THE BUSINESS CASE FOR GENROCKET'S TEST DATA AUTOMATION

In today's software-driven world, efficient testing is critical. Traditional Test Data Management (TDM) practices, while familiar, come with limitations that hinder testing effectiveness and cost efficiency. Enter GenRocket, a groundbreaking solution that not only addresses these limitations but also delivers exceptional value and unmatched Return on Investment (ROI). In this business case, we'll delve into the compelling reasons why GenRocket is the ultimate choice for businesses seeking to optimize their testing processes.

The Limitations of Traditional TDM: A Costly Challenge

Traditional TDM practices, such as subsetting and masking production data, are widely used but have inherent limitations as outlined below.

- Limited Data Variety & Volume
- Must Be Reserved & Refreshed
- Lengthy Data Provisioning Time
- Data Not Mapped to Test Cases
- Not Integrated in CI/CD Pipeline
- High Cost of Ownership

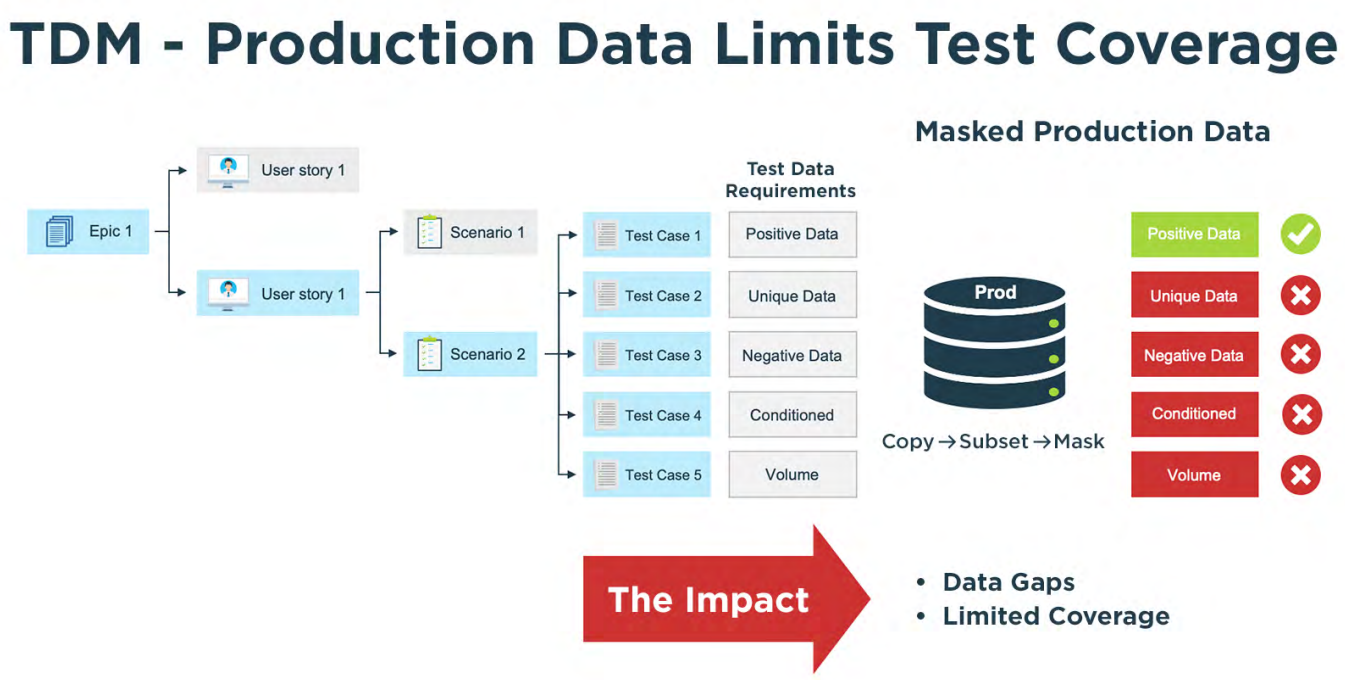
Lack of Data Variety

Traditional TDM fails to provide the diverse data types needed for comprehensive testing. To truly ensure the deployment of quality software, each test case requires specific and unique data to meet test objectives and maximize test coverage.

