

IBM Consulting



G-Cloud 15
IBM – Quality Engineering - Package Application
Testing Services

Service Definition Document

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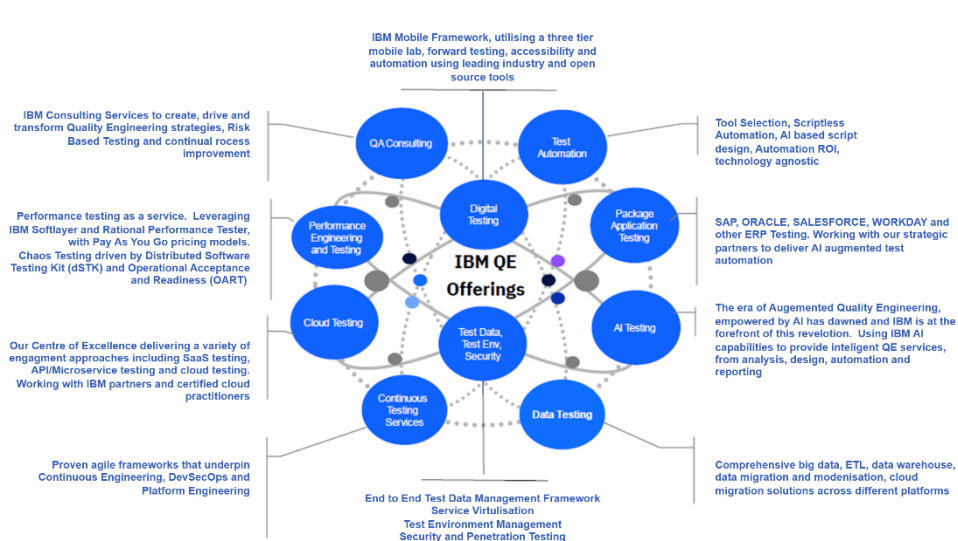
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IBM - Quality Engineering – Package Application Testing Services

Our offering Framework

The Package Application Testing service is part of the IBM QE (IBM Quality Engineering) suite of offerings.



IBM QE offerings cover the full breadth of testing needs.

The purpose of these services is to help deliver quality government services at scale and to get increasingly complicated applications to market faster, with fewer defects and at a lower cost.

We understand that high-quality outcomes are critical to the success of any enterprise, especially in application development projects for SAP, S/4HANA, Oracle, or Salesforce. That's why we've developed a suite of innovative solutions that will help achieve your desired results faster and with greater accuracy across Data, Business Process and UI Layers.

We combine our industry-leading IBM Quality Platform with other commercial tools like Provar, Copado, Selenium, Tosca™, Worksoft Certify, Conformiq, Smartbear, UFT, Eggplant, Headspin, Jenkins, Jira and Microfocus UFT to deliver AI-directed test automation, offering clients the ability to streamline testing processes, reduce costs and achieve superior outcomes.

IBM - Quality Engineering – Package Application Testing Services

Service Overview

Features

- Cost savings
- Global Partnerships with SAP, Oracle, Salesforce
- Faster time to market
- Improved collaboration and reduced cycle times
- Greater reliability
- Access to the latest technology
- Better test coverage
- Reduced capex
- Meeting regulatory and compliance requirements.

Benefits

- Quality driven earlier in the life cycle – through analysis of epics, user stories and improved in-sprint testing
- Improved overall test coverage – through analysis of business combinations and the generation of test cases to cover the combinations driving quality. Leading to less maintenance effort in future releases
- Increased levels of automation at multiple steps of the QE lifecycle
- Better quality delivery as a result of improved tooling selection and solution design (features and increments)
- Provide a foundation of quality that facilitates the successful completion of large programs
- Reduced total cost of ownership.

