# A Distributed Self Service Platform for Test Data Automation

As software testing becomes increasingly automated, traditional Test Data Management (TDM) is evolving. Masked production data imposes too many limitations of the testing process. From the perspective of developers and testers, every test case needed to validate a new software release requires its own specific test data.

In addition to positive data, many other varieties of test data are needed. For applications with no existing data, new and unique data is needed. Negative data is required to find defects and test error conditions. Test data must often be conditioned to test business rules and transaction flows. And there is never enough volume of the right kind of data for testing.

Traditional Test Data Management
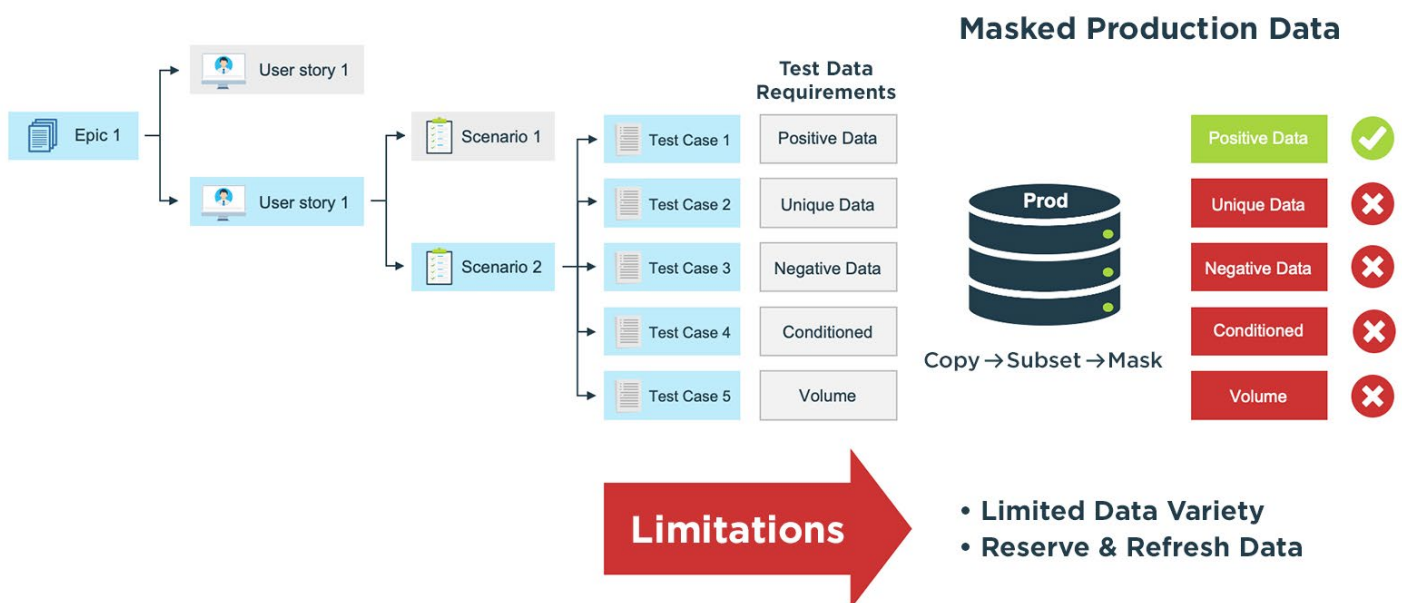
