

Self Service Synthetic Test Data

Test Data Automation for the Age of Agile

Enterprise Launch – Customers

AGENDA

1. Welcome
2. GenRocket Company Update
3. Software Quality & Test Data Update
4. GenRocket Enterprise Launch
5. Live Demo
6. Q&A



2. Company Update

Team Growth

35 Team Members

Revenue Growth

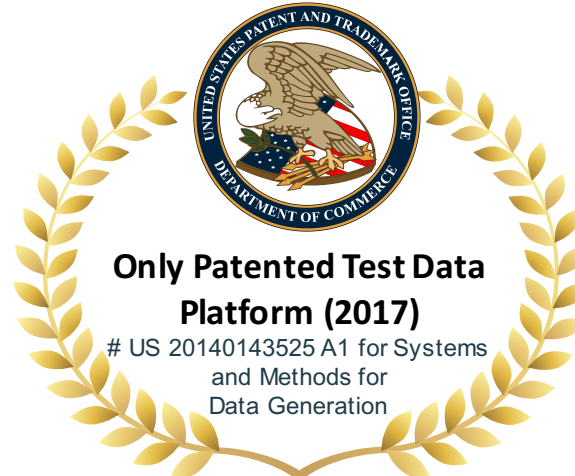
100%

License Retention Rate

95.5%

- 5 X 24 Hour Support
- 1,000+ Knowledge Base articles
- GenRocket University training
- Customer Success Managers

- 30+ Alliance & Technology Partners
- 500+ GenRocket Certified Engineers
- Implementation and Customization Services
- Integration w/ test automation frameworks

