.com.

SODIUS-DXL Editor

NANTES, FRANCE—SODIUS has announced a new version of its DXL Editor, offering debugging features to help Rational DOORS developers optimize their code.

IBM Rational DOORS is a well-established platform for engineers, allowing them to manage their project requirements. DOORS data is manipulated with a dedicated language, DXL (the DOORS eXtension Language). SODIUS has developed the DXL Editor to facilitate developers' lives.

The DXL Editor allows developers to get full control over the code execution. They can add breakpoints in their program, control execution with stop-resume and step-by-step execution, inspect variables, inspect data, etc.

In addition, direct access to the DXL Reference Manual has been added to the Eclipse help view, allowing users to browse the DXL help information alongside their code. A simple copy and paste directly from the help files can also speed up their coding.

With the introduction of the new features, the DXL Editor is now available in two flavors:

- The Free License provides all the basic features for editing, browsing, compiling, and running the code and is perfectly suited for simple DXL programming tasks.
- The Pro License provides the new debug features and DXL reference manual. This version is especially suited for complex DXL programs and when improving efficiency and reducing development time are the critical factors.

For more information, visit www.dxleditor.com.

Tessy V2.9.32

IRVINE, CA and KARLSRUHE, GERMANY—Hitex Development Tools has announced the availability of Tessy V2.9.32. Tessy is a tool to automate module/unit and integration testing of embedded software.

The most significant attribute of the new version is the support of Texas Instruments' Code Composer Studio V4 (CCS4). This allows testing of the Cortex-R4-based TMS570 or the TMS320 signal processors from Texas Instruments. The TMS570 is especially designed for safety-critical applications that need to achieve SIL 3 certification according to IEC 61508. These certifications usually require module/unit tests, causing enormous effort without the corresponding tool support. Tessy allows automated and efficient testing and supports developers in achieving the certification.

For additional information, visit www.hitex.com.

10G CX50T Service Card

MENLO PARK, CA—Vello Systems has announced the introduction and availability of its ultra-low latency, high-density, 10G CX50T service card. Designed for the company's CX Family™ of cloud infrastructure systems, the CX50T operates in either the 16-slot CX16000 system or the 5-slot CX4000 system providing the industry's lowest latency 10G networking performance combined with the highest 10G densities. The CX50T is optimized for intra-metro applications and is part of Vello System's growing solutions portfolio for intra- and inter-metro low-latency networking.

As applications increasingly migrate to the cloud, and new cloud-based applications and services emerge, network latency, or rather the delay incurred by the network itself, is a growing concern, especially in high-frequency trading or algorithmic trading environments or in distributed storage environments. In these cases, reducing network latency by microseconds or even nanoseconds has significant impact on transaction velocity and business processes and transaction velocity. The new CX50T service card delivers sub-5 nanosecond performance at 10G speeds and is purpose-built for these environments.

The CX50T service card is fully manageable along with all other CX Family service cards and accessories through the Vello Systems' CloudMaster™ management and provisioning system. CloudMaster provides an easy-to-use GUI-based

system to control and monitor all system elements. CloudMaster also serves as the primary interface to higher layer network and IT systems via northbound programmatic interfaces including SNMP and XML.

For more information, visit www.vellosystems.com.

New Contour 3.0

PORTLAND, OR—Jama Software has announced Contour 3.0, the latest version of its web-based requirements management software that provides a centralized communications hub to initiate, discuss, change, and track requirements throughout the entire application development process.

New features include:

- **System Hierarchy:** a new set of features provides teams with a flexible way to organize and manage complex system hierarchies. Teams now can create a structure that accurately represents all of the specifications associated with highly complex and requirements-rich projects. Through a system of components, sets, and items, Contour provides the ability to separate and modularize requirements to eliminate redundancies in work and ensure teams have the focus and visibility to track and manage an extremely high volume of dependent and inter-dependent system requirements.
- **Review Center:** a unique module provides teams a fast and agile way to review requirements to gain con-



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sensus among a variety of stakeholders. It provides a socialized hub to manage and expedite the entire requirements review and approval lifecycle. Team members can initiate requirement reviews, gather feedback, monitor social interactions, and manage an approval process that updates Contour and notifies all team members that requirements are ready for development. Review Center promotes social interaction through the ability to conduct real-time discussions, edit, comment and flag issues, vote for prioritized features, and ultimately complete the approval process through electronic sign-offs for an official record of the agreed-upon scope. For corporate compliance and governance, it tracks time invested and keeps a detailed audit trail of approvals and changes to requirements. Contour is the only requirements management solution on the market with Review Center.

For additional information, visit www.jamasoftware.com/contour3.

McCabe IQ—Android Support

CRANSTON, RI—McCabe Software has released the latest version of its groundbreaking software security, quality, and testing analysis suite, McCabe IQ. This latest version (8.1) provides enhanced support for Android, as well as other non-GUI Java applications. McCabe has improved the ease-of-use, making McCabe IQ the solution of choice for Android code coverage.

In addition, McCabe IQ 8.1 provides increased support for integration with MSVS 2010, including the ability to create IQ projects for C# and VB.NET applications.

McCabe IQ users will also benefit by using the new Publish Metrics “drill down” into a module’s Annotated Source Listing (ASL). Line and branch coverage tabs now also contain helpful branch frequency counts and tested lines indicators. Users can generate Publish Metrics output from the GUI or command line interface (CLI).

Other enhancements include new sorting options for walkthroughs of flowgraphs and source code, and flowgraphs and test plans, to view results based on analysis order.

McCabe IQ objectively analyzes software security vulnerability and quality through advanced static analysis and visualizes the architecture, highlighting the most complex and vulnerable areas of the code base. McCabe IQ also provides the most comprehensive code coverage, from LOC to Path-level, so you can focus, monitor, and document software testing processes, and gauge the time and resources needed to ensure a well-tested application.

McCabe IQ is available for most software development languages including Java/JSP, C++/C#.NET, C, C#, VB/VB.NET, Ada, COBOL, FORTRAN, and PL1, operating on any platform (Windows, Linux, UNIX, Solaris, etc.).

For more information, visit www.mccabe.com.

ServiceWise 8.6

LAFAYETTE, CA—TechExcel Inc. has announced the availability of ServiceWise 8.6. This latest release includes new features and enhancements designed to improve usability and boost performance for all customer support business methods. ServiceWise 8.6 also increases support technician efficiency through automating the purchase process.

Features include:

- New Service Catalog with shopping cart functionality
- Ticket submissions with FormWise
- Incident Search using FormWise Content
- Ability to send notifications immediately instead of polling the database for updates
- Incident List with Subproject Report improved to enable each level of subprojects as report fields
- Auto-Event Creation for Approvals (SW only)
- Instant Short Message (ISM) Support
- Custom ticket fields, ticket prioritization, and multi-select filters

Visit www.techexcel.com/products/itsm/index.html for more information.

FlexMonkium 4.1.4

BROOMFIELD, CO—Gorilla Logic has announced the availability of FlexMonkium 4.1.4—a plugin that adds Flex recording and playback capabilities to the Selenium web testing framework.

FlexMonkium 4.1.4 includes some important enhancements, bug fixes, and usability features including:

- Support for running FlexMonkey tests in Internet Explorer with Selenium-RC. Previous versions of FlexMonkium only supported Firefox.
- Bug fixes for the `getFlexMonkeyValue` command, which now reliably retrieves values from properties and table cells.
- Commands can now be made to wait for a component to appear before executing. For example, a command for clicking on a button will wait for the button to appear before attempting to click it.
- Ability to verify (or retrieve) values for property path expressions. For example, you can verify the number of rows in a DataGrid with the path expression `“dataProvider.length.”`
- By default, all commands and verifies are now recorded as `“WaitFor...”` commands, which eliminates the need in most cases to slow or pause script execution to give components time to appear on the display.
- The XML recorded by Selenium-IDE for FlexMonkey commands has been simplified to make reading and editing easier.

For more information, visit www.gorillalogic.com/flexmonkey.

FAQ

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by Linda G. Hayes
linda@worksoft.com

How can I deal with a compressed test schedule?

Software development is rife with uncertainty that ultimately manifests as schedule delay. Unfortunately, the end date is usually less flexible, creating pressure on the testers to meet unreasonable deadlines. The challenge is how to deal with this situation without compromising your own standards or sanity. The key is to remember that delivery dates are business decisions, not technical ones, and take your cues from what is driving the deadline.

Start by asking questions, including:

What is the schedule based on? Were the dates derived based on estimates of the work effort, or are they more arbitrary? I have seen delivery dates based on bonuses, contract commitments, even industry conferences. Investigating the real reasons behind the schedule requires tact and diplomacy but the information is worth it. Once you understand why the deadline exists you are in a better position to know what your options are.

What is at stake? What happens if the date is delayed? In some cases, the functionality might be mandated, such as the implementation of changes to comply with regulatory requirements. In other cases, it might be competitively critical, such as support for a new pricing plan that is responsive or preemptive to the market. In still other cases, it might just be a routine release comprising a mixed bag of fixes and enhancements. Get a handle on what the components of the release are and the associated business implications.

What are the risks? Is a timely but defective release preferable to a late but reliable one? For example, a delivery that is tied to a press release and announcement at a conference may be more form than substance. I have seen software “delivered” to a shelf just to create some news. On the other hand, the landscape is littered with the carnage of companies that paid the ultimate price for rushing unfinished products to market. You can’t make intelligent trade-offs without understanding the potential costs.

Armed with the answers, choose from among one or more of these strategies:

Request more resources. If the deadline is important and all of the functionality is critical, make the case to the business that without reinforcements you will have to sacrifice coverage and they will have to assume the attendant risks.

Propose a limited or rolling release. If some but not all of the functionality is essential, offer to focus your efforts on only the most critical functions and delay or disable the rest for a later release. Or, conversely, suggest delivering only to select customers who may be more risk-tolerant or who are most invested in the functionality.

Ask for a delay. If the schedule is arbitrary or unrelated to the work effort, present a persuasive case for allowing enough time to do a proper job versus cutting corners that will only result in more costs downstream.

Regardless of which strategy you choose, or which one is ultimately accepted, don’t ever just suffer silently. It may be a business decision, but it doesn’t have to be uninformed.

Small Experiments

From birth, we learn through experimentation. This experiential learning contributes to our professional success, as well.

by **Linda Rising** | risingl1@cox.net

I do a lot of traveling across time zones, and, invariably, I make a mistake the first night as I set my travel alarm clock. No matter how careful I am, I miss some button push or setting. In the morning, my mistake is so obvious and I do what I think most of us do—I start saying how stupid I am. In my case, I can also add some pointed comment about my age, suggesting that it might be time to check into a nursing home. I carry this self-berating home with me, and on one occasion, my husband said, “You should take your own advice.”

“What do you mean?” I replied, completely taken aback. He was listening to something I said!

“You always say that you should ask what you are going to do differently. So, instead of beating yourself up, think of something to do differently to solve this problem.”

He was so right. I do say that—all the time! And now, faced with this challenge, what would I do differently? I wasn’t sure why I couldn’t set my current alarm clock correctly. Should I pack my instructions and reread them on the first night? Maybe create a checklist? I know my brain doesn’t work well when jet lagged, but that is hard to avoid when crossing time zones. Should I set the clock before I leave home?

Finally, I bought a second alarm clock. On my next trip, I dutifully set both clocks and, to my very great surprise, the next morning I found that I had set them both correctly. Had I solved the problem? Several other trips confirmed that having two clocks and setting them both somehow resulted in both clocks being set correctly.

I have read that when we have two slightly different settings, doing something in one setting will trigger a reminder about something that has to be done in the other, and going back and forth results in correctly setting both. I must point out, however, that I learned about this after I had bought the second clock. I had no idea whether buying the second clock would really solve the problem. It was a small experiment.

I visit organizations to do retrospectives. You might wonder why a company would bring in an outsider to examine the results of a project. Almost always, it’s due to some kind of failure. The failures present a long list of difficulties. Common items on this list are: missed or misunderstood re-

quirements, poor understanding of business needs, and politics within the development teams. Many of these are big, complicated problems, and, of course, we feel they must have big, complicated solutions!

I used to think that trying to solve a problem with an action plan was the way out. I have wasted more time than I care to think about planning and drawing up steps to a solution for a problem. What I see as the way out these days is a very, very small experiment. I hold that we can’t know how to solve the problem. We never could, despite all the “Five Whys” or “root-cause analysis.” The neuroscientists tell us

that we don’t know why we do what we do and that also applies to organizations, which are just collections of people.

The idea of small experiments is appealing for a number of reasons. It shifts attention from the problem to a hopeful future—we don’t know why the problem exists, but we could try something different in the future that might lead us to a desirable outcome. It’s fun to experiment—we don’t typically like “change,” but we do like to try something new. There is a sense of adventure in it—if it doesn’t work,

we can try something else. There is no failure, only learning. We’re hoping, of course, for some small experiment to make a big difference (a tipping point), but we can’t plan for that.

Folks at any level can tackle even big problems by doing something small at their own level. For example, one form of experiment is to “pretend.” I’m thinking in particular of an issue I often see: lack of effective communication. Usually this means communication with some person outside the team or in some other part of the organization. The experiment for the team would be to pretend that communication is effective. What would that look like? I think it would look like every member on the team doing everything he or she possibly can to effectively communicate. I often suggest some influence techniques to get things started: Try to see things from another’s point of view, go out of your way to be helpful, ask for a favor (I really like that one). It’s really the Just Do It pattern.

Neuroscientists tell us that when we pretend to be happy or sad or effective, we become what we are pretending. We create our own reality. It’s a little New Age-y sounding, but

“We’re hoping, of course, for some small experiment to make a big difference (a tipping point), but we can’t plan for that.”

those neuroscientists have some convincing experiments of their own.

I was watching an inspiring video of a presentation by Muhammad Yunus, the Nobel Prize winner who instigated the microfinance movement in Bangladesh. He said that at the beginning he found the problems of poverty overwhelming. So, with the attitude of “I can’t do big things, but I can do something small,” Yunus began with a small experiment that involved lending small amounts of money to a small number of people. Today, his financial services are provided by the Grameen Foundation, and experiments are taking place in thirty-six countries, including—and this was a big surprise for me—several locations in the United States. It’s inspirational to see where a series of small experiments can lead.

