



iD2E

Model-based Testing for Guidewire Suite of Products



Digital disruption is changing business dynamics and P&C insurers are now looking at implementing packaged products like Guidewire to accelerate their digital journeys. Insurance organizations are also competing with aggressive timelines and high-quality standards for rollouts of the Guidewire suite of products. These rollouts mandate an assurance model that enables enterprises to deliver a defect-free product with agility and confidence. The journey, however, has its own set of obstacles.

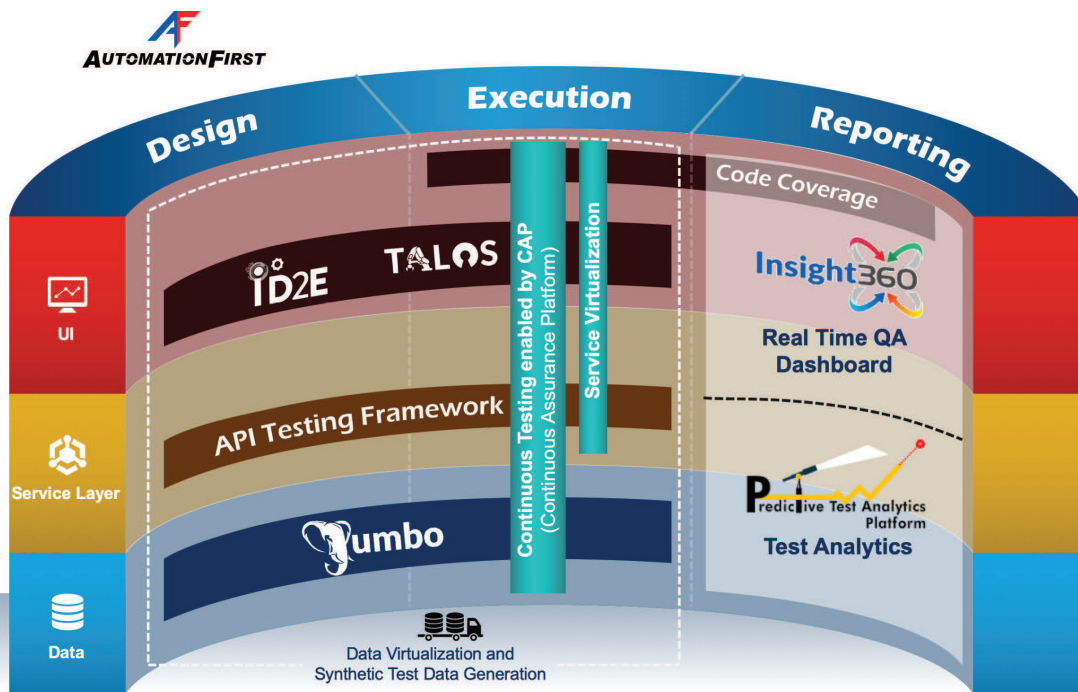
Typical issues in Testing for the Guidewire Suite of Products

- Multiple manual testing cycles and lack of automation in test design, leading to increased test cycle time and delays in go-to-market
- Test coverage not adequately defined due to frequently required changes, leading to bugs in production
- Test automation development effort falls behind the Guidewire development / customization effort leading to zero continuous testing in DevOps pipeline and increased release cycle time
- Automation is rather partial. It misses to cover validation interoperability of Guidewire and its integration with existing applications within the organization and outside interfaces
- QA environmental challenges such as unavailability of environment for time travel testing and integration services impede the end-to-end testing