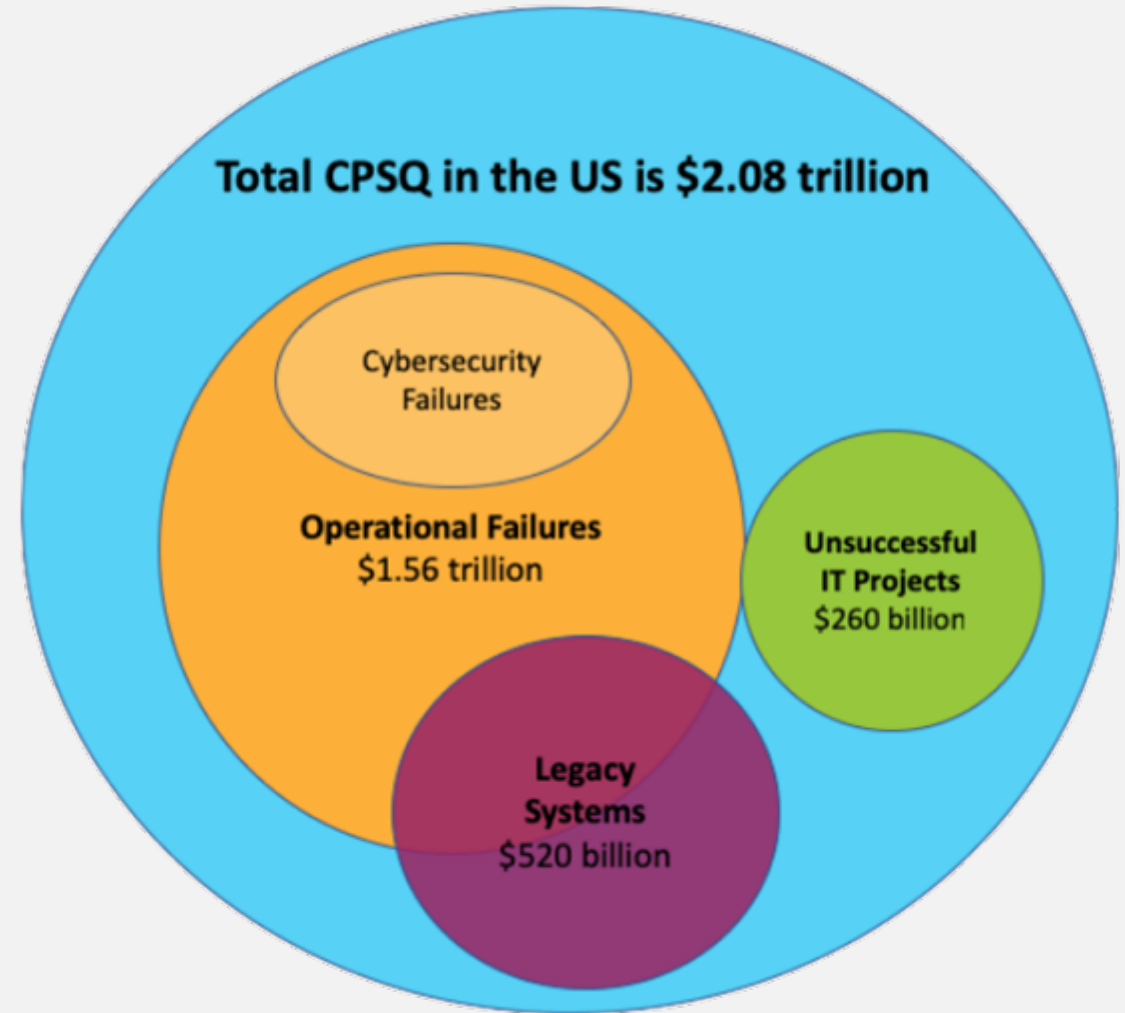


3. The Cost of Poor Software Quality

Last year, \$2.08 trillion was lost in the U.S. because of poor software quality*

- Software defects
- Fragile legacy systems
- Cybersecurity failures
- Failed IT projects

Organizations are failing to fully test their code prior to production release.



*Consortium for Information & Software Quality (CISQ)

To Maximize Software Quality ...

Testing With the Right Test Data is Critical

Data Variety is needed to maximize test coverage

Data Volume is needed to ensure system performance

Data Velocity is needed to enable continuous delivery

Traditional Test Data Provisioning

Use spread-sheets to manually generate new test data



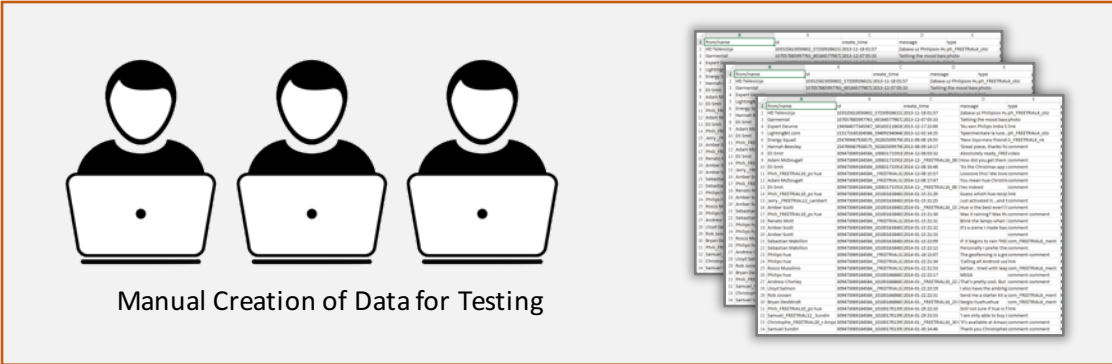
Copy production data that we anonymize before testing



- Over 50% of QA professionals report challenges with test data
- Testers spend 30% to 60% of their time provisioning test data
- Most organizations have automated less than 20% of testing

Current Test Data Challenges

Using Spreadsheet Data for Testing



Challenges:

Labor Intensive

Limited Volume

2-Dimensional

IMPACT on Agile Teams: *Reduced Coverage and Speed*



Need Combinations
& Permutations



Need Data for
Negative Testing



Need Faster
Provisioning Time

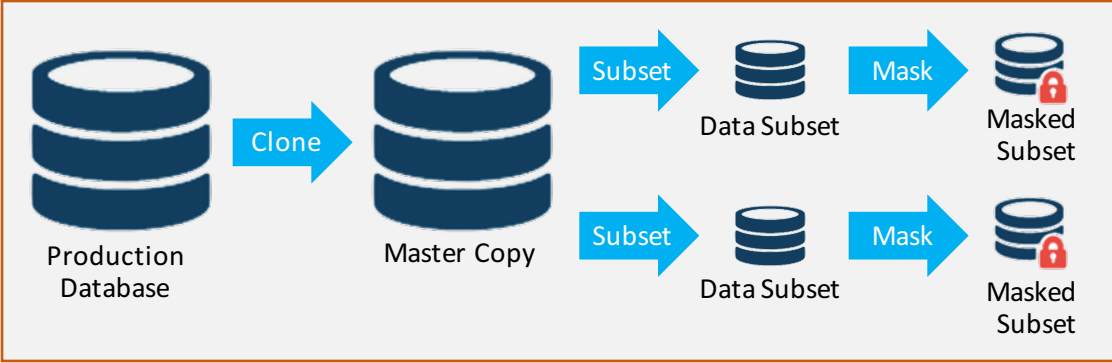


Need Dynamic
Data for Testing
Workflows



Need High
Data Volume for
Load Testing

Using Production Data for Testing



Challenges:

Days to Provision

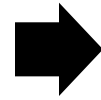
Limited Variety

Cost of Ownership

The Emergence of Synthetic Test Data

DESIGN ANY TEST DATA

- Positive
- Negative
- Unique
- Permutations
- Workflows
- Transactions
- Data Feeds
- X12 EDI
- Messages
- IoT Sensor
- Dynamic
- Salesforce



GENERATE IT FOR ANY TEST

- Unit
- API
- Integration
- Functional
- System
- Security
- Smoke
- Load
- Performance
- Compatibility
- Acceptance
- Regression

GenRocket Enterprise Class Synthetic Test Data

1. Data Generators
2. Data Formats (Receivers)
3. Distributed Self Service
4. Data Validity (blended production data values)
5. Scalability
6. Life Cycle Management
7. Designed for Agile & DevOps Integration



1. Data Generators

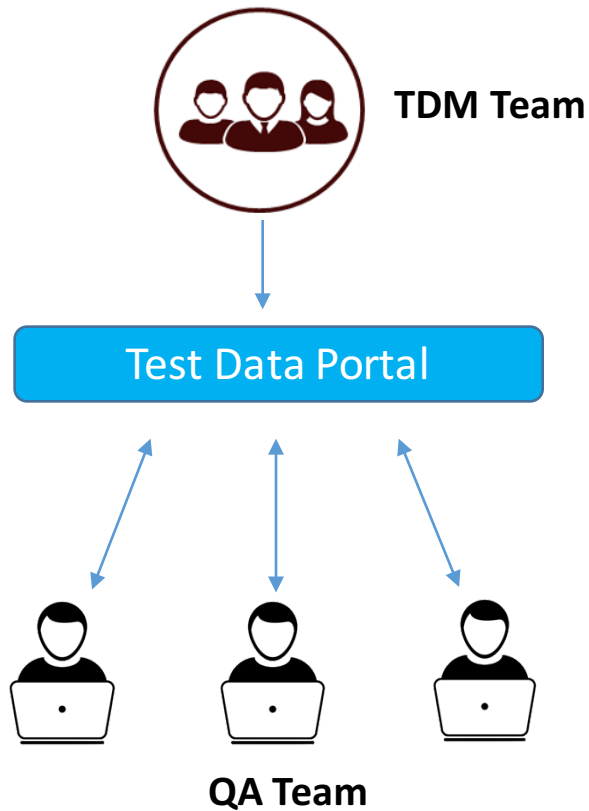
- 650+ Data Generators
- Country Generators for 39 countries
 - name, address, city, state, postal code, passport, national id
- Calendar & date
- Financial
- Business logic
- String manipulation
- Permutations
- Edge cases
- Etc.

