

# Keynote's LoadPro 2.0 Load Testing Service Furthers User Experience Management with Advanced Behavioral Modeling and Other Features

## Abstract

In the spring of 2009, Keynote Systems introduced LoadPro 2.0, which extended and enhanced its leadership in load testing in support of user experience management or Quality of Experience (QoE). Sophisticated requirements for load testing in a QoE context go beyond basic performance metrics, as they depend on effectively modeling different user profiles in terms of technology dimensions (e.g., fast versus slow Internet connections) and “human” dimensions (e.g., impatient versus patient users, skilled versus unskilled users). Keynote has already established strengths in QoE-related testing with a strong “human face,” including insights into business competitiveness globally, as well as domain and consulting expertise in how consumers interact with Internet services. This impact brief highlights Keynote's introduction of LoadPro 2.0 in this broader industry context.

## Event

On April 22, 2009, Keynote Systems introduced LoadPro 2.0 with an enhanced dashboard and portal, new flexibility in user-created testing with enhanced capabilities for collaboration across teams, and enriched support for visualizing real-time test information in context with more executive-level reports, including support for simulating over one million concurrent user sessions. The announcement reflects a clear advance in an already industry-leading service from a Customer Experience Management perspective.

## Context

ENTERPRISE MANAGEMENT ASSOCIATES® (EMA™) analysts have recently documented the rising importance of QoE and User Experience Management in its report: *Quality of Experience: the Ultimate Collaboration – How Real Deployments are Succeeding and Why*, December, 2008. In this research it was established that 79% of the 207 respondents view QoE as becoming more important to their business or organization, only 2% view it as becoming less important. Moreover, the surprising unanimity (71%) in terms of viewing QoE as “both a technology and a business concern” reflects the fact that QoE is already beginning to transform business-to-IT relationships in support of more value-aligned metrics rather than more technology-centric, traditional SLAs. QoE's relevance is exemplified in the choice of the word “experience” – which demands a focus on the “human consumer” in all his or her complexities, rather than on more convenient, but far less relevant, component-centric technology metrics.

## Keynote Systems

Keynote Systems is one of the leaders in making QoE and User Experience Management much more of an industry pervasive term. As a service, Keynote's capabilities require minimal to no deployment effort, and so can be used by smaller and mid-tier companies, in addition to larger enterprises. Keynote is optimized to support businesses and organizations focused on Internet-related applications, brand awareness, and/or other Web-based application or network services. Keynote has a wide variety of SaaS solutions that support Operations, Q/A Test, application developers and business

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professionals across Web-based, mobile and VoIP services. One of Keynote's strengths is its fluid reporting and role-based support that enables consistent collaboration across these various groups, the number one priority for improving QoE initiatives according to EMA consulting and research.

Keynote Systems is a clear leader in the breadth of its testing services infrastructure with over 3,000 measurement computers and mobile devices in 240 locations worldwide. Keynote is distinctive from other QoE Services providers in its strong focus on business-related information from a market/competitive perspective, its inclusion of strong mobile and VoIP offerings and other network-centric services, and its extensive investments in establishing behavioral models for different types of Internet users and transactions. The advantages of this last point are especially resonant in enhancing Keynote's LoadPro 2.0.

Keynote's offerings in summary include:

- Web performance test & measurement: Application Perspective®, Transaction Perspective®, Transaction Perspective® High Frequency, Transaction Perspective® for Last Mile, Keynote Internet Testing Environment (KITE)
- Mobile test & measurement: Mobile Device Perspective®, Mobile Application Perspective®, Mobile Interactive Testing Environment (MITE), SITE Test System, GlobalRoamer
- Load testing: Test Perspective®, LoadPro
- Streaming test & measurement: Streaming Perspective®
- VoIP test & measurement: Voice Perspective®
- Customer experience/UX test & measurement: Keynote WebEffective®

## LoadPro 2.0

Keynote's introduction of LoadPro 2.0 builds on a solid foundation for QoE designed to support different constituencies through targeted reports, as well as real-time insights into performance. LoadPro leverages the industry's most extensive testing infrastructure for load-testing outside the firewall, as well as advanced behavioral modeling in its extensive library of synthetic tests. These combine technical and behavioral characteristics that leverage Keynote's extensive experience in modeling response requirements across vertically-defined markets in different geographies.

