

Top 10 Reasons Why Enterprises Should Adopt a Cloud-based Approach for Mobile Application Testing

EXTREMELY DYNAMIC MOBILE MARKET DICTATES A NEW TESTING APPROACH

As an increasing number of organizations across numerous verticals offer web-based services, their customers' ability to access these services at any time and from any location using a mobile device is a key revenue enabler. In addition, as almost one-third of the enterprise workforce is mobile, the role of mobile communications and remote access to enterprise applications and information has become mission-critical.

In order to maximize business transactions over mobile services, it is essential to assure optimal performance and user experience regardless of the type of handset, operating system, location and network provider. Accordingly, comprehensive and efficient testing must be performed to ensure compatibility and service quality across myriad devices and networks.

However, given the extremely dynamic nature of the mobile market, the ability to quickly and cost-effectively respond to rapidly changing market developments is a major challenge. Due to the lack of standardization, the mushrooming number of devices, operating systems and versions, as well as the different screen sizes and resolutions, it is virtually impossible to maintain reasonable application quality. The pace and unpredictable nature of change is unprecedented, as evidenced by the overnight emergence of tablets as an entirely new and very lucrative mobile market.



WHAT IS A MOBILE HANDSET CLOUD? HOW CAN IT HELP YOUR ENTERPRISE ALM STRATEGY?

A cloud-base approach for mobile testing (or Mobile Handset Cloud) was designed to meet the needs of globally distributed enterprises. This innovative approach offers web-based access to a huge number of REAL handsets and tablets connected to live networks spread globally in different geo-locations, providing enterprises with end-to-end control for manual and automated testing.

Agile enterprises can leverage the Mobile Handset Cloud to keep their applications and services up to date with the newest smartphones and tablets. Such enterprises will not only position themselves as dynamic and innovative – they will also be poised to exploit huge revenue opportunities.

HERE ARE TEN IMPORTANT REASONS WHY YOUR ENTERPRISE SHOULD TAKE ADVANTAGE OF THE CLOUD-BASED APPROACH FOR MOBILE TESTING:

1. **Instantaneous access to hundreds of the most relevant handsets platforms**, including iPhone, Android, BlackBerry and Symbian, in myriad network locations. The mobile market is unlike any other in terms of the magnitude and speed of change. As new devices, platforms, firmware releases and technologies are being introduced virtually every day, it has become increasingly difficult (if not impossible) to keep up with the latest handsets and tablets. The handset cloud enables enterprises to respond immediately to emerging trends and new products, increasing their business agility and creating a competitive advantage.

2. **Powerful handset-agnostic and simple automation facilitates agile software development.** Automation allows performing more tests on more devices, locations and networks in less time, resulting in the delivery of better quality with less effort. Automation of the testing process may include high level business logic, advanced Optical Character Recognition (OCR) features and automated and reusable scripting techniques that do not require programming knowledge. This improves cost-effectiveness by streamlining time-consuming test cases and reducing the chance of human error. Running automated tests during non-working hours shortens testing cycles and alleviates the pressure on overworked and overstressed QA teams.

Cloud-based automated testing enables enterprises to benefit from the use of agile development methodology within their Mobile Application Lifecycle Management (ALM) environments. Automated tests can be run on multiple devices and can easily scale to support intensive regression and functional testing, as required to support agile development. Automation is critical to support this type of incremental, test-driven development, which is characterized by frequent (nightly) builds and regression testing.

3. **Sharing and collaboration features are ideally suited to meet the needs of large and often distributed organizations.** Regardless of the physical location of your staff, all testing is performed in the cloud using a centralized device lab and test script management. Collaboration between globally distributed teams is enhanced through real-time sharing that enables a tester to share a device in "live" testing with one or more distant colleagues for their input or approval. The Handset Cloud complements traditional QA testing tools (most of which were not designed for mobile testing) and smoothly integrates with an enterprise's existing Application Lifecycle Management (ALM) environment (e.g. HP Quality Center).
4. **A robust set of productivity tools facilitates the logistical aspects related to setup and management.** A native/low level interface supports fast and direct installation of the application from the developer/tester's PC to the device. Native device connectivity enables the tester to access the device log, send text to the device, power on/off and other functions.
5. **Perform mobile application testing on a set of "private handsets" without sharing the device being used for testing.** This option provides the QA team with a predetermined amount of dedicated resources (slots), ensuring that the handsets they require for testing are always available to support their ALM processes and schedules. (This is in addition to the "public" Handset Cloud where resources are shared among various customers on a "first come, first serve" basis.) Enterprises enjoy the flexibility to replace handsets in their dedicated slots as needed, reducing dependence on external factors and increasing scalability. Designed to **comply with each organization's security policies and needs**, the private handsets support flexible configuration options, such as deploying a secure private cloud behind your firewall or using a hosted, cloud-based testing platform.
6. **24x7 application and performance monitoring on real mobile handsets.** The Handset Cloud can be used for ongoing performance monitoring of your mobile business across devices, locations and networks, providing enterprises with an early warning system for their mobile services. Monitoring is critical to ensure mobile business continuity and to comply with service level agreements (SLAs) that require service quality and performance to be maintained at a constantly high level. End-to-end ongoing monitoring of real transactions using real devices provides immediate alerts in the event of service degradation. This proactive approach often allows problems to be detected and fixes to be made before users are seriously affected. A set of reports enables efficient analysis of service levels and performance trends.
7. **Seamlessly integrates with an organization's existing Application Lifecycle Management (ALM) platform, such as [HP Quality Center Integration](#).** Open APIs, such as REST, can be used to facilitate integration within the enterprise IT environment, both saving integration costs and preserving current IT investments. Using these APIs, the handset cloud can be integrated with the enterprise's ALM and other IT platforms.

