



QuerySurge™
Ensuring Data Warehouse Quality

2011 Enterprise Edition

QuerySurge™ is enterprise software to automate your data warehouse testing cycle and validate the integrity of your organization's data.

Make critical business decisions with confidence.

Gartner, in recent years' predictions, has written that "Business users have lost confidence in the ability of [IT] to deliver the information they need to make decisions." This is because the rapid evolution of data sources, business intelligence tools, and data warehousing tools has led to inconsistencies and bad data quality.

Data warehousing is the cornerstone of your organization's information infrastructure, and the data within is one of your most important business assets. No matter what type of business intelligence tool you are using on the front-end, intelligent decisions cannot be made if the analysis of data is not accurate and timely. It is vital that any issues surrounding data quality be addressed in order for the data to add value to your organization.

The solution to ensuring data integrity is simple in concept - compare all of the data in the source system(s) with all of the data loaded into the data warehouse and data mart(s). This solution, however, is often impossible to achieve manually due to the sheer volume of existing data.

To protect your enterprise applications from the risk of poor data quality, you need to regularly manage, maintain, and monitor all data in your data warehouse. This cannot be done through manual testing alone. QuerySurge™ is the only data warehouse testing tool that automates tasks throughout the ETL test process to verify data and meet the intense demands of your organization.

QuerySurge™ helps you:

- Automate many data warehouse testing cycle activities
- Verify data across all points during the ETL process
- Validate all data, not just a subset or sample
- Pinpoint mismatched and missing data
- Obtain an accurate view of your data warehouse, reducing risk and avoiding future issues
- Profile the performance of your data warehouse

How QuerySurge™ works

QuerySurge™ is built around a central repository that stores queries, allowing testing of millions of rows of data during a run. Once the repository is populated with queries that are customized for each source system and each business rule, volume data testing can begin. The tool framework is fairly simple – it pulls queries from the repository and executes them against the source systems and the data warehouse.

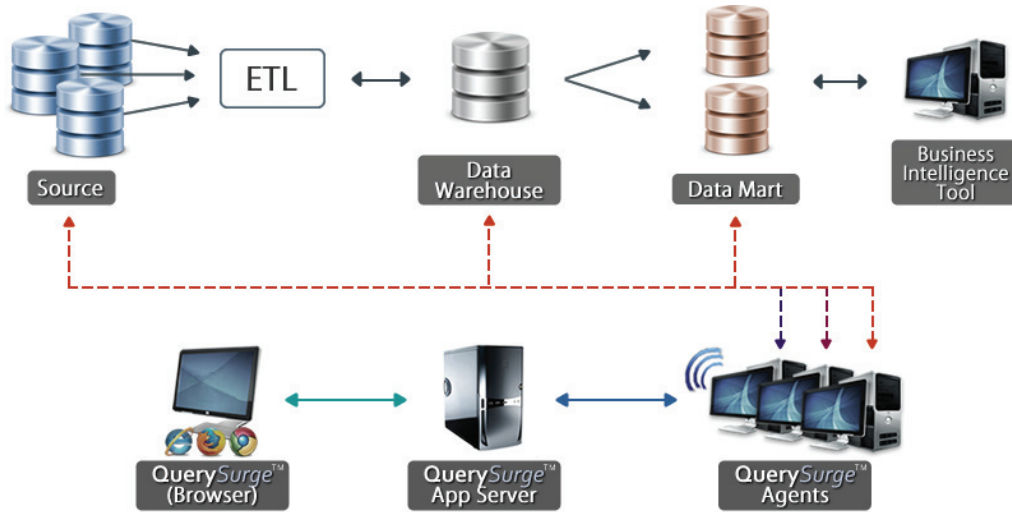
The queries are written to return the data in a common format, regardless of differences in database structure. The tool then compares the results of these queries to find discrepancies in the data within the different systems.

Continued

Highlights

- Reduce the duration of the data warehouse test cycle with automation and scheduling of tasks
 - Improve the quality and usability of your data warehouse through validation at every point of the ETL process
 - Mitigate risk for your organization by testing as much as 100% of all data in the system
 - Comply with data integrity standards and regulations with a documented audit trail
 - Provide management with the business intelligence they need by generating high-level and detailed reports
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Illustration: QuerySurge™ interacting with a common data warehouse architecture.



