

# Industry Test Optimization Assets for Retail

*Real-world experience in test acceleration*



Suma S L  
Vinay Poddar  
Andrew Williams  
Global Business Services, IBM

---

## Overview

Clients today want more for less, and the IBM test mantra of “Test Less, Test Right” helps address this by placing IBM IGNITE Quality and Test: Industry Test Optimization Assets at the heart of the solution. This document outlines current retail industry scenarios using the IBM IGNITE Quality and Test: Industry Test Optimization Assets.

Typical retail challenges resolved by Industry Test Optimization Assets revolve around the uncertainty of test coverage and the likelihood of increased production defect escapes. This can lead to poor customer and user experiences that can ultimately impact the brand and suboptimal supply chain processes. By reducing the size of test execution libraries, the assets also help decrease cycle time.

This document presents instances of Industry Test Optimization Assets in client engagements and focuses on the value, process and challenges addressed to quickly scale up the implementation and make Industry Test Optimization Assets a mainstream activity. The IBM Focus tool was used in all instances to implement Combinatorial Test Design for optimization of tests and for reducing test effort while increasing test coverage.

---

## Introduction

“Test Less, Test Right” has been a mantra within the IBM test practice for a few years now. The heart of this formula has been the implementation of techniques and practices that help optimize test efforts. We have been propagating test design optimization as a core transformation lever for our clients.

## What are IBM IGNITE Quality and Test: Industry Test Optimization Assets?

IBM Test Optimization Assets are a family of capabilities launched by the new IGNITE Quality Platform that provides an optimized, scriptless, web-based test automation solution, which achieves test minimization via a commoditized test automation platform. Test Optimization is unique in the marketplace and a differentiated technology that interlocks IBM’s Combinatorial Test Design (CTD) and Optimized Test Flow Automation (OTFA) into a single platform. This combines the power of an open source test framework that leverages Cucumber and Selenium, and traverses the boundaries between test design and an automation framework. Cucumber is a software tool using a language parser called Gherkin which allows expected software behaviors to be specified in a logical language that customers can understand. Selenium is a portable software-testing framework for web applications. Both core elements of CTD and OTFA have been significantly redesigned to be deployed on the newly developed IGNITE Quality Platform. Typical test scope reductions range from 40 percent up to 95 percent, with increased coverage to 100 percent and full automation outcomes for most applied test scenarios.

## Industry Test Optimization Assets for retail provide ready-to-use models

After the Test Optimization framework has been deployed, an enterprise can install relevant Industry Test Optimization Assets that include related models and test scenarios. Industry Test Optimization Assets provide a set of ready-to-use models with built-in test cases for retail business scenarios. Once deployed, an



enterprise can realize further setup and design savings for test cases and automation activities.

Industry Test Optimization Assets include the following:

- Business process flows
- Test scenarios
- Test cases
- Test model
- High-level business requirements

**Retailers can release quality-driven experiences and supply chain processes, faster**

The Test Optimization capability was developed to address the following:

- Too many test cases being executed and rising costs of testing
- Bottlenecks in testing and test cycles that increase development and deployment time
- Wasteful manual gaps and low engagement of automation
- Deployment of low-quality software with many and/or late discovery of defects

The Industry Test Optimization Assets provide support to project leads looking to leverage existing test optimization learnings or test models created in prior engagements. These assets eliminate the additional time needed to analyze the ramp-up of test design, helping teams to achieve key milestones.

**Less effort means more team productivity**

Test Optimization creates test models that are entry points to a scriptless test automation outcome. Industry Test Optimization Assets provide retail test models that only need to be installed and customized.

The Industry Test Optimization Assets are a set of generic test cases built as CTD models covering both positive and negative business scenarios. These assets interlock with Test Optimization from the IGNITE Quality platform to support end-to-end automation. Most importantly, they reduce test case design effort.

**TEST OPTIMIZATION ASSETS ALIGN TO CRITICAL RETAIL PROCESSES**

Domain	Retail
Asset type	Business to Consumer (B2C)*
Components and/or scenarios covered	Shop Home Page Catalog Browsing Flows Checkout Flows My Account Flows Additional Flows Organization and Buyer Admin Flows External Flows
% reduction of test creation effort**	80%

Figure 1: \* This asset can be used for B2C applications built on WCS by IBM, Hybris from SAP, and ATG from Oracle.

Numerous components are available.

Included components	Business to Consumer (B2C)*
CTD model	192
Test scenarios	740
Business requirements	192

## Stakeholders, customers and employees all benefit from IBM industry Test Optimization Assets for retail

Benefits include:

- Speed to quality and deployment with access to existing test assets that connect with models and align to requirements
- Reduction in test case creation effort from 60 to 80 percent
- Cost and schedule savings associated with test design
- Better customer and user experience for enterprise, custom and mobile applications
- Improved supply chain operations

### Conclusion

Implementing Industry Test Optimization Assets enables a quick start to Test Optimization and answers the following questions:

- Do I have sufficient coverage over industry-aligned test scenarios?
- Do I have insight into the business requirements for this type of application?
- Are there any ready-made test cases for my current assets?

They help quality and test leaders to:

- Accelerate test optimization and scriptless test automation
- Avoid schedule delay
- Deliver better customer and user experiences with less effort

### References

[1] Krishnan, R and Krishna, S Murali and Nandhan, P Siva, "Combinatorial testing: learnings from our experience," ACM SIGSOFT Software Engineering Notes, vol. 32, no. 3, pp. 100-108, 2007.

[2] Rogstad, Erik and Briand, Lionel, "Cost effective strategies for the regression testing of database applications: Case study and lessons learned," Journal of Systems and Software, vol. 113, pp 257-274, 2016.



---

© Copyright IBM Corporation 2018

IBM Corporation  
Global Process Services  
Route 100  
Somers, NY 10589

Produced in the United States of America  
February 2018

IBM, the IBM logo, and [ibm.com](http://ibm.com) are trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the web at "Copyright and trademark information"

[ibm.com/legal/copytrade.shtml](http://ibm.com/legal/copytrade.shtml)

This document is current as of the initial date of publication and may be changed by IBM at any time. Not all offerings are available in every country in which IBM operates.

THE INFORMATION IN THIS DOCUMENT IS PROVIDED "AS IS" WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING WITHOUT ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND ANY WARRANTY OR CONDITION OF NON-INFRINGEMENT. IBM products are warranted according to the terms and conditions of the agreements under which they are provided.



Please Recycle

---