Key Differentiators

- Advanced Analytics: IBM's AI testing service provides advanced analytics and reporting capabilities
- Integration with DevOps Tools: IBM's AI testing service integrates with popular DevOps tools, such as Jenkins and Jira, improving collaboration
- Continuous Testing: IBM's AI testing service supports continuous testing
- Test Optimisation using CTD models (Combinatorial Test Design -AI-based) for the E2E business scenarios, reducing test effort and time
- AI-Powered Test Optimisation: IBM's AI testing service uses AI-powered test optimisation.

Real World Case Studies

- IBM was engaged to deliver a quality software solution on a Salesforce platform by leveraging the IBM Quality Platform for Optimisation and Automation of Regression Testing. IBM validated core business critical functionalities from end to end, and rigorous regression was completed while also covering mobile, cross-browser, API, Service virtualisation, CI/CD and performance testing. IBM leveraged Perfecto for mobile testing, achieving 100% coverage, 20% reduction in Effort for regression, and 82% automation of regression tests
- As a long-term partner, IBM has collaborated with a Canadian Telco to deliver an award-winning Test Centre of Excellence, for SAP achieving cost savings and 98% Satisfaction rating
- Among the fastest growing and top-ranked mining company in the world is transforming its business and their affiliates. This project spans human capital, Finance, and Supply chain Oracle Fusion Cloud rollout.

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Addressing Business Needs

By combining our IBM Quality Engineers with these techniques and tools, we can leverage AI algorithms to help identify the most critical tests and streamline your testing processes, ultimately resulting in higher-quality outcomes that meet exacting standards.

Testing packaged applications (SAP, Salesforce, Oracle, Workday) requires specialised knowledge and expertise to overcome significant challenges, including:

Business Transformation - Customers are revisiting their end-to-end business process landscape. This is driving the need for a solid understanding of their existing landscape, domain, SAP, peripheral technologies, cloud, and advanced features such as AI/ML, chatbots, & Analytics.

Complex Integration - Due to Clean or Lean Core: Customers are implementing S/4HANA as a lean core application with complex integrations with other specialised systems, such as Salesforce, which can create increasing test-related challenges as integration levels rise. An informed end-to-end quality viewpoint is needed.

Increased focus on speed to market - A requirement for faster deployments, with a need for high levels of end-to-end lifecycle test automation. The legacy approach to automation, which is pure regression automation, does not serve the purpose here.

IBM can help you address your requirements for testing packaged applications with rigour and depth:

Data - Packaged applications typically handle large volumes of data, making it challenging to test them thoroughly. As a result, coverage is often inadequate, and field-mapping failures occur during data import/export. SAP and S/4HANA applications are data-intensive, requiring effective data management during testing.

Customisation - Packaged applications are highly customisable, making it challenging to create a comprehensive test plan. Combine this with the need to test a multi-cloud solution with complex business processes.

Integration - Packaged applications often integrate with other systems, such as marketing automation, financial systems, or third-party applications.

Security - Testing the security of a packaged application is essential to ensure that the data is protected from unauthorised access.

Regulatory Compliance - Many organisations use packaged applications for regulated activities and, as a result, must comply with regulations such as HIPAA or PCI DSS. Testing compliance can be complex.

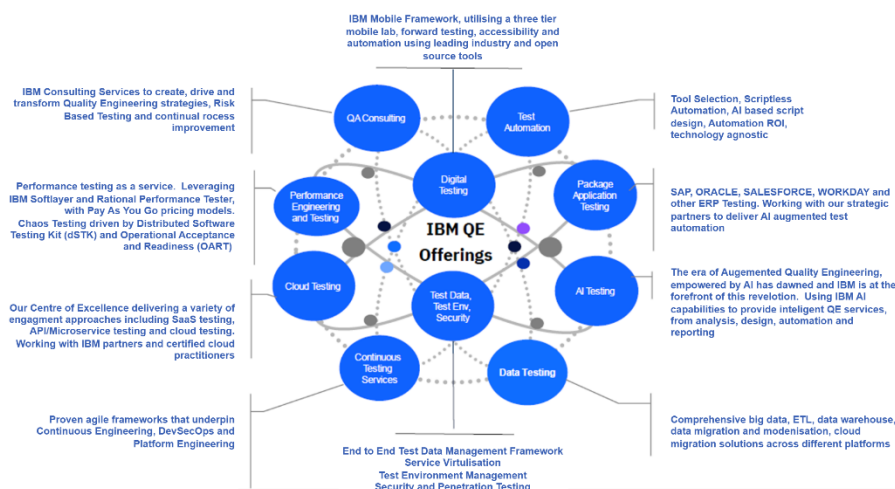
Automation: Automated testing for advanced features such as LWC and Visualforce pages is challenging. In addition, automated tests must work across all test environments.