The queries are written based on business requirements for the extraction and transformation of data from each of the source systems to the data warehouse. Each pair of queries creates a test case for a particular business requirement. QuerySurge™ also supports reusable query snippets, which may then be used across a range of related tests. This allows for a lower maintenance cost, as a subset of the query library can be modified by slightly changing the underlying query snippet.

The tool utilizes a server that connects to agents on remote clients. The software quality engineer connects through a web-based client to modify, execute and view results of the tests. This permits distribution of large query libraries over several clients, as tests can be run concurrently on several clients (24 x 7) in order to reduce the total required execution time. The decrease in testing cycle time, in turn, can reduce the time between builds in the development cycle, enabling more cycles and builds prior to release.

Measurable benefits

This level of testing can help ensure that data meets the business requirements specified, building confidence in the accuracy of the data contained in the data warehouse. The measured level of reliability provided by data integrity testing underscores the value in the investment.

QuerySurge™ offers these benefits:

- Drastically improve the speed of your test cycle, saving time and money
- Validate as much as 100% of all data
- Use the software for data migrations, system upgrades, and query performance profiling
- Have an audit trail for data integrity standards and regulatory requirements
- Mitigate risk and meet business requirements
- Enhance the skilled human element of testing

The return on the investment comes from the ability to measure and track data warehouse data integrity over time with a low per-cycle overhead.

Your organization will know the measured quality of its data at any time, and can proceed with confidence in reporting and data warehousing projects.

Key features

QuerySurge™ was developed to streamline the data quality test cycle by giving your quality assurance team intuitive tools and options.



Scheduling

Organize your tests into test suites to ensure coverage across the entire ETL process.



Administration

Create and manage user profiles, database connections, agent configuration, and data archiving options.



Design

Build libraries of test query pairs and reusable query snippets.



Reporting

Generate summary and detail reports on scenario results with a complete audit trail of test modifications. View and export source and target data comparisons



