

# 'Angry Birds' Soars Online with Google App Engine



## At a Glance

### What they wanted to do

- Transition the highly popular "Angry Birds" games to an online environment
- Use a platform that could support explosive demand
- Easily add new features to improve the user experience

### What they did

- Chose Google App Engine to take advantage of automatic scalability
- Deployed new games quickly with teams of one or two developers per game
- Integrated features such as the High-Replication Datastore and the Users API to provide scalable, secure storage and to easily authenticate users

### What they accomplished

- Created highly engaging games that have attracted millions of online users
- Remained focused on enhancing game features, thanks to minimal setup and maintenance requirements
- Capitalized on opportunities to expand their audience and grow the business by developing customized games in less than two weeks

## Organization

Rovio, creator of the blockbuster "Angry Birds" game series, turned to Google App Engine when it came time to adapt its mobile apps for web browsers. The Finland-based company needed a platform that could support explosive demand and provide robust capabilities to deliver a superior user experience. Google App Engine provides both while requiring minimal maintenance, which gives the company's developers time to focus on improving the games.

## Challenge

Rovio knew that bringing its games online presented an enormous opportunity. In early 2011, a development team began planning a version of "Angry Birds" for Google Chrome. The company wanted to launch the game at Google's annual I/O conference that spring, just a few months away.

The developers needed a platform that would scale effortlessly: The mobile app had already hit more than 140 million downloads, and the team expected demand for the free online version to be overwhelming. They also wanted a low-maintenance system that would make it easy to update features and bring new titles online.

## Solution

The developers chose Google App Engine to build the game because they knew it would allow them to work quickly and provide the scalability needed to support an enormous user base. "Angry Birds Chrome" finished on schedule, followed by other titles such as "Angry Birds Google+" and "Angry Birds Friends." Rovio also created customized versions for companies, sports teams and other partners.

---

*"Our web games tend to be popular immediately, so we don't have the option of scaling them over time. Google App Engine makes the process painless, since it can instantly launch as many servers as we need."*  
*—Stefan Hauk, lead server developer for web games, Rovio*

---

"Google App Engine allows us to launch games very quickly with teams of one or two developers per game," says Stefan Hauk, Rovio's lead server developer for web games. "Because Google manages all the servers, there is little required of us in terms of maintenance."

Hauk and his fellow developers use a number of App Engine features to improve the games, including:

---

## About Google App Engine

Google App Engine enables businesses to build and host web apps on the same systems that power Google applications. It offers fast development and deployment, effortless scalability and simple administration, with no need to worry about hardware, patches or backups.

For more information, visit  
<http://cloud.google.com/appengine>

---

*"At other companies I've been with, there was always a need to be on call after hours to deal with server problems. This isn't necessary here, because Google App Engine just works."  
—Stefan Hauk, lead server developer for web games, Rovio*

---

- **High-Replication Datastore** for scalable, long-term storage of game data
- **Memcache API** to boost performance by providing temporary, high-speed data access through a high-performance memory cache
- **Task queues** to run certain complex operations in the background, improving game responsiveness for users
- **Users API** to authenticate users with their Google usernames and passwords, which provides a seamless experience when accessing a game

App Engine allows the developers to add new features easily and continuously improve the games for users. They can deploy new versions with a single command and switch back to the previous version if needed. They can also rely on App Engine to scale automatically to support heavy demand from the moment the games launch.

"Because our web games are popular immediately, we don't have the option of scaling them over time," Hauk says. "Google App Engine makes the process painless, since it can instantly launch as many servers as we need and scale back down when a game has passed its usage peak."

### Results

Millions of gamers have flocked to Rovio's web games since their launch. The company's most popular offering, the Facebook game "Angry Birds Friends," logs more than 13 million users every month. Since the developers don't need to install or maintain hardware, they can devote their attention to enhancing the games, which have received overwhelmingly positive reviews.

"Google App Engine automates a lot of processes, which has made our jobs easier," Hauk says. "At other companies I've been with, there was always a need to be on call after hours to deal with server problems. This isn't necessary here, because Google App Engine just works."

The ability to build and deploy quickly has allowed Rovio to capitalize on expanding its audience and to act on business opportunities.

"There have been times when we've been asked to build a customized game in a week or two," Hauk says. "We know that App Engine will enable us to do this and that it will scale for us no matter how many users we get."

