

Google App Engine Goes Up Against Amazon Web Services

Ray Valdes

Google App Engine is a development "platform in the cloud" that currently has a relatively narrow scope. Eventually, we expect it to compete with Amazon and platform providers like IBM, Microsoft and salesforce.com.

Event

On 7 April 2008, Google introduced App Engine, which allows developers to build and host Web applications on Google's scalable infrastructure. Initially, the system is available to the first 10,000 developers that sign up. The system is constrained by daily quotas such as 65,000 HTTP requests per day, and at first will only support code written in the Python language. The base-level service is free; those who require more functions can pay for premium-level service. Details of this extra-cost option are not yet available.

Analysis

With App Engine, Google is continuing with a "fast follower" approach in the category of horizontal platform services "in the cloud." In this area, all contenders in the Web platform category have been trailing Amazon Web Services (AWS) in market presence and the force.com platform (from salesforce.com) in platform completeness. Gartner expects Google App Engine to evolve to compete head-on with Amazon, as well as with other emerging Web platform providers like Microsoft and IBM.

Compared with market leader AWS, App Engine is a broader-scope and more cohesively architected offering, which includes:

- A general-purpose platform with storage, hosting, compute cycles, bandwidth and a Web application framework. By contrast, AWS consists of more distinct pieces that have been introduced separately over time. While this can mean greater flexibility, it also requires more effort on the developer's part. AWS lacks integrated e-mail or domain names, and its storage approach consists of two different offerings.
- A client-side development environment that enables developers to code and test locally. Because this environment is written in Python, it runs on a range of platforms (including Windows, Macintosh and Linux).
- A system management tool that enables developers to monitor, in real time, the behavior and operation of their application.
- A means for developers to collaborate on a project with versioning and rollback.

Nevertheless, the scope of the technical implementation choices in App Engine is narrower than AWS because:

- It is limited solely to the Python language, which is not as popular among developers as PHP, Java or .NET. Google has said this will change, but SDK is in Python and Google has long relied on Python for its internal offline processing. Java appears to be the most likely candidate for a follow-up, rather than .NET (which would indirectly support Microsoft) or PHP (which validates Facebook's language of choice).
- It has relatively low quotas and "throttling" on a range of parameters, including CPU cycles (200 million megacycles per day), to bandwidth (10GB of data transferred per day, in each direction), to e-mail and HTTP requests. (This will likely change because the value proposition of cloud services is smooth, rapid scalability to meet demands.)
- It uses a subset of the Python runtime (for example, the class library lacks network functions) and introduces other dependencies that may lead to platform lock-in.

- Its request-based programming model is limited to online Web applications, rather than offline batch computations. AWS, by contrast, can handle a wide range of computing scenarios.

Also, the Google announcement and accompanying developer documentation did not address support for OpenSocial or the Google Gadget component model. Gartner believes this indicates that this initiative comes primarily from one corner of the company or has many phases left in its evolution.

RECOMMENDATIONS

- **Enterprises:** Consider cloud-based alternatives for scenarios where off-premises code and data do not breach your security and privacy requirements.
- **Developers:** If you are conversant with Python, explore App Engine to see if its capabilities match your requirements. Examine the offering for unwanted sources of platform lock-in
- **Platform-centric vendors:** Accelerate your cloud-computing strategies lest they fall too far behind the early leaders.

RECOMMENDED READING

- "Amazon Strengthens Platform Services With SimpleDB" — The storage system SimpleDB is a key addition to Amazon's slowly accumulating, comprehensive cloud-based infrastructure. **By Ray Valdes**
- "Google's OpenSocial Is the First Round in a Long Competition" — The application programming interface OpenSocial delivers a strong "open Web" response to Facebook in the emerging social-platform wars. **By Ray Valdes**

(You may need to sign in or be a Gartner client to access the documents referenced in this First Take.)

REGIONAL HEADQUARTERS

Corporate Headquarters

56 Top Gallant Road
Stamford, CT 06902-7700
U.S.A.
+1 203 964 0096

European Headquarters

Tamesis
The Glanty
Egham
Surrey, TW20 9AW
UNITED KINGDOM
+44 1784 431611

Asia/Pacific Headquarters

Gartner Australasia Pty. Ltd.
Level 9, 141 Walker Street
North Sydney
New South Wales 2060
AUSTRALIA
+61 2 9459 4600

Japan Headquarters

Gartner Japan Ltd.
Aobadai Hills, 6F
7-7, Aobadai, 4-chome
Meguro-ku, Tokyo 153-0042
JAPAN
+81 3 3481 3670

Latin America Headquarters

Gartner do Brazil
Av. das Nações Unidas, 12551
9º andar—World Trade Center
04578-903—São Paulo SP
BRAZIL
+55 11 3443 1509