This often leads to the use of manually created test data to fill the data gaps and ensure sufficient test coverage. Manual test data often takes the form of spreadsheets or requires the development of scripts to produce the required data values. The use of manually created test data is time consuming and labor intensive. It's also two-dimensional data and not useful for simulating complex data relationships.
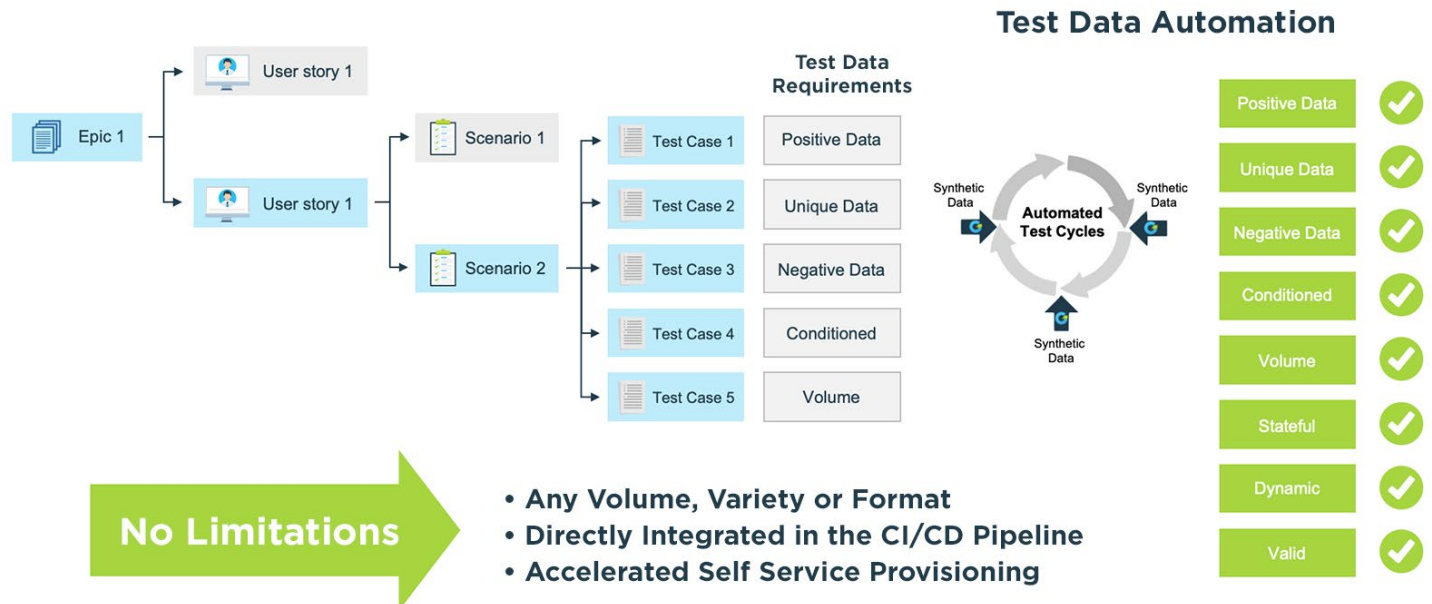
Filling the Data Gaps Manually
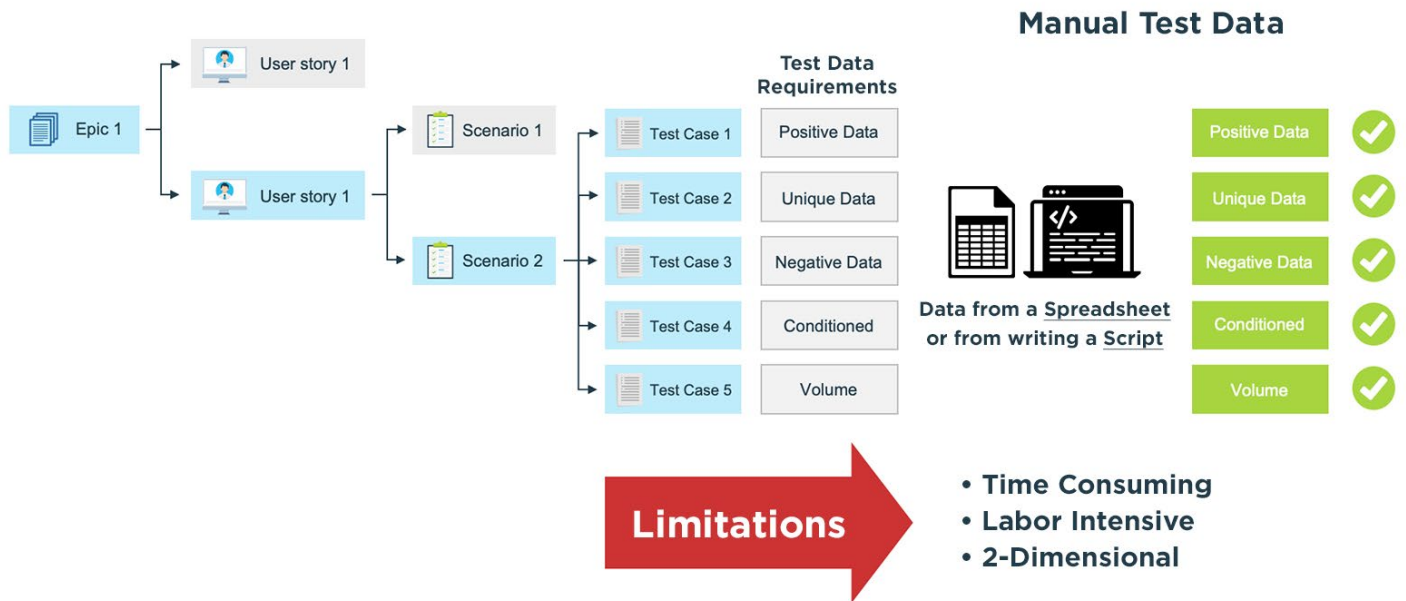
In addition to limited data variety and volume, *Traditional Test Data Management* methods often require test data to be reserved so that different teams of developers and testers have enough test data to work with. And these test data sets require frequent data refreshes as test data is altered when tests are run in a shared database environment - leaving the test data in an unknown state.

