

Case Study in Performance

Transgaming Gets New Product to Market Faster With Apica LoadTest™



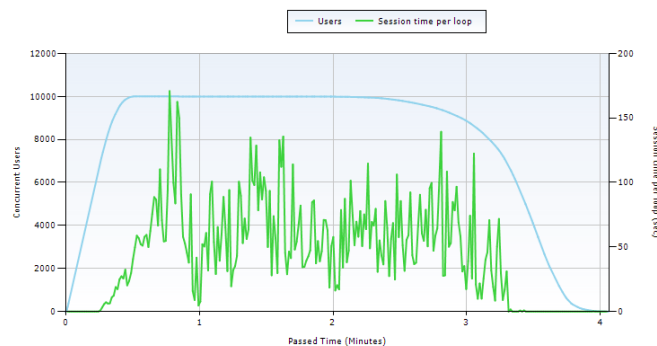
Background



TransGaming Inc. (TSX-V: TNG) is a leader in the development of unique software products that facilitate the deployment and distribution of games across multiple platforms. TransGaming has announced an on-demand gaming service called GameTreeTV that optimizes connected digital TVs and CE devices powered by Intel media processors. The GameTreeTV service will offer a broad library of games such as sports, action and adventure and provide content developers with a software development kit to support the migration of existing games and the development of new games based on the Intel CE platform. It will help revolutionize the delivery and global consumption of video games and provide a turnkey monetization strategy for CE manufacturers and cable/satellite providers (MSOs).

With Apica Loadtest™, Transgaming:

- ▶ Cut time to market
- ▶ Reduced risk of Project launch failure
- ▶ Used powerful cloud-based test scenarios of actual



"The Apica team worked closely with our engineering team to simulate a very complex set-top box environment. They not only provided incredible loads and quick results but they also provided great insight on various configuration settings. During the test cycles they became an embedded part of our team because of their commitment to seeing our results improve. If you want someone who is committed to your success then I highly recommend you go with Apica."

– Roberto Monge
Lead Architect, Transgaming

The Challenge

As TransGaming was preparing the launch of its service for a major European MSO, the TransGaming technical team decided to independently verify that their systems could handle television spike traffic levels. Unlike traditional websites, the traffic would be instantaneous--as soon as the operator turned on the gaming channel. Because of the spike nature of TV related services TransGaming chose to utilize a cloud infrastructure that could grow and shrink elastically based on the demand. RightScale was chosen as a management platform for their AWS cloud infrastructure. Testing needed to be coordinated between TransGaming and RightScale teams located in Atlanta, Santa Barbara and Sidney. The tests required massive loads and real-time results analysis, so that the technical teams could triage and fix the systems in real time and rerun the tests to verify the fixes actually improved the performance.

A summary of project goals included:

- ▶ Validate that the system could handle peak loads
- ▶ Expose concurrency issues not seen during regular QA testing
- ▶ Identify application performance bottlenecks at each tier of the system and configure alerts and monitoring of Key Performance Indicators
- ▶ Validate the failover mechanisms during peak loads
- ▶ Define optimal machine sizing and establish elasticity rules for growing and shrinking cloud resources based on load and traffic patterns

The Solution

TransGaming selected Apica LoadTest because of its ability to simulate actual set-top box user scenarios in complex scripts, its ability to drive load from multiple geographies, particularly in Europe where TransGaming's first customer was located. Apica was also chosen for its deep technical experience with high volume caching systems like Varnish. Apica's engineering teams worked closely with the customer in order to collect and analyze performance data in real-time. Apica was able to drive extremely aggressive spike loads and they were able to provide real-time graphs and analysis that the RightScale/Amazon AWS platform and TransGaming teams used to tune and triage the cloud systems on the fly.

The Results

The results over a three week cycle of testing, fixing identified issues, and then retesting were significant. The initial Apica load test was able to simulate very high approach hammer loads that simulated how set-top boxes would access the system. The data from Apica allowed TransGaming's team to tune the systems for high spike loads.

This was followed by high concurrency testing which identified a number of bugs that were not seen in normal stress testing. The analysis and data provided by Apica identified specific configurations and code that when fixed and retested showed significant improvement in concurrency.

Apica's ability to drive load from their European cloud agents provided valuable insight on the response times that European users would experience.

Using the Apica Load Test data, the customer was able to configure different quantities and AWS machine sizes. This allowed TransGaming to optimize the server sizing (and costs) for the projected load. For example, it became clear that for a certain tier of servers it was more effective (and less costly) to have more large servers than moving up to extra-large instances. This level of analysis and re-configuration would have been difficult to perform with noncloud deployments and without Apica's real world testing scenarios.

Once the system was tuned for peak loads the failover mechanisms were tested. A number of issues were found and resolved, and subsequent failover tests at peak load verified that the systems worked as designed.

Finally once each server tier performance was characterized, the TransGaming team worked with Apica to setup it's auto scaling rules to verify that the system would grow and shrink at appropriate levels without causing issues in other tiers. One of the key lessons learned from these tests was that auto-scaling works well for slow ramping loads and that scheduling is the preferred method with known spike loads. Using the data from the Apica tests, TransGaming decided to use RightScale's "schedule rules" to launch more servers in anticipation of the spike loads.

Over the 3 week period, TransGaming was able to achieve over 400% improvement in performance and concurrency when compared to the initial tests.

Test Setup

Web Environment

- ▶ Varnish web acceleration
- ▶ Apache
- ▶ Hosted environment using third-party service provider

Duration

- ▶ Four load tests over three weeks

Results

- ▶ 400% performance improvement

About Apica

Apica is a premier cloud performance provider with a proven platform for testing, analyzing, and monitoring Web application performance. Apica WebExcellence™ Suite includes Apica LoadTest™, Apica WebPerformance™ and Apica WebOverload™ for testing Web applications for maximum capacity, daily performance, improved load times and protection from peak load. Apica was founded in 2005 and has its main office in Stockholm, Sweden, and sales offices in the UK and the US.

