

IBM Consulting



G-Cloud 15 IBM – Quality Engineering - Testing Advisory Services Service Definition Document

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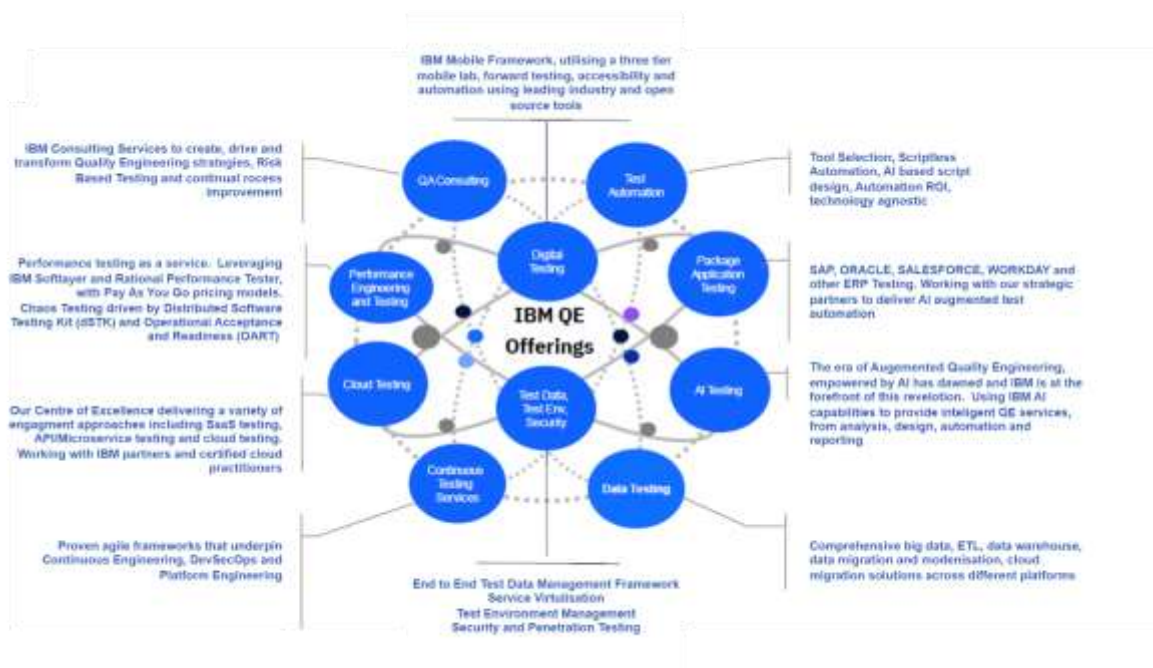
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IBM - Quality Engineering – Testing Advisory Services

Our offering Framework

The Testing Advisory Services 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 you deliver quality government services at scale and to get increasingly complicated applications to market faster, with fewer defects and at a lower cost.



Guided by our unique QE advisory offering, we will help our clients to build a tailored QE journey map, transforming their organisation to deliver meaningful quality change in 3 areas:

A shift in the Quality Culture - Driving cultural change and coaching best practice within programs and across your leadership team.

Across everyday activities - Enabling teams to embed quality and validation into their day-to-day delivery on their own technology stack.

Leveraging today's technology - now: Embedded alongside development, IBM will use technology and automation to spread the quality load to a point where quality becomes everyone's responsibility.

IBM - Quality Engineering – Testing Advisory Services

Service Overview

Features

- Quality and Testing advisory expertise
- Organisation transformation for delivery and testing services
- Proof of Concepts (PoC) and MVPs driven by QE professionals
- Guided PoCs on Test Methods, Tools and Artefacts, allowing organisations to make informed decisions more rapidly
- Skilled, trained and externally accredited TMMi advisors/consultants
- IBM and industry practices and processes
- Industry Assessments (TMMi) and Test Process Improvement
- Wide and deep assessment capabilities
- Transformation roadmaps
- Quality and Testing strategy definition.

Benefits

- PoCs can help organisations stay ahead of the curve by identifying and capitalising on emerging trends and technologies
- PoCs provide valuable insights and lessons learned, which can be applied to future projects and initiatives
- PoCs enable organisations to explore new ideas and approaches, fostering innovation and creativity
- Reduced CapEx costs and risk of an outage
- Increased brand reputation
- Improved ROI on Infrastructure investment
- Streamlined Path to Live
- Support Continuous Delivery Pipelines.