Automation First Approach for Guidewire Suite of Products

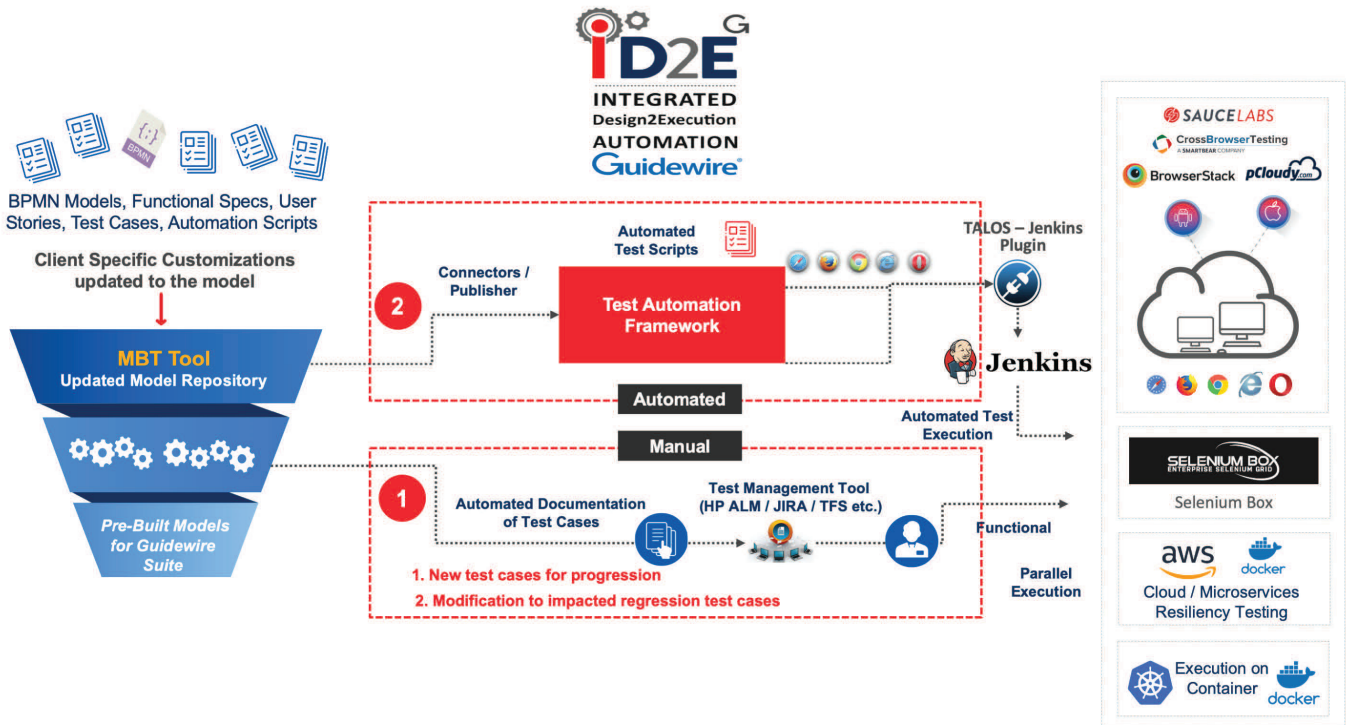
The Guidewire Testing solution designed by Hexaware is based on Automation First principle and widens the reach of automation outside of test execution to other phases of testing like test case design, test data preparation, environment provisioning and reporting. It includes leveraging various commercial, open-source and in-house automation solutions for testing across all layers of an application covering User Interface, Service and Data layers.

Progressive Automation Framework for Enterprise



Functional and UI Layer Test Design and Execution Automation

Hexaware’s Integrated Design to Execution (iD2E) framework is part of the Automation First approach which leverages model-based testing (MBT) for test design automation as an additional lever that constitutes 40% of testing cycle, which traditionally has been done manually. iD2E seamlessly integrates model-based testing with test execution automation suite, for Regression and end-to-end automation. From test case design to script generation to execution and reporting, iD2E automates all complex and critical tasks and brings intelligence and optimization to test design. MBT tool uses algorithms built on test design techniques such as Risk-Based Testing (RBT), Pairwise Testing, Orthogonal Array testing, etc. The resulting outcome is precise and optimized test cases which are supported by language add-ins, making it easier to generate test cases catering to regional language requirement, increasing business acceptance. The requirement coverage matrix ensures 100% coverage on requirements, leaving no room for human error.

