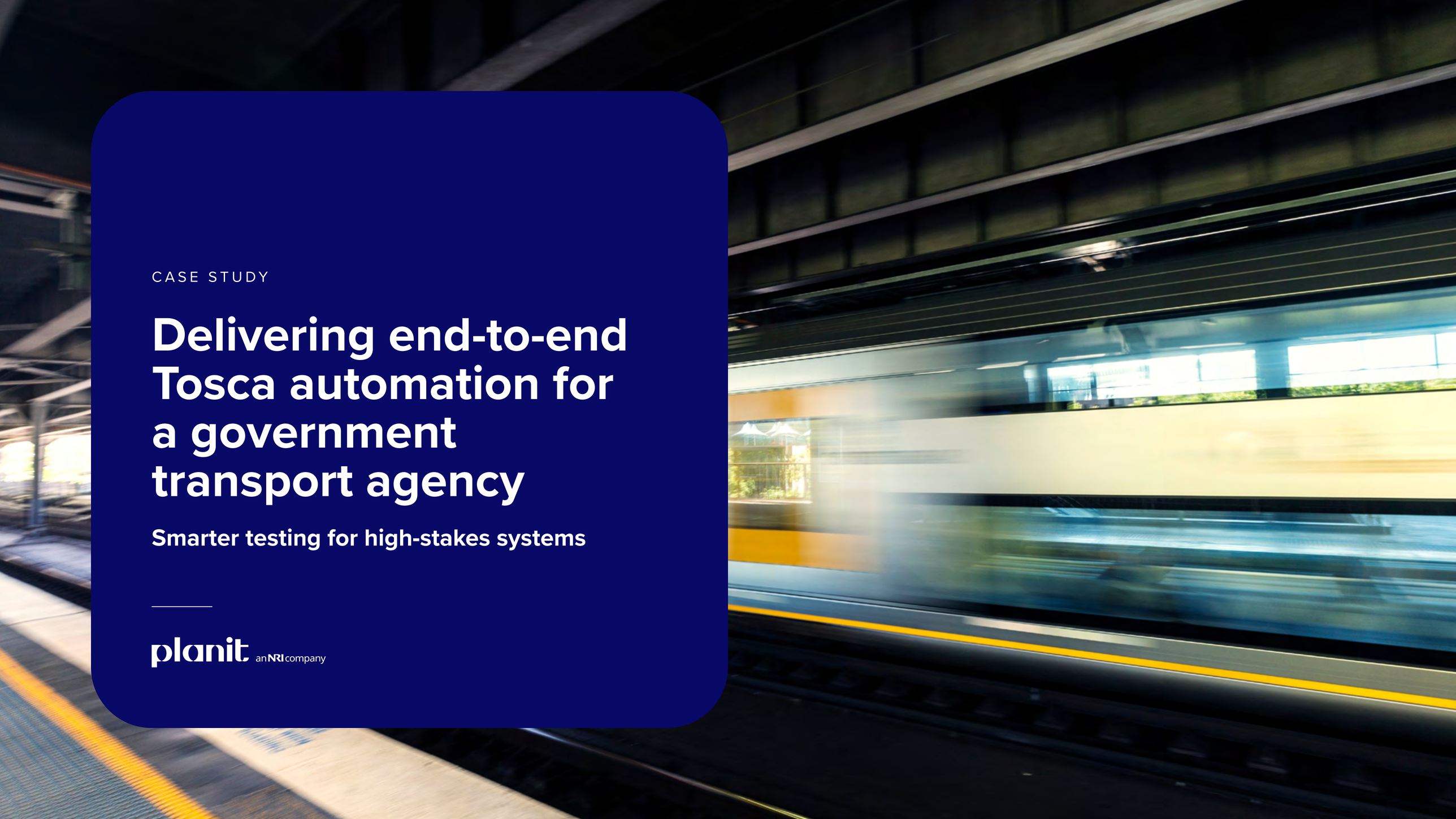

CASE STUDY

Delivering end-to-end Tosca automation for a government transport agency

Smarter testing for high-stakes systems

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Summary

A major government transport agency in Australia, responsible for managing strategy, planning, and operations across a wide range of transport modes, embarked on a significant program to stabilise its platforms and modernise critical infrastructure. With over 550 services in scope, the agency initiated a Platform Service Maintenance (PSM) program to ensure compliance with the latest security benchmarks and software standards.

Planit was engaged to provide test automation services that would reduce manual effort, mitigate risks, and accelerate delivery. Through a tightly coordinated and outcome-based engagement, our team built a robust, scalable, and reusable automation framework that integrated seamlessly into the agency's Azure DevOps pipelines.