Run Dashboard

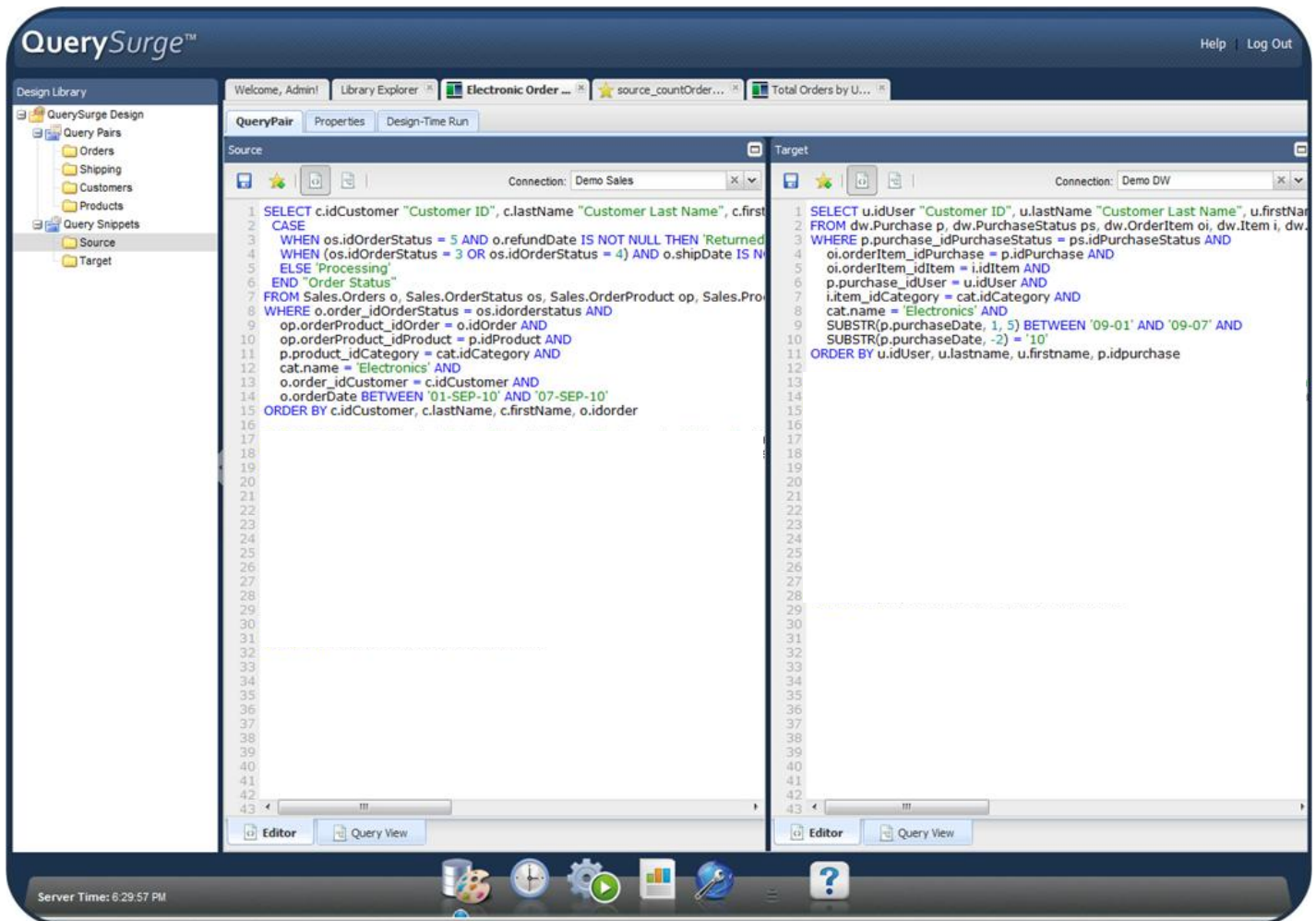
View the real-time status of scenarios on the Run Dashboard, and drill down into test details and data failures



Web-based

Access QuerySurge™ through a lightweight, customizable web interface. Simplify deployment across your project teams.

Design Library + Scheduling



Build libraries of test query pairs and reusable query snippets, and then organize your tests into test suites to ensure coverage across the entire ETL process.

