

Kyndryl Application Development, Testing and Performance Services

Service Description

The rise of multi-experience applications across web, mobile and cloud platforms is further driving demand for comprehensive development and testing services that support rapid innovation while minimising risk. Application development presents a variety of challenges that can significantly impact the success of a project. Key issues include maintainability and scalability, which are crucial for adapting to future needs. Poor accessibility can alienate users, while a complex user interface can hinder user experience. Post-launch support is essential to address any issues that arise after deployment. Additionally, slow performance can frustrate users, leading to decreased engagement. Deployment issues can delay product launches, and administrative overhead can consume valuable resources. Inconsistent design elements can confuse users, while difficulties in product discovery can limit market reach. Finally, security concerns and frequent errors can undermine user trust and satisfaction. Addressing these challenges proactively is vital for successful application development. Kyndryl has decades of experience managing customer's complex development and indeed testing requirements.

As UK citizen's services are accelerated on their digital transformation journeys, the demand for custom-built applications tailored to specific needs grows rapidly. Priority is given to agile development practices to deliver scalable, responsive and user-centric solutions, faster. Simultaneously, the shift to DevOps as well as continuous integration and continuous deployment (CI/CD) pipelines is increasing the need for robust testing frameworks that ensure quality and speed.

Kyndryl's Application Development Services for platforms, Web and Mobile, supports customer challenges, and provides solution capabilities. It emphasizes the importance of software engineering, multi-cloud adoption, and offers services like AI integration and DevSecOps. Kyndryl's Internal Developer Platform focuses on self-service tools, observability, and governance, with an emphasis on automation, monitoring, and cost optimisation for developers. The platform supports global agile approaches, emphasizing reusability and efficiency.

Development

Frontend, Backend, and Web Application Development

Frontend: We create fast-loading and fully featured user interfaces to solve front-end challenges, Creating Cloud native apps.

- Backend: Our back-end developers focus on handling complex

business logic.

- API Enablement & Integration services: Open API Enablement to expose as public API and API services creation, B2B Integration

Mobile App Development

Mobile (IOS, Android) and cross-platform app development services.

- With PWA development, single application can fit in most of the supported device.
- We also provide native, web, and hybrid cloud mobile app development services

AI and RPA Implementation

We will help you define and implement your strategy for utilizing Generative AI products.

- We will assist organizations to define end-to-end Robotic automation process using robots, without any human participation in most of the cases.

Product Development

- New product development in any domain.
- SaaS development practices for building secure multi-tenant App cloud products to bring revenue to the owners.
- SaaS product development consulting to build multi-tenant, shared resources for multiple clients.

Low-Code and No-Code Development Services

Create new applications quickly using Low Code No Code platforms.

- Skilled (java, python and PHP) resources.

Low Code No Code Development Service

Testing & DevSecOps Services

- Testing all components post development and deployment to any system

using automation tools and techniques.

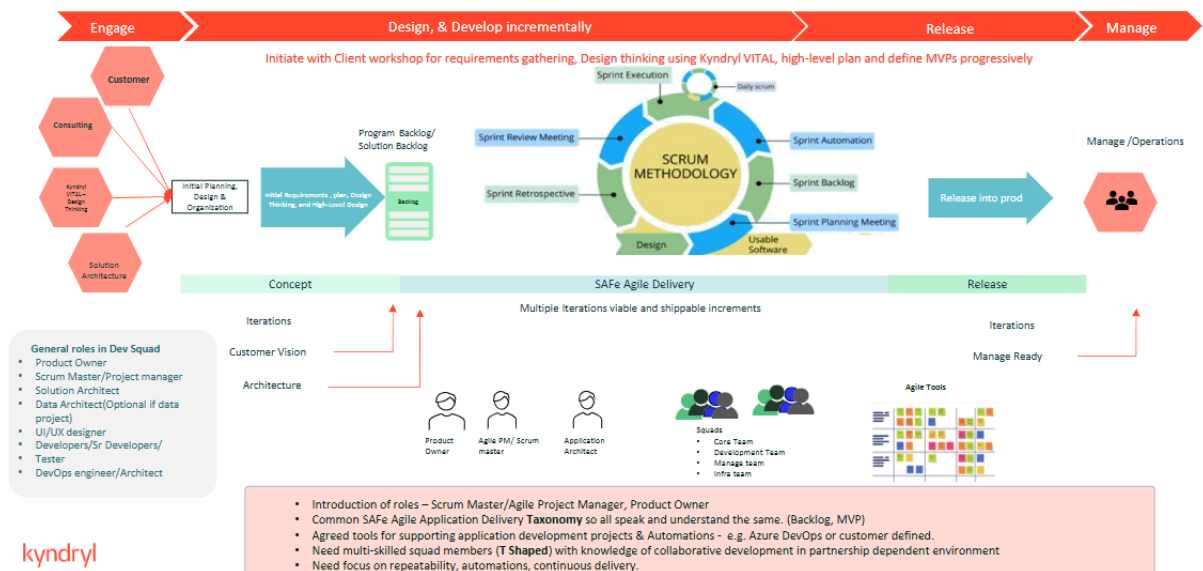
- Automation or fine tuning of existing build and deploy pipelines / Dev