You can’t realistically plan anything from the beginning; the only way to reach your long-term goals or solve your big problems is to try a small thing and learn from the experience. That’s how we have always learned. Babies do this from the start. It’s the basis for the scientific approach. Experiment and learn. **{end}**



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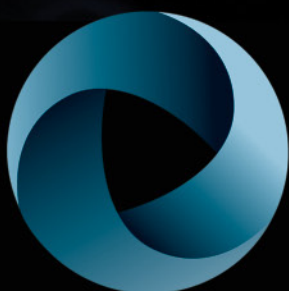
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An integrated environment of tools and server infrastructure that simplifies the entire application development process. Realize increased team productivity by utilizing advanced collaboration features and use integrated testing and debugging tools to find and fix bugs quickly and easily creating high quality solutions while driving down the cost of solution development and testing. Ultimate also gives you powerful load and performance testing and virtual lab management capabilities to complete your application development lifecycle.

www.microsoft.com/visualstudio/en-us/products/2010-editions/ultimate

www.microsoft.com/visualstudio/en-us/howtobuy/default.msp

training available
trial available
address

Yes
Yes
One Microsoft Way
Redmond, WA 98052

SOFTWARE QUALITY ENGINEERING CONFERENCES assist professionals interested in improving software practices. Five conferences are hosted annually—the **STAR** conference series, the **Better Software Conference**, and the **Agile Development Practices** series. Is testing your specialty? **STAREAST** and **STARWEST** are the largest and most advanced testing forums, providing you with countless networking opportunities, exclusive access to solutions providers, and the chance to get up close and personal with industry experts. Maybe your interest is in development lifecycle practices. If so, the **Better Software Conference** provides the latest tools, trends, and issues related to agile development approaches, plan-driven development, process improvement, measurement, and much more. Is your environment more agile driven? The **Agile Development Practices** series focuses on investigating or implementing agile development practices, processes, technologies, and leadership principles. Attend one, or attend all. We have something to meet all of your software needs. www.sqe.com/conferences



AGILE PLATFORM

OutSystems

The Agile Platform allows IT to develop and manage enterprise web applications six times faster and change them at one-fifth of the usual cost. OutSystems makes this possible by providing a complete platform that covers the entire life-cycle of web applications and business processes. You can integrate, develop, deploy, manage, and change your enterprise web apps using the same toolset. The platform uses a visual IDE to create and change all aspects of web apps and automation to speed up and simplify application deployment.

www.outsystems.com/download
agilecenter@outsystems.com

telephone	925.804.6189
training available	Yes
trial available	Yes
address	2603 Camino Ramon Suite 210 San Ramon, CA 94583



AGITARONE

Agitar Technologies, Inc.

AgitarOne helps you work safer, better, and smarter as you develop and maintain Java applications. AgitarOne JUnit Generator creates thorough JUnit tests on your code, with 80 percent coverage out of the box! It helps find regressions, and makes it safer and easier to improve code, reducing maintenance costs. AgitarOne Agitar helps you understand the behavior of your code as it is written, aiding the prevention of bugs and code complexity. AgitarOne is the best way to create, use, and manage the unit tests that you need to be truly agile.

www.agitar.com/solutions/products/agitarone.html
jpalmisano@agitar.com

telephone	401.572.3150
training available	Yes
trial available	Yes
address	41 Sharpe Dr. Cranston, RI 02920



ALTOVA MISSIONKIT FOR SOFTWARE ARCHITECTS

Altova

The Altova MissionKit for Software Architects is an affordable, integrated suite of XML, database, and UML tools from the developers of XMLSpy. It delivers award-winning tools for XML and web-services development; UML and SQL database modeling; any-to-any data mapping; advanced database, XML, and XBRL reporting; database query, design, and comparison; and much more. It supports all the most prevalent data formats (XML, XBRL, EDI, WSDL, JSON, Open XML, BMPN, SysML, and more) plus all major relational databases. Download a free, 30-day trial!

www.altova.com/mk
us-sales@altova.com

telephone	978.816.1600
training available	Yes
trial available	Yes
address	900 Cummings Ctr. Suite 314 T Beverly, MA 01915



AUTOMATED BUILD STUDIO

Smart Bear Inc.

Automated Build Studio is a release management system that provides an easy and visual way to automate the software development build and deployment process.

Users easily create visual macros by dragging and dropping pre-built operations. More than 500 built-in operations are available in a variety of categories.

www.automatedqa.com/products/abs.asp
info@smartbear.com

telephone	512.257.1569
training available	Yes
trial available	Yes
address	100 Cummings Ctr. Suite 420B Beverly, MA 01915



CODECOLLABORATOR

Smart Bear Inc.

With CodeCollaborator you can: 1) Review code without meetings, mounds of paper, or lengthy email threads; 2) share code with team members in other locations; 3) capture review metrics for process improvement or to meet regulatory requirements; and 4) improve overall code quality in the most efficient and cost-effective way possible.

info@smartbear.com

telephone	512.257.1569
training available	Yes
trial available	Yes
address	100 Cummings Ctr. Suite 420B Beverly, MA 01915



DevSuite

DEV SUITE

TechExcel, Inc.

DevSuite is a complete ALM solution covering requirements management, project planning, implementation tracking, and QA testing. It provides a single unified

platform for both agile and traditional development and the industry's most comprehensive requirement traceability from concept through specification, planning, implementation, testing, and release.

www.techexcel.com/products/devsuite/index.html

sales@techexcel.com

telephone
training available
trial available
address

800.439.7782 ext. 5
Yes
Yes
3675 Mt. Diablo Blvd.
Suite 200
Lafayette, CA 94549



DSTAR

Mosaic, Inc.

DSTAR™ manages the test data associated with your manual

and automated tests to enable full reuse™ of all your tests, scripts, and test data. It interfaces as an add-on to HP Quality Center (QC) and with other tools through Mosaic's Reusable Software Testing and Automation Repository (RSTAR™). DSTAR™ supports data import, maintenance, and assignment manually or through API's. It also includes an integrated test automation framework and management reporting. DSTAR™ helps maximize reusability and maintainability of your testing assets.

www.mosaicinc.com/mosaicinc/html/dstar.html

kjohns@mosaicinc.com

telephone
training available
trial available
address

312.819.2220
Yes
No
205 N Michigan Ave.
Suite 2211
Chicago, IL 60601



EMBED-X

LDRA Ltd.

Embed-X is the first end-to-end application lifecycle management (ALM) solution dedicated to safety, security, and mission critical

embedded markets. This industry-first embedded application lifecycle management for critical systems coordinates software engineering by integrating project management, requirements management, architecture, coding, software configuration management, and testing. ALM solutions automate and enforce processes between the stages of development and manage relationships between assets.

www.ldra.com/embed-x.asp

jonathan.kelly@ldra.com

telephone
training available
trial available
address

44.0.151.649.9300
Yes
Yes
Portside, Monks Ferry
Wirral, CH41 5LH
United Kingdom



FOXTROT AT

EnableSoft, Inc.

From a leader in user interface automation comes a software testing solution that slashes testing time. Fox Trot AT makes quick work of GUI scripting with no coding required! Our simple drag and drop functionality creates scripts that

fully automate the testing process, so you can focus on what you do best—building great software while getting new releases to market faster than ever! GUI scripting. No coding. Drag and drop functionality.

Automates repetitive steps. Slashes testing time. Eliminates errors. Speeds time to new releases.

www.enablesoft.com/foxtrotat

rmilam@enablesoft.com

telephone
training available
trial available
address

407.756.1256
Yes
Yes
1870 Aloma Ave.
Suite 200
Winter Park, FL 32789



GHTESTER

Green Hat

Enterprises realize agility, quality, and productivity easily and quickly with Green Hat's quality manage-

ment suite for the SOA lifecycle. Customers get superior end-to-end coverage with automated functional, regression, and performance testing, virtualization, and governance compliance for composite applications that rely on SOA, BPM, Cloud, and legacy technologies. With testing time reduced from weeks to minutes, costs saved, and risks mitigated, customers and service providers can innovate with confidence.

www.greenhat.com/tg2010

sales@greenhat.com

telephone
training available
trial available
address

302.746.7416
Yes
Yes
650 Naamans Rd.
Suite 207
Claymont, DE 19703



goTM
Agile Release Management

Go—AGILE RELEASE MANAGEMENT SOLUTION

ThoughtWorks Studios

GoTM is an agile release management platform for Agile ALM.

It enables continuous delivery by facilitating collaboration between developers, testers, and IT operations in large-scale,

distributed organizations. It allows you to centrally manage large numbers of CI, testing, and production environments and perform push-button deployments of software into them, while auditing from where every bit came. Continuous delivery enables you to radically accelerate the value and return on IT investments.

www.thoughtworks-studios.com/go-agile-release-management

studios@thoughtworks.com

telephone	512.382.5017
training available	Yes
trial available	Yes
address	315 Montgomery St. 6th Floor San Francisco, CA 94104



HP LOADRUNNER SOFTWARE

HP Software & Solutions

Using minimal hardware resources, HP LoadRunner emulates hundreds or thousands of concurrent users to apply production workloads to almost any application platform or environment. HP LoadRunner stresses an application from end-to-end—applying

consistent, measurable, and repeatable loads—and then uses the data to identify scalability issues that can affect real users in production.

www.hp.com/go/loadrunner

qualitymanagement@hp.com

telephone	408.725.8900
training available	Yes
trial available	Yes
address	19091 Pruneridge Ave. Cupertino, CA 95014



HP SERVICE TEST SOFTWARE

HP Software & Solutions

HP Service Test offers a simplified approach to headless testing. Rather than create a highly technical script, HP Service Test has a graphical interface that visually constructs tests on a canvas. HP Service Test also includes an extensive toolbox of ready-to-use

activities and can be extended to support additional technologies not supported out of the box. The result is a codeless approach for most testing needs.

www.hp.com/go/software

qualitymanagement@hp.com

telephone	408.725.8900
training available	Yes
trial available	No
address	19091 Pruneridge Ave. Cupertino, CA 95014



JAMA CONTOUR

Jama Software

Contour provides a powerful, collaborative solution to build great software. As the leading web-based requirements management software, Contour cuts product planning and requirements management cycles in half. It fits any process and helps you reduce costly errors. Contour's new Social Review module provides an easy way to

get requirements right the first time and keep everyone in-sync. It gives you control to discuss, review, and approve requirements with your team and stakeholders in real-time. Experience the Jama difference.

www.jamasoftware.com/contour

cprusia@jamasoftware.com

telephone	800.679.3058
training available	Yes
trial available	Yes
address	600 NW 14th Ave. Suite 200 Portland, OR 97209



LDRA TESTBED

LDRA Ltd.

Static analysis and code coverage tool for C, C++, Java, Ada83/Ada95 and Assembler (Intel, Freescale, and Texas Instruments).

Static analysis features include code visualization, programming standards checking and complexity metrics. Code coverage is available for different coverage levels including MC/DC level A for the DO-178B standard, regression testing, and available for any host/target environment.

www.ldra.com/testbed.asp

jonathan.kelly@ldra.com

telephone	44.0.151.649.9300
training available	Yes
trial available	Yes
address	Portside, Monks Ferry Wirral, CH41 5LH United Kingdom

MKS

MKS INTEGRITY—DELIVERING INTELLIGENT ALM™

MKS Inc.

MKS Integrity is an enterprise application lifecycle management platform that unites the stakeholders of software development through a single source of truth for all processes, activities and assets, to manage complexity and solve the most challenging business problems. Providing a complete range of ALM competence (requirements management, software change and configuration management, test management, and release management), MKS Integrity offers coherence across the application lifecycle while adapting to unique enterprise needs.

www.mks.com/products

sales@mks.com

telephone
training available
trial available
address

519.884.2251
Yes
No
410 Albert St.
Waterloo, Ontario
N2L 3V3 Canada

MKS

MKS INTEGRITY—A SOLUTION FOR AGILE IN THE ENTERPRISE

MKS Inc.

MKS Integrity is a single software platform that addresses the end-to-end lifecycle of Agile software development, from epics and user stories to defects and change requests to test and release management. As a single source of truth for all development activities and assets, MKS Integrity enables the flexibility and collaboration needed for Agile while ensuring management transparency and control across Agile and traditional teams, smoothing the transition and addressing the challenges of scaling Agile to the enterprise.

www.mks.com/solutions/agile_development

sales@mks.com

telephone
training available
trial available
address

519.884.2251
Yes
No
410 Albert St.
Waterloo, Ontario
N2L 3V3 Canada



NEOTYS

NEOLOAD

Neotys

NeoLoad is a load testing software designed for web applications, realistically simulating users and analyzing your servers' behavior. It supports HTTP/S, RTMP, Java Serialization, and RIAs based on AJAX, Flex, Silverlight, and GWT. NeoLoad's exclusive technology allows you to test more quickly, efficiently, and frequently, so you can deploy your Internet and intranet applications with total peace of mind. Thanks to its monitoring modules, NeoLoad identifies performance bottlenecks, allowing you to correct them prior to production.

www.neotys.com

sales@neotys.com

telephone
training available
trial available
address

33.442.180.830
Yes
Yes
445 Park Avenue Ctr.
New York, NY 10022



OpenMake Software

OPENMAKE MEISTER

OpenMake Software

OpenMake Meister enables development teams to control the software build process, providing standardization, acceleration, and auditing. Meister delivers speed, transparency, consistency, and repeatability across the software development lifecycle. Meister saves time and money by shortening development cycles and consolidating time-consuming, redundant tasks. With Meister, organizations have a simplified process for managing the application build across diverse languages and platforms.

www.openmakesoftware.com

tracy.ragan@openmakesoftware.com

telephone
training available
trial available
address

503.475.9292
Yes
Yes
213 W Institute Pl.
#404
Chicago, IL 60610



Seapine Software™

QA WIZARD PRO

Seapine Software

Automate the functional and regression testing of web, Windows, and Java applications, and perform web-load testing with QA Wizard Pro. With its powerful, easy-to-use scripting language, keyword and data-driven testing features, and exclusive intelligent control support, QA Wizard Pro helps QA teams increase test coverage and test faster. Use QA Wizard Pro to test applications written with all popular languages and technologies, such as C#, VB.NET, C++, Win32, AJAX, ActiveX, JavaScript, Delphi, and Infragistics Windows Forms controls.

www.seapine.com/qawizard.html

sales@seapine.com

telephone
training available
trial available
address

513.754.1655
Yes
Yes
5412 Courseview Dr.
Suite 200
Mason, OH 45040



RANOREX UI TEST AUTOMATION FRAMEWORK

Ranorex

Ranorex is a Windows UI test automation framework for testing many different application types, including Web 2.0 applications, WPF, Silverlight, Adobe Flash/Flex, .NET, and Java. The Ranorex Recorder enables capture/replay of UI tests, editing of actions, and generation of real C#, VB.NET, and IronPython code. Ranorex object repositories enable separation of test automation code/recordings from RanoreXPath identification information. The IDE includes test project management, an intuitive code editor, code completion, debugging, and a watch monitor.

www.ranorex.com

info@ranorex.com

telephone
training available
trial available
address

43.316.28.13.28
Yes
Yes
Strassgangerstr. 289
Graz, Steiermark 8054
Austria



SEENOWDO.COM

BigVisible Solutions

SeeNowDo provides simple, flexible, virtual taskboards designed specifically to meet the needs of distributed

agile and Scrum teams. This highly interactive collaboration tool provides instant updates to all project users. The "Instant Sync" capability allows individuals to take advantage of collaborative taskboards across distributed teams in real-time. No downloads. No lag. No delays. No annoying ads. Completely free.

www.SeeNowDo.com

gmorein@bigvisible.com

telephone
training available
trial available
address

617.216.3621
No
No
1306 Columbia Rd.
Suite 4A
Boston, MA 02127



SMARTESTUDIO

SmarteSoft Inc.

