

Relevance of Cloud-based Testing in the Digital Journey

by **Anil Janardhanan** | October 25, 2019



Enterprises going through digital journey are faced with changes of varying magnitude to their people, business workflows, processes, technologies, QA strategy, and test execution. These changes are complex and require a managed and structured approach to ensure intended business outcomes with quality and at optimum cost. Mobile apps, AI & ML, Chat bots, Automation, and leveraging of other digital services are important; however it has to serve a larger purpose of change across the enterprise.

A Cloud-based application testing and test automation approach assumes a critical role in ensuring business agility and shortened time-to-market expected of today's digital enterprises. In this context cloud-based testing assumes significance as it enables cost effectiveness, shortened time-to-market, business agility, incremental system deployment, and enhanced customer experience. Availability of a flexible and scalable test environment makes testing and test automation efficient and effective even in most complex business environment and systems.

Gadgeon's testing and test automation services addresses applications and systems across the entire digital value chain consisting of web portals, web content, digital (smart) assets, connected devices, cloud apps, mobile apps, big-data, and enterprise applications. We will make the cloud work for you in every way possible.

Advantages of Cloud-based testing

When compared to traditional software testing approaches, cloud-based testing has several advantages:

- **Scalability of Test environment** – Today's application has a dynamic environment with millions of sensors and different devices used in conjunction with intelligent software. Creating a test environment to assess

functionality, performance, and user experience is a big challenge in the traditional way. With the flexibility of cloud, we should be able to create and scale test environments quickly without errors.

- **Replication of Test environment** - By leveraging Infrastructure as a code, we could easily replicate test environments for distributed testing teams. Testing teams can emulate an end-user-centric environment with minimum effort, cost and time. Any combination of device environments can be created and tested with ease, enabling testing anytime from anywhere.
- **Reduced testing time** – Cloud-based testing along with test automation allows simultaneous testing of applications on different hardware configurations and conditions by availing specific services provided by the each cloud providers. This will result in the reduction in tester’s time.
- **Ease of Agile DevOps adoption with CI/CD** – Cloud-based testing allows better implementation of DevOps, as it enhances the collaboration between developers and testers.
- **Reduced cost** – In cloud-computing, pay for resources that are consumed as and when it is consumed. This eliminates the need for upfront investments in equipments, test environment, and associated infrastructure.

Challenges of Cloud-based Testing

As we have seen, Cloud-based testing has many benefits; at the same time it has its own challenges as well. Let’s consider some of the operational challenges that we may encounter while attempting cloud-based testing:

- **Intricacies on Cloud costing** – Today’s cloud providers offers many value added services to make cloud-based testing effective. However their pricing schemes are complicated, making the cost estimation and prediction bit challenging. In order to avoid hidden costs, we recommend thorough planning of test environments thoroughly by taking consideration of all conditions that may come up during the actual test execution such as data encryption etc.
- **Lack of Standards** – There are no universal standards for integrating internal resources from companies’ data centers with public cloud resources. Often this inter-operability is a challenge between public cloud and on-premise data centers. This makes switching of cloud vendors also a challenge.
- **Security and privacy concerns** – Security in the cloud is a concern as encryption techniques are still evolving. The main concern is on the security of data that may be stored in a remote location beyond a company’s legal jurisdiction.
- **Availability challenges** – Even though availability of cloud is expected and often promised, even a short non-availability can cause negative impacts on the testing process. We have to be aware of the impact and have contingency measures identified.
- **Service-level agreements** – We need to be extra careful and vigilant while defining the service levels, as terms and conditions of cloud-based tools are to be clearly interpreted and understood for conditions such as data integrity, data preservation and transfer.
- **Cloud Infrastructure issues** – We have to ensure that we have all the configurations, technologies, and storage details are available with us from the Cloud provider. This will enable us to emulate customer environments correctly and efficiently.

Cloud-Testing for Digital Enterprises



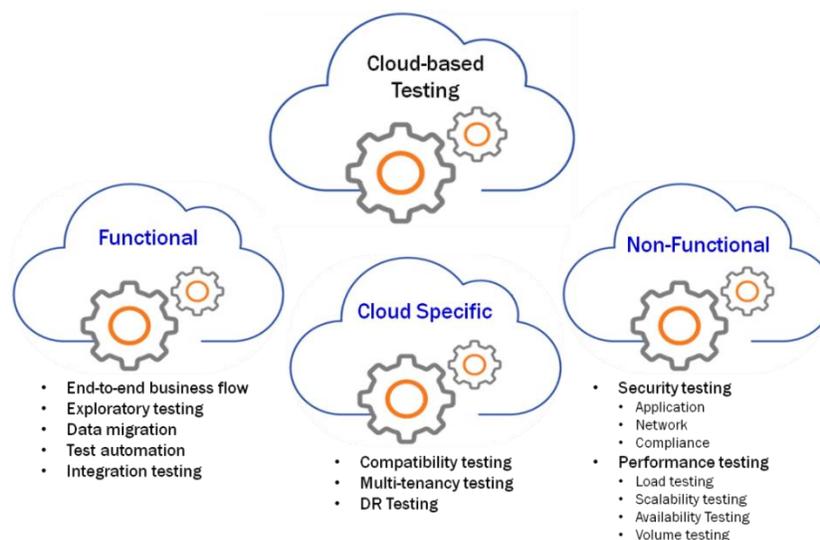
Business agility and shorter time-to-productivity are two critical characteristics of a modern digital enterprise. We define business agility as the ability of the enterprise to respond to changing business conditions and customer expectations at speed with quality. Building applications and launching them to target users, get feedback and quickly incorporate in real-time is given. Major applications like web or mobile apps can be tested effectively and efficiently by leveraging a cloud based testing environment. A cloud-based testing environment offers an efficient way of creating real-world user traffic with associated interfaces and complexities.

Today's digital enterprises need strategies, ideas, and processes that bring cost-effective approaches to quality assurance and application testing. QA and Testing has a major role in the digital strategy. Cloud-based testing provides a strong platform for continuous testing and delivery while the application scope keeps increasing. A cloud-based testing environment makes the devices and applications accessible anytime from anywhere, which enhances success while making changes to applications in near real-time. No continuous investment in hardware or infrastructure is needed. Unlimited availability of resources is the best value that cloud brings for enterprises while building and integrating applications that are well tested.

In order to ensure success of your digital initiatives, it is important to have innovation and evolution of applications and systems on a continuous basis. A cloud-based testing and test automation platform encourages collaboration, continuous development, continuous testing, and integration, which is important in the successful adoption of agile and DevOps. Cloud based test management solutions to ensure that all teams involved are always on the same page. Constant availability of the test environment enhances the scope of automated testing for both functional and non-functional requirements such as performance, security, and scalability.

Let's derive maximum value from Cloud

Cloud-based testing allows you to make your test environment work the way you want. It allows simultaneous testing of multiple aspects by multiple testers. As an example you could conduct functional and non-functional tests at the same time. This will definitely leads to higher quality benchmarks, maximum test coverage and efficiency. Cloud-based testing provides the speed and flexibility needed for critical processes such as Agile and DevOps that encourages better workflows and faster turnaround.



Gadgeon's testing and test automation services will ensure success of your digital journey. As an independent testing team, we enable cloud-based testing across the entire digital value chain consisting of web portals, web content, digital (smart) assets, connected devices, cloud apps, mobile apps, big-data, and enterprise applications. We are here to help you to make the cloud work for you in every way possible. For details visit [testing services page](#).