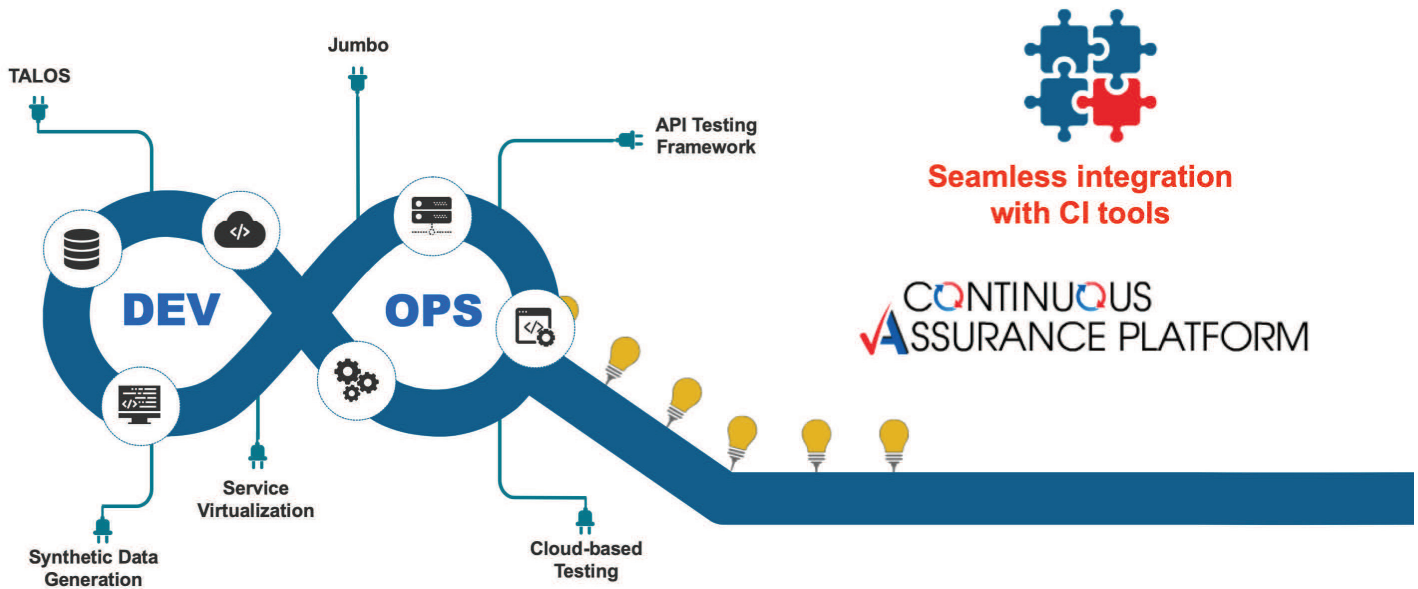


Effective integration of a test automation execution suite with the MBT framework enables end-to-end automation for Guidewire InsuranceSuite™ and EnterpriseEngage implementation. Hexaware has pre-built functional models specific to Guidewire InsuranceSuite™ and EnterpriseEngage, to generate 6500+ test cases for sample functionalities depicted below:

Sample Test Automation Models			
PolicyCenter	Claim Center	BillingCenter	EnterpriseEngage
Policy Submission	Claims Intake	Invoicing	Initiate Quote
Quote	Claim Reserve	Instalments	Submit Claim
Policy Issue	Documents	Payment	Update Policy
Policy Change	Litigation Matter	Commissions	Pay Installment
Renewal	Claim Recovery	Bank Accounts	Renew Policy

These models, built with the help of activity diagrams and structure diagrams, represent process flows and screen flows of the business requirements. The test cases generated are then exported to a comprehensive, modular automation test suite with pre-built reusable components, enabling end-to-end automation of Guidewire InsuranceSuite™ and EnterpriseEngage testing in formats accepted by open-source frameworks such as Selenium, and commercial tools or Hexaware automation platform, TALOS, built on open-source tools. The export feature is adaptive in nature and ensures that the test automation scripts work with current automation framework in the organization. Test cases and automation suites for the integrations and customizations carried out for Guidewire are generated progressively to achieve thorough test automation within the sprint.