Using masked copies of production data is an outdated approach for test data and has a negative impact on test cycle time, coverage, and team productivity. GenRocket has created a new paradigm called synthetic *Test Data Automation* that removes these limitations and makes the whole test data process dynamic.

The New Data Provisioning Paradigm

Test Data Automation

Test Data Requirements

Epic 1 → User story 1 → Scenario 1 → Test Case 1	Positive Data
Epic 1 → User story 1 → Scenario 2 → Test Case 2	Unique Data
Test Case 3	Negative Data
Test Case 4	Conditioned
Test Case 5	Volume

Synthetic Data → Automated Test Cycles ← Synthetic Data
Synthetic Data

Positive Data	✓
Unique Data	✓
Negative Data	✓
Conditioned	✓
Volume	✓
Stateful	✓
Dynamic	✓
Valid	✓

No Limitations →
- Any Volume, Variety or Format
- Directly Integrated in the CI/CD Pipeline
- Accelerated Self Service Provisioning

With GenRocket, synthetic data is generated in real-time during an automated test cycle. There's no guesswork and never any data gaps. Any volume, variety, or format of synthetic data can be designed into an executable TEST DATA CASE and executed by an automation framework running in the CI/CD pipeline.

GenRocket Test Data Automation (TDA) is a paradigm shift in the way that test data is requested and provisioned. The benefits of using this model include accelerated provisioning, single platform resource, and the highest value for the money of any TDM or synthetic test data platform in the market.

The Distributed Self Service Model

GenRocket's distributed self-service model relies upon a components-based architecture running in a hybrid cloud environment.

- A small, centralized group of Test Data Engineers, working in the Center of Excellence, receive test data requests through G-Portal.
- Synthetic test data is then modeled and designed in the Center of Excellence.
- Requestors receive the Test Data Cases, called G-Cases, through G-Portal.
- G-Cases can be modified as needed or reused, dramatically shortening the time to generate test data *from days to minutes.*

TDA End-To-End Workflow

Establish a Center of Excellence   Deploy Distributed Self Service
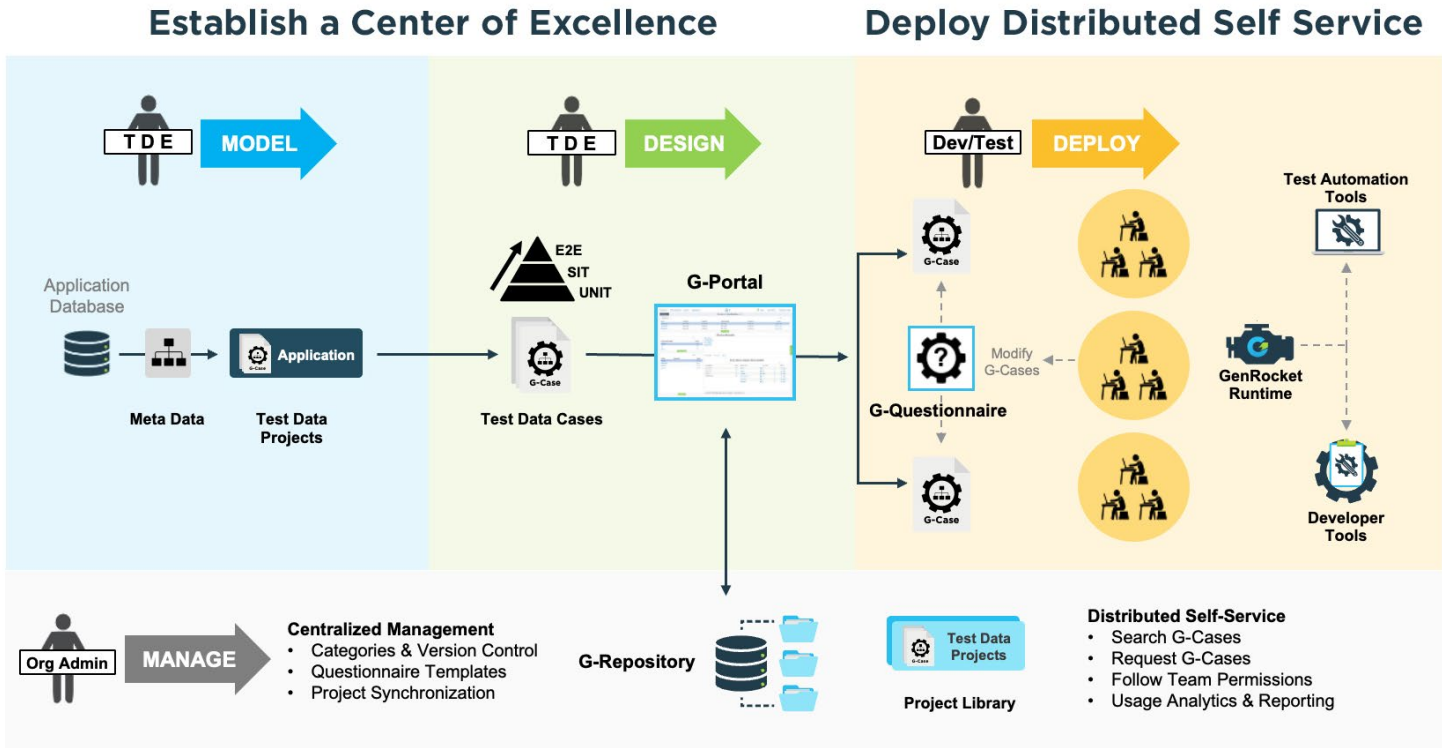
The Distributed Self-Service model allows distributed teams to:

- Retrieve and execute *G-Cases* to generate synthetic data
- Request a new *G-Case* design for any category of test
- Access TDA resources based on *Team Permissions*
- Track platform adoption and optimize system performance
- Measure value metrics that demonstrate ROI

With GenRocket, ***every test case can have a matching test data case.*** This allows test data to be available instantly and on-demand for every developer and tester. And with GenRocket, there's never a need to store, reserve, or refresh data. Just retrieve and execute the small instruction set in the required G-Case. The data is generated in real-time and can be purged when no longer needed.

What Does Distributed Self Service Mean to You?

Accelerated Provisioning of Test Data

- Astonishing speed of synthetic test data generation – literally, from days to minutes using the GenRocket platform.

Reduced Cycle Time

- Automated data delivery fully integrates into CI/CD pipeline, further reducing or eliminating waiting for test data.

Single Platform for Global Testing Needs

- GenRocket easily tackles all synthetic test data production needs including positive and negative data, patterns, and permutation, or masked and subsetted production data - use one platform for all your testing needs.

Highest Value and ROI

- GenRocket is dramatically more cost efficient that other TDM or synthetic data platforms, and with more robust features.
- Save valuable developer and test engineering time to execute more tests while accelerating the entire SDLC.

Flexible and Secure

- Use GenRocket to generate synthetic test data or to subset and mask production data while maintaining 100% security of the source data file or database.

Outstanding Test Data Variety

- With GenRocket, synthetic test data knows no limits. The platform can easily produce any data variety requested and can be blended with production data to solve any test data challenge.

Generate Synthetic Test Data in Any Format

- 700+ intelligent data generators
- 100+ output data formats
- Used extensively in financial services...
- Including ISO 20020 and SWIFT MT/MX formats
- Used extensively in healthcare...
- Including X12 EDI test data for healthcare insurance claims processing
- And many other industries (e.g., e-commerce, telecommunications, utilities)

Full Integration into CI/CD Pipeline

- Easily integrates into your CI/CD pipeline for rapid test cycle times

Unlimited Volume

- Unique partitioning capability ensures that GenRocket can generate nearly limitless volume of synthetic test data upon request without lag (e.g., millions to billions of rows of data in minutes)

Single Platform for Global Testing Needs

GenRocket also offers intelligent data subsetting, synthetic masking sensitive data in databases and files to create a single platform for provisioning any type of test data – generated synthetic data, masked production data, or even a blended test dataset. This allows customers to systematically manage a transition from costly and complex *Test Data Management* systems to the more flexible, dynamic, and powerful *Test Data Automation* paradigm. Now Quality Engineering organizations can have the best of both worlds in a single platform.

To learn more about this new and innovative approach for automated test data delivery, please refer to the materials listed below. They will help you better understand the power and scope of the GenRocket platform.

- [Executive Briefing Video](#)
- [Distributed Self-Service Overview](#)
- [Subsetting and Masking Capabilities](#)
- [Full Press Release](#)

If you would like to view GenRocket in action, please let us know. We'd be delighted to share this powerful distributed self-service platform with you and answer your questions. Just submit the form at the bottom of the page.

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