Performance testing - These applications are often cloud-based or hybrid and therefore, require thorough performance and Operational testing.

Quarterly Cycle Demands - Oracle Cloud quarterly release cycle requires frequent cycles heavily reliant on regression testing, which, if not automated, can become tedious, prone to mistakes and costly.

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Service Definition



IBM currently delivers Packaged Application test services for industries including retail, consumer products, food and beverage, auto, life sciences, industrial products, high-tech/ electronics, wholesale distribution, utilities, oil and gas, chemicals and the public sector. IBM offers these services with a rich set of assets tailored to today's challenges.

Our SAP-focused services include:

SAP Test Maturity Assessments (test processes and automation). SAP and S4/Hana Automated and Manual Testing services (functional and end-to-end), SAP ECC to HANA Greenfield implementation / Brownfield / Bluefield Migration / Conversion testing-related services. SAP Test Optimisation services (this is critical, especially for multi-country deployments). Non-functional testing for SAP solutions and Functional Integration testing with non-SAP applications

Our Oracle-focused services include:

IBM Oracle Test Optimisation and Automation services (AI-driven). Testing services related to large-scale Advisory & Transformation programs. Oracle functional testing, non-functional testing for Oracle solutions and Integration testing with non-Oracle applications.

For Oracle E-Business Suite Testing, IBM has developed accelerators to enable faster regression testing for Quarterly Oracle Patch releases. IBM has built a ready-to-go Test Automation Library with over 200 test scripts to streamline the Quarterly Patch process.

Our Salesforce and Workday-focused services include:

Testing services related to large-scale Advisory & Transformation programs. Test Optimisation and Automation services. Functional testing, Non-functional testing for Salesforce and Workday solutions. Integration testing with non-Salesforce or Workday applications.

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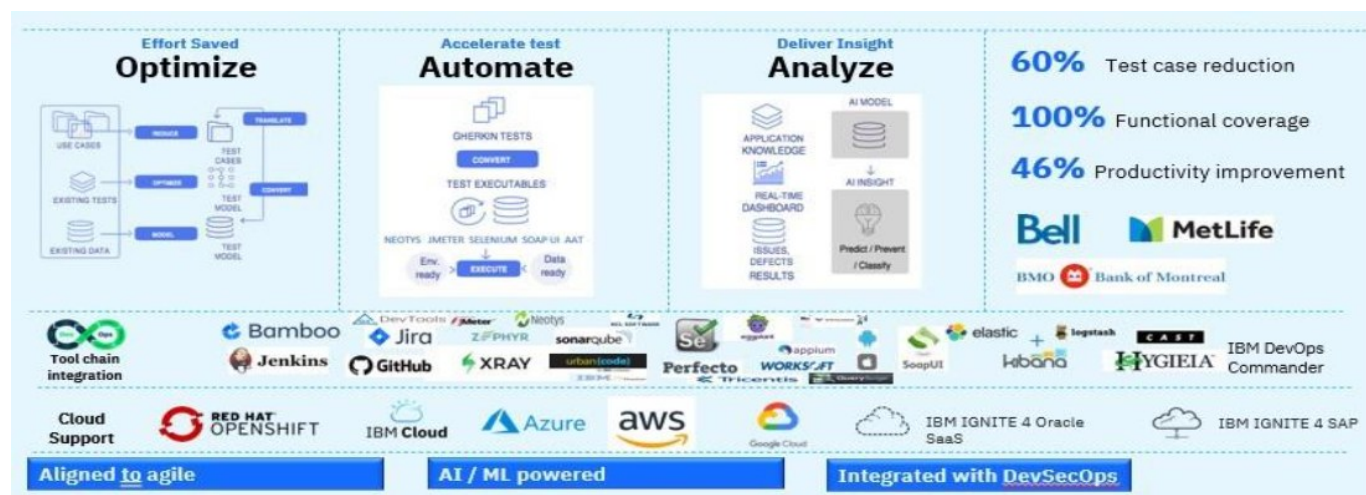
IBM IGNITE Quality Platform