SmarteStudio is an advanced GUI- and API-driven, functional and regression test automation tool suitable for software developers and QA power-users. SmarteStudio provides an open API with which you can meet virtually any need. It includes rapid script generation capabilities and manual script creation and editing using JavaScript. SmarteStudio provides strong support for the following environments: Adobe Flash/Flex; Microsoft .NET, Win32, and cross-browser testing using Chrome 5, IE 6, Firefox 3.0, and higher.

www.smartessoft.com/sm/studio.php

info@smartessoft.com

telephone
training available
trial available
address

512.782.9409
Yes
No
3200 Steck Ave.
Suite 250
Austin, TX 78757



STRESSTESTER

Reflective Solutions Inc.

StressTester is a professional testing tool

designed to correctly simulate realistic load and usage of web applications prior to release. It is totally scriptless and includes embedded, context-driven video tutorials. Tests that would take weeks with other tools take days with StressTester, saving up to 70 percent off the annual testing budget. Including a wide range of monitoring modules, StressTester enables identification of any platform-related issues for rapid problem remediation. It supports agile development and frequent, iterative testing.

www.stresstester.com

alan.liggett@reflective.com

telephone
training available
trial available
address

617.502.2070
Yes
Yes
275 Grove St.
Suite 2-400
Newton, MA 02466



TBRUN

LDRA Ltd.

TBrun is LDRA's automated unit testing tool. The functionality within TBrun includes a GUI interface which automates the production of test data vectors (by using TBeXtreme) whilst test harness and stub generation is completely automatic. It also produces the test documentation and other reports. Automatic generation of test data vectors can be provided by TBeXtreme for robustness, test scenarios, and support of black-box, white-box, and object-box testing.

www.ldra.com/tbrun.asp

jonathan.kelly@ldra.com

telephone
training available
trial available
address

44.0.151.649.9300
Yes
Yes
Portside, Monks Ferry
Wirral, CH41 5LH
United Kingdom

COLLABNET TeamForge™

TEAMFORGE
CollabNet

CollabNet TeamForge is an integrated suite of web-based development and collaboration tools for agile software development. By centralizing management of users, projects, processes, and IP assets, TeamForge dramatically reduces costs, increases productivity, and improves project visibility. TeamForge 5.4 features enhanced agile planning capabilities for project teams as well as personalization options.

www.open.collab.net/products/ctf/
info@collab.net

telephone	650.228.2537
training available	Yes
trial available	Yes
address	8000 Marina Blvd. Suite 600 Brisbane, CA 94005



twist®

Agile Testing

TWIST—AGILE TESTING SOLUTION

ThoughtWorks Studios

Twist helps you rapidly test new features, while ensuring all functionality (existing and evolving) does exactly what the business wants. It

ensures you can easily accommodate even last-minute changes and cost-effectively deliver tested software aligned to changing business needs. It empowers your team to collaboratively create robust, optimally-automated test suites that stay true to business priorities. Twist delivers on the promise of agile and is based on sixteen years of proven testing innovation at ThoughtWorks.

www.thoughtworks-studios.com/twist
studios@thoughtworks.com

telephone	512.382.5017
training available	Yes
trial available	Yes
address	315 Montgomery St. 6th Floor San Francisco, CA 94104

userlytics

WHERE AGILE MEETS USABILITY

USERLYTICS

Userlytics

Userlytics provides qualitative audiovisual feedback to help fine-tune your design and development process. Userlytics's remote usability

testing solution enables designers, developers, and product owners to capture and analyze each tester's experience as they navigate through your web site, prototype, wireframe, or concept sketch, empowering you to proactively detect and resolve any issues. It takes only a few minutes to create a test and you can expect to receive easily interpretable audiovisual-based results within twenty-four to forty-eight hours.

www.userlytics.com/our-solutions
janet@userlytics.com

telephone	831.708.2385
training available	Yes
trial available	Yes
address	1660 S Amphlett Blvd. Suite 250 San Mateo, CA 94402



Visual Studio® 2010 Ultimate

VISUAL STUDIO® 2010 ULTIMATE

Microsoft

An integrated environment of tools and server infrastructure that simplifies the entire application development process. Realize increased team productivity by utilizing advanced collaboration features and use integrated testing and debugging tools to find and fix bugs quickly and easily creating high quality solutions while driving down the cost of solution development and testing. Ultimate also gives you powerful load and performance testing and virtual lab management capabilities to complete your application development lifecycle.

www.microsoft.com/visualstudio/en-us/products/2010-editions/ultimate
www.microsoft.com/visualstudio/en-us/howtobuy/default.msp

training available	Yes
trial available	Yes
address	One Microsoft Way Redmond, WA 98052

telerik

deliver more than expected

WEBUI TEST STUDIO

Telerik

This point-and-click, automated testing tool helps users build tests in minutes. The tool requires zero lines of code. Instead, customers

can use smart wizards to visually highlight an element and automatically generate verifications against it. Test maintenance is faster thanks to the employed web-element abstraction techniques. This allows for an element to be updated once and have the change applied to all tests. Furthermore, you can record and play your tests on IE, FF, Safari, and Chrome at the same time.

www.telerik.com/automated-testing-tools.aspx
daniel.levy@telerik.com

telephone	888.365.2779
training available	Yes
trial available	Yes
address	33 Alexander Malinov Blvd. Sofia, 1729 Bulgaria



AGITARONE

Agitar Technologies, Inc.

AgitarOne helps you work safer, better, and smarter as you develop and maintain Java applications. AgitarOne JUnit Generator creates thorough JUnit tests on your code, with 80 percent coverage out of the box! It helps find regressions and makes it safer and easier to improve code, reducing maintenance costs. AgitarOne AgitarOne helps you understand the behavior of your code as it is written, aiding the prevention of bugs and code complexity. AgitarOne is the best way to create, use, and manage the unit tests that you need to be truly agile.
www.agitar.com/solutions/products/agitarone.html
jpalmisano@agitar.com

telephone	401.572.3150
training available	Yes
trial available	Yes
address	41 Sharpe Dr. Cranston, RI 02920



ALTOVA MISSIONKIT FOR SOFTWARE ARCHITECTS

Altova

The Altova MissionKit for Software Architects is an affordable, integrated suite of XML, database, and UML tools from the developers of XMLSpy. It delivers award-winning tools for XML and web-services development; UML and SQL database modeling; any-to-any data mapping; advanced database, XML, and XBRL reporting; database query, design, and comparison; and much more. It supports all the most prevalent data formats (XML, XBRL, EDI, WSDL, JSON, Open XML, BMPN, SysML, and more) plus all major relational databases. Download a free, 30-day trial!
www.altova.com/mk
us-sales@altova.com

telephone	978.816.1600
training available	Yes
trial available	Yes
address	900 Cummings Ctr. Suite 314 T Beverly, MA 01915



eliminate leaks and bottlenecks

AQTIME

Smart Bear Inc.

AQtime is a performance profiler and memory debugger engineered to give developers unparalleled insight into all aspects of the performance of their applications. AQtime provides a single solution for detecting performance bottlenecks and memory leaks within managed, unmanaged, and mixed-code applications. AQtime supports Microsoft Visual Studio, .NET, ASP.NET, C++, VB, Delphi, 32-bit, and 64-bit and integrates tightly with TestComplete.
www.automatedqa.com/aqtime
info@smartbear.com

telephone	512.257.1569
training available	Yes
trial available	Yes
address	100 Cummings Ctr. Suite 420B Beverly, MA 01915



BENDER RBT TEST CASE DESIGN TOOL

Bender RBT Inc.

BenderRBT has two test design engines: cause-effect graphing and pair wise. The graphing engine is the only test tool that designs tests that ensure that defects are propagated to an observable point. Its tests maximize coverage while minimizing the number of tests. It does a logical consistency check on the requirements and can generate an as-built spec from the test model—critical for agile projects. The Pair Wise engine supports both orthogonal pairs and optimized pairs. Both engines do strong negative testing.
rbender@benderrbt.com

training available	Yes
trial available	Yes
address	17 Cardinale Ln. Queensbury, NY 12804



DEVTEST

TechExcel, Inc.

From test case creation, planning, and execution through defect submission and resolution, DevTest tracks and manages the complete quality lifecycle. Regardless if your organization is using manual or automated testing, DevTest presents all test results in a consolidated dashboard view in presentation-quality, custom reports.
www.techexcel.com/products/devtest.html
sales@techexcel.com

telephone	800.439.7782 ext. 5
training available	Yes
trial available	Yes
address	3675 Mt. Diablo Blvd. Suite 200 Lafayette, CA 94549



DEVTRACK

TechExcel, Inc.

A development tracking tool that helps to ensure quality products are developed and delivered on time and on budget. DevTrack models business processes and aligns development with knowl-

edge. Integrations with popular version control tools allow for items to be tracked with related source code.
www.techexcel.com/products/devtrack.html
sales@techexcel.com

telephone	800.439.7782 ext. 5
training available	Yes
trial available	Yes
address	3675 Mt. Diablo Blvd. Suite 200 Lafayette, CA 94549



FOXTROT AT

EnableSoft, Inc.

From a leader in user interface automation comes a software testing solution that slashes testing time. Foxtrot AT makes quick work of GUI scripting with no coding required! Our simple drag and drop functionality creates scripts that

fully automate the testing process, so you can focus on what you do best—building great software while getting new releases to market faster than ever! GUI scripting. No coding. Drag and drop functionality. Automates repetitive steps. Slashes testing time. Eliminates errors. Speeds time to new releases.

www.enablesoft.com/foxtrotat
rmilam@enablesoft.com

telephone	407.756.1256
training available	Yes
trial available	Yes
address	1870 Aloma Ave. Suite 200 Winter Park, FL 32789



GH TESTER

Green Hat

Enterprises realize agility, quality, and productivity easily and quickly with Green Hat's quality

management suite for the SOA lifecycle. Customers get superior end-to-end coverage with automated functional, regression, and performance testing, virtualization, and governance compliance for composite applications that rely on SOA, BPM, Cloud, and legacy technologies. With testing time reduced from weeks to minutes, costs saved, and risks mitigated, customers and service providers can innovate with confidence.

www.greenhat.com/tg2010
sales@greenhat.com

telephone	302.746.7416
training available	Yes
trial available	Yes
address	650 Naamans Rd. Suite 207 Claymont, DE 19703



HP LOADRUNNER SOFTWARE

HP Software & Solutions

Using minimal hardware resources, HP LoadRunner emulates hundreds or thousands of concurrent users to apply production workloads to almost any application platform or environment. HP LoadRunner stresses an application from end-to-end—applying

consistent, measurable, and repeatable loads—and then uses the data to identify scalability issues that can affect real users in production.

www.hp.com/go/loadrunner
qualitymanagement@hp.com

telephone	408.725.8900
training available	Yes
trial available	Yes
address	19091 Pruneridge Ave. Cupertino, CA 95014



McCABE IQ

McCabe Software

The McCabe IQ suite is made up of three multi-platform, multi-language software quality, testing, and security analysis solutions.

McCabe IQ Developers Edition visualizes the complexity of source code and provides a host of metrics with which to measure quality. McCabe IQ Test Team Edition provides advanced code coverage from LOC to Basis Path level. McCabe Enterprise Edition provides all the functionality of the Developers and Test Team Editions, in addition to enterprise reporting and web-enabled test data collection.

www.mccabe.com/iq.htm
jpalmisano@mccabe.com

telephone	401.572.3100
training available	Yes
trial available	Yes
address	41 Sharpe Dr. Cranston, RI 02920



mingle[®]

Agile Project Management

MINGLE—AGILE PROJECT MANAGEMENT SOLUTION

ThoughtWorks Studios

Mingle®, the agile project management solution, helps accelerate adoption of agile best practices while enabling your teams to stay on top of evolving requirements in collaboration with business users.