2. Data Formats (Receivers)

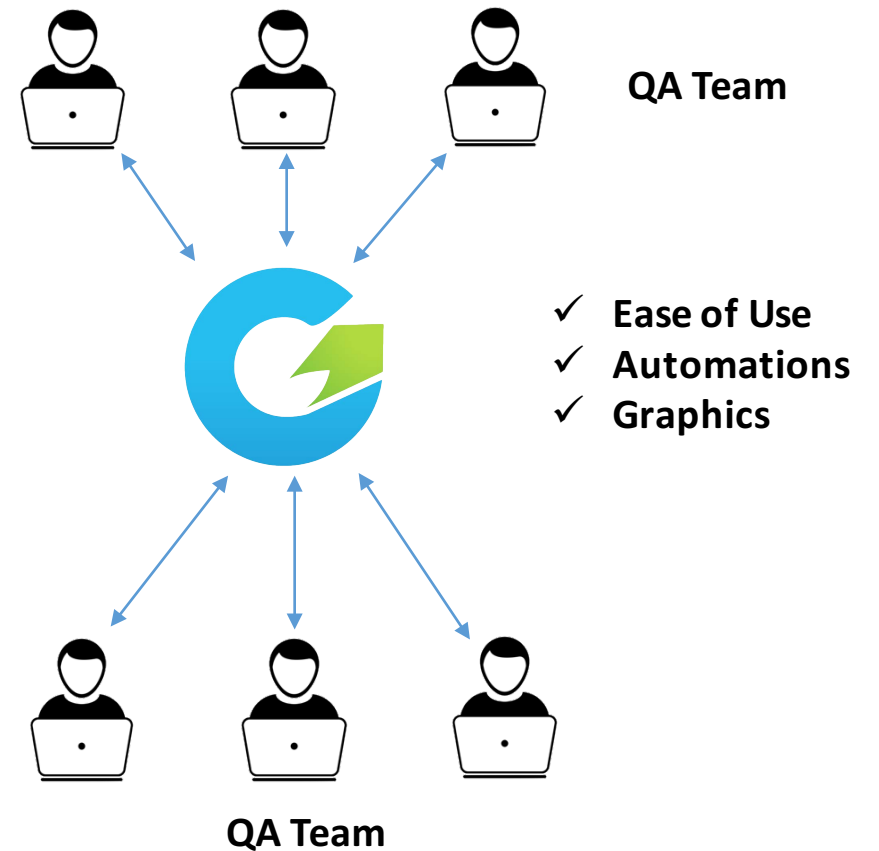
- 75+ Receivers
- Any SQL database
- Any NoSQL database
- XML, JSON (flat, nested)
- REST API, Socket API, SOAP
- COTS – Salesforce, SAP, Guidewire, Duckcreek...
- Kafka, SWIFT, ISO 20022
- Snowflake, Parquet, Avro (flat, nested), AWS S3
- X12 EDI 837, 835, 834..., HL7, FHIR
- Data Feeds
- Transactional Data

3. Distributed Self Service






Centralized Self Service



Distributed Self Service



3. Self Service Components

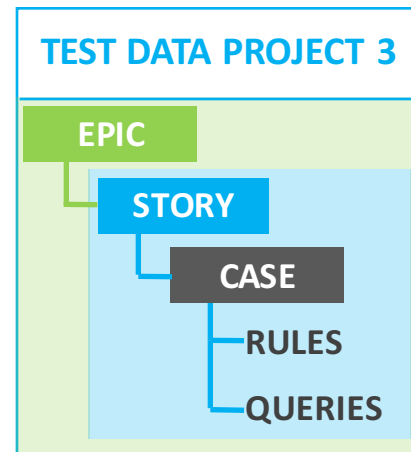
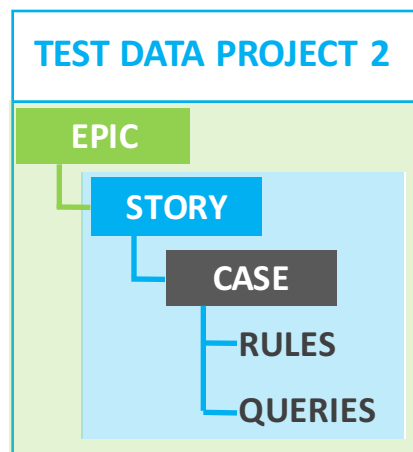
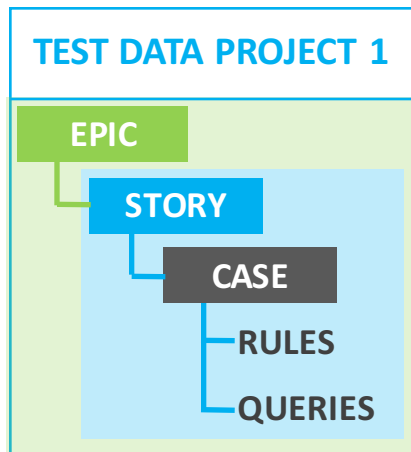
GenRocket Term	Think of it like...	Example
 Test Data Case	How you specify the exact test data needed for a test case	100 customers (unit), 5 Branches with 10 Accounts with 1,000 Customers (Integration)
 Test Data Rule	How to apply rules against your Test Data Case to only get the data you want	Platinum customer starting bank balance: \$10,000, Gold customer starting balance: \$5,000 - \$9,999
 Test Data Query	Ability to query specific production data values from a file or database	Query Platinum and Gold customer Account #'s to blend with synthetically generated data
 Test Data Stories	Stories combine a group of Test Data Cases	Combine Type Tables Test Data Cases with Account Table Test Data Cases
 Test Data Epics	Epics combine a group of Test Data Stories	Combine Integration Test #1 with Integration Test #2