### Some LoadPro 2.0 Specifics

LoadPro 2.0 functionality includes the following highlights:

- Support for over a million concurrent users.
- An easy "configure-your-own" test approach so that LoadPro administrators can configure a new test virtually at will including specifics such as time sequencing (e.g., ten thousand, thirty thousand and sixty thousand session starts at fifteen-minute intervals), test duration, page views, distribution

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model, geography and type of script or transaction. This comes with role-based permissions, including read-only access, as well as usage-based parameters for account/costs management, so that, for instance, a certain team is entitled to run tests to 1.5 million pages per year (a large, retail enterprise might use over 10 million pages a year). This combination of testing fluidity and role-based access control can help to optimize usage across DBAs, network professionals, server professionals, application development, Q/A Test, performance analysts and business executives.

- The enhanced dashboard and portal is designed to integrate navigation between higher level executive requirements and more technical drill-downs. These may expose, for instance, how an increase in session starts may lead to an increase in abandonment rates (uncompleted transactions) and a decrease in revenue due to degraded performance. More technical detail can then be explored in such areas as transaction type, test locations, line speed, Internet wide area performance, geographically distributed back-end server performance, to isolate performance bottlenecks.



Figure 1: LoadPro 2.0 Load Test Report

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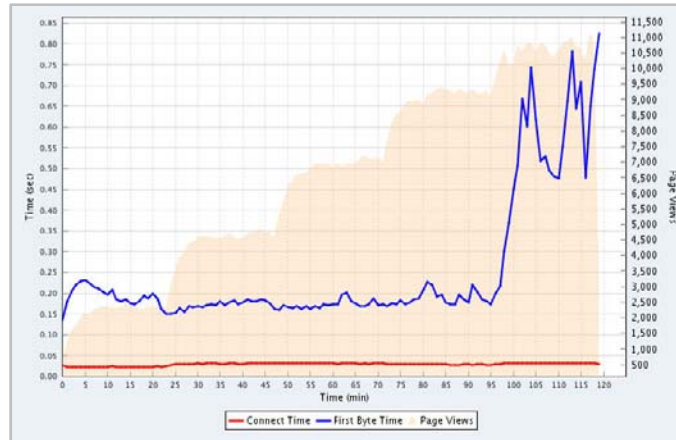


Figure 2: Test Report Detail

- The breadth of synthetic tests available to LoadPro reflect Keynote's experience in capturing both the human side and the technical side of transactional behaviors. For instance users have different expectations for response time based on different transactional types – which will lead to different abandonment rates. At 15-20 seconds latency, for example, the home page abandonment rate is 75%, the average abandonment rate for a stock quote is 45%, getting account information the rate is 35%, and for a stock transaction it is only 15% (see Figure 3). Such “advanced behavioral modeling” as applied to detailed technical histories places a clear human and business context around LoadPro 2.0 results. Keynote also stresses the importance of using *session starts* to specify the target load level, rather than *concurrent users* – which can vary greatly by transaction type and other conditions.

**Example of Realistic Behavior Modeling**

*Users are less patient with home page, so abandonment rate is higher*

| Page Type:          | Delay       |              |               |               |
|---------------------|-------------|--------------|---------------|---------------|
|                     | 0-5 seconds | 5-10 seconds | 10-15 seconds | 15-20 seconds |
| Home Page           | 0%          | 30%          | 45%           | 75%           |
| Stock Quote         | 0%          | 15%          | 25%           | 45%           |
| Stock Transaction   | 0%          | 0%           | 0%            | 15%           |
| Account Information | 0%          | 5%           | 15%           | 35%           |

**Abandoned session = lost revenues!**

Figure 3: Different Transaction Types Will Lead to Different User Tolerance Levels for Latency

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## EMA Perspective

As a flexible capability for assessing the real-world business or organizational impact of Internet-based applications, Keynote's LoadPro 2.0 should be a home run win for many users. LoadPro leverages the industry's most extensive testing capability – in volume, geography and test type – for load testing outside the firewall. And LoadPro's business-relevance, versatility, navigability and ease-of-use is in itself distinctive. This is not to say that LoadPro, or for that matter Keynote, can provide businesses with everything they'll ever need in User Experience Management. Monitoring tools for more granular triage and diagnostics, and complementary instrumentation for observed versus synthetic transactions, will still, in many deployments, be advisable. But LoadPro's combination of technical and "human" behavioral insights makes it a strong candidate for a central role in any QoE initiative focused on Internet-based application transactions with critical business or organizational implications.

## About EMA

Founded in 1996, Enterprise Management Associates (EMA) is a leading industry analyst firm that specializes in going "beyond the surface" to provide deep insight across the full spectrum of IT management technologies. EMA analysts leverage a unique combination of practical experience, insight into industry best practices, and in-depth knowledge of current and planned vendor solutions to help its clients achieve their goals. Learn more about EMA research, analysis, and consulting services for enterprise IT professionals and IT vendors at [www.enterprisemanagement.com](http://www.enterprisemanagement.com) or follow [EMA on Twitter](#).

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