Mingle provides actionable insight into your software delivery lifecycle and a collaborative workspace for your global team to maximize your responsiveness to change and deliver high-quality business value.

www.thoughtworks-studios.com/mingle

studios@thoughtworks.com

telephone	512.382.5017
training available	Yes
trial available	Yes
address	315 Montgomery St. 6th Floor San Francisco, CA 94104



NEOTYS

NEOLOAD

Neotys

NeoLoad is a load testing software designed for web applications, realistically simulating users and analyzing your servers' behavior. It supports HTTP/S, RTMP, Java Serialization, and RIAs based on AJAX, Flex, Silverlight, and GWT. NeoLoad's exclusive technology allows you to test more quickly, efficiently, and frequently, so you can deploy your Internet and intranet applications with total peace of mind. Thanks to its monitoring modules, NeoLoad identifies performance bottlenecks, allowing you to correct them prior to production.

www.neotys.com

sales@neotys.com

telephone	33.442.180.830
training available	Yes
trial available	Yes
address	445 Park Avenue Ctr. New York, NY 10022



Seapine Software[™]

QA WIZARD PRO

Seapine Software

Automate the functional and regression testing of web, Windows, and Java applications, and perform web-load testing with QA Wizard Pro. With its powerful, easy-to-use scripting language, keyword and data-driven testing features, and exclusive intelligent control support, QA Wizard Pro helps QA teams increase test coverage and test faster. Use QA Wizard Pro to test applications written with all popular languages and technologies, such as C#, VB.NET, C++, Win32, AJAX, ActiveX, JavaScript, Delphi, and Infragistics Windows Forms controls.

www.seapine.com/qawizard.html

sales@seapine.com

telephone	513.754.1655
training available	Yes
trial available	Yes
address	5412 Courseview Dr. Suite 200 Mason, OH 45040



A Software Testing Company

SHASTA QA "OURSOURCING" SOFTWARE TESTING SERVICES

Shasta QA

Located just a few hours north of Silicon Valley, Shasta QA provides an affordable software testing service without the cost of a Silicon Valley address. Shasta QA specializes in "OurSourcing," where we extend your software testing team with American resources to deliver a quality product based on shared goals, business norms, and US time zones. Our services include software, website, and smartphone testing, test management, and independent verification and validation. We also provide consulting on QA process adoption.

www.shastaqa.com

oursourcing@shastaqa.com

telephone	530.242.5799
training available	No
trial available	No
address	P.O. Box 991316 Redding, CA 96099



Seapine Software[™]

SURROUND SCM

Seapine Software

Surround SCM brings enterprise-level configuration management to teams of all sizes. With data storage in industry-standard relational databases, caching proxy servers for fast distributed development, file-level workflow, seamless IDE integrations, and incredibly flexible branching and labeling capabilities, Surround SCM delivers complete control over the software change process.

www.seapine.com/surroundscm.html

sales@seapine.com

telephone	513.754.1655
training available	Yes
trial available	Yes
address	5412 Courseview Dr. Suite 200 Mason, OH 45040



TBVISION
LDRA Ltd.

TBvision provides transparency into source code, enabling managers, teams, and developers to better monitor testing, quality metrics, memory errors and security vulnerabilities. Recognizing the increased need for graphical ability to show code quality, fault detection and avoidance measures, TBvision incorporates next-generation reporting capabilities. As a highly flexible solution, TBvision provides users with the ability to quickly and easily view results in call graphs, flow graphs, and code review reports for graphical feedback.

www.ldra.com/tbvision.asp
jonathan.kelly@ldra.com

telephone	44.0.151.649.9300
training available	Yes
trial available	Yes
address	Portside, Monks Ferry Wirral, CH41 5LH United Kingdom



TEAMFORGE
CollabNet

CollabNet TeamForge is an integrated suite of web-based development and collaboration tools for Agile software development. By centralizing management of users, projects, processes, and IP assets, TeamForge dramatically reduces costs, increases productivity, and improves project visibility. TeamForge 5.4 features enhanced Agile planning capabilities for project teams as well as personalization options.

www.open.collab.net/products/ctf/
info@collab.net

telephone	650.228.2537
training available	Yes
trial available	Yes
address	8000 Marina Blvd. Suite 600 Brisbane, CA 94005



TR SIZER
Mosaic, Inc.

TR Sizer is a measurement repository and software sizing tool that supports an alternative sizing measure—testable requirements (TRs). TRs are an intuitive, flexible, easily implemented, and powerful alternative to function points and lines of code. Measuring system size enables more reliable estimates, enhanced change control, increased accountability for outsourced work, more effective EVM, and improved measurement of quality and productivity. Based on requirements, the TR measure also highlights and helps manage requirement risk.

www.testablerequirements.com
kjohns@mosaicinc.com

telephone	312.819.2220
training available	Yes
trial available	No
address	205 N Michigan Ave. Suite 2211 Chicago, IL 60601



VISUAL STUDIO® TEST PROFESSIONAL 2010
Microsoft

An integrated testing toolset that delivers a complete plan-test-track workflow. You can file high fidelity defects with rich diagnostics to eliminate the "No-Repro" scenario. Test Professional is also integrated with Team Foundation Server 2010 to enable in-context collaboration and extend your application development platform for virtual lab management. This powerful solution enables continuous delivery of efficient build-deploy-test workflows to allow for a faster go-to-market and a better managed QA cycle.

www.microsoft.com/visualstudio/en-us/products/2010-editions/test-professional
www.microsoft.com/visualstudio/en-us/howtobuy/default.mspx

training available	Yes
trial available	Yes
address	One Microsoft Way Redmond, WA 98052



Better Software magazine and StickyMinds.com offer web seminars that feature free informational sessions brought to you by experts who've created, tested, and refined solutions to common pitfalls in software development. Our one-hour web seminars allow you to discover industry best practices, achieve professional growth, interact through Q&A polls, master tips and techniques to solve your software development issues, and more—straight from your desktop. It's easy to sign up and participate.

Visit www.stickyminds.com/webseminars to view up-coming and on-demand web seminars.



AGILE COACHING AND TRAINING

EBG Consulting, Inc.

EBG Consulting offers practical training; coaching and agile jump-start services; free (but substantive) resources; and other services (mentoring, workshops design and facilitation, and assessments)—so you can deliver value while building healthy, collaborating project communities. We are experts on product needs: eliciting, analyzing, prioritizing, and building shared understanding and agreement. EBG works with organizations that are agile, transitioning to agile, and those using traditional and in-between methodologies.

www.ebgconsulting.com

ellen@ebgconsulting.com

telephone
training available
trial available
address

978.261.5552
Yes
Yes
419 Hudson Rd.
Sudbury, MA 01776



ALDON AGILE MANAGER

Aldon

Aldon Agile Manager is a free, role-based, agile project management application that gives agile development teams an efficient and effective way to plan, prioritize, and collaborate on projects. Whether you are using Scrum, Kanban, or hybrid agile methodologies, Aldon Agile Manager can help you easily manage and prioritize stories in a backlog, plan releases and sprints, and keep track of the numerous development tasks associated with a particular project.

agile.aldon.com/products/download/

agile@aldon.com

telephone
training available
trial available
address

510.285.8531
Yes
Yes
6001 Shellmound St.
Suite 600
Emeryville, CA 94608



Automated quality *simplified..*

AUTOZAR

TestingCzars

AutoCzar is a 100-percent, code-free, test automation tool, with built-in test management and a world-class automation framework. AutoCzar is the fastest, easiest, and most extensible of all next generation, functional test products. Flexible and inexpensive licenses support Oracle, SAP, People Soft, Siebel, Adobe, web, Java, and Microsoft .Net. License types: permanent and subscription-based.

www.testingczars.com/enterprise-edition.php

info@testingczars.com

telephone
training available
trial available
address

91.80.40003700
Yes
Yes
511 Bing Cmn.
Fremont, CA 94536



COLLABNET SUBVERSION EDGE

CollabNet

CollabNet introduces Subversion

Edge, an industry-first distribution that combines Subversion, Apache, and ViewVC with a powerful, web-based management interface. Subversion Edge simplifies user and server administration, and improves governance. Brought to you by the founders of the open source Subversion project, Subversion Edge is also free and open source.

www.open.collab.net/products/subversion/

info@collab.net

telephone
training available
trial available
address

650.228.2537
Yes
No
8000 Marina Blvd.
Suite 600
Brisbane, CA 94005



DevSpec

DEVSPEC

TechExcel, Inc.

DevSpec allows teams to easily collaborate using Wiki-based requirements, specifications, and agile stories. Whether you adopt a simple agile process or take full advantage of DevSpec's powerful workflow engine and expanded data structure, you will quickly achieve full requirements traceability throughout the development lifecycle.

www.techexcel.com/products/devsuite/DevSpec.html

sales@techexcel.com

telephone
training available
trial available
address

800.439.7782 ext. 5
Yes
Yes
3675 Mt. Diablo Blvd.
Suite 200
Lafayette, CA 94549



DEVTRACK

TechExcel, Inc.

A development tracking tool that helps to ensure quality products are developed and delivered on time and on budget. DevTrack models business processes and aligns development with knowl-

edge. Integrations with popular version control tools allow for items to be tracked with related source code.
www.techexcel.com/products/devtrack.html
sales@techexcel.com

telephone	800.439.7782 ext. 5
training available	Yes
trial available	Yes
address	3675 Mt. Diablo Blvd. Suite 200 Lafayette, CA 94549



DSTAR

Mosaic, Inc.

DSTAR™ manages the test data associated with your manual

and automated tests to enable full reuse™ of all your tests, scripts and test data. It interfaces as an add-on to HP Quality Center (QC) and with other tools through Mosaic's Reusable Software Testing and Automation Repository (RSTAR™). DSTAR™ supports data import, maintenance, and assignment manually or through API's. It also includes an integrated test automation framework and management reporting. DSTAR™ helps maximize reusability and maintainability of your testing assets.

www.mosaicinc.com/mosaicinc/html/dstar.html
kjohns@mosaicinc.com

telephone	312.819.2220
training available	Yes
trial available	No
address	205 N Michigan Ave. Suite 2211 Chicago, IL 60601



EMBED-X

LDRA Ltd.

Embed-X is the first end-to-end application lifecycle management (ALM) solution dedicated to safety, security, and mission critical embedded markets. This industry-first embedded application lifecycle management for critical systems coordinates software engineering by integrating project management, requirements management, architecture, coding, software configuration management, and testing. ALM solutions automate and enforce processes between the stages of development and manage relationships between assets.

www.ldra.com/embed-x.asp
jonathan.kelly@ldra.com

telephone	44.0.151.649.9300
training available	Yes
trial available	Yes
address	Portside, Monks Ferry Wirral, CH41 5LH United Kingdom



GO—AGILE RELEASE MANAGEMENT SOLUTION

ThoughtWorks Studios

Go™ is an agile release management platform for Agile ALM. It enables continuous delivery by facilitating collaboration between developers, testers, and IT operations in large-scale,

distributed organizations. It allows you to centrally manage large numbers of CI, testing, and production environments and perform push-button deployments of software into them, while auditing from where every bit came. Continuous delivery enables you to radically accelerate the value and return on IT investments.

www.thoughtworks-studios.com/go-agile-release-management
studios@thoughtworks.com

telephone	512.382.5017
training available	Yes
trial available	Yes
address	315 Montgomery St. 6th Floor San Francisco, CA 94104



HP APPLICATION LIFECYCLE MANAGEMENT SOFTWARE

HP Software & Solutions

HP Application Lifecycle Management software provides a centralized platform for managing and automating activities required for the core application lifecycle, and to help drive complete lifecycle management of applications from inception to retirement.

HP Application Lifecycle Management accelerates application transformation by empowering application teams to plan, build, and prepare for the release of applications, components, and services with fewer delays and better quality.

www.hp.com/go/alm
qualitymanagement@hp.com

telephone	408.725.8900
training available	Yes
trial available	Yes
address	19091 Pruneridge Ave. Cupertino, CA 95014



HP BUSINESS PROCESS TESTING SOFTWARE

HP Software & Solutions

HP Business Process Testing software is a web-based test design solution that bridges the quality chasm between subject matter experts and quality engineers. This role-based system enables subject matter experts to build, data-drive, and execute manual and automated tests without any programming knowledge. It reduces the overhead required to test maintenance and combines test automation and documentation into a single effort.

www.hp.com/go/software
qualitymanagement@hp.com

telephone	408.725.8900
training available	Yes
trial available	No
address	19091 Pruneridge Ave. Cupertino, CA 95014



HP FUNCTIONAL TESTING SOFTWARE

HP Software & Solutions

HP Functional Testing software delivers a complete automated solution for functional, graphical user interface, and regression testing that helps you reduce the risks of application failures. This software enables your entire team to correct functionality across all environments, data sets, and business processes. You can also create sophisticated test suites with minimal training and easily perform regression testing in constantly changing environments.

www.hp.com/go/functionaltesting
qualitymanagement@hp.com

telephone	408.725.8900
training available	Yes
trial available	Yes
address	19091 Pruneridge Ave. Cupertino, CA 95014



HP QUALITY CENTER SOFTWARE

HP Software & Solutions

HP Quality Center is a quality management platform that scales from a single project to multiple, enterprise-wide projects and releases. It enables you to manage application quality with a consistent, repeatable process that reduces risk and costs, and increases efficiency across the entire application lifecycle. HP Quality Center delivers requirements management, release and cycle management, test management, defects management, and reporting—all within a single platform providing traceability and visibility across your entire process

www.hp.com/go/quality
qualitymanagement@hp.com

telephone	408.725.8900
training available	Yes
trial available	Yes
address	19091 Pruneridge Ave. Cupertino, CA 95014



HP SERVICE TEST SOFTWARE

HP Software & Solutions

HP Service Test offers a simplified approach to headless testing. Rather than create a highly technical script, HP Service Test has a graphical interface that visually constructs tests on a canvas. HP Service Test also includes an extensive toolbox of ready-to-use activities and can be extended to support additional technologies not supported out of the box. The result is a codeless approach for most testing needs.

www.hp.com/go/software
qualitymanagement@hp.com

telephone	408.725.8900
training available	Yes
trial available	No
address	19091 Pruneridge Ave. Cupertino, CA 95014



JAMA CONTOUR

Jama Software

Contour provides a powerful, collaborative solution to build great software. As the leading web-based requirements management software, Contour cuts product planning and requirements management cycles in half. It fits any process and helps you reduce costly errors. Contour's new Social Review module provides an easy way to get requirements right the first time and keep everyone in-sync. It gives you control to discuss, review, and approve requirements with your team and stakeholders in real-time. Experience the Jama difference.

www.jamasoftware.com/contour
cprusia@jamasoftware.com

telephone	800.679.3058
training available	Yes
trial available	Yes
address	600 NW 14th Ave. Suite 200 Portland, OR 97209



LDRA TESTBED

LDRA Ltd.

Static analysis and code coverage tool for C, C++, Java, Ada83/Ada95 and Assembler (Intel, Freescale, and Texas Instruments).