Here are examples of some typical required data types:

- Positive data is needed for validating new software functionality
- Unique data is required for applications without existing data
- Negative data is essential for defect detection and error condition testing
- Boundary values are critical for properly testing edge case conditions
- Test data must be conditioned to test business rules and transaction flows

The limitations on test data variety creates limitations for test coverage. As a result, most organizations are only testing 20 to 30% of their code prior to deployment to production.



Limited Data Volume

Because of limitations on data variety, there is never enough volume of the right kind of data that's needed for a thorough and complete testing process. For proper load and performance testing, the volume of data required to simulate heavy usage conditions may require millions, or even billions of rows of test data.

Provisioning a high volume of data for comprehensive testing extends the data provisioning time and dramatically drives up the cost of data storage.

Reservation and Refresh

In traditional TDM, a gold copy of test data is created from a production data source that's shared by multiple testers and their test procedures. Data subsets are often reserved by testers to preserve the accuracy and availability of the data they need for testing.

As this shared test database is consumed and modified by various applications under test, it becomes stale and contaminated, leading to inaccurate test results.

The remedy is a cumbersome data refresh process that many organizations fail to perform with sufficient frequency to keep their test data completely fresh and accurate.

Filling the Data Gaps

Filling the data gaps inherent in subsetted and masked production data usually requires the manual creation of test data. Testers often augment production data with manual test data to increase test coverage and condition data for validating business rules and program logic. This is accomplished by filling out spreadsheets or writing scripts to generate the required data values.

Manual test data has its own limitations:

- It's time-consuming and labor-intensive to produce
- Manually created data is prone to human error
- It can be difficult to simulate complex data table relationships
- The data is static and difficult to use for testing dynamic transaction flows

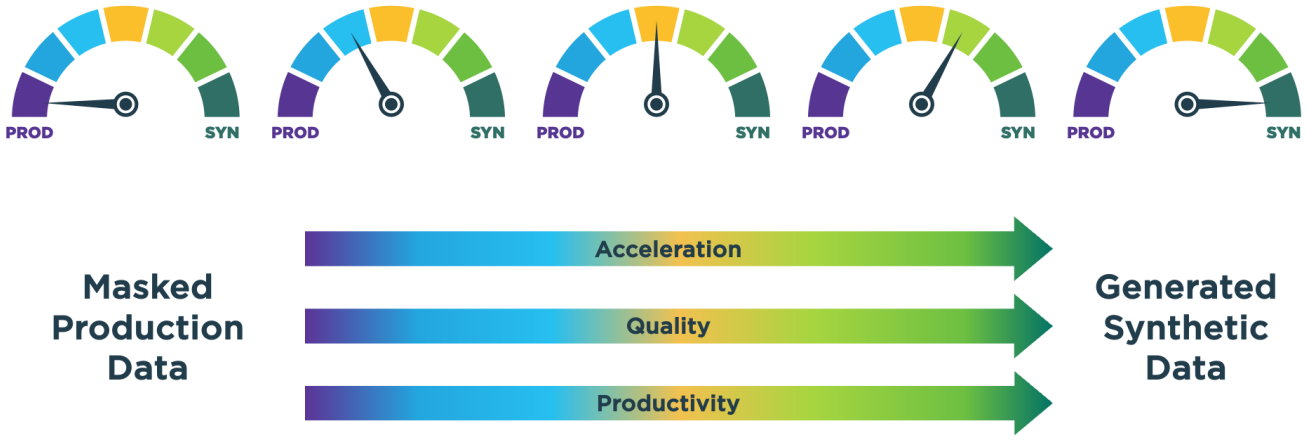
It's time for the traditional test data management process to evolve into a more streamlined and automated approach that maximizes coverage and accelerates data provisioning time.

Test Data Management is Evolving to Test Data Automation

GenRocket has innovated a new paradigm called *Test Data Automation (TDA)*. It combines the familiar world of test data management with a new synthetic data paradigm. It introduces the ability to model, design, and deploy any volume, variety, or format of synthetically generated test data directly into an automated test environment on-demand.

With GenRocket's TDA, developers and testers can use a single platform to subset and mask a production database for testing while transitioning to the use of generated synthetic data to fill data gaps, eliminate sensitive data, and accelerate the entire testing process.