4. Data Validity

- Real production data values (enumerated data) needed for test validity
 - Account #
 - Customer ID
 - ICD-10 code (healthcare)
- Query Generators (17)
 - Query from a database or file (csv)
- Blend synthetically generated data with real production data - in real time

5. Scalability

- High speed data for automated functional tests
 - ~100 milliseconds for most functional tests
 - 10,000 rows of data per second for most functional tests
- High volume data for big data requirements
 - Partition engine to generate millions to billions of rows in minutes
- Organize, manage, share & maintain thousands of test data cases



6. Life Cycle Management

- Management
 - Team Permissions
 - SSO (Single Sign On)
 - Maven Repository integration
 - G-Analytics – full reporting & analytics dashboard – users, projects, platform activity
- Data Model Changes (Add / Remove Database Tables, Columns)
 - G-Delta*
 - Run G-Delta
 - Look for data model changes
 - Alert Admin to accept (or not) data model changes
 - G-Refactor
 - Automatically update the data model in GenRocket
 - Automatically update impacted Scenarios

*G-Delta to be released April 2021

7. Designed for Agile and DevOps Integration

An Agile Epic

As an agent, I wish to generate a quote, so I can add a new customer

Agile Stories

Create Agent

Create Customer

Create Quote

Make Payment

Create Policy

The GenRocket Methodology

MODEL

DESIGN

DEPLOY

MANAGE

Define Model

Test Data Project

Any Data Model

Referential Integrity

Design Data

Any Data Variation

Blended Prod Data

Unlimited Volume

Deploy Data

Any Output Format

Framework Integration

Automated Execution

Manage Projects

Team Permissions

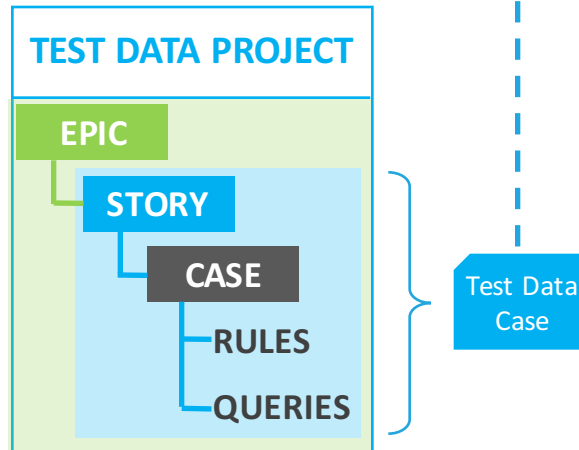
Lifecycle Management

Analytics & Reporting

7. Test Case <> Test Data Case

Agile Sprint

Test Data is Designed to Meet the Needs of Each Test Case



Test Data Projects Contain:

Test Data *Cases*

- Configures data for various test categories

Test Data *Rules*

- Applies business rules for generating data

Test Data *Queries*

- Retrieves production data values

Test Data *Stories*

- Defines test data for an *Agile Story*

Test Data *Epics*

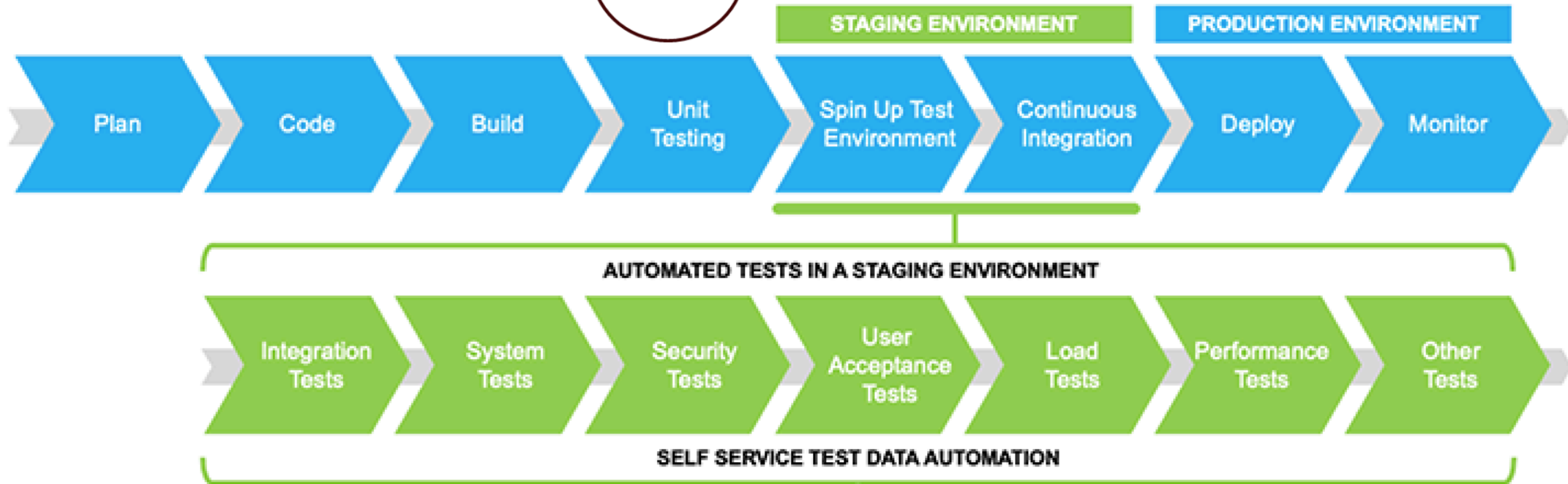
- Defines test data for an *Agile Feature*