Key Outcomes:

- **100% end-to-end automation** across scoped applications
- **Integration into Azure DevOps** pipelines for continuous testing
- **Custom automation solutions** for complex technologies
- **Reusable automation framework** adopted across systems

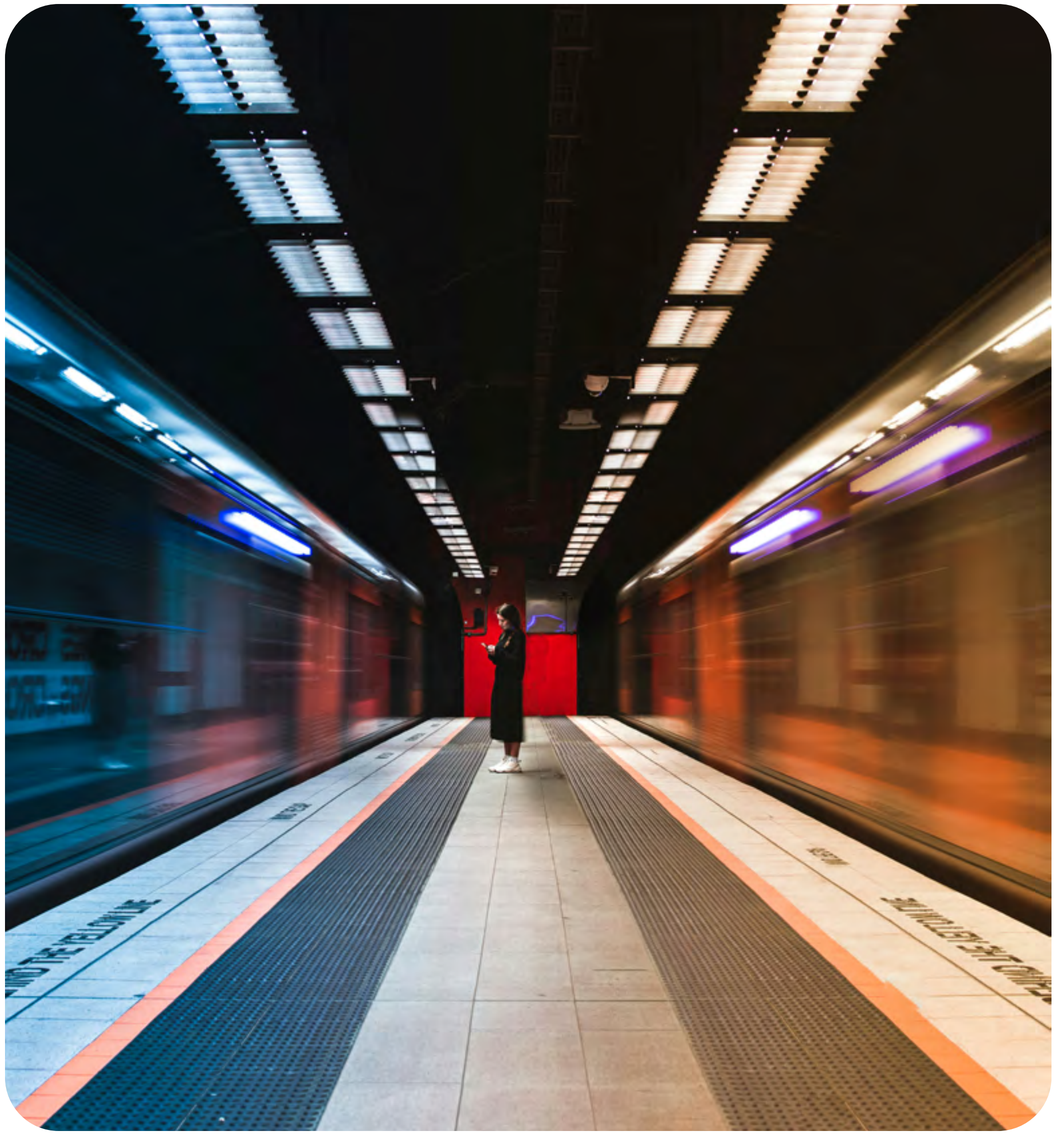
The need for scalable, secure automation

The agency faced increasing pressure to ensure the availability and performance of mission-critical platforms while undertaking a broad technology uplift. Key systems, including Enterprise Managed File Transfer, Tibco BusinessConnect, and various middleware platforms, were still reliant on manual testing processes, which were inefficient and prone to human error.

To address this, the Platform Service Maintenance (PSM) project was launched with the goal of upgrading the existing platform and approximately 550 services to align with the latest security benchmarks and software versions. This included upgrading key platforms such as Enterprise Managed File Transfers, middleware systems, and automation tools.

The complexity of the program was further amplified by the diversity of technologies in use. From asynchronous APIs and desktop applications like Graphical EMS (GEMS) to terminal emulators and GUI-light Azure Logic Apps, achieving automation was far from straightforward. The agency also sought to integrate Tosca with Azure DevOps to strengthen its CI/CD pipeline capabilities.

What was needed was a strategic partner capable of managing this technical breadth and delivering a working proof of concept across these specialised technologies, ultimately broadening the automation scope for regression testing.



Why Planit was selected

Planit was chosen through a formal request for quotation, based on our deep expertise in test automation, a strong track record of delivery, and our ability to rapidly mobilise.

