



## FAST FACTS

### Company:

Pivot is an inter-enterprise performance network dedicated to serving the capital markets arena.

### Industry:

Technology

### Geography:

United States

### Challenges:

- Exceed customer expectations by maintaining a high level of quality with each build
- Better prioritize and expand software test coverage
- Support Agile development with existing testing resources

### Solution:

Lifecycle Quality Management

### Products:

- Borland® SilkTest®
- Borland® SilkCentral Test Manager®

### Results:

- Improved overall software quality to exceed customer expectations
- Increased test coverage by 50%
- Support for Agile development methodologies

## Pivot

### COMPANY

Pivot is an inter-enterprise performance network dedicated to serving the capital markets arena. Pivot boosts customers' performance by aggregating and integrating information and data across disparate sources into decision-making and trading specific workflows. Pivot increases relevance through structured data, and networking people and services 360° degrees around transactions. The Pivot network helps transform conversations into ideas and ideas into transactions by integrating information, relationships and transactions into a single pivot point, giving customers the best information to base decisions.

### CHALLENGES

Pivot provides a secure, compliant and comprehensive platform to accelerate decision making and fully leverage capital assets. Its newly released Pivot 360° allows financial services professionals to communicate, integrate and collaborate with external and internal audiences in a secure, fully compliant environment from one central location.

Delivering premium technology such as Pivot 360° requires exceptional diligence and tenacity from Pivot's software development organization, including quality assurance. Financial professionals in the capital markets arena, at both small funds and large financial institutions, communicate regarding billions of transactions daily, and have extraordinary reliability and performance requirements for the technology that supports their business. With a solid reputation for serving this demanding audience, software quality is a top priority for Pivot.

Mark Towle, Manager of Quality Assurance for Pivot states, "Quality Assurance (QA) is a critical component of Pivot's ability to deliver the premium level of reliability and performance our customers have come to expect. We take quality seriously, and we look to adopt the processes and tools we need to support our quality initiatives."

### Exceed customer expectations by maintaining a high level of quality with each build

To develop an innovative product such as Pivot 360°, a deep understanding of the customer need is required. Translating that need into a product that meets customer demand requires that QA play a critical role throughout the entire software development process. While Pivot had implemented quality assurance best practices and process enhancements that kept production defects and the need to issue software patches to a minimum, much of its testing was conducted manually. With Pivot 360°, the QA team knew they needed to scale to accommodate testing for the increased level of sophistication and functionality the new product offered.

The team estimated its current 1,500 test cases would increase to at least 3,200 which would be difficult with manual testing processes alone. Additionally, the Pivot team needed to rewrite or update all of their existing test cases given Pivot 360's new capabilities and graphical user interface. In order to scale to meet the new testing requirements, and to maintain a premium level of quality, the team needed to identify a way to eliminate its reliance of manual execution of test cases.

### Better prioritize and expand software test coverage

Pivot not only needed to scale the number of test cases, but they needed a better way to collect test metrics and analyze test coverage. Typically, the QA team relied on programs such as Microsoft Word and Excel to perform analysis on test metrics. While this method served its

“Quality Assurance (QA) is a critical component of Pivot’s ability to deliver the premium level of reliability and performance our customers have come to expect. We take quality seriously, and we look to adopt the processes and tools we need to support our quality initiatives.” – Mark Towle, Manager of Quality Assurance for Pivot.

purpose when testing was relatively simple, it would become prohibitively complicated as the testing requirements grew. Without the ability to access real-time information related to data such as which test scripts had been run and which had passed/failed, it was hard to answer the question “How to we know when we are finished testing?” In other words, how would they know when the product met the quality standards they had set for themselves?

### Support Agile development with existing testing resources

While Pivot knew that reducing manual testing would be a critical component of their ability to infuse quality into Pivot 360°, leveraging process improvements was equally important. Pivot is leveraging an Agile, iterative approach to software development, with iterations occurring every two weeks. With Agile methodologies, testing can be the bottleneck especially with tests that need to be executed but change only slightly from build to build. In order to leverage this collaborative, business-led approach to software development, Pivot needed to automate as much of the testing phase as possible, while maintaining flexibility, to avoid development bottlenecks.