Static analysis features include code visualization, programming standards checking and complexity metrics. Code coverage is available for different coverage levels including MC/DC level A for the DO-178B standard, regression testing, and available for any host/target environment.

www.ldra.com/testbed.asp
jonathan.kelly@ldra.com

telephone	44.0.151.649.9300
training available	Yes
trial available	Yes
address	Portside, Monks Ferry Wirral, CH41 5LH United Kingdom



mingle[®]

Agile Project Management

MINGLE—AGILE PROJECT MANAGEMENT SOLUTION

ThoughtWorks Studios

Mingle®, the agile project management solution, helps accelerate adoption of agile best practices

while enabling your teams to stay on top of evolving requirements in collaboration with business users. Mingle provides actionable insight into your software delivery lifecycle and a collaborative workspace for your global team to maximize your responsiveness to change and deliver high-quality business value.

www.thoughtworks-studios.com/mingle
studios@thoughtworks.com

telephone	512.382.5017
training available	Yes
trial available	Yes
address	315 Montgomery St. 6th Floor San Francisco, CA 94104



MKS INTEGRITY—DELIVERING REQUIREMENTS MANAGEMENT AS PART OF INTELLIG

MKS Inc.

With MKS Integrity, requirements management becomes

an interconnected part of the lifecycle as part of an Intelligent ALM™ solution. Going beyond simple requirements capture, MKS Integrity fosters collaboration between business stakeholders, developers and testers. Changes can easily be assessed before they are implemented (across projects). Reuse and requirements change management capabilities are coupled with real-time metrics and full traceability, leading to superior quality, full auditability and more rapid time-to-market.

www.mks.com/products/requirements
sales@mks.com

telephone	519.884.2251
training available	Yes
trial available	No
address	410 Albert St. Waterloo, Ontario N2L 3V3 Canada



MKS INTEGRITY—A SOLUTION FOR AGILE IN THE ENTERPRISE

MKS Inc.

MKS Integrity is a single software platform that ad-

resses the end-to-end lifecycle of Agile software development, from epics and user stories to defects and change requests to test and release management. As a single source of truth for all development activities and assets, MKS Integrity enables the flexibility and collaboration needed for Agile while ensuring management transparency and control across Agile and traditional teams, smoothing the transition and addressing the challenges of scaling Agile to the enterprise.

www.mks.com/solutions/agile_development
sales@mks.com

telephone	519.884.2251
training available	Yes
trial available	No
address	410 Albert St. Waterloo, Ontario N2L 3V3 Canada



MSTAR—MOSAIC


Mosaic, Inc.

MSTAR® is the industry's most advanced testing process.


This intranet-ready repository provides complete field-proven guidelines, templates, and samples for a risk-based and measurable testing process. MSTAR® also enables successful test automation with a tool-independent automation architecture proven to reduce maintenance and resource costs while dramatically improving long-term benefits. MSTAR® includes complete guidelines for reusable test planning and test data management. It covers all test levels including performance test.


www.mosaicinc.com/mosaicinc/html/mstar.html
kjohns@mosaicinc.com


telephone	312.819.2220
training available	Yes
trial available	No
address	205 N Michigan Ave. Suite 2211 Chicago, IL 60601

 <p>OpenMake Software</p>	<p>OPENMAKE MEISTER OpenMake Software OpenMake Meister enables development teams to control the software build process, providing standardization, acceleration, and auditing. Meister delivers speed, transparency, consistency, and repeatability across the software development lifecycle. Meister saves time and money by shortening development cycles and consolidating time-consuming, redundant tasks. With Meister, organizations have a simplified process for managing the application build across diverse languages and platforms. www.openmakesoftware.com tracy.ragan@openmakesoftware.com</p>	<table border="1"> <tr> <td>telephone</td> <td>503.475.9292</td> </tr> <tr> <td>training available</td> <td>Yes</td> </tr> <tr> <td>trial available</td> <td>Yes</td> </tr> <tr> <td>address</td> <td>213 W Institute Pl. #404 Chicago, IL 60610</td> </tr> </table>	telephone	503.475.9292	training available	Yes	trial available	Yes	address	213 W Institute Pl. #404 Chicago, IL 60610
telephone	503.475.9292									
training available	Yes									
trial available	Yes									
address	213 W Institute Pl. #404 Chicago, IL 60610									

<p>CATALYSIS GROUP MANAGEMENT & SYSTEMS CONSULTANTS</p>	<p>PROJECT MANAGEMENT TRAINING SERVICES Catalysis Group, Inc. Catalysis Group provides on-site project management training for project managers, project team members, and sponsoring executives. Courses range from fundamentals of project management through advanced topics of risk, sponsorship, and quality. payson@catalysisgroup.com</p>	<table border="1"> <tr> <td>telephone</td> <td>916.929.3629</td> </tr> <tr> <td>training available</td> <td>Yes</td> </tr> <tr> <td>trial available</td> <td>Yes</td> </tr> <tr> <td>address</td> <td>374 Santa Ynez Way Sacramento, CA 95816</td> </tr> </table>	telephone	916.929.3629	training available	Yes	trial available	Yes	address	374 Santa Ynez Way Sacramento, CA 95816
telephone	916.929.3629									
training available	Yes									
trial available	Yes									
address	374 Santa Ynez Way Sacramento, CA 95816									

	<p>RALLY COMMUNITY EDITION Rally Software Development Rally Community Edition is a free, 10-seat subscription to Rally's award-winning agile lifecycle management solutions. It is an ideal alternative to open source project management tools because it enables your team to pilot agile in a no-cost, low-burden software-as-a-service environment. Rally Community Edition also provides a seamless upgrade path to Rally Enterprise Edition, so you can incrementally adopt and scale agile. www.rallydev.com/agile_products/editions/community/?src=TG2010 info@rallydev.com</p>	<table border="1"> <tr> <td>telephone</td> <td>303.565.2800</td> </tr> <tr> <td>training available</td> <td>Yes</td> </tr> <tr> <td>trial available</td> <td>Yes</td> </tr> <tr> <td>address</td> <td>4001 Discovery Dr. Suite 220 Boulder, CO 80303</td> </tr> </table>	telephone	303.565.2800	training available	Yes	trial available	Yes	address	4001 Discovery Dr. Suite 220 Boulder, CO 80303
telephone	303.565.2800									
training available	Yes									
trial available	Yes									
address	4001 Discovery Dr. Suite 220 Boulder, CO 80303									

	<p>RALLY ENTERPRISE EDITION Rally Software Development Rally Enterprise Edition is your platform for complete agile lifecycle management. It coordinates multi-team programs with support for shared product backlogs, hierarchical projects, cross-project and roll-up reporting, plus advanced analytics and mashups. Rally Enterprise Edition extends to an unlimited number of users and projects and is available either on demand or on premise. www.rallydev.com/agile_products/editions/enterprise/?src=TG2010 info@rallydev.com</p>	<table border="1"> <tr> <td>telephone</td> <td>303.565.2800</td> </tr> <tr> <td>training available</td> <td>Yes</td> </tr> <tr> <td>trial available</td> <td>Yes</td> </tr> <tr> <td>address</td> <td>4001 Discovery Dr. Suite 220 Boulder, CO 80303</td> </tr> </table>	telephone	303.565.2800	training available	Yes	trial available	Yes	address	4001 Discovery Dr. Suite 220 Boulder, CO 80303
telephone	303.565.2800									
training available	Yes									
trial available	Yes									
address	4001 Discovery Dr. Suite 220 Boulder, CO 80303									

	<p>RALLY UNLIMITED EDITION Rally Software Development Rally Unlimited Edition sustains a high pace of innovation and agility by connecting the full application lifecycle and giving everyone a visual system of record of each product's status, progress, and quality. Unlimited Edition adds idea management, full test management, enterprise integrations, time and cost tracking, and development and testing sandboxes to refine your customizations and extensions. www.rallydev.com/agile_products/editions/unlimited/?src=TG2010 info@rallydev.com</p>	<table border="1"> <tr> <td>telephone</td> <td>303.565.2800</td> </tr> <tr> <td>training available</td> <td>Yes</td> </tr> <tr> <td>trial available</td> <td>Yes</td> </tr> <tr> <td>address</td> <td>4001 Discovery Dr. Suite 220 Boulder, CO 80303</td> </tr> </table>	telephone	303.565.2800	training available	Yes	trial available	Yes	address	4001 Discovery Dr. Suite 220 Boulder, CO 80303
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training available	Yes									
trial available	Yes									
address	4001 Discovery Dr. Suite 220 Boulder, CO 80303									



RANOREX UI TEST AUTOMATION FRAMEWORK

Ranorex

Ranorex is a Windows UI test automation framework for testing many different application types, including Web 2.0 applications, WPF, Silverlight, Adobe Flash/Flex, .NET, and Java. The Ranorex Recorder enables capture/replay of UI tests, editing of actions, and generation of real C#, VB.NET, and IronPython code. Ranorex object repositories enable separation of test automation code/recordings from RanoreXPath identification information. The IDE includes test project management, an intuitive code editor, code completion, debugging, and a watch monitor.

www.ranorex.com
info@ranorex.com

telephone
training available
trial available
address

43.316.28.13.28
Yes
Yes
Strassgangerstr. 289
Graz, Steiermark 8054
Austria



RSTART™

Mosaic, Inc.

RSTART™ manages your tests and test data in a central repository to enable full reuse™ of all your tests, scripts and test data. It supports reusable test planning for manual tests that can be shared among testers and also directly automated. RSTAR employs the full power of DSTAR™ to maintain reusable and sharable test data with support for data import, maintenance, assignment to tests and dynamic loading at execution time. RSTAR™ also enables a powerful automation framework that can be implemented in a variety of automation tools.

www.mosaicinc.com/mosaicinc/html/rstar.html
kjohns@mosaicinc.com

telephone
training available
trial available
address

312.819.2220
Yes
No
205 N Michigan Ave.
Suite 2211
Chicago, IL 60601



SCRUMWORKS PRO

CollabNet

ScrumWorks Pro is an agile project and program management tool that was designed to help agile teams working in an iterative fashion manage their release planning, sprints, and team tasks. ScrumWorks Pro's rich set of collaborative, forecasting, and enhanced reporting capabilities help agile teams improve the quality of their product releases while minimizing project risk and development costs. ScrumWorks Pro is ideal for enterprises doing distributed development. For more information or a free trial, visit: www.collab.net

www.open.collab.net/products/scrumworks/
lhowley@collab.net

telephone
training available
trial available
address

650.228.2537
Yes
Yes
8000 Marina Blvd.
Suite 600
Brisbane, CA 94005



SEENOWDO.COM

BigVisible Solutions

SeeNowDo provides simple, flexible, virtual taskboards designed specifically to meet the needs of distributed agile and Scrum teams. This highly interactive collaboration tool provides instant updates to all project users. The "Instant Sync" capability allows individuals to take advantage of collaborative taskboards across distributed teams in real-time. No downloads. No lag. No delays. No annoying ads. Completely free.

www.SeeNowDo.com
gmorein@bigvisible.com

telephone
training available
trial available
address

617.216.3621
No
No
1306 Columbia Rd.
Suite 4A
Boston, MA 02127



SHASTA QA "OURSOURCING" SOFTWARE TESTING SERVICES

Shasta QA

Located just a few hours north of Silicon Valley, Shasta QA provides an affordable software testing service without the cost of a Silicon Valley address. Shasta QA specializes in "OurSourcing," where we extend your software testing team with American resources to deliver a quality product based on shared goals, business norms, and US time zones. Our services include software, website, and smartphone testing, test management, and independent verification and validation. We also provide consulting on QA process adoption.

www.shastaqa.com
oursourcing@shastaqa.com

telephone
training available
trial available
address

530.242.5799
No
No
P.O. Box 991316
Redding, CA 96099

SmarteQM™

SMARTEQM
SmarteSoft Inc.

SmarteQM is an integrated QA test lifecycle management system that manages projects, requirements, releases, test cases, issues, defects, and tasks in one unified environment. By combining and integrating QA management, project management, deployment management, and defect tracking with a wide variety of third party and open source tools, SmarteQM allows you to take control of your project lifecycle and synchronize development and testing.

www.smartesoftware.com/sm/smarteqm.php
info@smartesoftware.com

telephone	512.782.9409
training available	Yes
trial available	No
address	3200 Steck Ave. Suite 250 Austin, TX 78757



Software Planner
www.softwareplanner.com

SOFTWARE PLANNER

Smart Bear Inc.
Software Planner is an award-winning application lifecycle management (ALM) tool that helps you manage customer requirements, project deliverables, test cases, defects, and support tickets. Coupled with collaborative tools like document sharing, team calendars, interactive dashboards, knowledge bases, and threaded discussions, teams communicate effectively and quickly deliver high-quality software. It is trusted by more than 70,000 users in twenty-four countries.

www.softwareplanner.com
info@smartbear.com

telephone	512.257.1569
training available	Yes
trial available	Yes
address	100 Cummings Ctr. Suite 420B Beverly, MA 01915



QUALITY INTELLIGENCE
Intelligence about software quality, intelligently applied

SOFTWARE TEST CONSULTING AND MANAGEMENT

Quality Intelligence Inc.

We work with managers and teams to identify the specific business challenges of software implementation in your organization and determine which of those risks can be addressed by software testing and test management. We recommend practices that will cover your risks, with a practical roadmap and coaching for achievable improvements. When testing is in trouble, we work with your team to get it back on track. We also manage testing on challenging projects, specializing in test program management and large-scale systems integrations.

www.quality-intelligence.com
[f ona.charles@quality-intelligence.com](mailto:ona.charles@quality-intelligence.com)

training available	Yes
trial available	Yes



SQE TRAINING

SQE Training

SQE Training provides the widest selection of specialized software training courses available. Find the training you need for your testing, development, management, requirements and security challenges. Courses can be delivered in a variety of modes: public, on-site, live virtual, and eLearning. Become an ISTQB™-certified software tester and train for either the foundation or advanced level certifications with SQE Training. Get the professional development units you need for your PMI certification by taking courses accredited by the PMI.

www.sqetraining.com
lbristow@sqe.com

telephone	904.278.0524
training available	Yes
trial available	Yes
address	340 Corporate Way Suite 300 Orange Park, FL 32073



SURROUND SCM

Seapine Software

Surround SCM brings enterprise-level configuration management to teams of all sizes. With data storage in industry-standard relational databases, caching proxy servers for fast distributed development, file-level workflow, seamless IDE integrations, and incredibly flexible branching and labeling capabilities, Surround SCM delivers complete control over the software change process.

www.seapine.com/surroundscm.html
sales@seapine.com

telephone	513.754.1655
training available	Yes
trial available	Yes
address	5412 Courseview Dr. Suite 200 Mason, OH 45040



TBRREQ

LDRA Ltd.