SecOps.

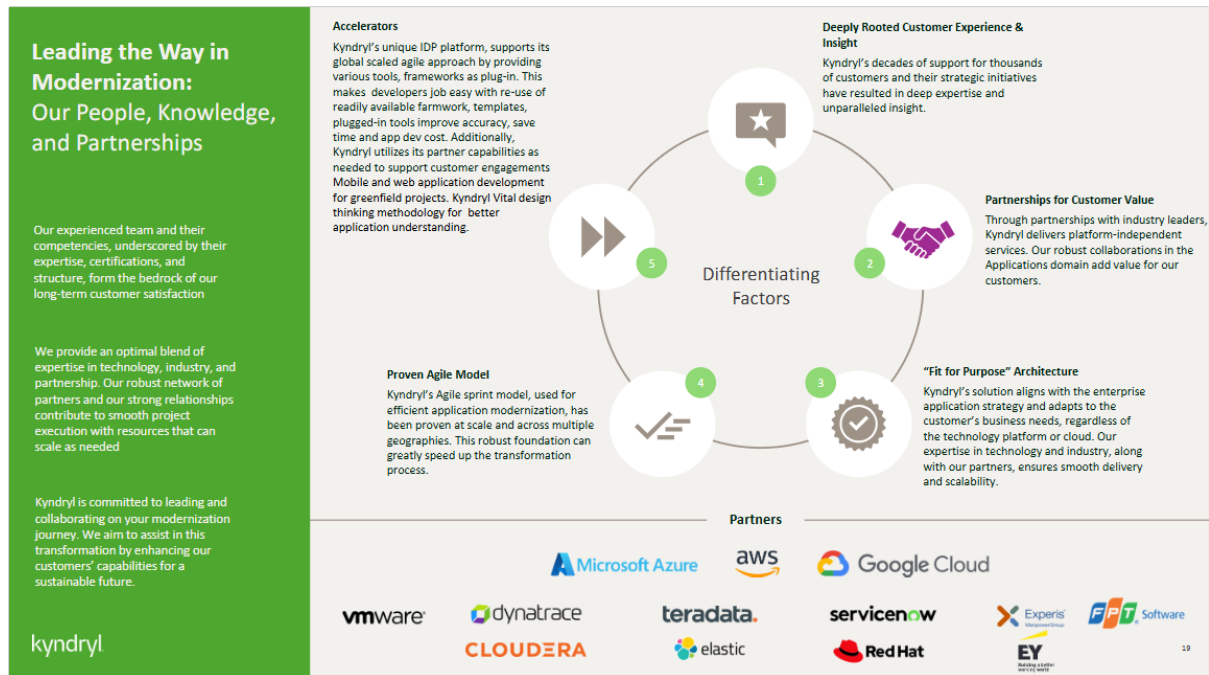
- Automated provisioning for environment software.