8. **Centralized management tools allow enterprises to efficiently manage resources** and user access from multiple distributed and/or offshore locations. An intuitive management interface enables users to choose the desired device, carrier, location and time allocation. Advanced schedule management features enable users to reserve a particular device if none are currently available (in the public cloud), as well as supporting role-based authorization.

9. **Always use REAL handsets for application testing, rather than simulators or emulators, providing the highest level of reliability.** When it comes to the quality of your services, there is no substitute for using a real handset operating in a live carrier network in diverse geo-locations. To detect potential handset interoperability issues, applications and services must be tested over the real end-user devices. Naturally, application monitoring can only be performed on real handsets operating in a live mobile network.

10. **100% web-based Software-as-a-Service (SaaS) offering** eliminates the hassles and associated costs related to hardware, the download and installation of client software and updates. The SaaS approach ensures that users always have access to the latest software version, while reducing the total cost of ownership. Testers and developers can connect to hundreds of real mobile devices from any computer with Internet access, enhancing flexibility and mobility.

HOW IS THE CLOUD-BASED APPROACH UNIQUE?

There are many legacy mobile testing solutions, including outsourcing, simulators and other types of time-intensive and error-prone testing methods. However, to effectively test mobile applications in today's supermarket of handsets, browsers and networks, a highly scalable platform that facilitates automation, porting and ease of operation has become a necessity. Furthermore, agile development methodology requires continuous and frequent testing along the development cycle.

In light of the extremely dynamic market conditions and the need to support agile development principles, the ideal testing platform for mobile enterprise applications should:

- Enable easy access and full control over a multitude of smartphones and operating systems
- Enable test automation and abstraction across all scenarios, including regression testing, stress (repetition) testing, porting to different platforms and performing custom repetitive test scenarios
- Support and easily integrate with the existing development lifecycle environment
- Generate reports to identify areas that need to be improved
- Enhance collaboration to include direct access to mobile handsets and test scenarios between globally distributed teams

The cloud-based approach was introduced to enable enterprise ALM related personnel to access, control and share real mobile devices via the web. Featuring intelligent control and automation options, the Handset Cloud offers secure access to a huge number of real handsets.



Cloud-based approach to mobile testing, illustrating private and public handsets

BOTTOM LINE: ENHANCED QUALITY, AGILITY AND PEACE OF MIND

The cloud-based approach is ideal for enterprises doing business or planning to do business in the mobile market, significantly reducing the complexity involved in launching and sustaining mobile services. Using the Handset Cloud, enterprises can streamline and improve application development, testing and monitoring processes.

Automated testing capabilities let enterprises take advantage of agile software development for their mobile applications, by enabling frequent and intensive regression testing. In addition, the Handset Cloud enables globally distributed organizations to develop applications in a central location and test them in distant live networks where their users are located.

By enabling enterprises to perform more tests in less time on each device, as well as ensuring optimal compatibility with more carriers and network locations, the Handset Cloud boosts service quality, shortens time to market and enhances the user experience.

As a result, businesses are able to react quickly to the dynamic mobile landscape with innovative mobile offerings and services that drive new revenues and enhance their reputation.

ABOUT PERFECTO MOBILE

Perfecto Mobile is a global leading provider of cloud-based testing, automation and monitoring solutions for mobile applications and websites, utilizing a wide selection of REAL mobile devices accessible via the web.

Perfecto Mobile's MobileCloud™ enables developers and testers, located anywhere in the world, to access via the Internet a comprehensive range of the latest mobile handsets and tablets. Users can rely on Perfecto Mobile handsets to develop, test, deploy and monitor their mobile applications and services without having to physically obtain them.

Perfecto Mobile provides its Cloud-based mobile testing, automation and monitoring services in the U.S., Canada, U.K., France, Germany, Switzerland Israel and India, and is expanding to more countries. Among its customers are Vodafone, Forum Nokia, Motorola and additional leading enterprises in travel, finance, retail, telecom and other industries.

For further information about Perfecto Mobile remote testing services, please go to <http://www.perfectomobile.com>. Follow us on Twitter, Facebook and our blog to get real-time updates.