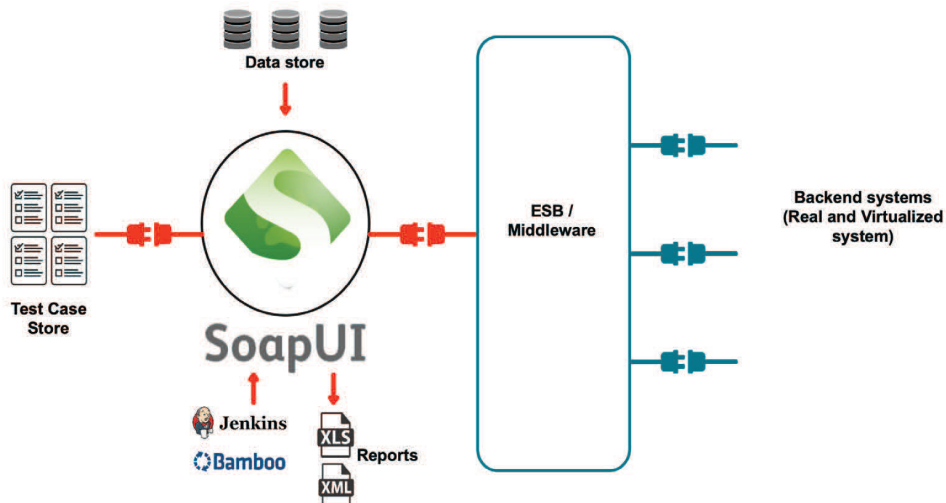
To support continuous testing in Agile and DevOps environment, Hexaware leverages its Continuous Assurance Platform (CAP) by integrating our automation accelerators with Jenkins through plug-ins in a continuous integration/continuous delivery (CI/CD) environment. This platform also supports progression automation in behavior-driven development (BDD)/ test-driven development (TDD) delivery model.



In addition to on-premise execution environments, the automation scripts can be directly executed on browsers deployed on cloud containers or commercial browser providers such as Saucelabs, BrowserStack, OpKey and Crossbrowsertesting.com.

Service Layer and Integration Test Automation

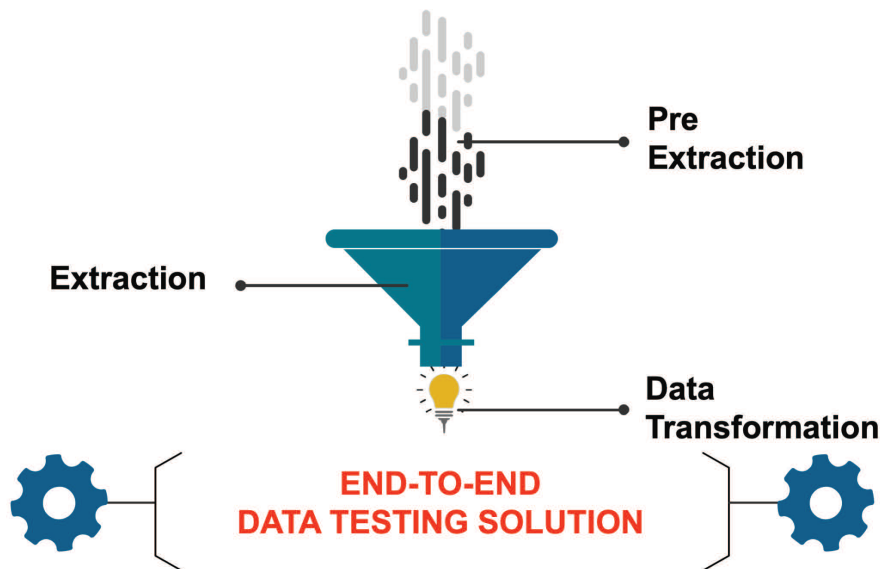
The shift to service-oriented architectures that rely heavily on dependent services, and the rapid adoption of agile software development practices make it increasingly important to look beyond traditional functionality and performance testing, as well as drive a need for testing earlier and more frequently. Rapid validation of the integration of Guidewire with existing interfaces is done through Hexaware’s SOAP UI automation framework, enabling early detection of integration defects, and helps project teams save efforts. Service virtualization further extends this concept by productizing the creation of stubbing frameworks to model the behavior of complex, interdependent services.