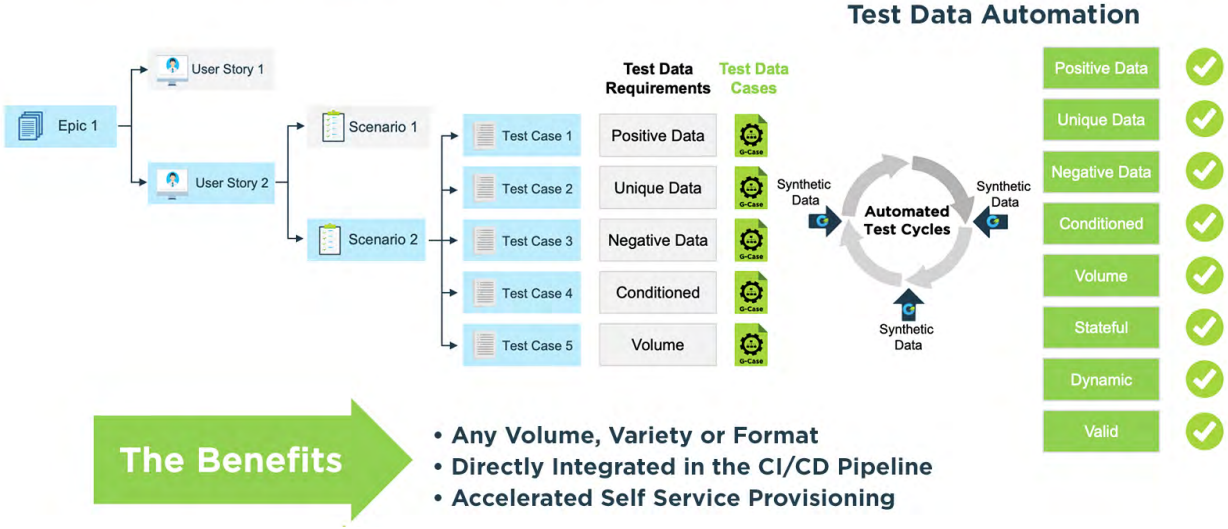
An Evolutionary Path to Full Scale Synthetic Test Data Automation



The GenRocket platform is used to map synthetic test data to the requirements of each test case and configure an executable instruction set called a *Test Data Case*. This allows each test case to have its own associated Test Data Case with the precise data needed to maximize coverage.

GenRocket calls these instruction sets G-Cases, and they are executed during automated test cycles to generate synthetic data for each test operation in real-time. G-Cases can be shared, reused, and repurposed to accelerate data provisioning time and maximize team efficiency.

A New Paradigm - Test Data Automation (TDA)



The Benefits

- **Any Volume, Variety or Format**
- **Directly Integrated in the CI/CD Pipeline**
- **Accelerated Self Service Provisioning**