To support all of our offerings, IBM also provides the IGNITE Quality Platform. This AI-enabled framework enables you to move from detection to prevention faster and with higher quality, at lower cost.

The IBM IGNITE Platform provides a set of loosely coupled tools within a toolchain to support industry-leading quality and testing services. Our services are built around real Quality and Testing experience working with highly critical systems for government and other industries. We have made extensive investments in toolchains, automation and robotics to deliver quality services that go beyond traditional testing.

The platform has extensive integration capabilities across toolchains and hyperscalers. The IBM Quality Engineers are highly trained across the Quality platform and other vendor tools.

The three phases depicted below are optimised to save costs whilst ensuring coverage (through Combinatorial, Risk-Based or Model-based testing techniques). Automation to accelerate Testing using AI-infused tools. Analyse with AI-infused tools to identify trends, and Root Cause Analysis to deliver actionable insights.



- IBM is a recognised leader in Quality Engineering and Testing Services :
- Gartner: Magic Quadrant for API Management and Testing, October 2023,
 - The Forrester Wave™: AI Decisioning Platforms, Q2 2023:
 - Gartner: Market Guide for Application Testing Services, January 2022,
 - The Forrester Wave™ : Continuous Automation and Testing Wave 2021,
 - IDC 2018 : IBM Delivers Market –Leading Software Test Automation.

We can also deliver services to support an evolving Quality Engineering approach. Services include:

- Experiential QE Consulting Services called QE Advisory
- QE Guilds with Quality Engineers within Squads
- Test Optimisation & Automation
- Automation for API / Integration Testing for all the

- Peripheral Systems Integration
- Digital, migration & non-functional testing
- Data Testing and Package Testing
- Cloud Testing (including Assessment and POC)
- AI Testing & Continuous Testing Services
- Microservices + API Test Automation.

With IBM, you can co-create a flexible model that enables engineering with Quality while modernising existing quality capabilities in line with the QE transformation plan, ensuring stability in everyday delivery.

As part of the journey, IBM will bring its end-to-end capabilities, tooling, customised processes and a deep local, near-shore and global resource pool of qualified Quality Engineers to fill additional roles as the engineering capability grows and scales.

IBM - Quality Engineering – Package Application Testing Services

IBM Approach

The most critical systems that support government organisations demand quality outcomes. To achieve this, we take an asset-driven approach to delivery and bring extensive depth of knowledge in Quality and Testing methods.

We categorise our approach into six areas, each of which has a set of specific activities:

Governance • Environmental governance • Data governance • Quality governance • Control functions.	Team • Team sizing and structure • Quality standards • Tooling and automation • Metrics.
Stakeholders • Strategy & Digital Testing • Product ownership • Communications approach • Stakeholder engagement.	Process Integration • Demand • Branching and merging • Testing approach • Path to live.
Inception • Onboarding • Coaching • Training • Location management.	Ways of Working • Methods • Empowering Team • Transparency • Continuous Improvement.



**We have a
“Test Less, Test Right”
mantra and we believe
in accelerating testing
using AI to improve root
cause identification
and achieve faster
resolutions.**

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About IBM

Supporting Government

We help government organisations in the UK and worldwide deliver and transform essential public services – our teams are passionate and proud about helping you to make a real difference to people's lives.