7. Test Data for CI/CD Pipeline Automation

Synthetic Test Data On-Demand



for Developers



Synthetic Test Data On-Demand

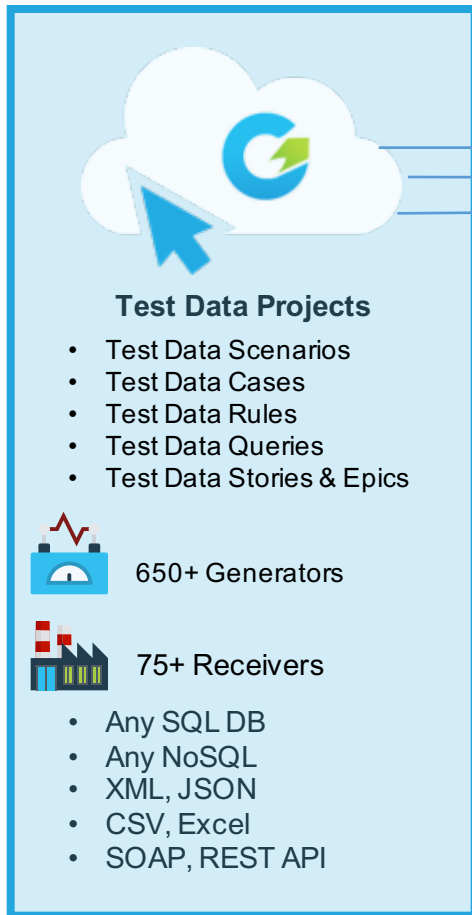


for Test Automation

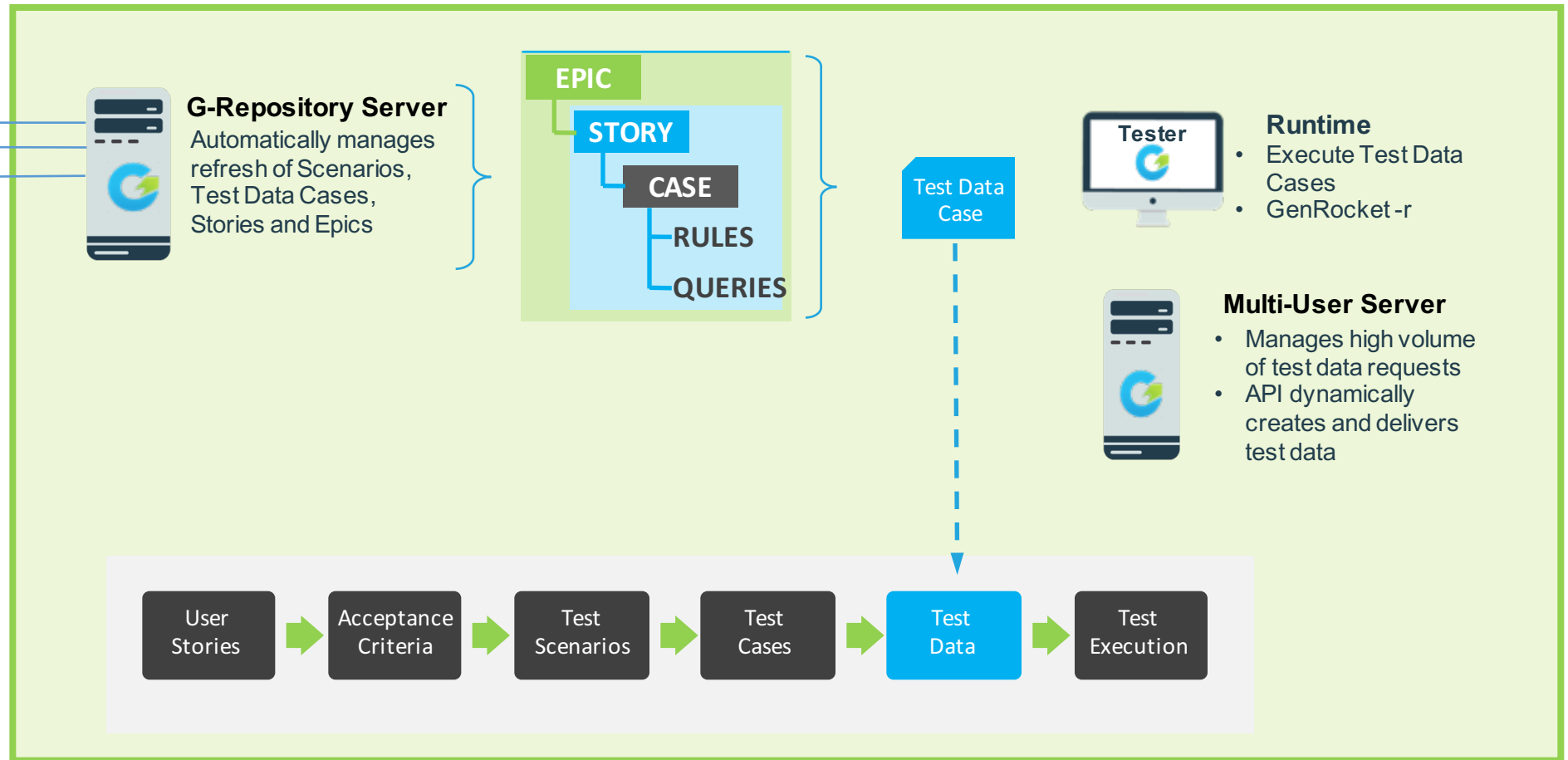
Live Demo

Enterprise Solution Architecture

Cloud



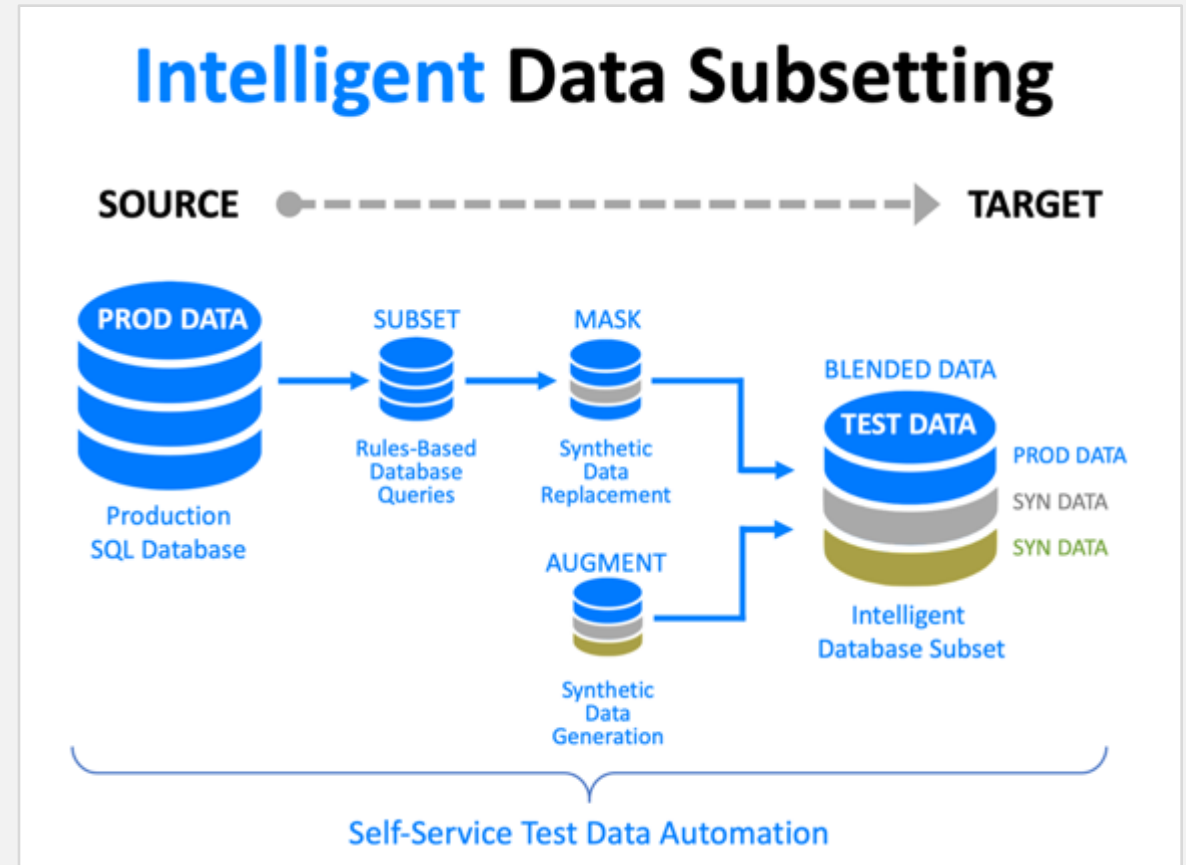
On Premise



Also Announcing: G-Subset

Introducing G-Subset

- Configure **rules-based queries** to retrieve a production data subset
- “Mask” all sensitive data using **synthetic data replacement**
- Augment data variety and volume with **synthetic data generation**
- Share and re-use **blended data subset** configurations for multiple test cases



New Pricing

		STARTUP	TEAM	PREMIUM	ENTERPRISE	UNLIMITED
Annual License Fee		\$10,000	\$15,000	\$25,000	\$50,000	Request Quote
Maximum Projects		3	10	25	50	Request Quote
Total Domains (Tables) across Projects		1,000	5,000	15,000	30,000	Request Quote
Named Users and/or Named Servers		10	25	50	100	Request Quote
KEY FEATURES		STARTUP	TEAM	PREMIUM	ENTERPRISE	UNLIMITED
Self Service Test Data Design		Yes	Yes	Yes	Yes	Yes
Library of 650+ Data Generators		Yes	Yes	Yes	Yes	Yes
Library of 70+ Data Receivers (Formats)		Yes	Yes	Yes	Yes	Yes
Team-Level Permissions			Yes	Yes	Yes	Yes
Data Lifecycle Management*			Yes	Yes	Yes	Yes
Intelligent Data Subsetting & Masking				Yes	Yes	Yes
Complex Test Data Workflow Management*					Yes	Yes

Q&A