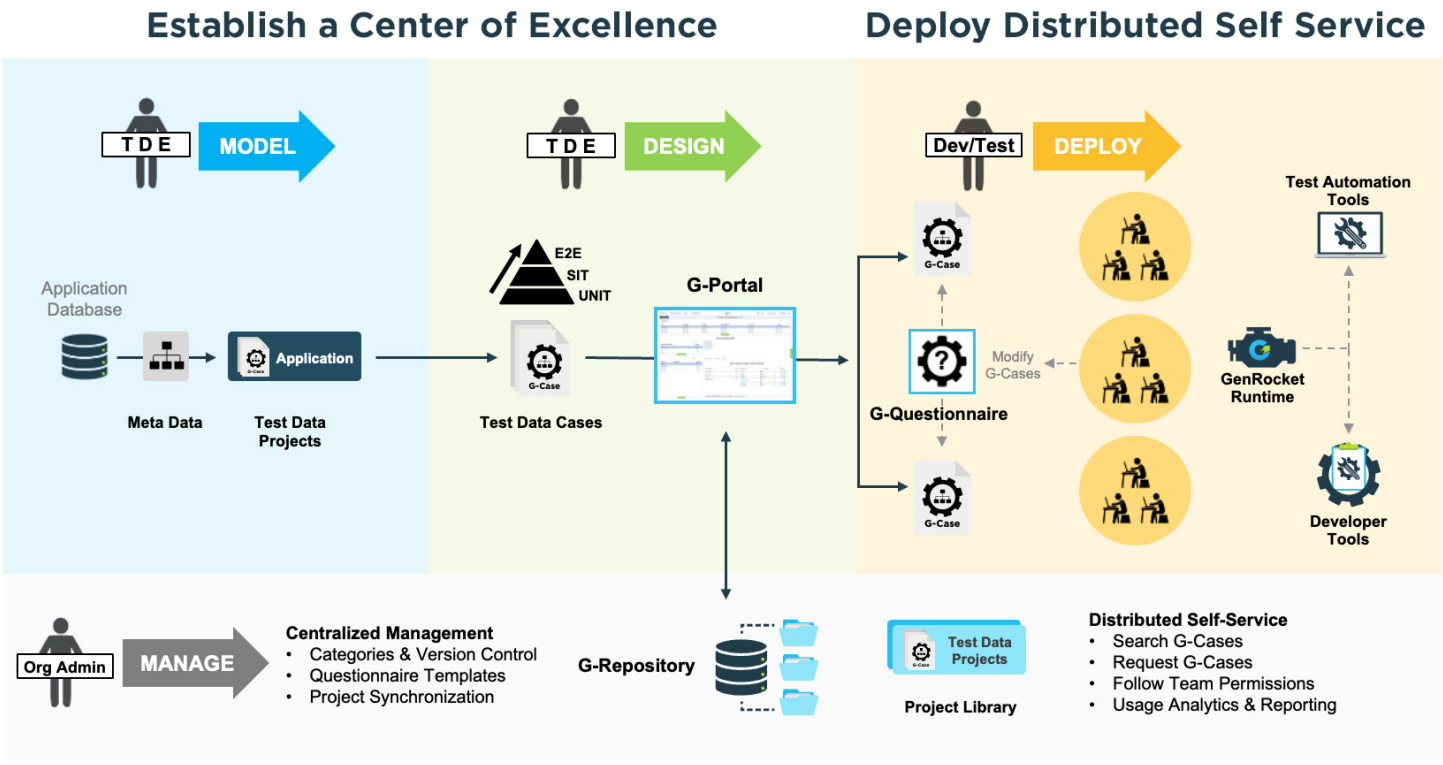
Test Data Orchestration

Each G-Case contains the blueprint for generating a pre-defined data profile whenever it's needed. When a G-Case is executed, a fresh copy of synthetic data is generated for testing. There is no need to reserve, refresh or even store the data. And G-Cases are easy to integrate with any automated test tool or framework. A simple command can be sent by any test script to the GenRocket Runtime Engine via Rest API to call and execute the G-Case needed for instantaneous synthetic data generation.

With GenRocket TDA, it's easy to generate the right test data, at the right time, deployed in the right place to provide any automated test environment with full *Test Data Orchestration.*

Self Service Test Data Provisioning

The deployment model for Test Data Automation enables frictionless enterprise scalability. Using a distributed self-service platform, developers and testers can request the test data they need through a user-friendly portal. Through this portal, they will receive an executable G-Case that's ready to generate the data they need on-demand and directly in their CI/CD pipeline.



The GenRocket Advantage: Unlocking Maximum ROI

Let's summarize how GenRocket's TDA effectively overcomes the limitations of traditional TDM while delivering the industry's highest value for money:

Any Volume, Variety, or Format - GenRocket empowers organizations to generate vast amounts of test data in any desired format, ensuring comprehensive testing coverage.

Uncompromising Security - GenRocket eliminates the need for sensitive production data (PII) safeguarding private information and ensuring regulatory compliance.

Exceptional Value for Investment - GenRocket's competitive licensing fees and the absence of costly hardware investments make it an extremely cost-effective choice.

Time and Resource Savings - Traditional TDM often necessitates manual data creation, consuming time and introducing errors. GenRocket streamlines and automates the process.

Unparalleled Efficiency - GenRocket's innovative distributed self-service model, driven by a modular and component-based architecture, enables enterprise scalability as it drastically reduces data generation times from days to minutes.

Accelerated Test Cycles - GenRocket's deployment results in a significant reduction in test cycle times, significantly increasing test coverage.