Kyndryl Consult SAFe Agile Application Development Methodology

Kyndryl follows SAFe Agile app development methodology for mobile and web development. All phases listed below are executed in parallel by various skilled squad teams during 2 to 4 weeks of sprint process and there won't be any dependency on any of these phases on each other like in waterfall model

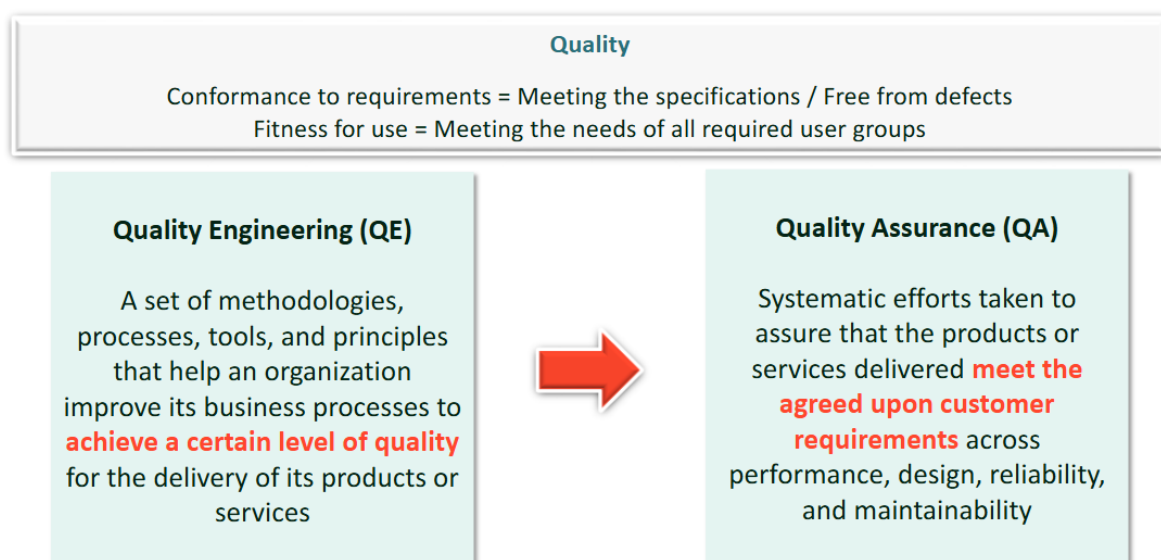


Accelerators And Partner Ecosystem



Kyndryl's Application Testing and Quality Engineering (QE) Services, focuses on modernisation, risk-based testing, and the benefits of modernisation testing. It emphasizes efficient testing practices, tailored services for legacy and modern applications, and comprehensive testing strategies for modernisation projects. These services ensure that applications meet requirements and are defect-free, with a strong focus on enhancing application verification and reducing testing effort.

What is QA and QE?



Kyndryl Application Testing and QE Services

Provision of application test services:

- Test types: Functional (frontend including UI/UX & API; backend data), Regression, Functional Automation,
- Continuous Automation and Testing (CAT), Performance, Security etc,
- App types: Web/Mobile, monolithic, microservices, cloud-native (containers, event-driven, edge).

QE Assessment and Implementation:

- Assess existing QA setup, understand customer pain-points,
- Advice to transform QA setup from legacy to Agile and/or DevOps using QE best practices,
- QA transformation roadmap,
- QE impact in terms of people, process, and technology,
- Implement QE/QA transformation for customer.