Guidewire interoperability testing requires the availability of upstream and downstream systems for Guidewire application, made available by Hexaware's Service Virtualization solution which is a part of the Automation First approach. The solution also enables thorough testing of various policy level transactions such as PolicyCenter renewals that must be tested for every month. It requires involved systems to be time traveled to future date along with Guidewire.

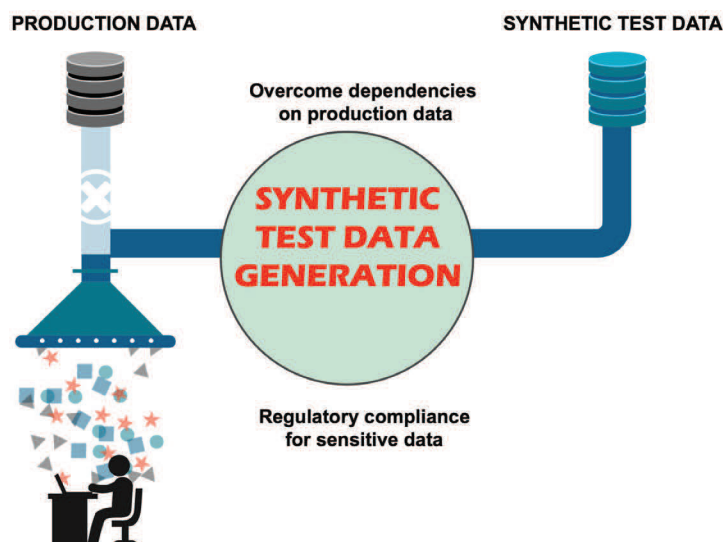
Data Migration Test Automation

Data migration during the PAS transformation is one of the complex areas which can easily cause operational and reporting issues, impact customers and harm user acceptance of the new application. JUMBO is our automated data validation solution for ETL and data migration projects which can handle any data (structured & semi-structured) comparison testing and can handle huge data volumes (inclusive of the Big Data ecosystem). JUMBO compares 100% data from source and target using pre-built transformation rules and new ones that can be configured for a project, thereby eliminating manual validation using a subset of the source data. It provides comprehensive summary reports to reconcile financials such as Gross Written Premium, Claims Paid Amount, Commission Paid, etc. JUMBO also highlights the discrepancy between source and target data at the row and column level with a very small turnaround time for execution of this comparison – a comparison of 210 million records takes twenty (20) minutes.



