



YouTube™ Uses Keynote Mobile Device Perspective to Monitor Worldwide Performance of its Mobile-based Service

Impact Highlights:

- Used in optimizing server performance worldwide during the test phase of the new service
- Monitors performance in different locations and on different mobile carriers on an ongoing basis
- Helps YouTube ensure consistent performance across its Internet and mobile brands to maintain its brand image and that of carrier partners who offer the service

Company

YouTube™ is the world's most popular online video community, allowing millions of people to discover, watch and share originally created videos. YouTube provides a forum for people to connect, inform and inspire others across the globe and acts as a distribution platform for original content creators and advertisers large and small. YouTube, LLC is based in San Bruno, CA and is a subsidiary of Google Inc.

Challenge: Ensure Consistent Performance Across The Brand

In the summer of 2007, YouTube launched a test version of its site for mobile users that offered a limited set of the videos available on YouTube.com. As it tested the mobile version of its site, YouTube needed a way to analyze how the service was performing from an end user perspective anywhere in the world. The goal was to ensure that the new service's user experience was consistent with that of

YouTube's Internet-based services for desktop users.

Once the test was complete, in January of 2008, YouTube rolled out the full functionality that desktop users have long enjoyed to its mobile users. These features included not only access to millions of videos, but also community features such as the ability to upload, comment on, and rate videos as well as localized versions for 19 markets. After this full service went into production, YouTube wanted to test it on an ongoing basis to make sure that the service maintained high performance.

YouTube chose Keynote Mobile Device Perspective® (MDP) to perform these tasks, explained Dwipal Desai, Product Manager, "because it was one of the only solutions on the market that could monitor streaming video on a mobile device in remote markets. Keynote provides the perfect product for our service. In addition, several other teams at Google had

About Keynote

Keynote Systems (NASDAQ "KEYN") is the global test and measurement company for mobile communications and online business performance.

As an independent and trusted third-party, Keynote provides IT and marketing executives with an unbiased view into their Internet services from around the world. For over a decade, we have been providing measurement data and testing capabilities that allow companies to understand and improve their customer's online and mobile experience.

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used Keynote and were happy with the monitoring it performed and the reports it produced. We also did a pilot project, which went quickly and worked out well."

Solution: Mobile Device Perspective®

Keynote MDP uses a standard mobile phone that runs an automated script designed to simulate a real user accessing the server and performing standard activities. Keynote MDP performs these tests from multiple locations around the world and on multiple carrier networks. The system then creates reports on various aspects of performance.

During the test phase of the new mobile service, YouTube used Keynote MDP to test the server performance from mobile phones located in San Francisco, Germany, and the U.K. and from several carriers. Said Desai, "Keynote MDP tested how long it took for a video to start playing, the quality, the amount of buffering, whether the video played seamlessly, and so on."

YouTube then compared the results from the new mobile service with those from its existing Internet service to determine whether the level of service was consistent across the two offerings. Now that the full mobile service is operational, YouTube runs the test script every hour from a total of eight locations worldwide as well as whenever it makes a change to the service. Said Desai, "We check the report to make sure the changes haven't done anything to impact performance."

Results

Keynote MDP enabled YouTube to optimize performance initially and keep it at a high level. "For Google, speed is everything. If the system isn't fast, you lose half the users. Since we built our own server, we wanted to have confidence in that fact that our server performed across all the different countries," said Desai. "When we started testing the server with MDP, it took 20 seconds for the video to play from the U.K. This was slower than the server for our traditional service. Using the valuable information from Keynote, we optimized the server so that it took less than 10 seconds to start the video and closed the gap between the new and old server."

Now that the service is widely available, Keynote MDP continues to allow YouTube to identify any performance problems or outages on any carrier or in any location around the world so it can fix problems quickly.

By maintaining a high level of performance, YouTube has been able to guard not only its own brand equity, but also that of its mobile service provider partners, who promote the service to their users. Said Desai, "When we offer any new service, it has to provide the expected level of performance—or it will give not only us, but also our partners, a bad name. By using Keynote, we have been able to ensure that the service performs consistently for everyone."