TBreq is a unique solution that can help development teams overcome the challenges of mapping test specifications, unit testing scenarios, test data, and code coverage verification back to their high level design requirements. TBreq interfaces directly with management tools such as IBM® Telelogic® DOORS®, IBM® Rational® RequisitePro®, and Microsoft® Word documents or Excel spreadsheets in order to ensure traceability across the complete software lifecycle thus verifying the completeness of the requirements coverage.

www.ldra.com/tbreq.asp
jonathan.kelly@ldra.com

telephone
training available
trial available
address

44.0.151.649.9300
Yes
Yes
Portside, Monks Ferry
Wirral, CH41 5LH
United Kingdom



TBRUN

LDRA Ltd.

TBrun is LDRA's automated unit testing tool. The functionality within TBrun includes a GUI interface which automates the production of test data vectors (by using TBeXtreme) whilst test harness and stub generation is completely automatic. It also produces the test documentation and other reports. Automatic generation of test data vectors can be provided by TBeXtreme for robustness, test scenarios and support of black-box, white-box, and object-box testing.

www.ldra.com/tbrun.asp
jonathan.kelly@ldra.com

telephone
training available
trial available
address

44.0.151.649.9300
Yes
Yes
Portside, Monks Ferry
Wirral, CH41 5LH
United Kingdom



TBVISION

LDRA Ltd.

TBvision provides transparency into source code, enabling managers, teams, and developers to better monitor testing, quality metrics, memory errors, and security vulnerabilities. Recognizing the increased need for graphical ability to show code quality, fault detection, and avoidance measures, TBvision incorporates next-generation reporting capabilities. As a highly flexible solution, TBvision provides users with the ability to quickly and easily view results in call graphs, flow graphs, and code review reports for graphical feedback.

www.ldra.com/tbvision.asp
jonathan.kelly@ldra.com

telephone
training available
trial available
address

44.0.151.649.9300
Yes
Yes
Portside, Monks Ferry
Wirral, CH41 5LH
United Kingdom



TEAMFORGE

CollabNet

CollabNet TeamForge is an

integrated suite of web-based development and collaboration tools for Agile software development. By centralizing management of users, projects, processes, and IP assets, TeamForge dramatically reduces costs, increases productivity, and improves project visibility. TeamForge 5.4 features enhanced Agile planning capabilities for project teams as well as personalization options.

www.open.collab.net/products/ctf/
info@collab.net

telephone
training available
trial available
address

650.228.2537
Yes
Yes
8000 Marina Blvd.
Suite 600
Brisbane, CA 94005



TESTTRACK TCM

Seapine Software

TestTrack TCM, a highly-scalable test case manage-

ment solution, manages all areas of the software testing process including test case creation, scheduling, execution, measurement, and reporting. Cross-platform TestTrack TCM features workflow and process automation, extensive customizability, powerful filters and reports, and comprehensive security. Reporting and graphing tools, along with user-definable data filters, allow you to easily measure the progress and quality of your testing effort.

www.seapine.com/ttcm.html
sales@seapine.com

telephone
training available
trial available
address

513.754.1655
Yes
Yes
5412 Courseview Dr.
Suite 200
Mason, OH 45040



TR SIZER

Mosaic, Inc.

TR Sizer is a measurement repository and software sizing tool that supports an alternative sizing measure—testable requirements (TRs). TRs are an intuitive, flexible, easily implemented, and powerful alternative to function points and lines of code. Measuring system size enables more reliable estimates, enhanced change control, increased accountability for outsourced work, more effective EVM, and improved measurement of quality and productivity. Based on requirements, the TR measure also highlights and helps manage requirement risk.

www.testablerequirements.com

kjohns@mosaicinc.com

telephone	312.819.2220
training available	Yes
trial available	No
address	205 N Michigan Ave. Suite 2211 Chicago, IL 60601



TWIST—AGILE TESTING SOLUTION

ThoughtWorks Studios

Twist helps you rapidly test new features, while ensuring all functionality (existing and evolving) does exactly what the business wants. It ensures you can easily accommodate even last-minute changes and cost-effectively deliver tested software aligned to changing business needs. It empowers your team to collaboratively create robust, optimally-automated test suites that stay true to business priorities. Twist delivers on the promise of agile and is based on sixteen years of proven testing innovation at ThoughtWorks.

www.thoughtworks-studios.com/twist

studios@thoughtworks.com

telephone	512.382.5017
training available	Yes
trial available	Yes
address	315 Montgomery St. 6th Floor San Francisco, CA 94104



AGILE COACHING AND TRAINING

EBG Consulting, Inc.

EBG Consulting offers practical training; coaching and agile jump-start services; free (but substantive) resources; and other services (mentoring, workshops design and facilitation, and assessments)—so you can deliver value while building healthy, collaborating project communities. We are experts on product needs: eliciting, analyzing, prioritizing, and building shared understanding and agreement. EBG works with organizations that are agile, transitioning to agile, and those using traditional and in-between methodologies.

www.ebgconsulting.com

ellen@ebgconsulting.com

telephone	978.261.5552
training available	Yes
trial available	Yes
address	419 Hudson Rd. Sudbury, MA 01776



AUTOZAR

TestingCzars

AutoCzar is a 100-percent, code-free, test automation tool, with built-in test management and a world-class automation framework. AutoCzar is the fastest, easiest, and most extensible of all next generation, functional test products. Flexible and inexpensive licenses support Oracle, SAP, People Soft, Siebel, Adobe, web, Java, and Microsoft .Net. License types: permanent and subscription-based.

www.testingczars.com/enterprise-edition.php

info@testingczars.com

telephone	91.80.40003700
training available	Yes
trial available	Yes
address	511 Bing Cmn. Fremont, CA 94536



BENDERRBT TEST CASE DESIGN TOOL

Bender RBT Inc.

BenderRBT has two test design engines: cause-effect graphing and pair wise. The graphing engine is the only test tool that designs tests that ensure that defects are propagated to an observable point. Its tests maximize coverage while minimizing the number of tests. It does a logical consistency check on the requirements and can generate an as-built spec from the test model—critical for agile projects. The Pair Wise engine supports both orthogonal pairs and optimized pairs. Both engines do strong negative testing.

rbender@benderrbt.com

training available
trial available
address

Yes
Yes
17 Cardinale Ln.
Queensbury, NY 12804



DevSpec

DEVSPEC

TechExcel, Inc.

DevSpec allows teams to easily collaborate using Wiki-based requirements, specifications, and agile stories. Whether you adopt a simple agile process or take full advantage of DevSpec's powerful workflow engine and expanded data structure, you will quickly achieve full requirements traceability throughout the development lifecycle.

www.techexcel.com/products/devsuite/DevSpec.html

sales@techexcel.com

telephone
training available
trial available
address

800.439.7782 ext. 5
Yes
Yes
3675 Mt. Diablo Blvd.
Suite 200
Lafayette, CA 94549



DevSuite

DEVSUITE

TechExcel, Inc.

DevSuite is a complete ALM solution covering requirements management, project planning, implementation tracking, and QA testing. It provides a single unified platform for both agile and traditional development and the industry's most comprehensive requirement traceability from concept through specification, planning, implementation, testing, and release.

www.techexcel.com/products/devsuite/index.html

sales@techexcel.com

telephone
training available
trial available
address

800.439.7782 ext. 5
Yes
Yes
3675 Mt. Diablo Blvd.
Suite 200
Lafayette, CA 94549



HP APPLICATION LIFECYCLE MANAGEMENT SOFTWARE

HP Software & Solutions

HP Application Lifecycle Management software provides a centralized platform for managing and automating activities required for the core application lifecycle, and to help drive complete lifecycle management of applications from inception to retirement.

HP Application Lifecycle Management accelerates application transformation by empowering application teams to plan, build, and prepare for the release of applications, components, and services with fewer delays and better quality.

www.hp.com/go/alm

qualitymanagement@hp.com

telephone
training available
trial available
address

408.725.8900
Yes
Yes
19091 Pruneridge Ave.
Cupertino, CA 95014



HP QUALITY CENTER SOFTWARE

HP Software & Solutions

HP Quality Center is a quality management platform that scales from a single project to multiple, enterprise-wide projects and releases. It enables you to manage application quality with a consistent, repeatable process that reduces risk and costs, and increases efficiency across the entire application lifecycle. HP Quality Center delivers requirements management, release and cycle management, test management, defects management, and reporting—all within a single platform providing traceability and visibility across your entire process

www.hp.com/go/quality

qualitymanagement@hp.com

telephone
training available
trial available
address

408.725.8900
Yes
Yes
19091 Pruneridge Ave.
Cupertino, CA 95014



HP REQUIREMENTS MANAGEMENT MODULE

HP Software & Solutions

HP Requirements Management is a robust, easy-to-use, web-based solution that helps organizations define, manage, and control software requirements to meet business needs. This solution is designed for Business Analysts (BA), Quality Assurance (QA), and development teams. Through accurate requirements and risk-based test management, development and testing teams are given clear visibility, which allows teams to focus their efforts on high-priority business needs and also know that the decisions to proceed are based on quantifiable business risk.

www.hp.com/go/quality
qualitymanagement@hp.com

telephone	408.725.8900
training available	Yes
trial available	Yes
address	19091 Pruneridge Ave. Cupertino, CA 95014



JAMA CONTOUR

Jama Software

Contour provides a powerful, collaborative solution to build great software. As the leading web-based requirements management software, Contour cuts product planning and requirements management cycles in half. It fits any process and helps you reduce costly errors. Contour's new Social Review module provides an easy way to get requirements right the first time & keep everyone in-sync. It gives you control to discuss, review and approve requirements with your team and stakeholders in real-time. Experience the Jama difference.

www.jamasoftware.com/contour
cprusia@jamasoftware.com

telephone	800.679.3058
training available	Yes
trial available	Yes
address	600 NW 14th Ave. Suite 200 Portland, OR 97209



mingle[®]

Agile Project Management

MINGLE—AGILE PROJECT MANAGEMENT SOLUTION

ThoughtWorks Studios

Mingle®, the agile project management solution, helps accelerate adoption of agile best practices while enabling your teams to stay on top of evolving requirements in collaboration with business users.

Mingle provides actionable insight into your software delivery lifecycle and a collaborative workspace for your global team to maximize your responsiveness to change and deliver high-quality business value.

www.thoughtworks-studios.com/mingle
studios@thoughtworks.com

telephone	512.382.5017
training available	Yes
trial available	Yes
address	315 Montgomery St. 6th Floor San Francisco, CA 94104



MKS INTEGRITY—DELIVERING REQUIREMENTS MANAGEMENT AS PART OF INTELLIG

MKS Inc.

With MKS Integrity, requirements management becomes an interconnected part of the lifecycle as part of an Intelligent ALM™ solution. Going beyond simple requirements capture, MKS Integrity fosters collaboration between business stakeholders, developers and testers. Changes can easily be assessed before they are implemented (across projects). Reuse and requirements change management capabilities are coupled with real-time metrics and full traceability, leading to superior quality, full auditability and more rapid time-to-market.

www.mks.com/products/requirements
sales@mks.com

telephone	519.884.2251
training available	Yes
trial available	No
address	410 Albert St. Waterloo, Ontario N2L 3V3 Canada




RALLY COMMUNITY EDITION

Rally Software Development

Rally Community Edition is a free, 10-seat subscription to Rally's award-winning agile lifecycle management solutions. It is an ideal alternative to open source project management tools because it enables your team to pilot agile in a no-cost, low-burden software-as-a-service environment. Rally Community Edition also provides a seamless upgrade path to Rally Enterprise Edition, so you can incrementally adopt and scale agile.


www.rallydev.com/agile_products/editions/community/?src=TG2010
info@rallydev.com

telephone	303.565.2800
training available	Yes
trial available	Yes
address	4001 Discovery Dr. Suite 220 Boulder, CO 80303



RALLY ENTERPRISE EDITION
Rally Software Development
Rally Enterprise Edition is your platform for complete agile lifecycle management. It coordinates multi-team programs with support for shared product backlogs, hierarchical projects, cross-project and roll-up reporting, plus advanced analytics and mashups. Rally Enterprise Edition extends to an unlimited number of users and projects and is available either on demand or on premise.
www.rallydev.com/agile_products/editions/enterprise/?src=TG2010
info@rallydev.com

telephone	303.565.2800
training available	Yes
trial available	Yes
address	4001 Discovery Dr. Suite 220 Boulder, CO 80303




RALLY UNLIMITED EDITION
Rally Software Development
Rally Unlimited Edition sustains a high pace of innovation and agility by connecting the full application lifecycle and giving everyone a visual system of record of each product's status, progress, and quality. Unlimited Edition adds idea management, full test management, enterprise integrations, time and cost tracking, and development and testing sandboxes to refine your customizations and extensions.
www.rallydev.com/agile_products/editions/unlimited/?src=TG2010
info@rallydev.com

telephone	303.565.2800
training available	Yes
trial available	Yes
address	4001 Discovery Dr. Suite 220 Boulder, CO 80303




SCRUMWORKS PRO
CollabNet
ScrumWorks Pro is an agile project and program management tool that was designed to help agile teams working in an iterative fashion manage their release planning, sprints, and team tasks. ScrumWorks Pro's rich set of collaborative, forecasting, and enhanced reporting capabilities help agile teams improve the quality of their product releases while minimizing project risk and development costs. ScrumWorks Pro is ideal for enterprises doing distributed development. For more information or a free trial, visit: www.collab.net
www.open.collab.net/products/scrumworks/
howley@collab.net

telephone	650.228.2537
training available	Yes
trial available	Yes
address	8000 Marina Blvd. Suite 600 Brisbane, CA 94005



SMARTEQM
SmarteSoft Inc.
SmarteQM is an integrated QA test lifecycle management system that manages projects, requirements, releases, test cases, issues, defects, and tasks in one unified environment. By combining and integrating QA management, project management, deployment management, and defect tracking with a wide variety of third party and open source tools, SmarteQM allows you to take control of your project lifecycle and synchronize development and testing.
www.smartsoft.com/sm/smarteqm.php
info@smartsoft.com

telephone	512.782.9409
training available	Yes
trial available	No
address	3200 Steck Ave. Suite 250 Austin, TX 78757



SOFTWARE PLANNER
Smart Bear Inc.
Software Planner is an award-winning application lifecycle management (ALM) tool that helps you manage customer requirements, project deliverables, test cases, defects, and support tickets. Coupled with collaborative tools like document sharing, team calendars, interactive dashboards, knowledge bases, and threaded discussions, teams communicate effectively and quickly deliver high-quality software. It is trusted by more than 70,000 users in twenty-four countries.
www.softwareplanner.com
info@smartbear.com

telephone	512.257.1569
training available	Yes
trial available	Yes
address	100 Cummings Ctr. Suite 420B Beverly, MA 01915

LDRA

TBREQ

LDRA Ltd.