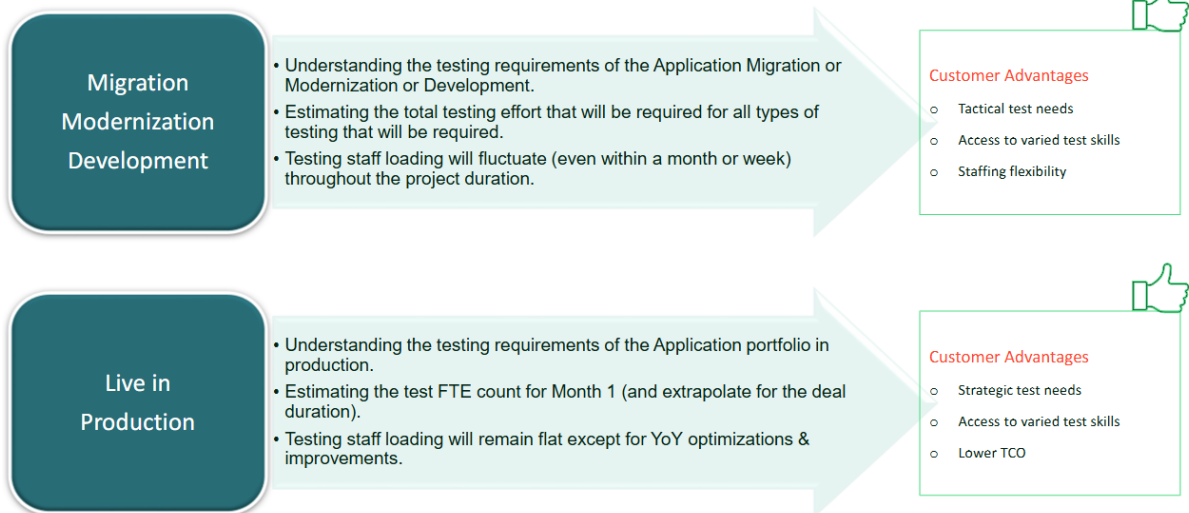
Testing as a Service (TaaS):

- managed QE/QA services including BAU application testing for the customer,
- SMEs, processes, and technology (tools) to meet customer needs => By Kyndryl,
- Take-on of customer test SMEs=> By Kyndryl (if required).

In Detail:-

- Test skillsets to meet test requirements of increasingly complex customer applications,
- delivered using Agile, DevOps, Cloud, and AI,
- Effective design, creation, and execution of manual or automated test cases reducing testing complexity and effort,
- Standardised or customisable platform-independent test automation solutions for testing complex business processes across domains,
- Testing support for Agile based sprints using CI/CD/CT to deliver shippable product increments in every sprint,
- SDLC shift-left of early test team participation for deeper understanding of requirements leading to greater test coverage and higher quality,
- Efficient Test Data Management (TDM) for cost savings and improved test data accuracy, coverage, privacy/regulatory compliance,
- Support for performance tests (fast response rates, throughput, availability, scalability) for various types of apps and cloud databases,
- Testing more with less using RBT (risk-based testing) to know where to focus on the testing and how much testing to do,
- Test process data collection, metrics generation to gain insights into test team efficiency leading to continuous process and quality improvements,
- High-quality, reliable, secure software meeting requirements - reducing risk of costly issues post-release.

Test needs of applications being migrated/modernized, or newly developed, or live in production



Tools and Capabilities

Functional Testing

- New Functionality Tests
- Regression Tests
- System and Integration Tests (SIT)
- User Acceptance Tests (UAT)
- Mobile App Tests
- API Tests
- Compliance Tests
- Compatibility (UI/UX, Multi OS, Browser) Tests

Non-Functional Testing

- Performance / Stress Tests
 - Disaster Recovery Tests
 - Database Tests
 - Usability Tests
 - Security Tests
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- **Frameworks:** Page Object Model, Page Factory, Robot, Data driven, Keyword driven, Hybrid, Business Process Testing, Junit, TestNG
 - **CI/CD Tools:** Ansible, Chef, Jenkins, Bamboo
 - **Cloud Platforms:** Azure, AWS, Google Cloud, Oracle and IBM Cloud
 - **Compliance Testing:** ADA, PCI DSS, HIPAA, GDPR, CCPA
 - **Application Platforms:** Web Applications, API, IOS, Android, Linux, Windows
 - **Databases:** Oracle, MySQL, DB2, MongoDB, Postgresql, Redis, InfluxDB
 - **Functional automation tools:** Selenium Webdriver, Robot Framework, Karate, TestComplete, UFT, Katlon Studio, Appium
 - **Middleware Test tools:** Rest Assured, ReadyAPI, Postman
 - **Test Management tools :** Jira, Azure Board
 - **Performance Tools:** Jmeter, LoadRunner

- **Analytics & Monitoring:** Grafana, Prometheus, Node Exporter, Dynatrace
- **Languages:** Java, Python, Groovy, VBScript