Building data integrity in the public sector

Why governments need automated, continuous, end-to-end data testing

The future of government depends on data. And that means building and strengthening data integrity — ensuring information is trustworthy throughout your technology ecosystem. But data integrity can be elusive. As data moves throughout your IT environment, each stop creates opportunities for errors. One way to improve data reliability is to implement robust testing in every phase of the data journey.

Why data integrity matters

AI/ML decision making. Agencies are increasingly deploying automation and AI/ML-driven solutions to improve service delivery. But those efforts will never be successful if the underlying data is not accurate. In the new world, you are using your data to train models that, in effect, create AI/ML decision making. Validated data is becoming more and more critical in all these processes.

Data curation efficiency. Poor data integrity can degrade application performance, causing inefficiencies and delays.

Compliance, trust, and authority. Agencies need to know the data they receive for compliance is accurate and usable. Poor data integrity makes it harder and more complicated to provide oversight — undermining trust in vital government services. Errors, omissions, and inconsistencies threaten credibility and undermine governments' authority.

Complexity. Increasingly intricate public sector IT ecosystems are more vulnerable to data-driven breakdowns. A data-entry glitch anywhere could sprawl across dozens of applications or hundreds of databases.

One solution for all your data scenarios

Agencies face several use cases where data integrity is needed. These include:

Delivering decision-grade data for your analytics, BI, and AI/ML initiatives.

Maintaining data integrity as you modernize your data infrastructure for AI/ML.

Delivering high-quality data to your internal audit teams and regulators.

Delivering high-quality operational data for your decision-making processes.

Maintaining data integrity as you migrate data and consolidate systems – cloud, on-prem, and hybrid.

Working with Tricentis to elevate data integrity

Tricentis Data Integrity provides a powerful way to eliminate data integrity issues before they do any damage. Our end-to-end codeless test automation covers everything from the integrity of the data fed into your system, to the accuracy of integrations, transformations, and migrations, to the verification of report logic and presentation.

- **Pre-Screening tests.** The Pre-Screening wizard facilitates the early detection of data errors (missing values, duplicates, data formats, etc.). Use it to ensure that the data loaded into the staging tables is correctly structured and formatted. You can also verify that the field level data meets your requirements (e.g., allowed values or patterns).

- **Vital Checks and Field Tests.** Vital Checks and Field Tests expose data copy or data move errors. You can automatically generate Vital Checks and Field Tests for both data quality and data processing. Tests for metadata, completeness, uniqueness, and referential integrity can be created out-of-the-box. The generated test cases cover table-level checks as well as field-level checks for the various BI/DWH layers.

- **Reconciliation tests.** Reconciliation testing performs complete source-to-target comparison. These reconciliation tests can perform algorithmic or complete row-by-row comparisons of two data sets from two disparate systems. These tests can be associated with your transformation requirements — providing instant insight into which transformation requirements have been tested and whether those tests succeeded or failed.

- **BI report tests.** Tricentis model-based test automation automates testing of BI reports by providing checks for fully-laid-out reports or analyzing the underlying data that is fed into the reports (e.g., Cognos, Tableau, QlikView, etc.). Tricentis customers who have used model-based test automation to automate their BI report testing have achieved automation rates of up to 85+%, thus eliminating the need for the manual "stare and compare" report testing.

- **End-to-end testing.** End-to-end testing can be performed using pre-screening tests on files and/or databases, completeness, integrity, and reconciliation tests on the inner DWH layers, and UI tests on the reporting layer. Databases, flat files, HDFS, as well as web UIs, APIs/services, etc., are all supported, allowing a true end-to-end data testing approach across all layers of the data warehouse environment.

The risks of bad data threaten every part of the public sector, from providing basic constituent services to embracing cutting-edge AI initiatives. A modern data integrity testing solution ensures quality throughout the data life cycle. The government can optimize spend by adopting a comprehensive data testing solution that consolidates multiple toolsets in a centralized platform. Most importantly, the Tricentis Data Integrity testing solution is technology-agnostic with the ability to automatically vet data from any source and any target for data validation.
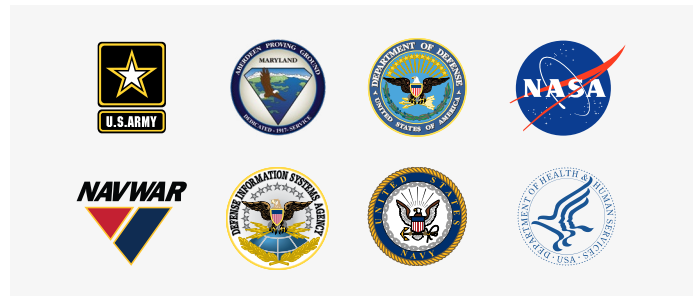
We're a leader

Tricentis is positioned in the Leaders category by IDC, Forrester, and Gartner. Over 3,000 clients across the globe have partnered with us to transform their test automation program. Our customers trust Tricentis to enable the quality release of mission-critical applications, processes, and data, accelerated through testing that is completed in hours instead of weeks.

Learn more

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