Key Differentiators

- Hundreds of dedicated Senior Quality and Testing consultants
- Thousands of years of experience enabling client quality transformations
- AI-infused next-gen automation built into the IBM IGNITE Platform to accelerate Quality and Testing delivery
- Global Centre of Excellence for the delivery of Quality and Testing services
- We have operational clients in the UK Government, as well as a wide breadth across all UK sectors

Real World Case Studies

- Engaged in 2009, IBM partnered with a Canadian Telco to deliver an award-winning Testing Centre of Excellence, which has been renewed 4 times. This centre provides an independent verification and validation Quality group for the enterprise, with a focus on speed of quality

Nationwide Building Society - Transformation programme driving a shift in perception of testing from “delivery blocker” to a valuable Quality enabler. The absence of an operating model hampered the organisation’s change to engineering; the QE team drove the implementation of the operating model. QE is now embedded in organisational leadership. Releases across are completed weekly (previously monthly, then 6-monthly).

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Addressing Business Needs

IBM Quality Engineering will provide externally accredited senior advisors to work with customers, understanding and assessing current challenges in the delivery and testing organisation. The customer receives insights into the effectiveness of current processes and systems within the organisation, enabling the development of tailored transformation plans, improvement plans, solutions, and tooling roadmaps. Guided PoCs and MVPs driven by IBM Quality Engineering, to deliver insights faster, quicker and more cost-effectively. A proof of concept (PoC) is a small project or experiment designed to test whether an idea, theory, or method can be feasibly implemented.



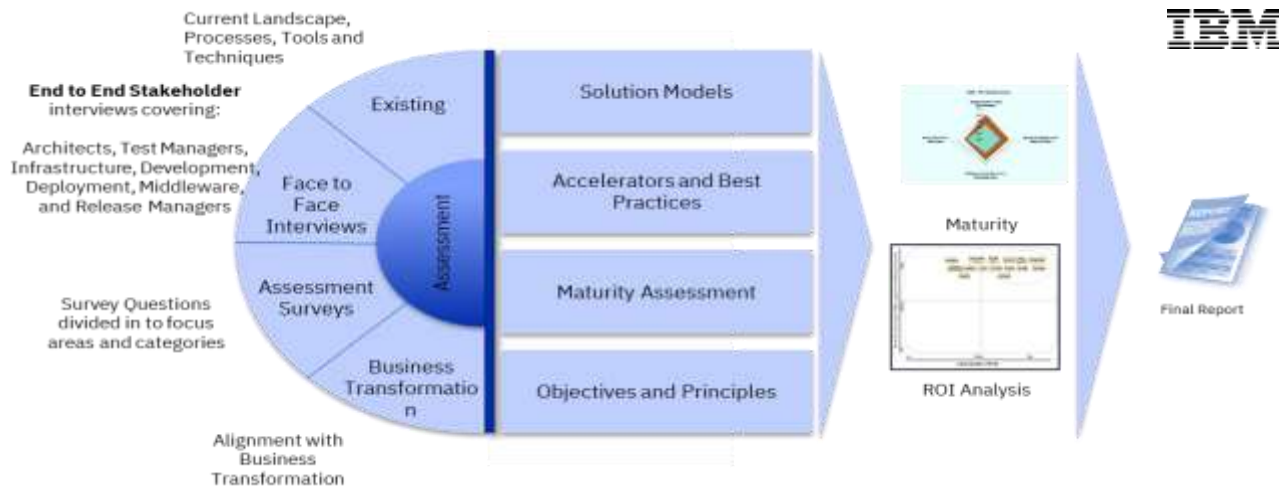
Our consultants can help you address your requirements for testing essential government services with rigour and depth. Where IBM fully engages Quality Engineering principles to transform your enterprise, the following business needs are addressed:

- 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 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.
- Reduced cycle times
- Better quality delivery because 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.

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Service Definition

IBM Quality Engineering will provide senior advisors to work with customers to understand and assess the current challenges in the delivery and testing organisation. These assessments or PoCs help in gaining deep insights into the effectiveness of current testing practises.



