

Keynote LoadPro For Streaming and Load Testing

Key Benefits

- Understand how an increase in the number of users accessing your streaming media will impact user experience—Avoid user dissatisfaction or customer churn
- Launch thousands of streams from geographically distributed load generation sites to simulate user spread – Add realism to your testing
- Outside the firewall approach tests the streaming media infrastructure—Holistic testing with realistic results
- Fully outsourced and engagement based hosted turn-key solution—No CapEx and no maintenance cost
- Check-by-check analysis of stream performance including trace routes, packet stats and error codes—Valuable insight to locate and eliminate performance bottlenecks

Don't Lose Millions to Save Thousands: Outsource Your Streaming Load Testing to the Experts

You spend millions on marketing initiatives to gain customers and months preparing for a successful event launch, but how do you certify your infrastructure will scale to meet end-user demand once it is in production? Keynote can help. With our LoadPro for Streaming service, our testing consultants load test your streaming media infrastructure with real-world streaming traffic and help you uncover performance problems before they impact your customers and bottom line.

What is Keynote LoadPro For Streaming?

LoadPro for Streaming is the crosspollinating of qualitative metrics from award winning Keynote Streaming Perspective (a streaming performance measurement product) and quantitative metrics from award winning Keynote LoadPro (a web load testing product). The result is a unique product that helps you understand the effect of thousands of users accessing streaming contents from a website on streaming quality and the web site performance.

What does LoadPro For Streaming Measure?

Because of the inherent complexity of streaming media, there are many metrics that can be used to characterize performance. Keynote has used its experience over the past four years to develop an optimized set of metrics that highlight the most important quality issues while being easy to understand.

When measuring the quality of streaming media, the metric of primary interest is stream availability or connection success rate. If users are not able to connect to the stream, nothing else matters.

While availability is clearly the first concern in ensuring a good consumer experience, a close second is the "time profile". This term refers to the amount of time spent waiting for a stream to connect, buffer and rebuffer. These factors are also referred to as user frustration factors.

Keynote LoadPro for Streaming Can Help You:

Learn how the quality of your streaming contents would be perceived by the end users

Keynote allows you to simulate the complexity of the Internet and the behavior of your actual end-users

Avoid unnecessary capital expenditures

Increasing capacity of your streaming content hosting or delivery infrastructure is a

significant investment that can weigh heavily on your strained budget. With LoadPro for Streaming, you can accurately determine the areas where the investment is absolutely necessary.

Stay on schedule for your streaming content launches

LoadPro for Streaming is a fully outsourced load testing service. Keynote provides all the test planning, script development and expertise you need to perform a thorough load test. Our testing experts analyze and recommend real solutions, so you can focus on what you do best—serving your customers.

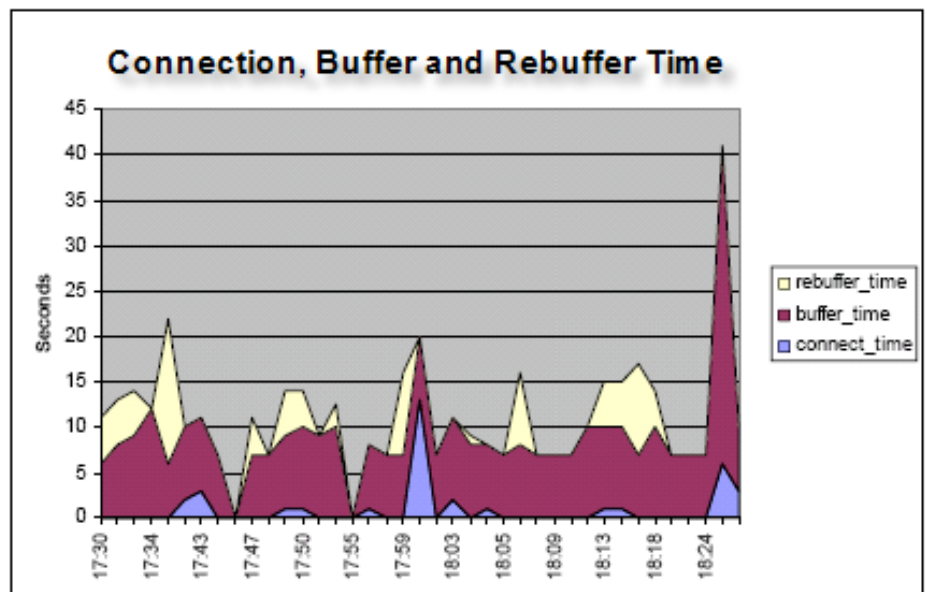
Test and tune your entire stream delivery infrastructure

By utilizing Keynote's loadgenerating infrastructure connected to the Internet, LoadPro for Streaming simulates actual user streaming traffic from the outside in, stressing your entire

infrastructure and finding performance problems that are missed by testing in a lab.

The LoadPro for Streaming Process: We Make Testing Easy for You

Our load testing consultants, who will work with you to identify your capacity goals and the most economical way of achieving them, expertly handles every LoadPro for Streaming engagement. At the end of the test, you will receive a detailed report showing exactly how your infrastructure performed under expected loads and how much capacity you really need. In many cases, a load test does not result in costly capital expenditures. Keynote has saved customers hundreds of thousands of dollars by demonstrating that a simple configuration adjustment could increase their capacity without adding any additional hardware.



LoadPro for Streaming provides statistics for the variation in connect time, buffer time and rebuffer time i.e. the user frustration factors with respect to the number of concurrent users viewing streams

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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Reach ROI Faster with Our Completely Outsourced Solution

Companies often see load testing as an expensive proposition. And when you consider the hidden costs of a software-based solution, it's not difficult to see why. Software vendors charge expensive license fees upfront, as well as annual maintenance fees that can add as much as 20% of your total cost. These fees must be paid

regardless of how much or how little you use the solution. With LoadPro for Streaming, you only pay for the load testing services you actually use—and you do not have to worry about add-on consulting or infrastructure expenditures. Unrealistic testing will provide you unrealistic results, therefore you need load testing realism offered by LoadPro.

Category	Metrics
Time Profile	DNS look-up time, connect time, buffer time, rebuffer time, number of rebuffer events.
Delivery	Server type, protocol, traceroute, error codes, average bitrate.
Packet Statistics	Packets received, packets lost.
Misc	Framerate, metafile URL, source URL.

Metric	Description
Availability (a.k.a. Connection Success Rate or CSR)	The ratio of successful checks to total checks performed on a stream. A check is considered successful if playback begins within 60 seconds of the request. (E.g. A stream still buffering by the end of the check is considered a failure.)
Frustration Time	The sum of connect time, buffer time and rebuffer time.
Connect Time	Time to receive the first packet from the streaming server. This may include DNS lookup and metafile redirection.
Buffer Time	Time between the first packet's arrival and the beginning of playback.
Rebuffer Time	Time taken by one or more interruptions, after playback has begun, for further buffering.
StreamQ™	A metric for quickly summarizing the effects of connecting, buffering and possible rebuffer events.

