ITC INFOTECH

Business-friendly Solutions

Comprehensive Performance Testing for Mobile Application Enabled up to 60% Cost Saving & Enhanced Quality Assurance

SITUATION

The customer created a mobile application for best-in-class services to end users. This needed a reliable QA and testing solution to ensure their successful foray into the mobile application market.

IMPACT

The demand was for an end-to-end performance testing solution to avoid the risk of losing traffic, revenues or employee productivity. The testing had to simulate a volume of 300 concurrent mobile users realistically, check for load related performance issues and ensure that users get acceptable response times with 100% availability.

RESOLUTION

We designed and implemented a comprehensive mobile application performance testing plan to evaluate how the application would perform in the real world when subjected to accurate and realistic scenarios with variable network conditions, and multiple devices.

The Customer

The customer is a renowned IT services provider of large scale global engineering projects to customers worldwide. They provide end-to-end engineering services to Consumer goods, Retail, Footwear and Apparel industries.

The Need

Foraying into the mobile application market, the customer had created an application to ensure best-in-class services to end users. The application needed an end-to-end performance testing solution to avoid the risk of losing traffic, revenues or employee productivity. They wanted a reliable QA and testing service provider that is well equipped to assist their entry in a mobile dominated market with growing end user expectations.

They also wanted the vendor to simulate a volume of 300 concurrent mobile users realistically, check that the servers are free from load related performance issues and ensure that the users get acceptable response times with 100% availability.

The Solution

ITC Infotech designed and implemented a comprehensive mobile application performance testing plan for the customer's Product Lifecycle Management system to evaluate how the application would perform in the real world when subjected to accurate and realistic scenarios with variable network conditions, and on multiple devices.

ITC Infotech used NeoLoad for simulating user load to conduct effective load testing. Using real devices or emulators in this case was impractical as it demands acquiring, configuring, and synchronizing hundreds or thousands of real devices or machines running emulators.

Any hybrid mobile application requires a web service request-response from and to the server application. These web-service requests and responses were captured using Proxy mode and Tunnel mode available in the tool. Recording in these modes enabled performance testing of the application and the server using different Mobile Network Emulation like GPRS, EDGE, 2G, 3G or 4G LTE from the cloud and on-premise with bandwidth constraints, latency and packet loss simulation.

Other tests executed under this engagement included, multiple cycles of smoke test, 300 concurrent user baseline test and WAN emulation test (Baseline load test for different WAN emulation like Edge,3G,3G+,4G& WIMAX).

We helped the client deliver the application after comprehensive testing on the scheduled delivery time and within budget. We also ensured customer satisfaction with proactive communication, international standard of delivery, 24/7 support, and effective documentation process.