### SOLUTION

Pivot chose the Borland Lifecycle Quality Management solution to automate the testing phase of its software development lifecycle. The goal was to leverage the efficiencies of test automation to uncover and address defects early in the development cycle and minimize the time and resources required for manual validation. Specifically, Pivot chose Borland® SilkTest® for automated regression and functional software testing, and Borland® SilkCentral Test Manager® for software test management.

Pivot evaluated the leading test automation and test management products in the market and chose Borland Silk because of its support for standard technologies such as .NET and because it offered a complete set of capabilities to fulfill the QA team’s testing needs, providing a single interface for overall test execution and management.

Borland SilkTest’s powerful test automation capabilities provide regression, cross platform and localization testing across a broad set of application technologies, especially with the confines of Pivot’s short testing cycles. Borland SilkTest’s powerful testing framework also enables high reusability of test scripts across projects and iterations to increase test efficiency. With less time spent on building and maintaining regression testing suites, Pivot’s QA staff can expand test coverage and improve application quality.

To support the ability to test based on customer expectations, Pivot is leveraging Borland SilkCentral Test Manager to map test cases to requirements specifications. Borland SilkCentral Test Manager is also used for overall test management and for executing and managing thousands of test cases. Borland SilkCentral Test Manager’s reporting easily provides solid data in terms of test coverage, test execution and results. It also provides a central interface for managing all testing activities.

### RESULTS

#### Improved overall software quality to exceed customer expectations

Using Borland SilkTest and Borland SilkCentral Test Manager, Pivot has automated more than half of their software test cases and infused a new level of efficiency and accuracy into their testing processes. Overall quality for products such as Pivot 360° has been cemented, with a 100% reduction in post production-issued software patches. Additionally, the team is exponentially more efficient. Test plans that used to take one tester one week, working 8 hours a day, to complete manually, now run unattended in just five hours using Borland Silk. Pivot estimates that the efficiency and increased test coverage provided by Borland Silk has delivered a 100% return-on-investment for the Borland solution in under one year.

**“QA is critical to every aspect of our business—it is a central cog touched by all of our teams to deliver the highest levels of product reliability, value and performance for our customers. The addition of the Borland LQM products allowed us to far exceed objectives for our quality initiatives. We have increased test coverage by 50 percent and reduced test time by 90 percent, much more quickly than we anticipated.”** – Mark Towle, Manager of Quality Assurance for Pivot.

### Increased test coverage by 50%

Since implementing Borland Silk, Pivot has more than doubled test coverage for its flagship product, Pivot 360°, which further delivers value and performance for customers. Pivot doubled the number of test cases from the previous release of IMTRADER from 1,500 to 3,200, initially, and then doubled the number again once development was fully underway. The QA team increased the number of test cases from 3,200 to 6,000 without increasing QA team resources, which dramatically improved test coverage. This means the team can identify and fix more defects than ever before, resulting in higher overall product quality.

Pivot is enabling an improved level of collaboration and visibility across the entire software delivery lifecycle, aligning business, development and QA. Borland Silk enables the QA team to track, measure and analyze test metrics including project status, requirements and test coverage, quality trends, milestones, test type and defect trends. This provides the QA team with the actionable information they need to better answer the question, “How do we know when we are finished testing?” and prioritize criteria for making development decisions.

### Support for Agile development methodologies

By automating more than half their test cases using Borland Silk, the Pivot QA team is supporting the development organizations’ iterative approach to software development using Agile methodologies. Testing is not a bottleneck and the inherent high quality infused by leveraging Agile is made more powerful through efficient testing.

“QA is critical to every aspect of our business—it is a central cog touched by all of our teams to deliver the highest levels of product reliability, value and performance for our customers,” said Towle. “The addition of the Borland LQM products allowed us to far exceed objectives for our quality initiatives. We have increased test coverage by 50 percent and reduced test time by 90 percent, much more quickly than we anticipated.”