



CASE STUDY: REVOLUTIONIZING HEALTHCARE TESTING

GenRocket offers 100% secure synthetic test data for healthcare claims processing system that improves accuracy and accelerates test cycle time.

Overview

A healthcare IT company operates as a clearinghouse that processes billions of dollars of insurance payments for a large and diverse network of payers and providers. The company offers a full spectrum of claims processing and electronic payment services. Inherent in their solution is the flexibility to support a multitude of data formats used by their customers.

This healthcare IT company turned to GenRocket's synthetic Test Data Automation platform to improve the accuracy and flexibility of its core claims processing systems while replacing the use of sensitive production data. The result was a better, faster, and more effective testing process with 100% secure and private test data.



The Challenge: Testing Healthcare Transactions Without Sensitive Production Data

Testing healthcare transaction and payment processing systems requires complex test data and absolute data privacy. Using masked production data can put sensitive data at risk and carries the risk of exposing personally identifiable information (PII), personal health information (PHI), or payment card industry data (PCI). Provisioning data from production systems can also be a lengthy process and when the data arrives, it may or may not fully meet the requirements of each test case.

That's because there are many business rules that must be tested for accuracy in claims processing. Treatment codes must match up with diagnostic codes. And coverage amounts must align with policy provisions. **Health insurance claims are notorious for human errors in the assignment of diagnostic, procedure, prescription, and billing codes. And there's always the potential for insurance fraud.**

Because ensuring the accuracy of these payments is essential, all system enhancements undergo extensive testing before they are deployed to production. This requires highly sophisticated test data capable of simulating a wide variety of claims with data configured to represent valid, as well as invalid, insurance claim scenarios.

In addition, the company is committed to support any data format used by their customers to process their transactions. To that end, their payment systems translate all incoming claims data into a standard data structure for internal processing. Then the data is reformatted to an X12 EDI 835 Electronic Remittance Advice to document the payments made to providers via electronic funds transfer.

Because of the sensitive nature of insurance claims data, the company wanted to eliminate the use of production data for testing. They learned that conventional data masking solutions offer no guarantee of 100% data privacy – and that only synthetic data can make that claim.



The Solution: Accelerated Test Cycle Time and Improved Testing Accuracy

GenRocket enabled this healthcare IT company to ensure all data used for testing was in sync. GenRocket's rules-based approach allows complete control over the data generation process ensuring that diagnostic, treatment, and billing codes are properly matched. Coverage amounts can be tested with boundary values to prevent overpayment. Negative testing can be performed to ensure invalid data is properly detected by the system. And GenRocket can stress test the system with patterns and permutations of synthetic data in any volume to simulate heavy load conditions.

When all test data is in sync, the testing outcome is accurate. **By ensuring the data is clean and synchronized, any errors uncovered in testing can be assigned to the software under test, not the data.** GenRocket's secure, accurate data eliminated the data as a potential source of errors.

To support any type of file format used by their client base, the claims processing system uses a generic file format to process all claims. It does so by reading an X12 EDI file, extracting all the elements required for payment processing, and outputting them in fixed tab delimited file format. This allows all payments to be processed using a common internal file format.

This file structure can be challenging to re-create for testing purposes. **Working with GenRocket's developers, the company was able to set up rules to generate synthetic test data that matched the precise structure and format of this critical test file.**

Additionally, the company was able to support different test scenarios by chaining together or removing different record types for various test cases. Some of their test procedures required a mix of batch and individual files linked together by a client ID number.

With GenRocket, they were able to generate synthetic test data files for the many scenarios needed using this fixed tab delimited file format with ease. **They were also able to generate any of the required X12 EDI transaction sets and configure the data to match each customer's specific X12 EDI implementation.**

Accurately testing this complex transaction data flow supports a critical aspect of the business for this healthcare IT company. Ensuring the accuracy of payments maximizes profitability for both the company and its customers. Because they aren't limited to any file type, they can welcome a variety of clients with ease. This flexibility provides a competitive edge, especially for a company that serves as a flexible clearinghouse for all types of healthcare payments.

If you'd like to learn more about GenRocket synthetic data solutions for healthcare, please visit our website to learn more about our [Healthcare Solutions](#).