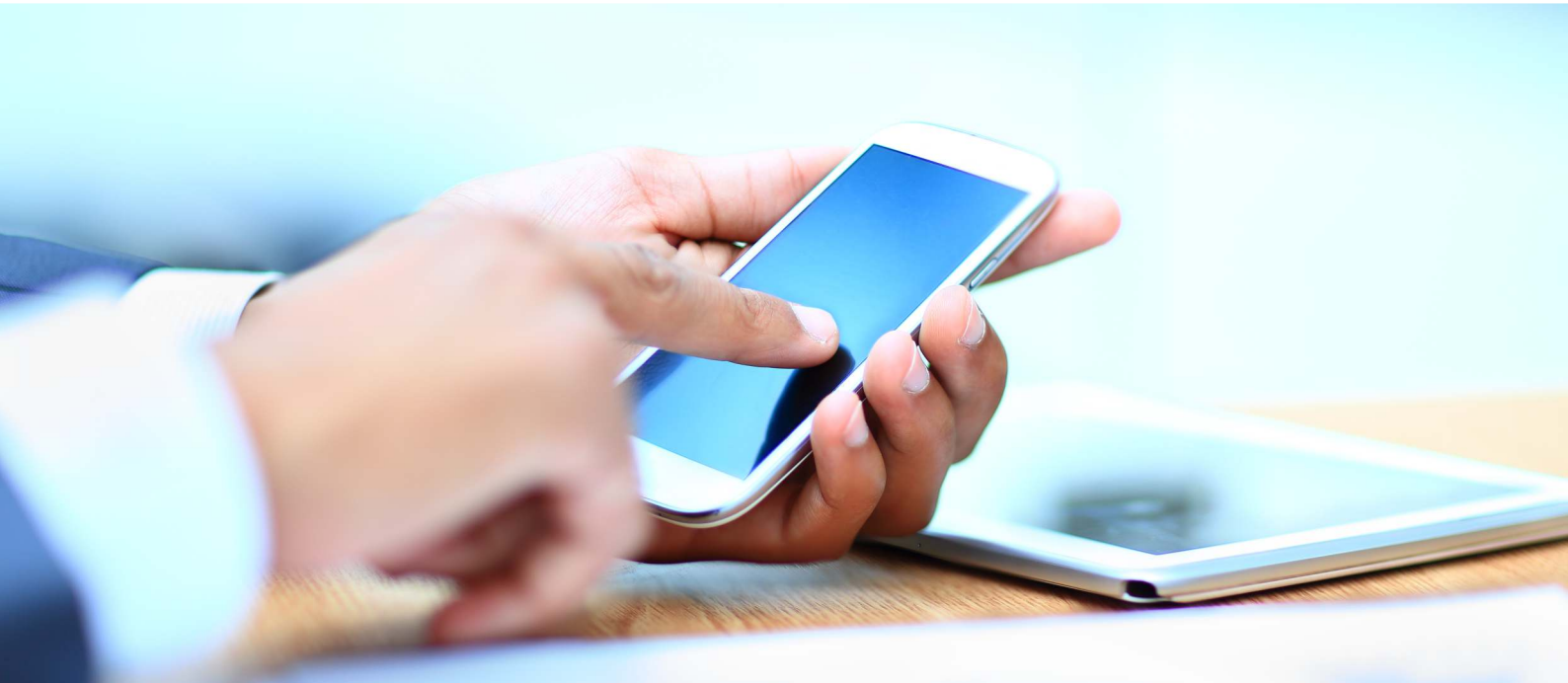


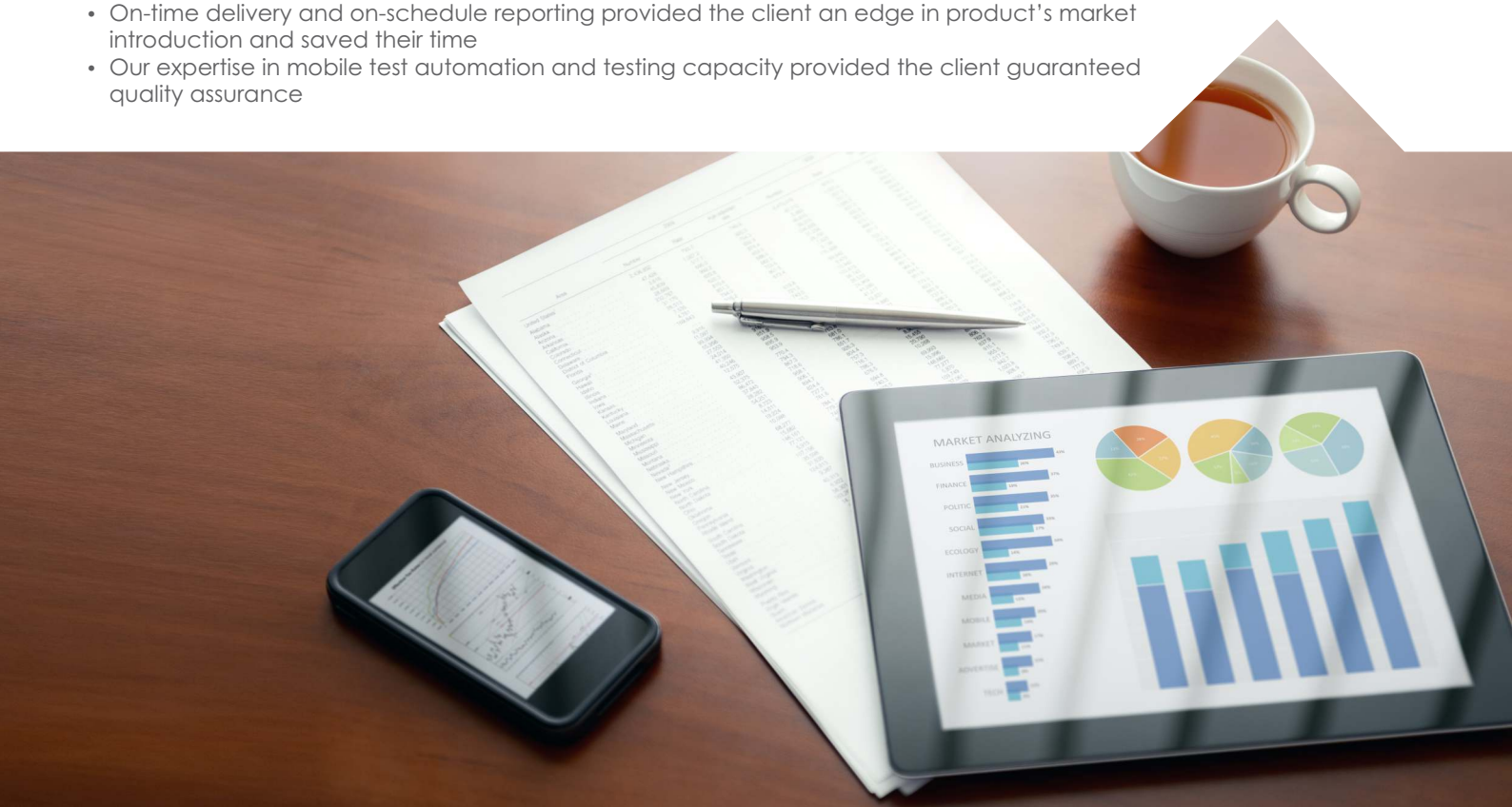
Figure below represents the performance testing approach adapted

Recreate real-world server conditions	Recreate real-world network comditions	Recreate real-world device conditions	Measure performance on each component

• Creation of the scripts specific to a workload type in terms of where the requests are generating from
• Creation of load testing scenario specific to the load and the associated scripts for a workload type
• Generation of load from the load generators in terms of number of users from different geographic locations
	• This involves identifying and recreating the conditions on the network to be targeted, while gauging the application's performance on the target device
	  • Network type and quality (3G/2G/WiFi/Etc)
	  • Network load (bandwidth utilized)
	  • Network by geography
		• This involves identifying and recreating the conditions on the mobile device to be targeted, while gauging the application's performance on the target device
		  • Application Type (Thin Client)
		  • Platform Type (iOS)
		  • Device Type (iPad)
			• Server
			  • CPU usage
			  • Load
			  • Process time
			  • Bytes total
			  • User time
			  • Packets sent/received
			• Network
			  • Packets and bytes sent
			  • Packets and bytes received
			  • Average delay
			  • Packet drops
			• Device
			  • CPU and memory usage
			  • Method level profiling
			  • Web application component level performance
			  • Response times
			• Transactions
			  • Response times
			  • Throughput

Benefits

- Cost savings of up to 60% due to pay per use model of licensing
- Our extensive experience in effective handling of outsourcing projects and providing independent testing services helped the client remain focused on sales and strategic planning
- On-time delivery and on-schedule reporting provided the client an edge in product's market introduction and saved their time
- Our expertise in mobile test automation and testing capacity provided the client guaranteed quality assurance



About ITC Infotech Testing Practice

ITC Infotech's Testing Practice comprises state-of-art testing process framework, specialized tools and methodologies to enhance testing efficiency and precision, reduce cost and decrease cycle times. The combination of SEI-CMM, CMMi, ISO and TMMi processes and experience in testing domain further ensures that our clients' test projects benefit from best-in-class process and skill advantages.

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