- Strategy and Advisory
 - Test Strategy Assessment
 - Testing Maturity Assessment
 - TMMi Accreditation
- Test Design & Automation
 - Test Design Assessment
 - Automation Assessment
- Tooling
 - T2 Test Tooling Assessment
- Test Data & Environment
 - Test Data Assessment
- Proof of Concepts
 - Artefacts, Methods, Tooling and Automation
 - Test case coverage and Test Data.



By utilising IBM Quality Engineers for testing evaluations and or Proof of Concepts. Better efficiency and decreased expenses. Greater test coverage, improved quality, shorter cycle time, increased productivity and automation, and a 40% drop in total cost of ownership, with a 30% reduction in time to market. IBM has developed several advisory and assessment toolsets, including the adoption of industry standards such as TMMi, MAT, and TPI.

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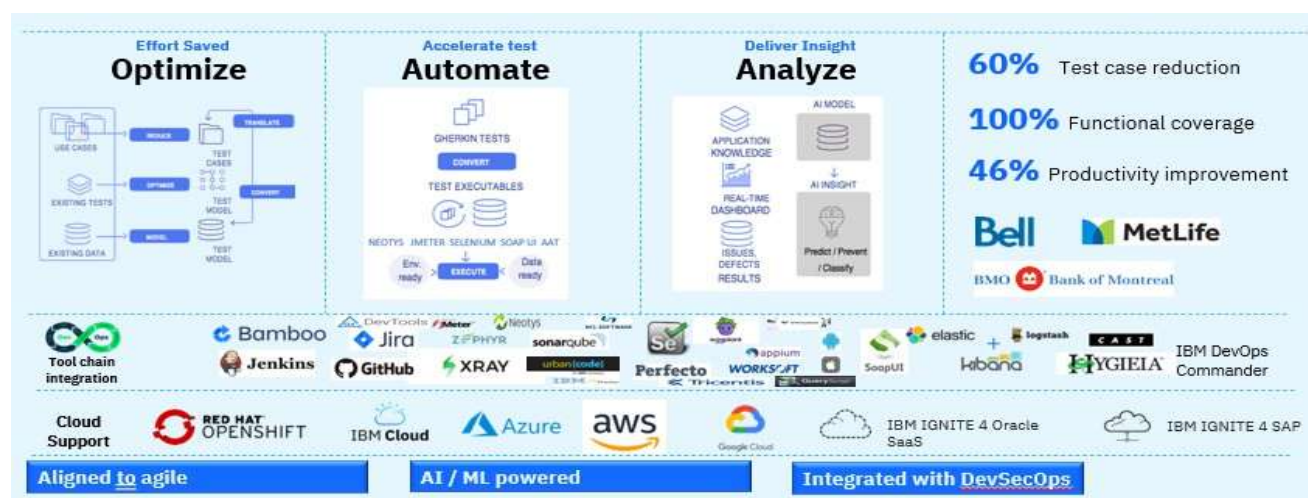
IBM IGNITE Quality Platform

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 Quality Platform provides a set of loosely coupled tools within a toolchain to support industry-leading quality and testing services. Our services are built on real Quality and Testing experience with highly critical systems across 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 offers 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: Optimise to reduce 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.

Optimise

Existing Test Plan **Coverage Analysis** preserves functional or interaction coverage; model generation is technology-agnostic, while the other tools are limited to UI, API, and ETL. Augmentation of existing tests with multiple **levels of interaction**, while it is limited to L2 in best of the breed COTS, **Functional Context modelling** and **Attribute Pool**, while other COTS need UML models and flow charts, which require more skill and time to develop

Automate

Scriptless with intuitive UI, object plug-in, automation & reporting capability compared to scripted tools (Se/UFT), Single framework/solution supporting Web, API/Microservices, Mobile—model **based test** output in BDD's cucumber gherkin format for seamless scriptless automation.

Analyse

Cognitive defect analysis, whereas other tools have only analytics-based reports. **The requirement analytics** component helps categorise requirements by complexity and identifies a few keywords that can be used as attributes for Test optimisation.

IBM - Quality Engineering - Testing Advisory 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.**

IBM - Quality Engineering - Testing Advisory Services

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**



Changing the world

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



Tech talent

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



Economy

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



Royal recognition

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



Inventors

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



R&D

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



Diversity

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



Quantum

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



Graduates

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



Environment

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



Volunteering

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



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.