Government Services Supported by IBM



Defence and Intelligence



Public Safety and Policing



Healthcare



Life Sciences



Tax and Revenue Management



National Infrastructure



Social Care



Education



Works and Pensions

The problems we solve for clients are complex and cannot be satisfied with technology alone. They require a partner who can also offer deep industry expertise and a trusted relationship.

IBM combines the portfolio, people and sense of purpose necessary to meet today's enterprise demands. Every day, we support and manage complex delivery for government clients, with the impact of delivery reaching far beyond citizens and national services.

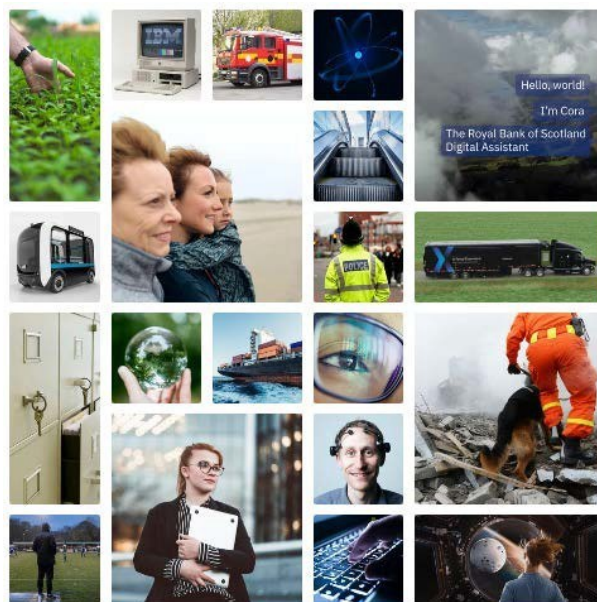
We bring industry experience, insight, and technology capability to deliver and operate secure, scalable, optimised, and available services for government.

We support you by bringing:

- Industry expertise – Professionals who understand and are passionate about delivering quality public services and can bring industry insights and apply innovation to your business processes
- Trust and security capabilities – Protecting valuable data and insights and deploying innovations responsibly
- Innovative technology – Expertise in areas such as AI, blockchain, 5G, Automation, IoT, cybersecurity and quantum, delivered in a Hybrid Cloud environment
- Experienced Services professionals to support strategy, innovation and deliver transformation and change to processes, applications and cloud infrastructure
- Global alliances – valuable partnerships with the world's leading vendors.

This is IBM in the UK

We have worked together with organisations in the UK for over 100 years, with a rich history of joint innovation and achievements, built on trusted relationships.



Cloud

Together, IBM and Red Hat are working to deliver the world's only **next-generation hybrid multicloud platform**



Economy

IBM has been **integral to the UK economy for >100 years**, and is one of its largest tech employers



R&D

In the UK alone, IBM **invests £170 million in R&D** each year



Quantum

IBM Q, the world's most advanced quantum computing initiative for commercial use, is being used by CERN



Environment

IBM's **focus on sustainability** began in 1971 with our first environmental policy



Artificial Intelligence

IBM develops **watsonx based generative AI solution** for the Austrian federal armed forces **to provide fact-based evaluation and classification** for the ability to remain capable of acting in the light of risk scenarios.



Changing the world

IBM was awarded **World Changing Company of the Year 2019** by Fast Company



Royal recognition

29 UK IBMers received **honours from the Queen** for contributions to tech and society



Diversity

IBM won the **Global Diversity Award 2019** and the ENEI's **Gold Standard**



Graduates

IBM is committed to developing future talent – we are Target Jobs' **Graduate Employer of the Year 2019**



Volunteering

IBM dedicates **>20,000 volunteering hours every year** for a better society



Tech talent

IBM runs P-TECH schools in 18 countries, helping **>100,000 students build skills for careers of the future**



Inventors

IBM UK is home to many Master Inventors, with **>250 patents filed last year alone**

