

High Performance Knowledge Graph Model-Based QA Software for Insurance Carriers

### Change the Way Quality is Delivered

The insurance industry is undergoing significant changes as it faces pressure to keep up with the digitization of the value chain to meet evolving business requirements. Digitization allows for the rapid development of new products that meet the needs of the business and the desire for simplicity. The key goal for IT organizations is to deliver secure, high-quality products with no "Day 2 Issues" related to quality.

The challenge carriers face in delivering the highest quality product launches, on time, is that the insurance process flow has numerous variant choices, often with millions of permutations that all need to be tested. Existing manual or test automation approaches cannot scale to 100 percent coverage, are hard-coded stepwise to the interface, and consume excessive FTE-hours, all of which slow down the agile pipeline.

In today's digital world, the consequences of failing to deliver quality products are more expensive than ever due to the exponential exposure of defect leakage. To eliminate this exposure, insurance carriers require a quality engineering software product that serves as a strategic enabler, helping them achieve the necessary business outcomes. Introducing QMT.

### **Improve Product Launches**

QMT's high-throughput, knowledge graph model-based approach enables shift-left allowing the entire QA cycle to be reduced to a few hours instead of weeks or months. By using a high-performance knowledge graph of the business logic, which provides a deep understanding of the relationships, QMT discovers all defects early, delivering the level of quality needed to meet product launch dates.

### Model Complex Policy Life Cycles

QMT enables the complete business process flow of the insurance policy life cycle to be built within a visual, interconnected model. Abstracting the business processes simplifies change management and readily supports making changes to an application under test, by only requiring an update to the affected nodes in the model. Updated test cases are generated automatically, consequently, only what has changed needs to be tested, which reduces time and eliminates human error.

Testing the end-to-end process of life insurance systems and their integrations can help carriers ensure the quality of product launches and prevent embarrassing errors experienced by distributors and customers postlaunch.

### Full Coverage at a Fraction of the Cost

QMT features full, end-to-end test coverage combined with automated test case and data generation, providing a codeless method to testing business logic and workflow. The model automates the generation of all test cases by traversing the knowledge graph model which produces all possible permutations of the business logic. These test cases are then executed in an automation framework and the results reported. QMT is user-friendly and can be managed by QA team members or non-developers who understand the business flow.

Using a knowledge graph model removes manual testing, human error and extends visibility of QA for new products to well-informed, technical business analysts.

"QMT transformed the way testing is completed, coverage is achieved, and the business partners with IT. This groundbreaking approach has improved quality, reduced cost, and improved our responsiveness to the business."

- Life Insurance Customer, IT Director

#### Life Insurance Customer Results

30x increase in automated test coverage vs. traditional manual testing methods

80% reduction in FTE demand for QA capabilities due to increasing the level of automation

Shift from around 2,500 manual person-hours to 30 hours of automated testing runtime at a reduced economic cost.

### Eliminate Quality-Related Day 2 Issues

QMT drastically reduces test cycle times via powerful variance analysis that detects and only tests changes since the last execution. QMT enables IT executives to get more value from the dollars they're already spending and reach full test coverage eliminating quality-related Day 2 Issues, or to choose to deploy fewer people to maintain existing coverage.

# Eliminate Embarrassing Errors Experienced by Distributors and Customers Post-Launch

## Shift Left, All the Way

QMT dramatically reduces test cycle execution time, from weeks or months to hours, enabling earlier and more frequent testing in the agile development process. QMT is designed to work seamlessly with existing systems and integrate into CI/CD processes and automation systems such as Jenkins and Jira.

### Secure and Control the Environment

QMT implements security measures to create a controlled environment that supports SOC 2 attestation and HIPAA compliance. This includes access controls and a secure model relational database, which helps to reduce risk and exposure for the carrier.

## **Extend the Architecture**

QMT's extensible architecture includes a library of common function calls that support testing of the entire ecosystem and the integrations between them, such as underwriting, policy status, issuance, and claims. Additionally, it allows for the direct integration of carriers' existing testing function calls into a model node, which can speed up test time by up to 4x.



What we do	What others do
• We model business logic, requirements and flow	<ul> <li>Some companies hire QA contractors to manually test or build automation.</li> <li>Some model stepwise test steps</li> <li>Build and manage code and scripts</li> </ul>
• Full test coverage	<ul> <li>Manual testing cannot get close to full.</li> <li>Other software approaches won't map all permutations.</li> <li>No one else validates the business logic</li> </ul>
Changes to the workflow or systems code only require updating the model	Manually rewrite code     or automation scripts
We test the entire     NB/UW process	<ul> <li>Test "low-hanging fruit"</li> <li>Only follow the most common path</li> </ul>
Only test changes     since last execution	Re-test more than just changes
Enable collaboration     to build models faster	<ul> <li>Limit access to models or objects</li> <li>Manually split up code writing</li> </ul>

### About Emtech Group, Inc

Emtech Group Inc (ETG) is the leading provider of enterprise software quality engineering solutions for validating insurance carrier value chains. Our customers are enabled to deliver quality products while avoiding the expensive and embarrassing consequences from the exposure of production defect leakage.

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