Defect Reduction - By doubling or even tripling test coverage, GenRocket has the potential to cut defect rates in half, leading to considerable cost savings.

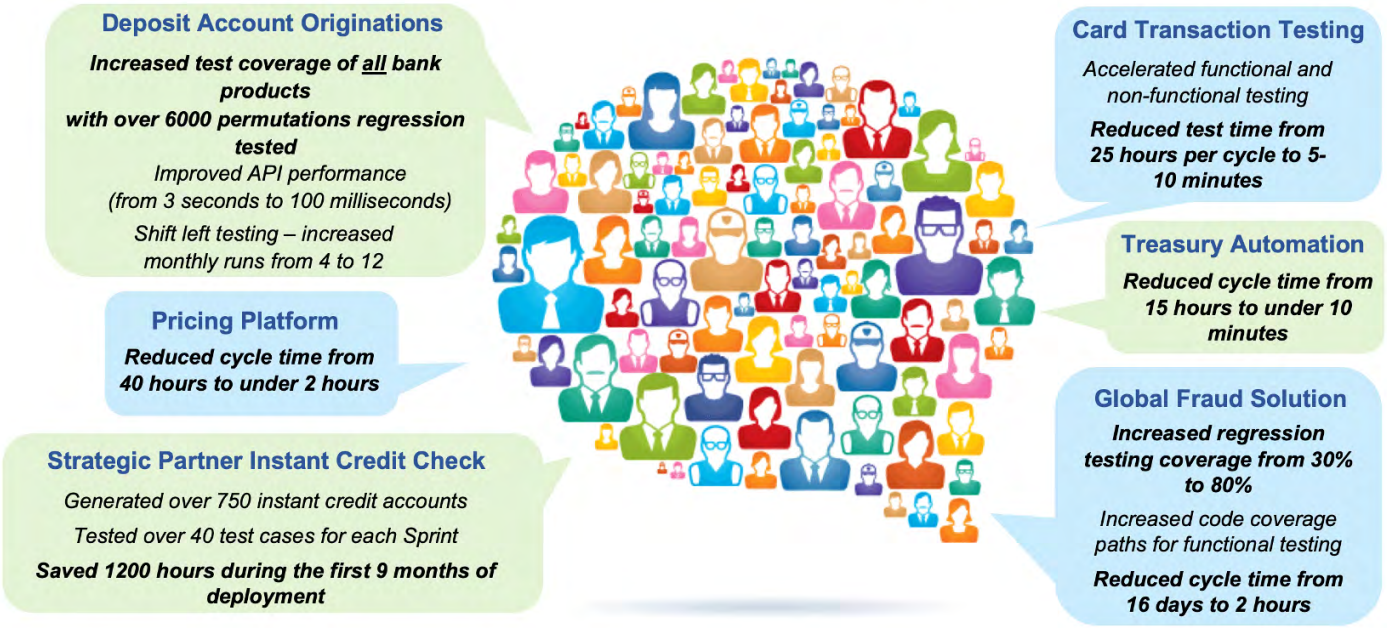
Analytics and Value Metrics – GenRocket has the unique ability to track test data usage and coverage to measure its value, continuous improvement, and Return on Investment.

An Example of How TDA Drives Quality and Efficiency

During a six-month GenRocket initiative, a global financial services company achieved a dramatic increase in operational efficiency. The initiative involved 23 scrum teams across multiple value streams including *Card, Bank, Payments, and Analytics.*

- Reduction in Test Cycle Time
    - Annual time savings of 1,212 hours (over 30 person-weeks per year)
    - A 98% reduction in test data provisioning time (days reduced to minutes)
- Reduction in Software Defects
    - A 67% improvement in test coverage (more testing with greater data variety)

Real-World Customer Benefits



GenRocket: A Strategic Investment for Your Business

GenRocket is not just another solution; it's a strategic investment for businesses seeking to optimize testing processes, reduce costs, and accelerate time-to-market. By eliminating the constraints of traditional TDM and delivering exceptional value, GenRocket is the key to unlocking maximum ROI in the dynamic and competitive world of software testing. When excellence is non-negotiable, GenRocket is your ultimate partner for success.