

# Automated Letter of Credit (ALOC): XTIVIA's Workflow Testing Solution to Achieve Precise Business Needs

## ORGANIZATION

Our client is the world's most advanced digital industrial company, offering software-defined machines and connected, responsive, and predictive solutions. They provide financial and technological support for energy infrastructure projects around the world. The client's business activities include power generation and distribution, oil and gas, pipelines and storage, water, venture capital, and renewable energy sources. Our client provides electricity at a low cost to millions of American households and businesses.

## CHALLENGE

The Automated Letter of Credit application (ALOC) facilitates the request, review, bid, and issuance of bank guarantees and letters of credit by third-party banks as requested by business units. The businesses are typically industrial entities but can be financial as well.

The ALOC Payment Module (APM) is currently a separate application that reads issuances from ALOC and calculates transaction fees, then initiates the payment of these fees to the banks via web cash and bills the client's businesses via the Internal Billing System (IBS). Treasury pays the banks, and Treasury bills the businesses internally via IBS. In this way, the Treasury acts as a payment agent on behalf of the businesses.

The current ALOC application is almost ten years old and has significant operational support costs regarding support ticket volume, remediation, and monitoring of the quarter-close APM process. The front-end also does not perform sufficient validations on input data.

The application rewrite is a bottom-up and complete re-implementation of the ALOC application, which had to be done using the Tibco BPM suite of products as the application backbone, along with Oracle database storage and an HTML/JSP front end. System interfaces will also need to be built to integrate with various client applications and a third-party bond broker. Challenges included:

- Need for well-defined testing artifacts as the application had a substantial financial importance
- Critical functionalities & integrations with less access/knowledge
- Need for multiple cycles of testing due to unstable application
- Completing testing within the aggressive timelines to ensure quick time to market amidst development delays
- Need for a comprehensive test management tool (amidst tooling budget constraints) to manage and track the testing process.

## TECHNICAL SOLUTION

The XTIVIA QA team was quick to gain knowledge of the requirements. After implementing each new feature, the team performed smoke/sanity, functional, UI, non-functional, and regression testing. The QA team focused on the following areas to address the above challenges successfully:

- Provided recorded KT sessions & prepared extensive documentation to ensure that the QA team was up-to-date with the requirements.
- Defined the testing scope and the estimations in the test plan document. This helped have all the stakeholders informed about the different dependencies, risks, and mitigations that had to be addressed to achieve a successful testing solution.
- Prioritized the testing activities ensuring quicker time to market
- Developed comprehensive testing artifacts to ensure no functionality is left untested
- Defined a regression test suite to be performed whenever a new feature is introduced
- Early identification of business-critical defects allowed the defects to be addressed with minimal impact on timelines and development/engineering efforts.
- Streamlined processes were followed, including well-defined testing artifacts, a clear communication plan, and a defect triage process.
- Testing reports provided good analytics and tracking of the progress regularly. This also helped to have transparent communication with the entire team.

## BUSINESS RESULT

XTIVIA's testing solution was a package to address & test the different functional and non-functional bottlenecks. The team prepared test scenarios and test cases for smoke/sanity, functional, UI, non-functional, and regression testing. The QA Team validated all the application levels, such as the request, review, bid, and issuance of bank guarantees and letters of credit by third-party banks as requested by business units.

## SOFTWARE

Java, JSP, Struts, Spring, Maven, JQuery, JavaScript, junit, Tibco EMS, Tibco BW, Tibco iProcess, Oracle, Tomcat 6.0.

## ABOUT XTIVIA

XTIVIA is a proven technology integration and innovation company known for delivering leading-edge technology solutions to our clients' specific requirements, regardless of project complexity. We bring next-level business operations to reality through Application Development, Business Intelligence, Data Warehousing, Database Support & Management, Enterprise Information Management, Digital Experience Solutions, and Enterprise Resource Planning. Our success stems from a demonstrated ability to deliver deep expertise via professional services, empowering clients to leverage their chosen technology successfully, competitively, and profitably. XTIVIA has offices in Colorado, New York, New Jersey, Missouri, Texas, Virginia, and India. [www.xtivia.com](http://www.xtivia.com)