TBreq is a unique solution that can help development teams overcome the challenges of mapping test specifications, unit testing scenarios, test data and code coverage verification back to their high level design requirements. TBreq interfaces directly with management tools such as IBM® Telelogic® DOORS®, IBM® Rational® RequisitePro®, Microsoft® Word documents or Excel spreadsheets in order to ensure traceability across the complete software lifecycle thus verifying the completeness of the requirements coverage.

www.ldra.com/tbreq.asp
jonathan.kelly@ldra.com

telephone	44.0.151.649.9300
training available	Yes
trial available	Yes
address	Portside, Monks Ferry Wirral, CH41 5LH United Kingdom



TR SIZER

Mosaic, Inc.

TR Sizer is a measurement repository and software sizing tool that supports an alternative sizing measure—testable requirements (TRs). TRs are an intuitive, flexible, easily implemented, and powerful alternative to function points and lines of code. Measuring system size enables more reliable estimates, enhanced change control, increased accountability for outsourced work, more effective EVM, and improved measurement of quality and productivity. Based on requirements, the TR measure also highlights and helps manage requirement risk.

www.testablerequirements.com
kjohns@mosaicinc.com

telephone	312.819.2220
training available	Yes
trial available	No
address	205 N Michigan Ave. Suite 2211 Chicago, IL 60601



twist—AGILE TESTING SOLUTION

ThoughtWorks Studios

Twist helps you rapidly test new features, while ensuring all functionality (existing and evolving) does exactly what the business wants. It ensures you can easily accommodate even last-minute changes and cost-effectively deliver tested software aligned to changing business needs. It empowers your team to collaboratively create robust, optimally-automated test suites that stay true to business priorities. Twist delivers on the promise of agile and is based on sixteen years of proven testing innovation at ThoughtWorks.

www.thoughtworks-studios.com/twist
studios@thoughtworks.com

telephone	512.382.5017
training available	Yes
trial available	Yes
address	315 Montgomery St. 6th Floor San Francisco, CA 94104

McCabe IQ

McCabe IQ

McCabe Software

The McCabe IQ suite is made up of three multi-platform, multi-language software quality, testing, and security analysis solutions. McCabe IQ Developers Edition visualizes the complexity of source code and provides a host of metrics with which to measure quality. McCabe IQ Test Team Edition provides advanced code coverage from LOC to Basis Path level. McCabe Enterprise Edition provides all the functionality of the Developers and Test Team Editions, in addition to enterprise reporting and web-enabled test data collection.

www.mccabe.com/iq.htm
jpalmisano@mccabe.com

telephone	401.572.3100
training available	Yes
trial available	Yes
address	41 Sharpe Dr. Cranston, RI 02920

**AGITARONE**

Agitar Technologies, Inc.

AgitarOne helps you work safer, better, and smarter as you develop and maintain Java applications. AgitarOne JUnit Generator creates thorough JUnit tests on your code, with 80 percent coverage out of the box! It helps find regressions, and makes it safer and easier to improve code, reducing maintenance costs. AgitarOne Agitar helps you understand the behavior of your code as it is written, aiding the prevention of bugs and code complexity. AgitarOne is the best way to create, use, and manage the unit tests that you need to be truly agile.

www.agitar.com/solutions/products/agitarone.html

jpalmisano@agitar.com

telephone
training available
trial available
address

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Yes
Yes
41 Sharpe Dr.
Cranston, RI 02920



eliminate leaks and bottlenecks

AQTIME

Smart Bear Inc.

AQtime is a performance profiler and memory debugger engineered to give developers unparalleled insight into all aspects of the performance of their applications. AQtime provides a single solution for detecting performance bottlenecks and memory leaks within managed, unmanaged, and mixed-code applications. AQtime supports Microsoft Visual Studio, .NET, ASP.NET, C++, VB, Delphi, 32-bit and 64-bit, and integrates tightly with TestComplete.

www.automatedqa.com/aqtime

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training available
trial available
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Yes
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Beverly, MA 01915



Automated quality *simplified..*

AUTOCZAR

TestingCzars

AutoCzar is a 100-percent, code-free, test automation tool, with built-in test management and a world-class automation framework.- AutoCzar is the fastest, easiest, and most extensible of all next generation, functional test products. Flexible and inexpensive licenses support Oracle, SAP, People Soft, Siebel, Adobe, web, Java, and Microsoft .Net. License types: permanent and subscription-based.

www.testingczars.com/enterprise-edition.php

info@testingczars.com

telephone
training available
trial available
address

91.80.40003700
Yes
Yes
511 Bing Cmn.
Fremont, CA 94536



simplify your deployment

AUTOMATED BUILD STUDIO

Smart Bear Inc.

Automated Build Studio is a release management system that provides an easy and visual way to automate the software development build and deployment process.

Users easily create visual macros by dragging and dropping pre-built operations. More than 500 built-in operations are available in a variety of categories.

www.automatedqa.com/products/abs.asp

info@smartbear.com

telephone
training available
trial available
address

512.257.1569
Yes
Yes
100 Cummings Ctr.
Suite 420B
Beverly, MA 01915

**BENDER RBT TEST CASE DESIGN TOOL**

Bender RBT Inc.

BenderRBT has two test design engines: Cause-Effect Graphing and Pair Wise. The Graphing engine is the only test tool that designs tests that ensure that defects are propagated to an observable point. Its tests maximize coverage while minimizing the number of tests. It does a logical consistency check on the requirements and can generate an as-built spec from the test model - critical for agile projects. The Pair Wise engine supports both orthogonal pairs and optimized pairs. Both engines do strong negative testing.

rbender@benderrbt.com

training available
trial available
address

Yes
Yes
17 Cardinale Ln.
Queensbury, NY 12804



DEVTEST

TechExcel, Inc.

From test case creation, planning, and execution through defect submission and resolution, DevTest tracks and manages the complete quality lifecycle. Regardless of your organization is using manual or automated testing, DevTest presents all test results in a consolidated dashboard view in presentation-quality, custom reports.

www.techexcel.com/products/devtest.html
sales@techexcel.com

telephone	800.439.7782 ext. 5
training available	Yes
trial available	Yes
address	3675 Mt. Diablo Blvd. Suite 200 Lafayette, CA 94549



DSTAR

Mosaic, Inc.

DSTAR™ manages the test data associated with your manual and automated tests to enable full reuse™ of all your tests, scripts and test data. It interfaces as an add-on to HP Quality Center (QC) and with other tools through Mosaic's Reusable Software Testing and Automation Repository (RSTAR™). DSTAR™ supports data import, maintenance and assignment manually or through API's. It also includes an integrated test automation framework and management reporting. DSTAR™ helps maximize reusability and maintainability of your testing assets.

www.mosaicinc.com/mosaicinc/html/dstar.html
kjohns@mosaicinc.com

telephone	312.819.2220
training available	Yes
trial available	No
address	205 N Michigan Ave. Suite 2211 Chicago, IL 60601



EMBED-X

LDRA Ltd.

Embed-X is the first end-to-end application lifecycle management (ALM) solution dedicated to safety, security and mission critical embedded markets. This industry-first embedded application lifecycle management for critical systems coordinates software engineering by integrating project management, requirements management, architecture, coding, software configuration management and testing. ALM solutions automate and enforce processes between the stages of development and manage relationships between assets.

www.ldra.com/embed-x.asp
jonathan.kelly@ldra.com

telephone	44.0.151.649.9300
training available	Yes
trial available	Yes
address	Portside, Monks Ferry Wirral, CH41 5LH United Kingdom



Foxtrot AT

EnableSoft, Inc.

From a leader in user interface automation comes a software testing solution that slashes testing time. Foxtrot AT makes quick work of GUI scripting with no coding required! Our simple drag and drop functionality creates scripts that fully automate the testing process, so you can focus on what you do best—building great software while getting new releases to market faster than ever! GUI scripting. No coding. Drag and drop functionality. Automates repetitive steps. Slashes testing time. Eliminates errors. Speeds time to new releases.

www.enablesoft.com/foxtrotat
rmilam@enablesoft.com

telephone	407.756.1256
training available	Yes
trial available	Yes
address	1870 Aloma Ave. Suite 200 Winter Park, FL 32789



GH TESTER

Green Hat

Enterprises realize agility, quality, and productivity easily and quickly with Green Hat's quality management suite for the SOA lifecycle. Customers get superior end-to-end coverage with automated functional, regression, and performance testing, virtualization, and governance compliance for composite applications that rely on SOA, BPM, Cloud, and legacy technologies. With testing time reduced from weeks to minutes, costs saved, and risks mitigated, customers and service providers can innovate with confidence.

www.greenhat.com/tg2010
sales@greenhat.com

telephone	302.746.7416
training available	Yes
trial available	Yes
address	650 Naamans Rd. Suite 207 Claymont, DE 19703



HP APPLICATION LIFECYCLE MANAGEMENT SOFTWARE

HP Software & Solutions

HP Application Lifecycle Management software provides a centralized platform for managing and automating activities required for the core application lifecycle, and to help drive complete lifecycle management of applications from inception to retirement.

HP Application Lifecycle Management accelerates application transformation by empowering application teams to plan, build, and prepare for the release of applications, components, and services with fewer delays and better quality.

www.hp.com/go/alm

qualitymanagement@hp.com

telephone	408.725.8900
training available	Yes
trial available	Yes
address	19091 Pruneridge Ave. Cupertino, CA 95014



HP BUSINESS PROCESS TESTING SOFTWARE

HP Software & Solutions

HP Business Process Testing software is a web-based test design solution that bridges the quality chasm between subject matter experts and quality engineers. This role-based system enables subject matter experts to build, data-drive, and execute manual and automated tests without any programming knowledge. It reduces the overhead required to test maintenance and combines test automation and documentation into a single effort.

www.hp.com/go/software

qualitymanagement@hp.com

telephone	408.725.8900
training available	Yes
trial available	No
address	19091 Pruneridge Ave. Cupertino, CA 95014



HP FUNCTIONAL TESTING SOFTWARE

HP Software & Solutions

HP Functional Testing software delivers a complete automated solution for functional, graphical user interface, and regression testing that helps you reduce the risks of application failures. This software enables your entire team to correct functionality across all environments, data sets, and business processes. You can also create sophisticated test suites with minimal training and easily perform regression testing in constantly changing environments.

www.hp.com/go/functionaltesting

qualitymanagement@hp.com

telephone	408.725.8900
training available	Yes
trial available	Yes
address	19091 Pruneridge Ave. Cupertino, CA 95014



HP LOADRUNNER SOFTWARE

HP Software & Solutions

Using minimal hardware resources, HP LoadRunner emulates hundreds or thousands of concurrent users to apply production workloads to almost any application platform or environment. HP LoadRunner stresses an application from end-to-end—applying consistent, measurable, and repeatable loads—and then uses the data to identify scalability issues that can affect real users in production.

www.hp.com/go/loadrunner

qualitymanagement@hp.com

telephone	408.725.8900
training available	Yes
trial available	Yes
address	19091 Pruneridge Ave. Cupertino, CA 95014



HP SERVICE TEST SOFTWARE

HP Software & Solutions

HP Service Test offers a simplified approach to headless testing. Rather than create a highly technical script, HP Service Test has a graphical interface that visually constructs tests on a canvas. HP Service Test also includes an extensive toolbox of ready-to-use activities and can be extended to support additional technologies not supported out of the box. The result is a codeless approach for most testing needs.

www.hp.com/go/software

qualitymanagement@hp.com

telephone	408.725.8900
training available	Yes
trial available	No
address	19091 Pruneridge Ave. Cupertino, CA 95014



HP SPRINTER SOFTWARE

HP Software & Solutions

HP Sprinter is an easy to use solution that delivers accurate and efficient manual software testing while dramatically reducing the time needed to perform tests and increasing their accuracy and effectiveness.

www.hp.com/go/sprinter
qualitymanagement@hp.com

telephone	408.725.8900
training available	Yes
trial available	No
address	19091 Pruneridge Ave. Cupertino, CA 95014



HP TEST DATA MANAGEMENT SOFTWARE

HP Software & Solutions

HP Test Data Management software solves the formidable challenge of extracting a business and technically relevant subset of data from production data sources to create a representative, production-like test environment that enables you to effectively test the end-to-end business process using realistic, but de-identified, data.

www.hp.com/go/tdm
qualitymanagement@hp.com

telephone	408.725.8900
training available	Yes
trial available	No
address	19091 Pruneridge Ave. Cupertino, CA 95014



LDRA TESTBED

LDRA Ltd.

Static analysis and code coverage tool for C, C++, Java, Ada83/Ada95 and Assembler (Intel, Freescale, and Texas Instruments).

Static analysis features include code visualization, programming standards checking and complexity metrics. Code coverage is available for different coverage levels including MC/DC level A for the DO-178B standard, regression testing, and available for any host/target environment.

www.ldra.com/testbed.asp
jonathan.kelly@ldra.com

telephone	44.0.151.649.9300
training available	Yes
trial available	Yes
address	Portside, Monks Ferry Wirral, CH41 5LH United Kingdom



McCABE IQ

McCabe Software

The McCabe IQ suite is made up of three multi-platform, multi-language software quality, testing, and security analysis

solutions. McCabe IQ Developers Edition visualizes the complexity of source code and provides a host of metrics with which to measure quality. McCabe IQ Test Team Edition provides advanced code coverage from LOC to Basis Path level. McCabe Enterprise Edition provides all the functionality of the Developers and Test Team Editions, in addition to enterprise reporting and web-enabled test data collection.

www.mccabe.com/iq.htm
jpalmisano@mccabe.com

telephone	401.572.3100
training available	Yes
trial available	Yes
address	41 Sharpe Dr. Cranston, RI 02920



MSTAR—MOSAIC

Mosaic, Inc.

MSTAR® is the industry's most advanced testing process.