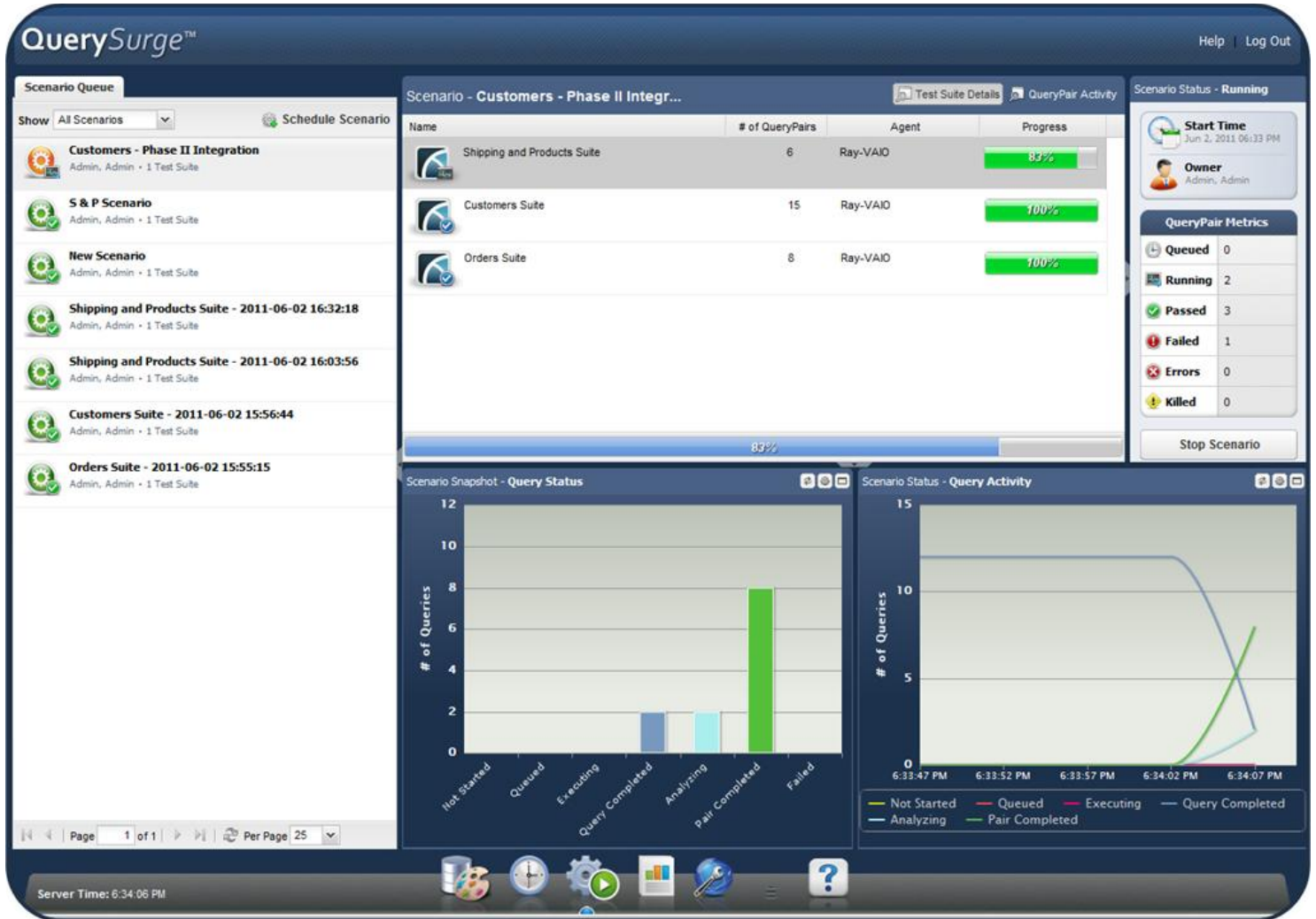
Design Library:

- Test Query Pair Creation
- Reusable Query Snippets
- Test Query Pair Management

Scheduling:

- Test Scenario Scheduling
- Test Suites

Run Dashboard



View the real-time status of scenarios on the Run Dashboard, and drill down into test details and data failures.

Run Dashboard

- Real-Time Execution View
- Real-Time Results View

Results Reporting

Scenario Summary Report - S & P Scenario
 This report provides an overview of a scenario, it's test results, and outcome metrics.
 June 2, 2011
 Admin Admin

Scenario Status: ❌ **FAILED**

Jun 2, 2011 5:46:56 PM Start Time | Admin, Admin Owner

Test Results

| | | | |
|---------|----------|----------|-----------------|
| 6 Total | 3 Passed | 3 Failed | 50% Reliability |
|---------|----------|----------|-----------------|

Overview

| | |
|---|---|
| 00:00:54.000 Scenario Duration (hh:mm:ss.ms) | 66,436 Verifications |
| 11,007 Data Failures | 0 Row Count Differences (# of QueryPairs) |
| 00:00:00.231 Avg. Source Query Execution (hh:mm:ss.ms) | 00:00:01.012 Avg. Target Query Execution (hh:mm:ss.ms) |
| 1,848 Avg. Source Row Count | 1,848 Avg. Target Row Count |
| 0 Source SQL Exceptions | 0 Target SQL Exceptions |

Scenario Status - Query Activity

of Queries vs. Time (5:47:08 PM to 5:48:02 PM)

Legend: Not Started, Queued, Executing, Query Completed, Analyzing, Pair Completed, Failed

QueryPair Outcome Distribution

Pie Chart: Passed: 3 (Blue), Failed: 3 (Red)

Server Time: 6:31:34 PM

Generate presentable summary and detail reports on scenario results with a complete audit trail of test modifications. Also, view and export source and target data comparisons.

Results Reporting

- Analyze and drill-down into test results