The agency's objective was to implement comprehensive automation across a suite of applications, including Enterprise Managed File Transfer (eMFT), Enterprise Integration Platform as a Service (EiPaaS), Enterprise Integration Patterns (EIP), and a planned migration of Tibco BusinessConnect to Azure. The aim was to reduce manual effort, improve test coverage, and establish reliable, end-to-end automation tightly integrated with DevOps processes.

Success was defined by the ability to execute automated tests consistently and accurately on a daily basis, contributing to greater operational reliability and release efficiency.

Tackling technical complexity

This project stood out not only for its scale but also for the depth of technical complexity it presented. At its core was a strategic, end-to-end approach to automation, one that demanded both precision and adaptability across a wide variety of technologies. The agency needed to automate the following technologies using the Tosca tool:

- **Java Message Service (JMS) Queues/Topics:**
  Automating asynchronous services integrated with Tibco BusinessConnect, using Tosca to ensure smooth and reliable message handling.
- **Desktop Application Automation:**
  Targeting Graphical EMS (GEMS), the Tibco EMS administration tool, to enable efficient desktop interface testing.
- **Azure Logic Apps Workflows:**
  Overcoming the difficulty of automating workflows with limited web object visibility through innovative Tosca configurations.
- **Terminal Emulator Applications:**
  Automating terminal-based processes to improve speed, consistency, and reliability in traditionally manual areas.

Planit approached this complexity head-on. We started with a mono-repo design, building a centralised Tosca framework that could be reused across applications. This ensured consistency and scalability.

Drawing on our specialised expertise, our team leveraged deep knowledge of JMS and Tibco BusinessConnect to create tailored automation scripts using the Tosca tool, enabling seamless handling of asynchronous services. We also developed Tosca modules capable of reliably interacting with these services and managing complex messaging workflows.

Recognising the need for tool adaptation, we extended Tosca's capabilities to support desktop applications, overcoming limitations commonly associated with web-based tools. This included User Interface Mapping for the Graphical EMS (GEMS), where our team accurately mapped UI elements within Tosca to enable precise desktop test execution. To address the challenge of minimal web object visibility, we also applied innovative techniques to automate Azure Logic App workflows using creative scripting approaches.

Finally, with Emulator-Specific Solutions, we implemented automation logic designed specifically for terminal emulator interfaces, ensuring effective and reliable automation of traditionally manual processes.

Harnessing the power of collaboration

Our approach was built on transparency, agility, and close client alignment. We worked across all application streams in parallel, providing structured updates during daily stand-ups. This consistent visibility enabled both us and the client to make informed decisions, adjust priorities, and quickly address blockers as they arose.

From the outset, Planit delivered this engagement as an outcome-based solution through a capped time & material model, ensuring flexibility while remaining focused on tangible results. As a locally based team in Sydney, we operated as an extension of the client team, ensuring fast communication, short feedback loops, and seamless collaboration throughout. We chose this model as it allowed us to maintain continuous momentum and deliver solutions that remained tightly aligned with the agency’s evolving goals.

Scaling quality through automation

Planit successfully delivered full end-to-end automation across all in-scope applications. Internal and external uploads via the eMFT system were fully automated. Integration with Azure DevOps allowed for daily execution of automated test cases across all application types, including asynchronous APIs, desktop tools, SOAP-based interfaces, and Azure-native services. The framework we built wasn't just scalable. It also delivered real, measurable results.

Across the engagement, we automated more than **48 unique test scenarios**, and achieved **100% end-to-end coverage** across the target streams. Regression cycles that once required significant manual effort were now executed reliably and repeatedly, freeing up the agency's team for higher-value tasks and reducing the risk of defects reaching production.

Client feedback was overwhelmingly positive, especially for the automation of features previously thought to be untestable. Project stakeholders called out our consultants for their "exemplary nature of professionalism and dedication on the automation work being conducted."

This engagement not only strengthened the agency's automation capability but also laid a strong foundation for future scalability and innovation. With a flexible, reusable framework now embedded into their CI/CD ecosystem, the agency is well-positioned to accelerate future releases with greater confidence, efficiency, and resilience.

For Planit, it was a clear demonstration of how deep technical expertise, close collaboration, and outcome-driven delivery can drive lasting value in complex environments.

Key outcomes

- 100% end-to-end automation across scoped applications
- Integration into Azure DevOps pipelines for continuous testing
- Custom automation solutions for complex technologies
- Reusable automation framework adopted across systems

Technologies used

- Tosca
- Azure Logic Apps
- Java Message Service (JMS)
- Tibco BusinessConnect
- Azure DevOps
- Postman
- SOAP UI
- Putty
- Graphical EMS (GEMS)
- JMeter

Tools & Platforms

- Tricentis Tosca
- Azure DevOps

Key services

- Test Automation
- Outcome-Based Delivery

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Whether you need assistance maturing your use of test automation tools or require a skilled test engineer to build robust automation scripts for your applications, we can help. As world leaders in test automation services, we can help you develop the right results through automation, improving quality, accelerating speed, and decreasing delivery costs.

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