This intranet-ready repository provides complete field-proven guidelines, templates, and samples for a risk-based and measurable testing process. MSTAR® also enables successful test automation with a tool-independent automation architecture proven to reduce maintenance and resource costs while dramatically improving long-term benefits. MSTAR® includes complete guidelines for reusable test planning and test data management. It covers all test levels including performance test.

www.mosaicinc.com/mosaicinc/html/mstar.html
kjohns@mosaicinc.com

telephone	312.819.2220
training available	Yes
trial available	No
address	205 N Michigan Ave. Suite 2211 Chicago, IL 60601



NEOLOAD

Neotys

NeoLoad is a load testing software designed for web applications, realistically simulating users and analyzing your servers' behavior. It supports HTTP/S, RTMP, Java Serialization, and RIAs based on AJAX, Flex, Silverlight, and GWT...NeoLoad's exclusive technology allows you to test more quickly, efficiently and frequently so you can deploy your Internet and Intranet applications with total peace of mind. Thanks to its monitoring modules, NeoLoad identifies performance bottlenecks, allowing you to correct them prior to production.

www.neotys.com
sales@neotys.com

telephone	33.442.180.830
training available	Yes
trial available	Yes
address	445 Park Avenue Ctr. New York, NY 10022



PROJECT MANAGEMENT TRAINING SERVICES

Catalysis Group, Inc.

Catalysis Group provides on-site project management training for project managers, project team members, and sponsoring executives. Courses range from fundamentals of project management through advanced topics of risk, sponsorship, and quality.

payson@catalysisgroup.com

telephone	916.929.3629
training available	Yes
trial available	Yes
address	374 Santa Ynez Way Sacramento, CA 95816



QA WIZARD PRO

Seapine Software

Automate the functional and regression testing of web, Windows, and Java applications, and perform web-load testing with QA Wizard Pro. With its powerful, easy-to-use scripting language, keyword and data-driven testing features, and exclusive intelligent control support, QA Wizard Pro helps QA teams increase test coverage and test faster. Use QA Wizard Pro to test applications written with all popular languages and technologies, such as C#, VB.NET, C++, Win32, AJAX, ActiveX, JavaScript, Delphi, and Infragistics Windows Forms controls.

www.seapine.com/qawizard.html
sales@seapine.com

telephone	513.754.1655
training available	Yes
trial available	Yes
address	5412 Courseview Dr. Suite 200 Mason, OH 45040



RANOREX UI TEST AUTOMATION FRAMEWORK

Ranorex

Ranorex is a Windows UI test automation framework for testing many different application types, including Web 2.0 applications, WPF, Silverlight, Adobe Flash/Flex, .NET, and Java. The Ranorex Recorder enables capture/replay of UI tests, edit actions, and generate real C#, VB.NET, and IronPython code. Ranorex object repositories enable separation of test automation code/recordings from RanoreXPath identification information. The IDE includes test project management, an intuitive code editor, code completion, debugging, and a watch monitor.

www.ranorex.com
info@ranorex.com

telephone	43.316.28.13.28
training available	Yes
trial available	Yes
address	Strassgangerstr. 289 Graz, Steiermark 8054 Austria



RSTART™

Mosaic, Inc.

RSTART™ manages your tests and test data in a central repository

to enable full reuse™ of all your tests, scripts and test data. It supports reusable test planning for manual tests that can be shared among testers and also directly automated. RSTAR employs the full power of DSTAR™ to maintain reusable and sharable test data with support for data import, maintenance, assignment to tests and dynamic loading at execution time. RSTAR™ also enables a powerful automation framework that can be implemented in a variety of automation tools.

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telephone	312.819.2220
training available	Yes
trial available	No
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SHASTA QA "OURSOURCING" SOFTWARE TESTING SERVICES

Shasta QA

Located just a few hours north of Silicon Valley, Shasta QA provides an affordable software testing service without the cost of a Silicon Valley address. Shasta QA specializes in "OurSourcing," where we extend your software testing team with American resources to deliver a quality product based on shared goals, business norms, and US time zones. Our services include software, website, and smartphone testing, test management, and independent verification and validation. We also provide consulting on QA process adoption.

www.shastaqa.com
oursourcing@shastaqa.com

telephone	530.242.5799
training available	No
trial available	No
address	P.O. Box 991316 Redding, CA 96099

SmarteLoad™

SMARTELOAD

SmarteSoft Inc.

SmarteLoad is a software performance test tool that enables you to verify your system's ability to cope with increasing load demands under any performance target scenario. With it, you can simulate projected usage patterns and ramp up concurrent user loads as high as necessary while analyzing performance bottlenecks and optimizing system performance—much faster than can be done with any other tools. It's easy to use, no scripting skills needed, very powerful, and comes at a fraction of the price of competing products.

www.smartesoftware.com/sm/smarteload.php
info@smartesoftware.com

telephone	512.782.9409
training available	Yes
trial available	Yes
address	3200 Steck Ave. Suite 250 Austin, TX 78757

SmarteQM™

SMARTEQM

SmarteSoft Inc.

SmarteQM is an integrated QA test lifecycle management system that manages projects, requirements, releases, test cases, issues, defects, and tasks in one unified environment. By combining and integrating QA management, project management, deployment management, and defect tracking with a wide variety of third party and open source tools, SmarteQM allows you to take control of your project lifecycle and synchronize development and testing.

www.smartesoftware.com/sm/smarteqm.php
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telephone	512.782.9409
training available	Yes
trial available	No
address	3200 Steck Ave. Suite 250 Austin, TX 78757

SmarteScript™

SMARTESCRIPT

SmarteSoft Inc.

SmarteScript enables implementation of automated regression test suites four to five times faster than with other tools. In the past, software test automation engineers were forced to rely on either the dated and inefficient method of record and playback testing or the time consuming and error prone process of manual scripting. Now, SmarteScript's scriptless approach offers you a simple, fast, and affordable alternative. SmarteScript makes it easy and fast to automate modern software applications that use dynamic content and objects.

www.smartesoftware.com/sm/smartescript.php
info@smartesoftware.com

telephone	512.782.9409
training available	Yes
trial available	Yes
address	3200 Steck Ave. Suite 250 Austin, TX 78757

SmarteStudio™

SMARTESTUDIO

SmarteSoft Inc.

SmarteStudio is an advanced GUI- and API-driven, functional and regression test automation tool suitable for software developers and QA power-users. SmarteStudio provides an open API with which you can meet virtually any need. It includes rapid script generation capabilities and manual script creation and editing using JavaScript. SmarteStudio provides strong support for the following environments: Adobe Flash/Flex; Microsoft .NET, Win32, and cross-browser testing using Chrome 5, IE 6, Firefox 3.0, and higher.

www.smartesoftware.com/sm/studio.php
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telephone	512.782.9409
training available	Yes
trial available	No
address	3200 Steck Ave. Suite 250 Austin, TX 78757



QUALITY INTELLIGENCE
Intelligence about software quality, intelligently applied

SOFTWARE TEST CONSULTING AND MANAGEMENT

Quality Intelligence Inc.

We work with managers and teams to identify the specific business challenges of software implementation in your organization and determine which of those risks can be addressed by software testing and test management. We recommend practices that will cover your risks, with a practical roadmap and coaching for achievable improvements. When testing is in trouble, we work with your team to get it back on track. We also manage testing on challenging projects, specializing in test program management and large-scale systems integrations.

www.quality-intelligence.com

f ona.charles@quality-intelligence.com

training available
trial available

Yes
Yes



SQE TRAINING

SQE Training

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software tester and train for either the foundation or advanced level certifications with SQE Training. Get the professional development units you need for your PMI certification by taking courses accredited by the PMI.

www.sqetraining.com

lbristow@sqe.com

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address

904.278.0524
Yes
Yes
340 Corporate Way
Suite 300
Orange Park, FL 32073

Stress Tester™

STRESSTESTER

Reflective Solutions Inc.

StressTester is a professional testing tool

designed to correctly simulate realistic load and usage of web applications prior to release. It is totally scriptless and includes embedded, context-driven video tutorials. Tests that would take weeks with other tools take days with StressTester, saving up to 70 percent off the annual testing budget. Including a wide range of monitoring modules, StressTester enables identification of any platform-related issues for rapid problem remediation. It supports agile development and frequent, iterative testing.

www.stresstester.com

alan.liggett@reflective.com

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address

617.502.2070
Yes
Yes
275 Grove St.
Suite 2-400
Newton, MA 02466



TBREQ

LDRA Ltd.

TBreq is a unique solution that can help development teams overcome the challenges of mapping test specifications, unit

testing scenarios, test data and code coverage verification back to their high level design requirements. TBreq interfaces directly with management tools such as IBM® Telelogic® DOORS®, IBM® Rational® RequisitePro®, Microsoft® Word documents or Excel spreadsheets in order to ensure traceability across the complete software lifecycle thus verifying the completeness of the requirements coverage.

www.ldra.com/tbreq.asp

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Yes
Yes
Portside, Monks Ferry
Wirral, CH41 5LH
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TBRUN

LDRA Ltd.

TBrun is LDRA's automated unit testing tool. The functionality within TBrun includes a GUI interface which automates the production of test

data vectors (by using TBExTreme) whilst test harness and stub generation is completely automatic. It also produces the test documentation and other reports. Automatic generation of test data vectors can be provided by TBExTreme for robustness, test scenarios, and support of black-box, white-box and object-box testing.

www.ldra.com/tbrun.asp

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TBVISION
LDRA Ltd.

TBvision provides transparency into source code, enabling managers, teams, and developers to better monitor testing, quality metrics, memory errors and security vulnerabilities. Recognizing the increased need for graphical ability to show code quality, fault detection and avoidance measures, TBvision incorporates next-generation reporting capabilities. As a highly flexible solution, TBvision provides users with the ability to quickly and easily view results in call graphs, flow graphs, and code review reports for graphical feedback.

www.ldra.com/tbvision.asp
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training available	Yes
trial available	Yes
address	Portside, Monks Ferry Wirral, CH41 5LH United Kingdom



TESTCOMPLETE
Smart Bear Inc.

TestComplete is the first test automation tool to support Windows 7. It's an easy-to-use test automation solution with integrated support for a wide range of both internal and UI testing including functional, unit, regression, and load testing. TestComplete supports Windows, Web, VB, .NET, Delphi, Java, Flash, Flex, and Silverlight applications. TestComplete also works with Windows Mobile and smartphones.

www.testcomplete.com
info@smartbear.com

telephone	512.257.1569
training available	Yes
trial available	Yes
address	100 Cummings Ctr. Suite 420B Beverly, MA 01915



TESTTRACK TCM
Seapine Software

TestTrack TCM, a highly-scalable test case management solution, manages all areas of the software testing process including test case creation, scheduling, execution, measurement, and reporting. Cross-platform TestTrack TCM features workflow and process automation, extensive customizability, powerful filters and reports, and comprehensive security. Reporting and graphing tools, along with user-definable data filters, allow you to easily measure the progress and quality of your testing effort.

www.seapine.com/ttcm.html
sales@seapine.com

telephone	513.754.1655
training available	Yes
trial available	Yes
address	5412 Courseview Dr. Suite 200 Mason, OH 45040



TWIST- AGILE TESTING SOLUTION
ThoughtWorks Studios

Twist helps you rapidly test new features, while ensuring all functionality (existing and evolving) does exactly what the business wants. It ensures you can easily accommodate even last-minute changes and cost-effectively deliver tested software aligned to changing business needs. It empowers your team to collaboratively create robust, optimally-automated test suites that stay true to business priorities. Twist delivers on the promise of agile and is based on sixteen years of proven testing innovation at ThoughtWorks.

www.thoughtworks-studios.com/twist
studios@thoughtworks.com

telephone	512.382.5017
training available	Yes
trial available	Yes
address	315 Montgomery St. 6th Floor San Francisco, CA 94104



USERLYTICS
Userlytics

Userlytics provides qualitative audiovisual feedback to help fine-tune your design and development process. Userlytics's remote usability testing solution enables designers, developers, and product owners to capture and analyze each tester's experience as they navigate through your web site, prototype, wireframe, or concept sketch, empowering you to proactively detect and resolve any issues. It takes only a few minutes to create a test and you can expect to receive easily interpretable audiovisual-based results within twenty-four to forty-eight hours.

www.userlytics.com/our-solutions
janet@userlytics.com

telephone	831.708.2385
training available	Yes
trial available	Yes
address	1660 S Amphlett Blvd. Suite 250 San Mateo, CA 94402



VISUAL STUDIO® 2010 ULTIMATE

Microsoft

An integrated environment of tools and server infrastructure that simplifies the entire application development process. Realize increased team productivity by utilizing advanced collaboration features and use integrated testing and debugging tools to find and fix bugs quickly and easily creating high quality solutions while driving down the cost of solution development and testing. Ultimate also gives you powerful load and performance testing and virtual lab management capabilities to complete your application development lifecycle.

www.microsoft.com/visualstudio/en-us/products/2010-editions/ultimate

www.microsoft.com/visualstudio/en-us/howtobuy/default.msp

training available
trial available
address

Yes
Yes
One Microsoft Way
Redmond, WA 98052



VISUAL STUDIO® TEST PROFESSIONAL 2010

Microsoft

An integrated testing toolset that delivers a complete plan-test-track workflow. You can file high fidelity defects with rich diagnostics to eliminate the "No-Repro" scenario. Test Professional is also

integrated with Team Foundation Server 2010 to enable in-context collaboration and extend your application development platform for virtual lab management. This powerful solution enables continuous delivery of efficient build-deploy-test workflows to allow for a faster go-to-market and a better managed QA cycle.

www.microsoft.com/visualstudio/en-us/products/2010-editions/test-professional

www.microsoft.com/visualstudio/en-us/howtobuy/default.msp

training available
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Yes
Yes
One Microsoft Way
Redmond, WA 98052



WEBUI TEST STUDIO

Telerik

This point-and-click, automated testing tool helps users build tests in minutes. The tool requires zero lines of code. Instead, customers

can use smart wizards to visually highlight an element and automatically generate verifications against it. Test maintenance is faster thanks to the employed web-element abstraction techniques. This allows for an element to be updated once and have the change applied to all tests. Furthermore, you can record and play your tests on IE, FF, Safari, and Chrome at the same time.

www.telerik.com/automated-testing-tools.aspx

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TECHWELL™

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