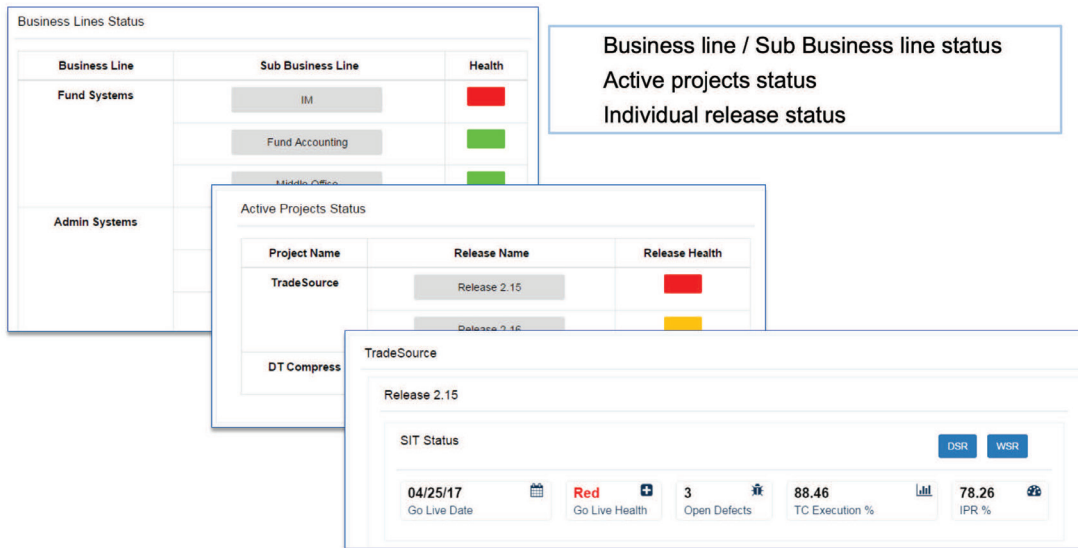
Test Data Management

Industry statistics reveal that nearly 30% of test execution failures are due to improper test data. Hence identification of right set of data is a business-critical activity. This makes test data management an integral part of software testing life cycle. Hexaware's Test Data Management (TDM) approach is integrated in the Automation First architecture and leverages model's data relationship within test environment to create synthetic data for testing.



Test Reporting

Hexaware's Insight 360 is a "tool agnostic" automated test reporting solution which automates 100% of test reporting activities. Insight 360 provides a real-time view on the progress in testing with transparent view on performance of the vendor, against the contractual SLAs or KPIs.



Why Hexaware

Hexaware's Automation First value proposition for Guidewire

- Reduce time-to-market**
 - 60% faster delivery; automation from sprint 1 with 6500+ pre-built test cases for Guidewire InsuranceSuiteTM
 - Increase the sprint velocity by 70% through early continuous testing to reduce the overall release cycle time by 50%
- Higher Quality**
 - Early detection with high test coverage and 50% more defect detection
 - 400% faster return on investment
- Reduce overall cost of testing by 40%**
 - 400% faster return on investment
- Increased Manageability by 50%**
 - 100% test documentation and traceability against requirement; easy to collaborate review and maintain

About Hexaware

Hexaware is the fastest growing next-generation provider of IT, BPO and Consulting services. Our focus lies on taking a leadership position in helping our clients attain customer intimacy as their competitive advantage. Our digital offerings have helped our clients achieve operational excellence and customer delight. We are now on a journey of metamorphosing the experiences of our customer's customers by leveraging our industry-leading delivery and execution model, built around the strategy - Automate Everything®, Cloudify Everything®, Transform Customer Experiences®. Hexaware services customers in over two dozen languages, from every major time zone and every major regulatory zone. Our goal is to be the first IT services company in the world to have a 50% digital workforce.

Learn more about Hexaware at www.hexaware.com

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Safe Harbor Statement

Certain statements in this press release concerning our future growth prospects are forward-looking statements, which involve a number of risks, and uncertainties that could cause actual results to differ materially from those in such forward-looking statements. The risks and uncertainties relating to these statements include, but are not limited to, risks and uncertainties regarding fluctuations in earnings, our ability to manage growth, intense competition in IT services including those factors which may affect our cost advantage, wage increases in India, our ability to attract and retain highly skilled professionals, time and cost overruns on fixed-price, fixed-time frame contracts, client concentration, restrictions on immigration, our ability to manage our international operations, reduced demand for technology in our key focus areas, disruptions in telecommunication networks, our ability to successfully complete and integrate potential acquisitions, liability for damages on our service contracts, the success of the companies in which Hexaware has made strategic investments, withdrawal of governmental fiscal incentives, political instability, legal restrictions on raising capital or acquiring companies outside India, and unauthorized use of our intellectual property and general economic conditions affecting our industry.